## Section 2
# Financial markets and financial institutions

## 2.1. Global and Russian financial markets[1]

### 2.1.1. Trends in global financial market

Between 2023 and 2024, global financial markets recovered from the 2022 downturn amid expectations of declining central bank interest rates, slowing inflation, and market actors' confidence that major economies escaped recession. Completion of the US presidential election, removing uncertainties in expectations of the country's future economic course, had an important stabilizing effect on financial markets in 2024. After the FRS top discount rate rose from 0.25% in March 2021 to 5.0% in March 2023, causing a shock in the markets of almost all investment assets in the USA, it fell to 4.5% in December 2024. The ECB refinancing rate, after rising from 0% to 4.5% from June 2022 to October 2023, has fallen to 3.15% in December 2024 and 2.65% in March 2025. In 2024, China adopted a series of measures to ease monetary policy and support financial market, its economy maintained steady growth at 5%.

According to the World Federation of Exchanges, global capitalization rose from $111.9 trillion in 2023 to $122.5 trillion in 2024. After falling by 16.1% in 2022, capitalization rose by 10.3% in 2023 and 9.5% in 2024. Meanwhile, the share of capitalization of US companies in the world rose from 39.7% in 2022 to 50.8% in 2024.

According to the Securities Industry and Financial Markets Association (SIFMA), the worldwide bond issue, was $132.8 trillion in 2022, $140.7 trillion in 2023 and $142.1 trillion in 2024. It grew by 0.7% in 2022, by 5.9% in 2023 and by 1.0% in 2024. The US share in the above market segment was stable at 39% in 2022–2024.

The end of 2024 and Q1 2025 manifested a number of alarming signals for stability in the US financial market. According to statistics from the Federal Reserve Bank of St. Louis, in September 2024, the yield curve of US public bonds exited

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the inversion state, i.e. the yield to maturity of 10-year bonds once again exceeded the 2-year bond yields.[1] For the four most recent US recessions that started in July 1990, April 1991, December 2007, and March 2020, the indicated signal preceded the recession by an average of 6 months from its onset.

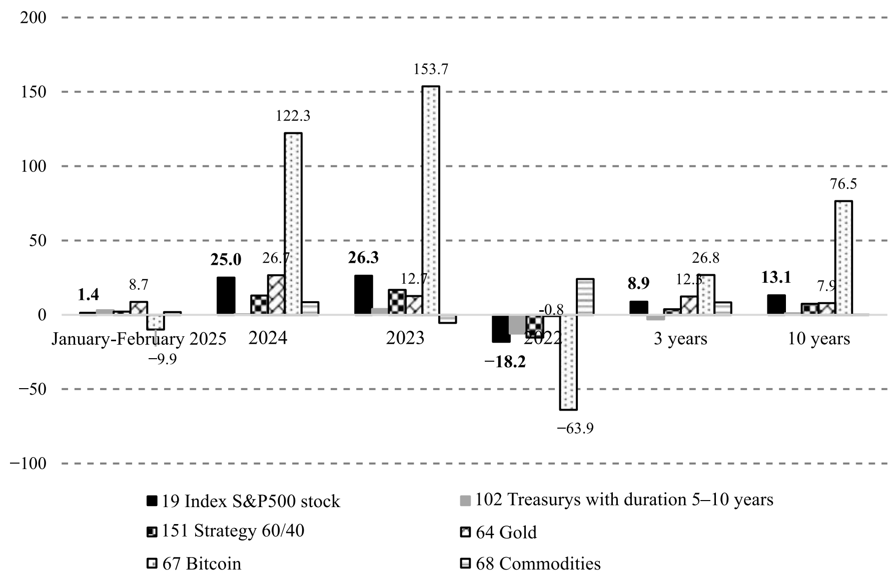
CAPE indicator of Robert Shiller, winner of the Nobel Prize in economics, evidencing the ratio of capitalization to 10-year average earnings of US companies, reached an all-time high of 38.2 in February 2025, yielding only to its peak of 44.2 in December 1999 on the eve of the dot-com stock crash. According to Robert Shiller, the Excess CAPE indicator is more accurate, showing the excess return on equities vs. average annualized 10-year government bond yields, and in February 2025, by contrast, reached a historic low of 1.78% with its average from January 1940 through February 2025 of 4.62%. As a rule, a low value of this indicator predicts a low yield premium for equities over the yield on 10-year government bonds in the coming decade.[2]

Finally, the average dividend yield of S&P500 index stocks reached an all-time low of 1.32% as of March 20, 2025, with its median value from 1957 through March 2025 of 2.86%. According to hypothesis of Robert Shiller and John Campbell,[3] predicting the stock crisis in 2000, this signal in combination with a high CAPE may suggest that stock indices are about to fall.

Analysis of return-risk features of 209 randomly selected popular investment strategies in the global financial market according to Morningstar information resource allows us to identify the following trends in portfolio investments in global markets on short-term and long-term time horizons.

At time horizons of 3 and 10 years, investments in US equities remained among the most attractive investments, second only to bitcoin and gold with returns of 26.8% and 12.3% at the 3-year horizon, and only to bitcoin with a return of 76.5% at the 10-year horizon (*Fig. 1*). During financial market crash in 2022, neither gold nor bitcoin played the role of protective assets. However, gold investment attractiveness has grown significantly, with gold exchange-traded fund investments outperforming equities on both 3-year time horizon, in 2024 and in January-February 2025. At time horizons of 3 and 10 years, bitcoin was the highest-returning asset considered, but its high volatility limits its accessibility to large crowds of private investors and conservative institutional investors. Total return on investments in US government bonds with a duration of 5 to 10 years over 2022–2024 horizon remained negative at −3.0% p.a., which also limited the investment attractiveness of the 60% stocks/40% bonds strategy. Moreover, probable reduction of the FRS rates in 2025–2026 may significantly raise the investment attractiveness of investments in bonds, and, first of all, in long-term bonds.

1. URL: https://fred.stlouisfed.org/series/T10Y2Y .
2. URL: https://shillerdata.com/
3. *Campbell John Y. & Shiller Robert J.* (2001). Valuation Ratios and the Long-run Stock Market Outlook: An Update, Cowles Foundation Discussion Papers 1295, Cowles Foundation for Research in Economics, Yale University. RePEc:cwl:cwldpp:1295



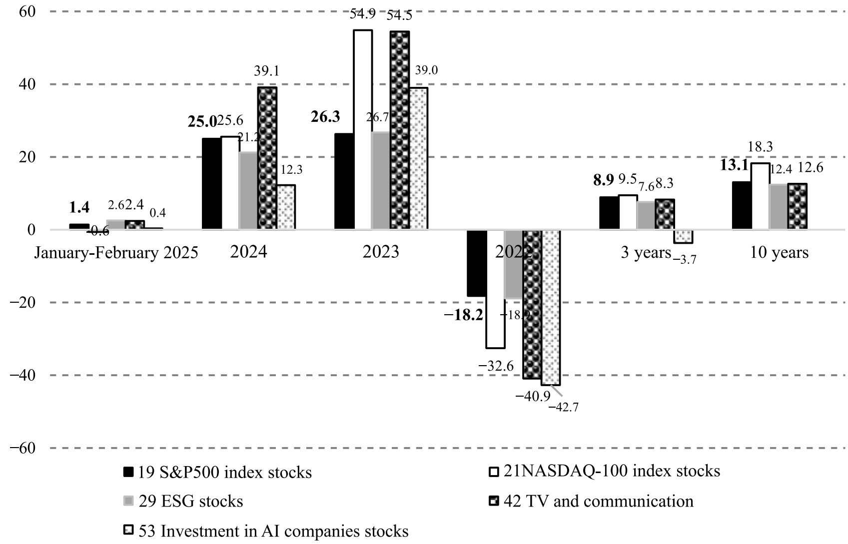

**Note.** A more complete description of investment strategies and their sequential numbers can be found in *Tables A1–A4* in the Annex to this section.

*Fig. 1.* Geometric mean total return on investment assets in the US financial market over different time horizons from 2015 to February 2025, %

*Source:* own estimates based on statistics of the Morningstar information resource: URL: https://www.morningstar.com/

At 3- and 10-year horizons, technology stocks in the NASDAQ-100 index with annualized returns of 9.5 and 18.3% outperformed the S&P500 index portfolio with returns of 8.9 and 13.1%, respectively (*Fig. 2*). However, during the 2022 crisis, technology stocks with a −32.6% annualized return fell more than the S&P500 Index with a −18.2% return. In January-February 2025, technology stocks rose more slowly than the S&P500 index and were more exposed to downside risk in case the US economy starts to slow down. The portfolio of ESG stocks did not show higher returns compared to S&P index in 2022–2024 and in 2015–2024, but its drawdown in 2022 was lower. ESG stocks have returned 2Investing in a portfolio of AI stocks over a 3-year horizon, ESG stocks have returned negative 3.7%, underperforming the S&P500 index in January-February 2025.

Majority of the most popular thematic equity investment strategies in the sample at 3- and 10-year horizons did not outperform the S&P500 index in terms of returns, and with the stock price declines that occurred in 2022 and looming in 2025, exhibited deeper drawdowns than the broad equity index (*Fig.* 3). An extremely risky strategy involving a leveraged play on the upside of the NASDAQ-100 Index shares of ProShares UltraPro QQQ ETF (TQQQ) was an exception, with an average




**Note.** A more complete description of investment strategies and their sequential numbers are provided in *Tables A1–A4* in the Annex to this section.

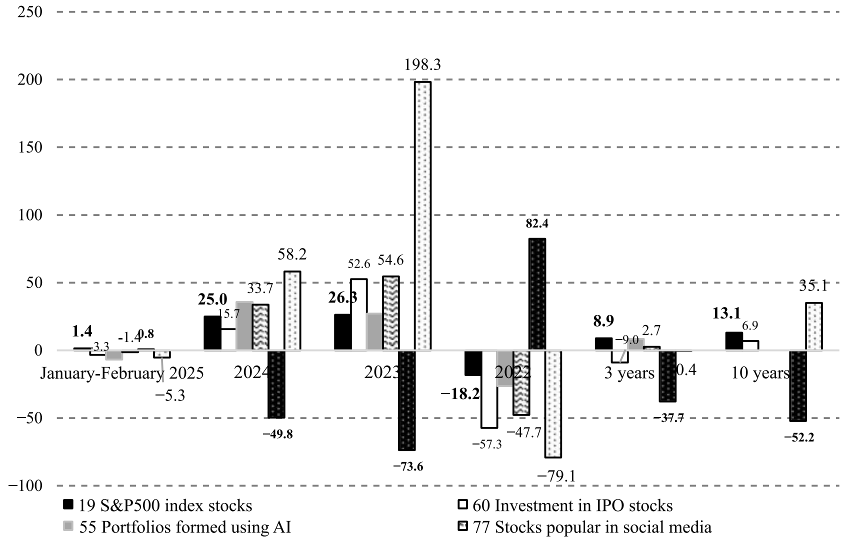
*Fig. 2.* **Geometric mean total return of equity portfolios at different time horizons over the period from 2015 to February 2025, %**

*Source:* own estimates based on statistics of Morningstar information resource: URL: https://www.morningstar.com/

return of 35.1% over 2015–2024 compared to S&P500 Index return of 13.1%. This strategy of the fund with $21.6 bn in assets has been successful in the US equity market gains observed in the previous 10-year period, but it has a high risk of a sharp drop in returns in the event of a market drawdown, which may intensify in 2025.

Portfolio of shares placed in the process of IPO in the exchange-traded fund Renaissance IPO ETF (ticker — IPO) showed low efficiency for investors. Its return over 2022–2024 was negative 9.0%, and over 10 years it was only 6.9% per annum, i. e. almost twice lower than the similar return of the S&P500 portfolio. Although the VanEck Social Sentiment ETF (BUZZ) exchange-traded fund's portfolio of stocks popular on social media, including meme shares, with returns of 54.6% in 2023 and 33.7% in 2024 significantly outperformed the S&P500 index portfolio in those years, and its 2.7% return in 2022 was below S&P500 portfolio's 8.9% return over 3 years due to high drawdowns.

Over 2015–2024 horizon, the US equity market has significantly outperformed emerging and other developed markets in terms of returns (*Fig. 4*). Over a 10-year time horizon, returns for developed market equities, excluding the US, were 5.8% and broad emerging market equities 4.7%, compared to S&P500 portfolio returns




**Note.** A more complete description of investment strategies and their sequential numbers are provided in *Tables A1–A4* in the Annex to this section.

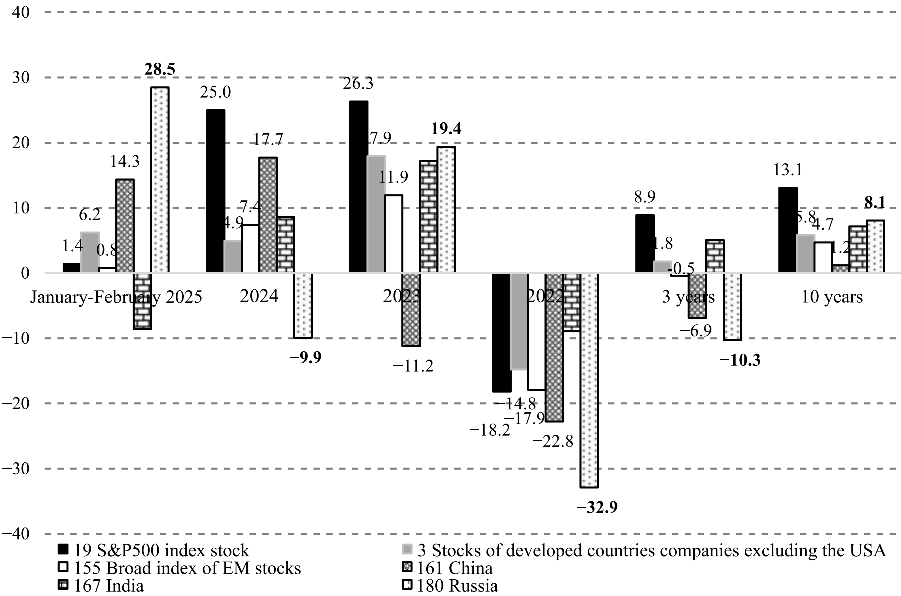
*Fig.3.* **Geometric mean total return of equity portfolios at0 different time horizons over the period from 2015 to February 2025, %**

*Source:* own estimates based on statistics of Morningstar information resource: URL: https://www.morningstar.com/

of 13.1%. With a strong dollar, heightened financial market volatility, high geopolitical risks and outperformance of technology companies' net income growth in the US, American equities have been in high demand from global investors. The advantages of US equities intensified in 2023–2024.

The Chinese equity market experienced a deep recession during these 10 years under review. The return of the Chinese equity portfolio during 2015–2024 was only 1.2% p. a., which was lower than returns of not only US equity portfolios but also other developed markets and emerging market portfolios. However, this trend began to reverse in 2024 with the Chinese equity portfolio's return of 17.7% compared to other portfolios in the sample, second only to returns of the S&P500 portfolio. In January-February 2025, with a return of 14.3%, China's stock portfolio was much higher than S&P500 index with its return of 1.4%. All this may indicate the beginning of a new trend from 2025, when investments in the shares of developing countries and other developed markets will outperform the US equity market, currently at the beginning of the recession in terms of returns.[1]

1. According to Wall Street Journal experts, in January-February 2025, the US market experienced inflows into ETFs investing in European equities for the first time in a long period, and on the con-




**Note.** A more complete description of investment strategies and their sequential numbers are provided in *Tables A1–A4* in the Annex to this section.

*Fig. 4.* **Geometric mean total returns of certain equity portfolios in developed and emerging markets over different time horizons for the period from 2015 through February 2025, %**

*Source:* own estimates based on statistics of Morningstar information resource: URL: https://www.morningstar.com/

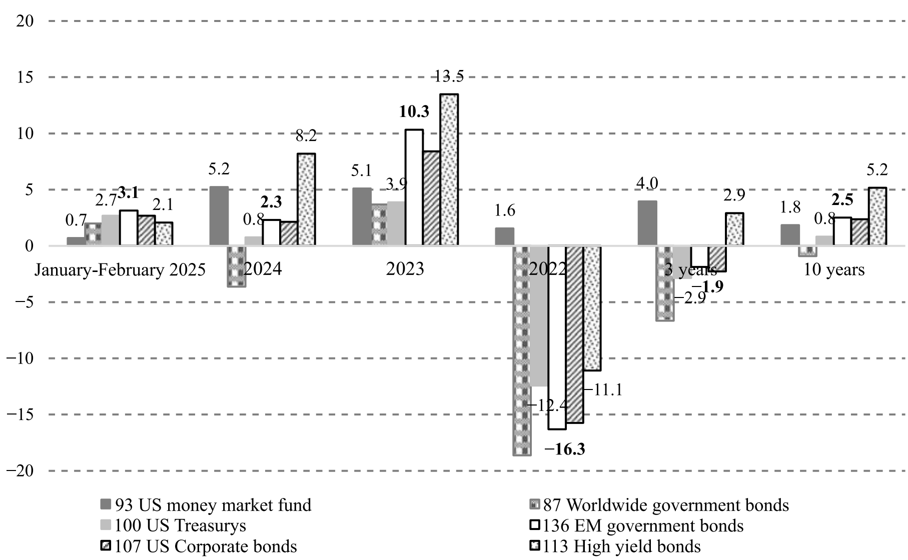
Returns on Russian equities measured by the RTS Total Return (RTS-TR) index were negative 10.2% p.a. over the 2022–2024 horizon, but the 10-year geometric average return on the RTS-TR index of 8.1% p.a. outperformed similar indicators in developed and emerging markets, including China and India. In 2024, returns of the RTS-TR index were −9.9%, but in January-February 2025, amid expectations of a step-by-step settlement of a conflict between Russia and Ukraine and due to ruble exchange rate appreciation, returns of the index jumped to 28.5%, which almost doubled high returns of the Chinese companies' equity portfolio compared to other benchmarks.

trary, inflows into ETFs with portfolios of US equities slowed. (*Tucker-Smith O.* (2025). Investors Who Were All In on U.S. Stocks Are Starting to Look Elsewhere American exceptionalism was this year's big trade. Now some are hedging their bets // The Wall Street Journal online, March 22. URL: https://www.wsj.com/finance/stocks/investors-who-were-all-in-on-u-s-stocks-are-starting-to-look-elsewhere-ddacd1e8?mod=hp_lead_pos1)

After a crisis year for the global bond market in 2022, the total return performance of popular bond portfolios began to move into the positive area (*Fig. 5*). While over 2022–2024, only the US money market fund and the US high yield bond (HYB) portfolio of US issuers in our sample showed positive returns of 4.0% p. a. and 2.9% p. a., the 10-year results showed a negative geometric mean return of −0.9% for only global government bond portfolios dominated by developed market debt instruments.

In early 2025, expecting interest rate cuts by central banks around the world, most notably the US FRS and ECB in Europe, more traditional fixed-income and long duration instruments began to generate higher market returns. In February-March 2025, the highest yields in the portfolios of emerging market government bonds, US government bonds and US corporate bonds were 3.1%, 2.7% and 2.7%, respectively. Continuing this trend can also be considered as a significant reversal of global bond markets

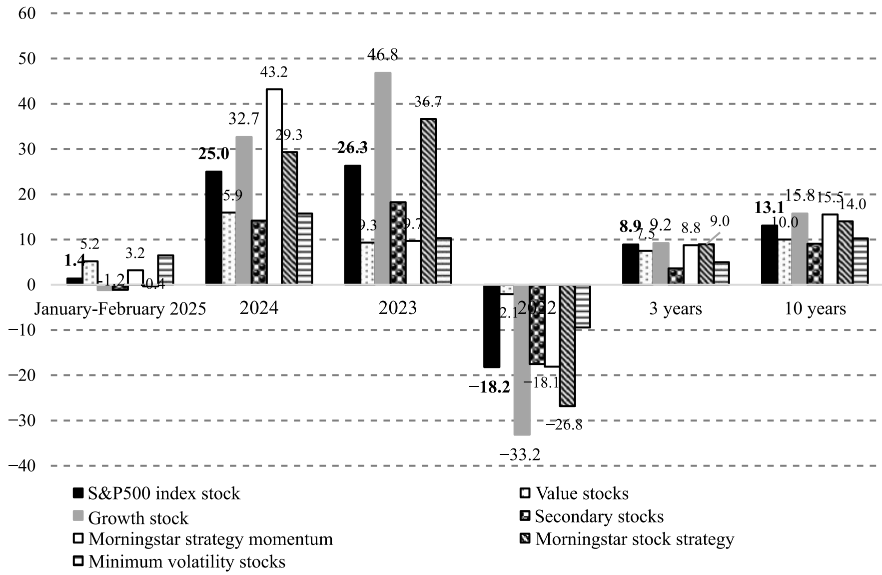
Over a 10-year time horizon, the yield on emerging market government bonds of 2.5% per annum significantly outperformed the US government bond portfolio yield of 0.8% and th9e global government bond yield, which was negative at 0.9%. This pattern was repeated in 2023, 2024 and the first two months of 2025. Despite various risks, the attractiveness of this category of bonds among global investors is steadily growing.




**Note.** A more complete description of investment strategies and their sequential numbers are provided in *Tables A1–A4* in the Annex to this section.

*Fig. 5.* **Geometric mean total return of certain bonds portfolios at different time horizons over the period from 2015 to February 2025, %**

*Source:* own estimates based on statistics of Morningstar information resource: https://www.morningstar.com/




**Note.** A more complete description of investment strategies and their sequential numbers are provided in *Tables A1–A4* in the Annex to this section.

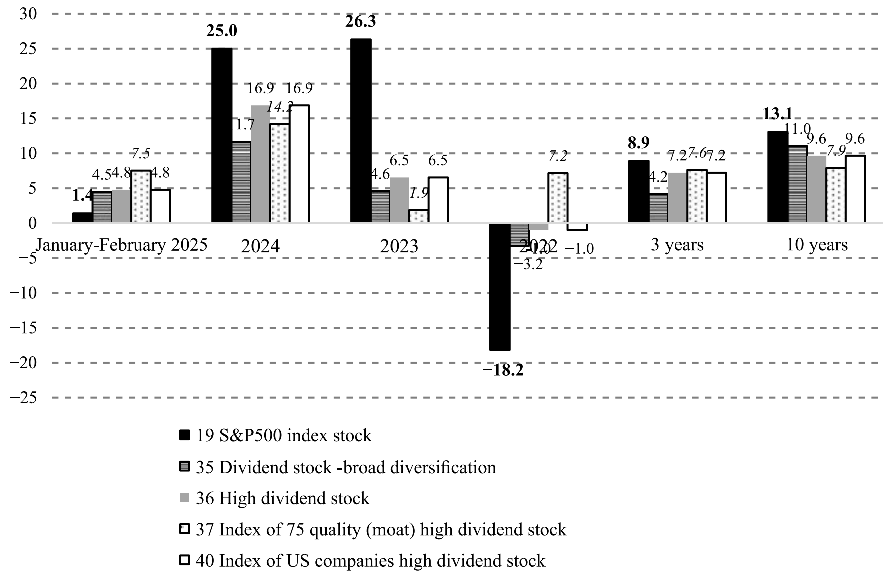
*Fig. 6.* Geometric mean total returns of selected factor stocks of US companies at different time horizons from 2015 through February 2025, %

*Source:* own estimates based on statistics of Morningstar information resource: URL: https://www.morningstar.com/

A number of factor investing strategies performed well in the US equity market between 2015 and 2024 (*Fig. 6*). Over 10 years, the growth stock, inertia (momentum) strategy, and quality stock portfolios with returns of 15.8%, 15.5%, and 14.0%, respectively, outperformed the S&P500 Index portfolio with a return of 13.1%. A number of factor strategies such as value and low volatility equity investments have proven to be protective, allowing for significant reductions in equity investment losses during the 2022 crisis.

*Fig. 7* shows features of the most popular dividend portfolios in the US market, allowing investors to apply equity hedging strategies during downturns, but inferior to market equity portfolios during rising markets.

Despite sanctions, domestic Russian stock market in 2015–2022 allowed for high foreign exchange returns (*Fig. 8*). The geometric mean return of RTS-TR index for this period amounted to 8.1%, exceeding the returns of most other emerging market portfolios in the sample and second only to returns of the Argentine equity portfolio and the Morningstar Global Markets broad index. The returns on equity investments in Indian, Chinese and Brazilian companies were 7.2%, 1.2% and 0.1% respectively over the same time period.



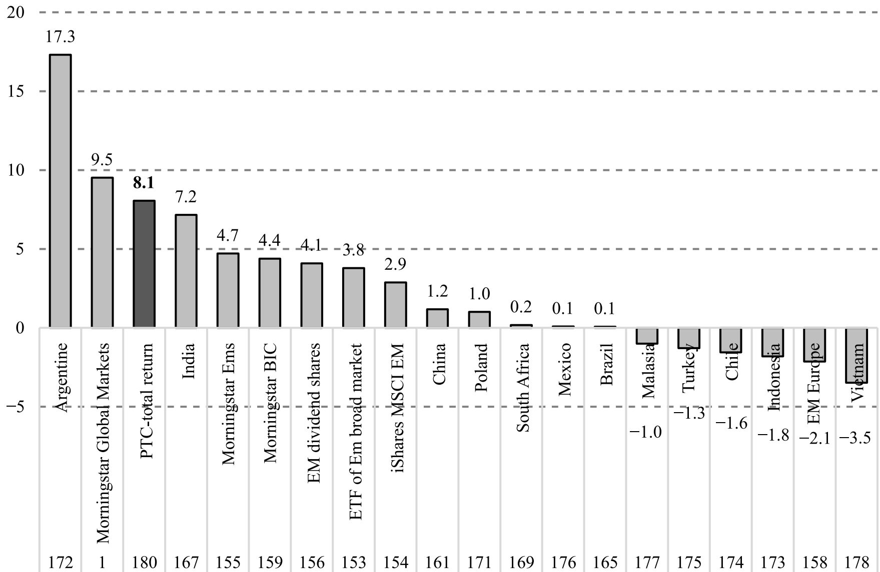

**Note.** A more complete description of investment strategies and their sequential numbers are provided in *Tables A1–A4* in the Annex to this section.

*Fig. 7.* **Geometric mean total return of certain dividend portfolios of US equities over different time horizons from 2015 through February 2025, %**

*Source:* own estimates based on statistics of Morningstar information resource: URL: https://www.morningstar.com/

However, returns on investments in shares and depositary receipts of Russian issuers by foreign investors under the conditions of mutual sanctions were significantly worse than returns on investing in the domestic market. Most of the largest exchange-traded funds specializing in shares of Russian companies have closed or are in the process of liquidation. According to Morningstar, over 10 years from 2015 to 2024, parameters for geometric mean return and standard deviation (risk) were: for the iShares MSCI Russia ETF −2.7% and 2361.0%, respectively; for the VanEck Russia ETF — 5.3% and 87.3%; and for the VanEck Russia Small-Cap ETF — 2.9% and 116.4%. Losses incurred by foreign institutional investors on their equity investments in Russian companies pose a serious risk to the prospects for developing the Russian financial market in terms of foreign investors' confidence. Russian market will have to solve these issues in the medium term to attract foreign investments.

In early 2024, the US Securities and Exchange Commission (SEC) registered the first exchange-traded funds investing in bitcoin on the spot market. One of the world's largest management companies, Fidelity Investments made investments in cryptocurrency available to participants in the corporate 401-k pension




**Note.** A more complete description of investment strategies and their sequential numbers are provided in the Annex to this section.

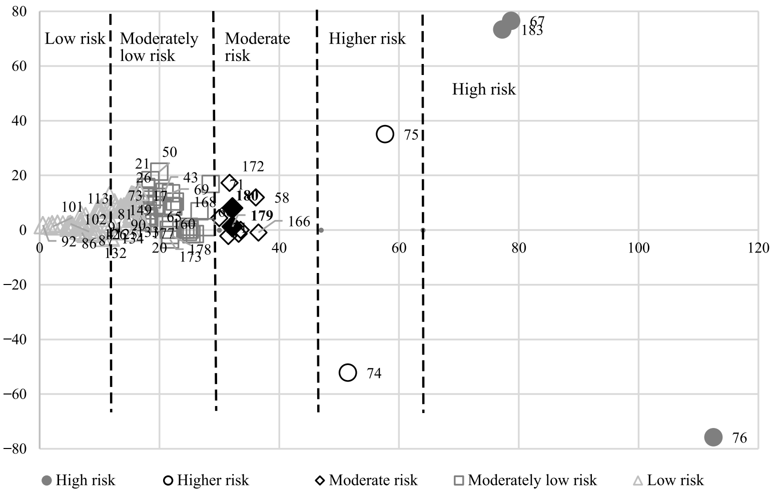
*Fig. 8.* **Geometric mean total return of certain equity portfolios at 10-years time horizon over the period from 2015 to February 2025, %, at developed and emerging markets**

*Source:* own estimates based on statistics of Morningstar information resource: URL: https://www.morningstar.com/

plans it administers, provided that such investments are authorized by their employers. Many independent investment advisors started offering cryptocurrency investments to clients to diversify their individual portfolios.

Even over a 10-year time horizon, bitcoin investments have yielded higher returns than any other investment asset. However, over 2015–2024 time horizon, with a geometric mean annualized return of 76.5%, the S&P Bitcoin Index portfolio's standard deviation (risk) of 78.7% was among the highest of the 141 strategies in our sample (see Table P5 in the annex). In this environment, in our opinion, the prospects for including cryptocurrency in portfolios of different types of investors will largely depend on the ability to reduce risks of these investments, primarily due to requirements of financial regulation.

Over the 2015–2024 time horizon, 140 of the 141 strategies in our sample had annualized standard deviations ranging from 0 to 80% (*Fig. 9*). If the above risk values are divided into approximately 5 equal parts, we will get 5 groups of portfolios with different risk profiles. High-risk portfolios had standard deviations of 65% and higher, increased risk from 49% to 64%, moderate risk from 30% to 48%, moderate-low risk from 17% to 29%, and low risk from 0% to 16%.




**Note.** A more complete description of investment strategies and their sequential numbers are provided in the Annex to this section.

*Fig. 9.* **Geometric mean and risks of 141 investment strategies at global markets at 10-years time horizon in 2015–2024, %**

*Source:* own estimates based on statistics of Morningstar information resource: URL: https://www.morningstar.com/

In our sample consisting of 141 strategies, the predominant number of exchange-traded fund and index portfolios were low- to moderately-low-risk portfolios. A total of 93 strategies or 66.0% of the sample belonged to low-risk portfolios, 34 strategies or 24.1% to moderate-low risk portfolios, 9 strategies or 6.4% to moderate risk portfolios, only 2 strategies or 1.4% to high-risk portfolios, and 3 strategies or 2.1% to high-risk portfolios.

The lowest-risk strategies were the Vanguard Cash Rsrv Federal MnyMktAdmiral (VMRXX) money market fund with a standard deviation of 0.53%, and the highest-risk strategy was the ProShares Ultra VIX exchange-traded fund (UVXY) with bets on the performance of the VIX volatility index at 112.52%. The above money market fund VMRXX was marked by the highest value of the return/risk indicator from the sample at 3.47. The lowest return/risk ratio was the ProShares UltraPro Short QQQ ETF (SQQQ) with a strategy of betting on the downside in NASDAQ-100 index with a leverage of −1.01. The ProShares Ultra VIX (UVXY) fund mentioned above was only slightly behind with a −0.67 return/risk ratio.

In the sample under study, the RTS-TR index number 180 belonged to the group of portfolios with moderate returns, marked by a return of 8.06% per annum, a standard deviation of 32.20% and a return/risk ratio of 0.25. Comparatively, the Vanguard S&P 500 ETF (VOO) for S&P 500 Index had a return of 13.07%, a standard deviation of 15.36% and a return/risk ratio of 0.85%.

A distinctive feature of global financial asset market is a wide range of strategies for investors with different risk profiles and strategies allowing to hedge risks of losing the value of investments during financial crises. Intense competition between financial products from different vendors is a powerful driver for reducing costs and improving their accessibility for different categories of investors. This made it much easier for investors to survive the 2022 crisis with a sharp drop in the market value of many popular financial assets. For Russian investors, including private investors, despite existing restrictions, the strategy of global portfolio diversification remains relevant in the future. Therefore, one of the priorities of financial regulation for the future remains the restoration of access to the benefits of international asset diversification for these investors.

### 2.1.2. Internal context for Russian financial market

In 2022–2024, Russian stock market functioned under extremely difficult conditions caused by mutual sanctions, record growth of the key rate of the Bank of Russia in 2023–2024 and outflow of private investors' funds from equities in 2024.

*Anti-sanctions policies*

No significant changes happened in 2024 regarding unblocking of assets of Russian and foreign investors. Sanctions against Russian banks restricting payments and investments in currencies of unfriendly countries remained in place and even strengthened.

According to the EU Council for 2024, €260 bn worth of assets of the Bank of Russia have been blocked in G-7 countries.[1]

Meanwhile, according to our estimates, assets of non-residents, primarily foreign institutional investors, have been blocked in Russia for about Rb 20 trillion, with 70–80% of this amount being invested in equities. If sanctions are mutually relaxed, withdrawal of Rb 15–16 trillion by non-residents with total capitalization of the stock market in 2024 in the amount of Rb 53 trillion poses the risk of a serious fall in the value of these shares. However, if this problem is not solved, it will be difficult to count on return of foreign institutional investors to the Russian equities market.

Our assumptions in the previous survey about a gray market for buying up blokked assets of non-residents[2] were confirmed in 2024. According to Vladimir Chi-

1. Council of the EU. Imobilised Russian assets: Council decides to set aside extraordinary revenues // Press release, 12 February 2024. URL: https://www.consilium.europa.eu/en/press/press-releases/2024/02/12/immobilised-russian-assets-council-decides-to-set-aside-extraordinary-revenues/
2. Russian economy in 2023. Trends and prospects. (Edition 45); The Gaidar Institute. — Moscow: The Gaidar Institute Publishing house, 2024.

styukhin, First Vice President of the Bank of Russia, there has been a significant spread of practices when some friendly non-residents bought Russian securities from unfriendly investors bypassing legal requirements for subsequent resale on the Russian stock market.[1] Following the regulator's intervention, this practice was limited only at the end of 2024.

Total value of private investors' assets blocked in foreign depositories is estimated at Rb5.7 trillion.[2] Blocking of these funds seriously restricts the demand for financial assets in the domestic market.

To partially solve this problem, the Executive Order of the President of the Russian Federation No. 844 of 08.11.2023 "On additional temporary economic measures related to circulation of foreign securities" provided for voluntary exchange mechanism of blocked assets of Russian and foreign investors, which enables to exchange blocked foreign assets of Russian private investors up to Rb100.000 for foreign investors' funds blocked on "C" type money accounts. The above exchange was performed as part of voluntary auctions organized by the Voronezh broker Investment Chamber, who initiated this procedure. The responsibility for unblocking of received foreign assets in foreign depositories was assigned to buyers of securities.

The Ministry of Finance estimates that implementation of these measures could reduce the value of unblocked assets by Rb100 bn, however, the number of private investors affected by the asset freeze would fall by 2. 5mn out of 3.6mn of the total number of investors affected by these sanctions.[3] Actual results of the exchange proved to be more modest. According to broker Investment Chamber, foreigners bought only Rb8.1 bn assets of Rb35.3 bn according to the submitted bids, i. e. they managed to sell about 23% of securities declared for redemption.[4]

The problem of outflow of foreign direct investment by global companies deciding to stop doing business in Russia remains a major risk, including for stability of the ruble exchange rate. According to acting legislation[5] in this case, transactions to sell Russian assets have to be approved by foreign investment commission and should be concluded at a discount of at least 50% of the market value of the companies. Furthermore, the company must pay to the budget a "voluntary" contribution of 5 to 10% of the market value of the assets. According to estima-

1. *M. Mordovina, A. Pustyakova.* War of sanctions. Central Bank saw "bypass schemes" of friendly investors with C-accounts // RBC online. November 27, 2024. URL: https://www.rbc.ru/finances/27/11/2024/6745bb2a9a79474a1d36435b
2. *Frank Media*. Thousands of Russian investors with frozen assets are not involved in their exchange // Frank Media, 22.06.2024. URL: https://frankmedia.ru/168331
3. URL: https://quote.rbc.ru/news/article/654babc89a7947761d40573f
4. *E. Ruzleva.* A quarter "drop in the sea": how the redemption of blocked assets of Russians was held // August 14, 2024. URL: https://www.forbes.ru/investicii/519000-cetvert-kapli-v-more-kak-prosel-vykup-zablokirovannyh-aktivov-rossian
5. Executive Order of the President of the Russian Federation of 8.09.2022 No. 618 "On special procedure for performance (fulfillment) of certain types of transactions (operations) between some parties" and other legal acts.

tes by The New York Times, in December 2023 losses of Western companies after their decision to leave Russia amounted to more than $103 bn. At least $1.25 bn was paid by non-residents to the budget from selling their businesses over the past year. Many companies continue to stay in Russia because they do not want to lose money they have invested in the development of Russian business.[1]

In 2024, the SDN list (specially designated people), which is a list of people and organizations with whom US citizens and permanent residents are prohibited from doing business, was significantly expanded to include banks and other stock market participants. As of January 2025, this list included more than 100 Russian banks. In June 2024, the Moscow exchange, National clearing center (NCC) and National settlement depository (NSD) were included in this list. Consequently, starting June 13, the Moscow exchange was forced to stop exchange trading in the dollar and euro. The Bank of Russia introduced a new procedure for determining dollar and euro exchange rates based on data it collects on banks' OTC transactions. In 2024, SDN-list also included 29 registrars and 11 depositories, making it impossible to re-register rights to securities through these structures involving foreign brokers and investors.

On June 24, 2024, the EU imposed sanctions against Financial Messaging System (FMS). The list of banks restricted from using SWIFT, the international financial messaging system, was also expanded. There were over 20 major banks disconnected from the said settlement system as of January 2025.

Unprecedented sanctions of unfriendly countries, adopted in 2022–2024 have not resulted in a crisis of domestic financial system due to effective measures taken by the government, but significant risks and restrictions for domestic market still remain. They resulted in blocking of significant assets and restricted access of Russian issuers, investors and financial organizations to global financial markets. Sanctions have negatively affected both foreign investors' credibility in investing in Russian assets and domestic investors' trust in investing abroad. The recovery of Russian market will require further implementation of a complex long-term program of measures to restore the credibility of large foreign institutional investors.

### *Terms of monetary policy*

Growth of inflation, which started in July 2023, caused the Bank of Russia to increase the key rate from 7.5% in June 2023 to 21.0% in October 2024 (*Fig. 10*). Thereafter, until the end of 2024, the key rate remained at this level, which is a record high since its introduction on September 17, 2013.

Growth of key rate resulted in the outflow of investors' funds from shares, and eventually the yield of the Moscow exchange index in 2024 amounted to −7.0%. According to the Moscow exchange, private investors withdrew Rb 109.8bn from

1. URL: https://www.forbes.ru/biznes/502683-nyt-ocenila-ubytki-zapadnyh-kompanij-posle-uhoda-iz-rossii-v-103-mlrd

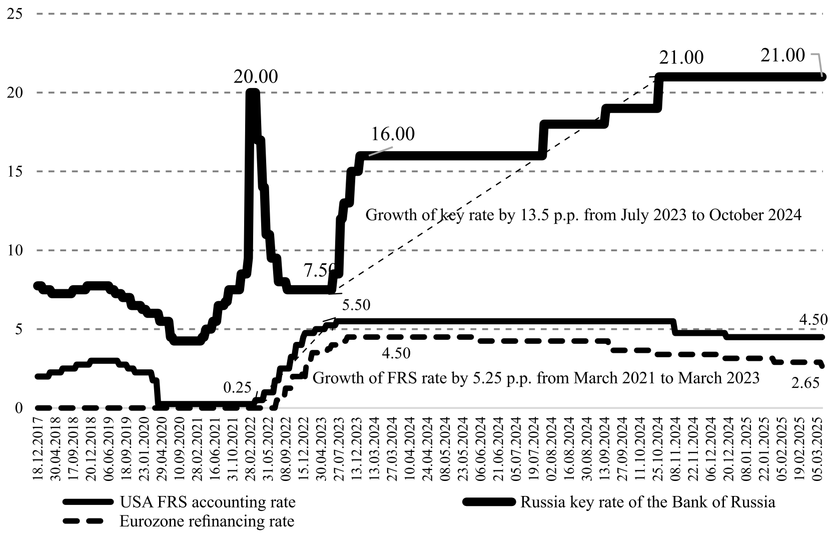



*Fig. 10.* **FRS accounting interest rate, ECB refinancing rate and key rate of the Bank of Russia, % p. a. since December 2017**

*Source:* own estimates according to Cbonds.

the stock market in 2024.[1] In these circumstances, in 2023–2024, domestic equity finance market failed to fulfill one of its key tasks, i. e. to contribute to structural transformation of the Russian economy.

In the bond market, growth of the key rate caused an increase in debt financing costs for companies, the national budget and negative market yields on bonds, especially those with long duration. During rate hikes, investors' funds were redistributed in favor of money market instruments and short-term bonds.

Meanwhile, the prospect of a gradual decline in inflation and, accordingly, in the key rate from H2 2025 may provide favorable opportunities for growth in the stock market due to coping with their undervaluation, while at the same time increasing the market value of bonds. This situation can be compared to 1982 in the US equity market, when long-term FRS rate cuts and accelerated growth in the P/E ratio of public companies triggered a long-term rise in equity and bond markets, as well as increased investment attractiveness of the 60% stock/40% bond strategy widely used by institutional investors.

Stability of domestic bond market largely depends on the liquidity needs of the banking system[2], which can be estimated as the sum of surplus (–) or deficit (+) of banks' liquidity "plus" the cost of funds deposited by banks with the Bank

1. URL: https://www.moex.com/n76900?nt=106
2. Since banks are the main investors in public and corporate bond market.

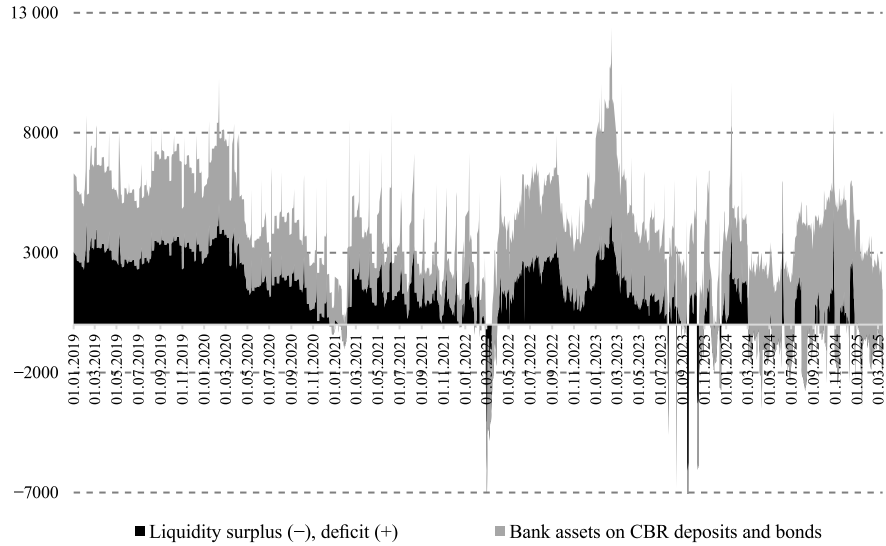



*Fig. 11*. Total bank liquidity, Rb bn
from January 2019 to March 14, 2025, Rb bn

*Source:* own estimates according to Bank of Russia: http://www.cbr.ru/hd_base/bliquidity/

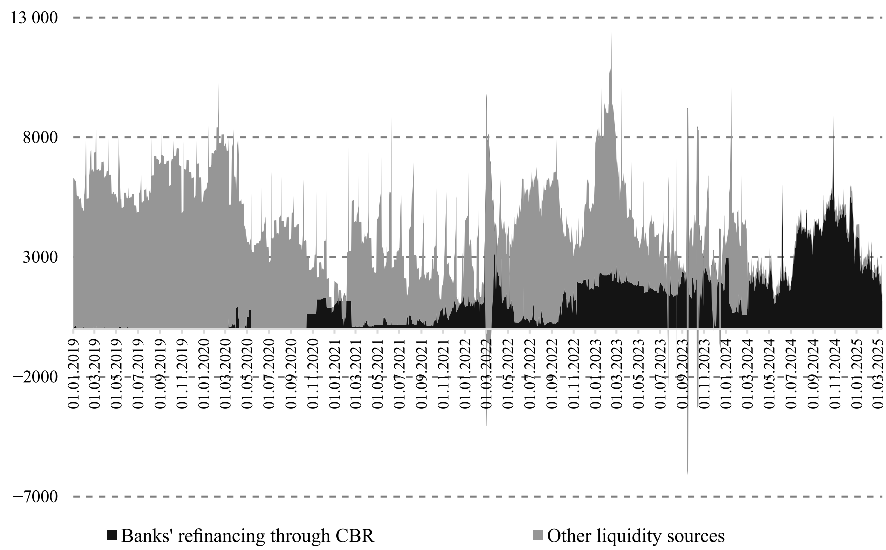



*Fig. 12.* Sources of banking liquidity
from January 2019 to March 14, 2025, Rb bn

*Sources:* own estimates according to Bank of Russia.

of Russia and issued bonds (*Fig. 11*). This figure shows the banks' need for cash to maintain the necessary reserve on correspondent accounts with the Bank of Russia and to finance their current operations.

In 2023–2024, liquidity surplus in the banking system was shrinking compared with 2022, while the volume of funds on deposits with the Bank of Russia tended to grow (*Fig. 11*). The average daily liquidity surplus in the banking system fell from Rb1.2 trillion in 2022 to Rb0.8 trillion in 2023 and in 2024 there was a liquidity surplus of Rb63 bn. However, the average daily balances of banks on the Bank of Russia's deposits in the above years amounted to Rb .1 trillion, Rb 3.4 trillion, and Rb4.0 trillion, respectively.

On the whole, this indicates higher stability of the banking system.

In terms of sources of financing bank liquidity in 2022–2024, there was an alarming trend towards reduction of own sources of its inflow with the outstripping growth of the banks' refinancing by the Bank of Russia (*Fig. 12*). In 2022, average daily liquidity inflows from banks' operations amounted to Rb2.8 trillion, Rb1.9 trillion in 2023, and Rb0.8 trillion in 2024. However, average daily volumes of funds raised through refinancing reached Rb1.5 trillion, Rb2.3 trillion, and Rb3.1 trillion, respectively, in the same years. This indicates growing dependence of the banking system on the central bank's refinancing, which, other things being equal, can be a source of higher inflation in the economy.

### *Restoring financial market liquidity*

In terms of liquidity, different segments of the financial market recovered differently in 2022–2024 and in the first two months of 2025 (*Table 1*). Recovery was most successful in the equity, non-government bond and money markets, where exchange transactions in 2024 grew by 8.4%, 105.6% and 101.4%, respectively, compared to 2021, including 62.6% for REPO transactions with the central counterparty. The outstripping growth of liquidity in these segments was also observed in January-February 2025 compared to the same period of 2021. In the stock market, non-residents were successfully replaced by private investors. The non-government bond market and the money market traditionally depended less on the trading activity of foreign investors, and banks had sufficient liquidity, including due to refinancing by the Bank of Russia.

Volumes of transactions in the OFZ market due to non-residents' exit in 2024 were 39.2% below the level of 2021. However, in January-February 2025, amid greater activity of banks and private investors, liquidity of this market segment increased by 43.5% vs. the same period in 2021.

In 2022–2024, in terms of liquidity, the futures market failed to reset. In 2024, trading volumes in the futures market were 36.3% lower than in 2021, in the options market by 51.7%, respectively. This is largely due not only to lack of non-residents, but also to reduction in investors' interest in futures contracts on currency and certain stock instruments. The foreign exchange market in 2024 fell by 21.2% to the level of 2021 mainly due to the above-mentioned cessation of exchange trading in dollars and euros in June 2024 due to sanctions imposed on companies of the Moscow Exchange Group. Market for shares of foreign companies on the St. Petersburg Exchange has stopped functioning; client assets in the exchange's depository were blocked abroad due to sanctions imposed on the SPCEX and its settlement depository in 2023.

*Table 1*

**Trading volumes at the Moscow Exchange (ME) and the St. Petersburg Exchange (SPCEX), trillion rubles**

| | 2021 | 2022 | 2023 | 2024 | Mean value for 2015–2024 | Change of 2024 vs. 2021, % |
|---|---|---|---|---|---|---|
| 1. Secondary trading volume: | | | | | | |
| Shares, receipts, units | 30.0 | 17.6 | 22.9 | 32.5 | 17.7 | 8.4 |
| OFZ | 7.2 | 4.2 | 6.5 | 4.4 | 5.9 | −39.2 |
| Non-government bonds | 2.9 | 2.3 | 4.9 | 5.9 | 4.0 | 105.6 |
| 2. REPO operations | 420.8 | 541.9 | 659.9 | 847.5 | 444.9 | 101.4 |
| Including with central counterparty (CC) | 271.0 | 301.8 | 364.0 | 440.7 | 250.4 | 62.6 |
| 3. Currency** | 322.0 | 267.8 | 328.0 | 253.9 | 314.8 | −21.2 |
| 4. Futures | 151.8 | 75.6 | 77.9 | 96.6 | 96.4 | −36.3 |
| 5. Options | 6.8 | 2.3 | 2.9 | 3.3 | 4.9 | −51.7 |
| 6. SPCEX, foreign shares, billion dollars | 388.5 | 122.2 | 34.2* | 1.6 | | −99.6 |

* January-October 2023;
** data for 2015–2023 in this line show volume of the currency market according to the Exchange's previous reporting. Summary data on currency and commodity market are shown in 2024. At that, the average share of commodity market to currency market liquidity in 2015–2023 amounted to only 0.06%
*Source:* own estimates according to Moscow Exchange and SPCEX.

In 2023 and early 2024, risks of nationalization of stakes in companies violating privatization legislation in previous years became apparent. As of 2024, according to RBC's calculations, over 84 companies in Russia have been ruled on or are in the process of being nationalized by the courts.[1] Legal risks reduce investor trust in the stock market.

1. *Elena Ruzleva*. Creeping nationalization: how to protect private investors // Forb%s, February 21, 2025. URL: https://www.forbes.ru/investicii/531108-polzucaa-nacionalizacia-kak-ot-nee-uberec-sa-castnym-investoram

### 2.1.3. Investor strategies in the Russian market

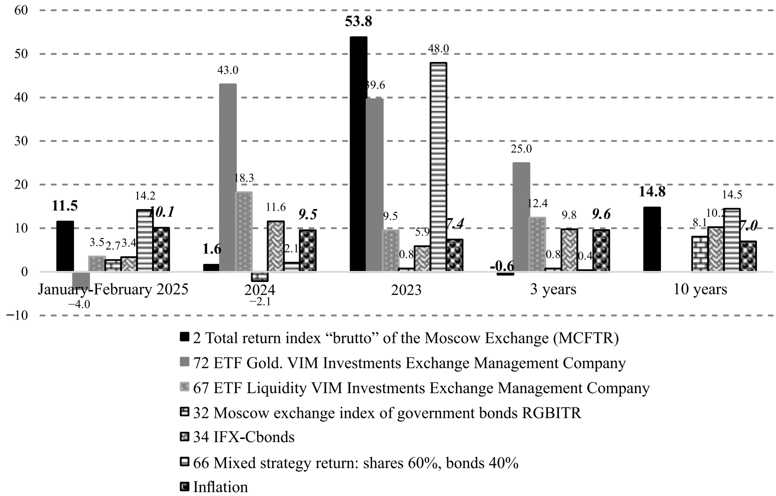
2024 was a difficult year for Russian stock market. In addition to the effects of sanctions, it faced the issue of the key rate of the Bank of Russia rising to record high. In this environment, investors preferred bank deposits and money market instruments to investments in stocks and long-term bonds. To some extent, the situation in the Russian market in 2024 can be compared to crisis situation in the US market in 2022, when market value of investments in many financial assets dropped at once due to a sharp increase in the FRS rate.

Over 3-year time horizon 2022–2024, the leading strategies in terms of profitability in the Russian market were investment strategies in gold through exchange-traded mutual funds, money market funds and investments in the IFX-Cbonds corporate bond index portfolio (*Fig. 13*). In 2022–2023, geometric average returns of the exchange-traded mutual fund Gold. Exchange-traded VIM Investments MC (strategy 72), money market fund VIM Investments BPIF Liquidity MC (67) and IFX-Cbonds index amounted to 25.0%, 12.4; and 9.8% per annum, respectively compared to −0.6% return of the Moscow Exchange Index — total return (2) and inflation of 9.6%. Return of the broad government bond index RGBITR (32) was only 0.8% over this time period. The above 3 highest-yielding strategies over a 3-year horizon were also the highest-yielding in 2024.

Over 10-year time horizon 2015–2024, gold exchange-traded funds and money market funds have failed to show their benefits due to lack of relevant historical data. The most profitable strategy for the above timeframe was the strategy of investing in the Moscow Exchange Index, with a total return of 14.8%. Returns for the RGBITR Government Bond Index, IFX-Cbonds corporate bond index and the 60% equities/40% bonds blended investment strategy (66) portfolios of 8.1%, 10.2% and 14.5%, respectively, were above the average inflation rate of 7.0%. Strong performance of the 60/40 strategy shown over a 10-year time horizon indicates its high potential, primarily for portfolios of NPFs and mutual funds.

*Fig. 14* shows that in the bond market in 2024 amid a high key rate, in addition to money market funds with a yield of 18.3%, investments in floaters — OFZ-PK with variable coupon income (55) showed a high yield of 16.3%. The broad index OFZ portfolio (32) and investments in government bonds with duration over 5 years (54) yielded negative nominal returns of −2.1% and −5.2%. Even investments in high yield corporate bonds (HYCBs) with a nominal yield of 1.6% were significantly below inflation at 9.5%.

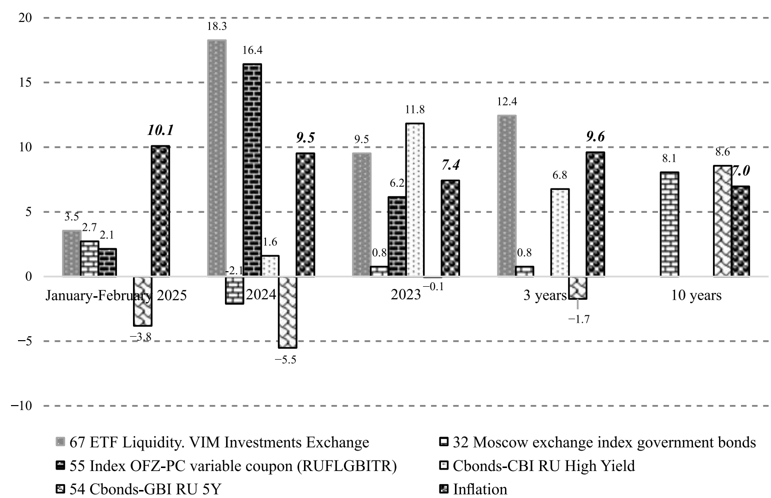
On 3-year horizon, only money market funds brought yields above the inflation rate. The OFZ-PK index (55) does not have sufficient historical data yet. The combined yields of the broad OFZ index and the long-term government bond index were also negative. On the contrary, on 10-year time horizon, the above two indices evidencing yields of 8.1% and 8.6% were above inflation of 7.0%. Thus, in 2022–2024, investments in government bonds and HYB did not ensure safety of investors' money, although on the long horizon their yields were generally above inflation.




**Note.** A more complete description of investment strategies and their sequential numbers is provided in the Annex to this section.

*Fig. 13.* **Mean geometric total nominal yield of various investment assets in the Russian financial market, %**

*Source:* own estimates based on Moscow Exchange statistics and information resources Cbonds and Investfunds.ru: URL: https://investfunds.ru/.



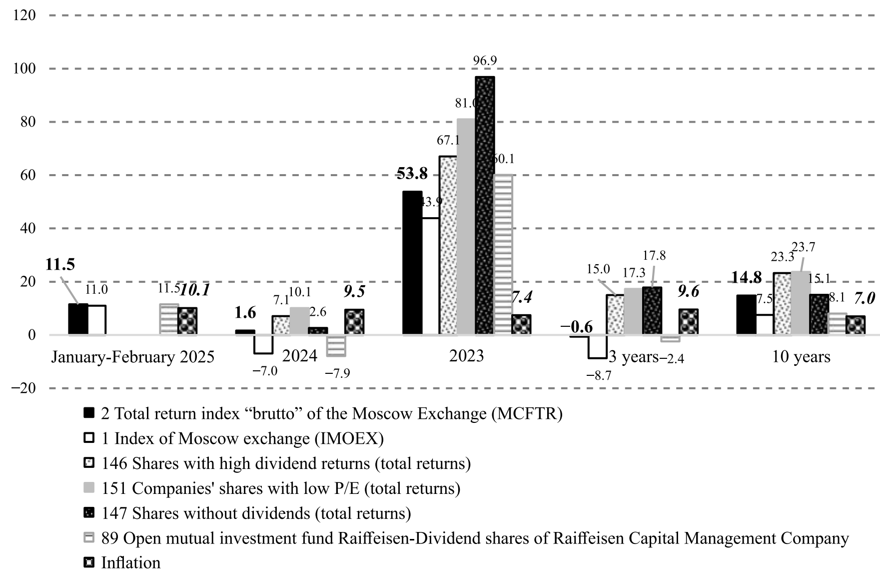

**Note.** A more complete description of investment strategies and their sequential numbers is provided in the Annex to this section.

*Fig. 14*. **Mean geometric total nominal yields of various bond strategies in the Russian financial market at different time horizons from 2015 to February 2025, %**

*Source:* own estimates based on Moscow Exchange statistics and information resources Cbonds and Investfunds.ru. URL: https://investfunds.ru/

At different time horizons in 2015–2024, portfolios of high dividend yielding stocks (146) helped investors hedge against declines in the Moscow exchange indices (1 and 2) and even consistently outperformed the Moscow Exchange index, with full returns in 2024, in 2022–2024, and over a 10-year time horizon (*Fig. 15*). However, a strategy of investing in stocks of companies with a high E/P multiple (151) was even more effective. Its returns in 2024, at 3-year and 10-year horizons of 10.1%, 17.3% and 23.7% were higher than returns of 7.1%, 15.0% and 23.3% for high dividend yield stock portfolios, respectively. This confirms the Modigliani-Miller[1] scientific hypothesis that in terms of total shareholder return, it is the size of companies' net income that matters, rather than proportions of its distribution for dividends and other purposes.

Portfolio of shares without dividends (147) also showed good results by profitability. Its returns in 2023 and in 2022–2024 exceeded returns of portfolios with high dividend yield and high E/P multiplier. However, returns for this strategy are not sustainable, being lower in 2024 and over 10 years compared to other two strategies mentioned above.




**Note.** A more complete description of investment strategies and their sequential numbers is provided in the Annex to this section.

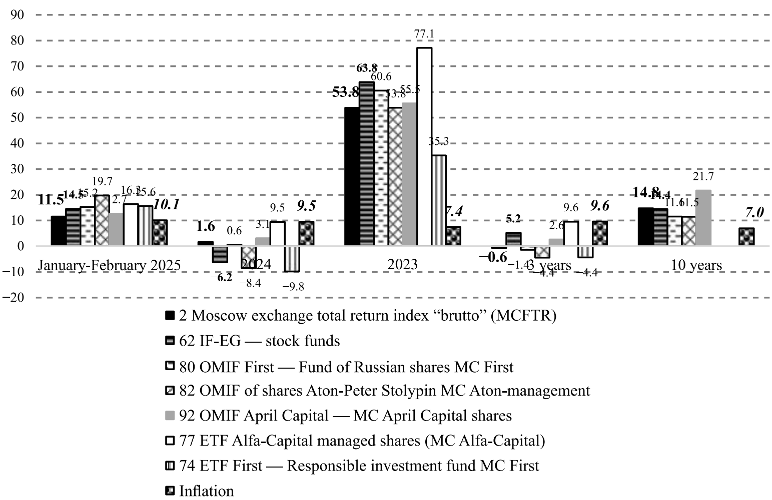
*Fig. 15*. **Mean geometric total nominal yield of different dividend strategies in the Russian stock market at different time horizons, %**

*Source:* own estimates based on Moscow Exchange statistics and information resources Cbonds and Investfunds.ru. URL: https://investfunds.ru/

1. *Miller M., Modigliani F.* (1961). Dividend policy, growth and the valuation of shares. Journal of Business, Vol. 34, No. 4, pp. 411—433. https://doi.org/10.1086/294442

At 3-year and 10-year horizons, returns on factor investment strategies[1], such as investing in small-cap stocks (138), large-cap companies (142), high-dividend yielding companies (146), growth stocks (139), private-company stocks (149) and broad equity indexes (136) exceeded not only inflation but also returns of the Moscow exchange index (MCFTR). In 2024, all of these factor strategies, excluding portfolios of large-capitalization stocks, showed returns below inflation but above the MCFTR index.

In 2024, almost all 5 actively managed equity mutual funds reviewed, excluding Alfa Capital Managed Equity mutual funds managed by Alfa Capital Management (77), generated returns below inflation. Thus, the composite portfolio of IF-EG equity mutual funds, equity funds (62) received a negative return of 6.2%, while the return of the Moscow exchange index (MCFTR) was 1.6%. However, over a 10-year time horizon, returns of the composite portfolio of equity mutual funds (62) at 14.4% almost matched the returns of the specified Moscow exchange index (2) at 14.8%. Return of one of the first equity funds based on ESG strategy ETF First — Fund Responsible Investments MC First (74) at the horizon of 3 years and in 2024 was negative and inferior to returns of the Moscow exchange index (*Fig. 16*).




**Note.** A more complete description of investment strategies and their sequential numbers is provided in the Annex to this section.

*Fig. 16*. **Mean geometric total nominal yield of a number of exchange-traded and open-end mutual funds in the Russian financial market at different time horizons for the period from 2015 to February 2025, %**

*Source:* own estimates based on statistics of Moscow exchange, information resources Cbonds and Investfunds.ru: URL: https://investfunds.ru/.

1. Passive investment strategies that involve selection of shares by a particular indicator (share of state ownership, liquidity, profitability for the previous period, etc.) or financial multiplier (dividend yield, P/BV, P/E ratios, etc.) are factor-based.

The yields of two actively managed funds — OMIF April Capital — Shares of MC April Capital (92) and ETF Alfa Capital Managed Shares of MC Alfa Capital (77) were highlighted. The first of the above funds steadily outperformed the Moscow exchange index, total return, over all time horizons from 2015 to February 2024. The second fund having a shorter-term history also outperformed the MCFTR index over all time horizons from 2022 through February 2025. This suggests that there is room in the domestic collective investment market for individual active-managed funds to consistently outperform popular index strategies.

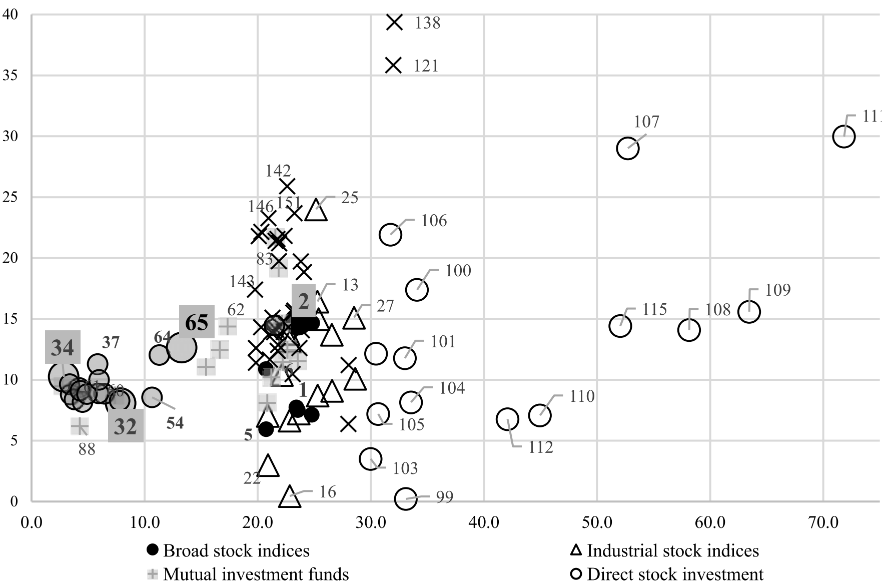
*Fig. 16* reviews the returns and risks of 105 strategies having data over a 10-year time horizon from 2015 to 2024. More details on the strategies are provided in the appendix to this section. These strategies are grouped into six categories: broad equity indices, sectoral equity indices, mutual funds, direct equity investments, factor strategies, and bond and mixed investment indices. Large dots highlight the most popular stock market benchmarks: 2 — Moscow exchange index — total return (MCFTR), 32 — Moscow exchange government bond index (RGBITR), 34 — IFX-Cbonds broad corporate bond index and 65 — mixed strategy portfolio: stocks 50%/bonds 50%.

High risks of direct investments in shares of companies (circles on the right side of the chart), which are not always compensated by higher returns, are a typical feature of the given chart at visual perception level. Direct investments in shares are marked by the highest risk indicators ranging from 30.0% for shares of MMC Norilsk Nickel (103) to 63.5% for shares of JSC Belon (109).

Many investments related to equity indices, collective investments and factor strategies still poorly used in practice due to diversification effect allow not only to reduce investors' risks, but also get yields higher than direct investments in particular issues of shares. In terms of risk criterion, all the mentioned strategies ranged from 17.3% for the IF-EG Mutual Funds — Equity Funds Index (62) to 28.6% for the Transportation Index (MOEXTN, 26). In terms of returns, most of the strategies under review did not outperform the Moscow exchange index total return with an average annualized return of 14.8%. In terms of sectoral strategies, the Moscow exchange index significantly outperformed the chemicals and petrochemicals index (MECHTR, 25) with a return of 24.0%. as for mutual funds under consideration, the yields of Aton Equity OMIF — Echelon 2.0 MC Aton Management (83) and April Capital OMIF — Shares MC April Capital (92) were 19.2% and 21.7% above the Moscow exchange index.

*Fig. 17* shows 34 factor strategies for exchange rate and total return (marked with crosses) the Moscow exchange index — total return (2) was outperformed by 18 portfolios, or 52.9% from the sample of indicated portfolios. Given moderate risk at the Moscow exchange index and mutual fund portfolios, the geometric mean returns of 18 factor portfolios that outperformed the MCFTR index ranged from 15.1% of non-dividend stock portfolio, total return (147) to 39.4% of small company stock portfolio, total return (138).

Conservative portfolios, including bond indices, mixed investment portfolios, money market mutual funds and bond mutual funds, were marked by risks ranging from 2.7% for IF-MM index — money market funds (61) to % 16.6% of the money market fund of the OMIF Alfa Capital Balance MC Alfa Capital (94). The most profitable of the group of strategies under consideration were the IFX-Cbonds index (34), Cbonds-CBI RU B/ruB- low credit rating corporate bond index (37), mixed strategy portfolio: stocks 40%, bonds 60% (64) and mixed strategy portfolio: stocks 50%, bonds 50% (65).



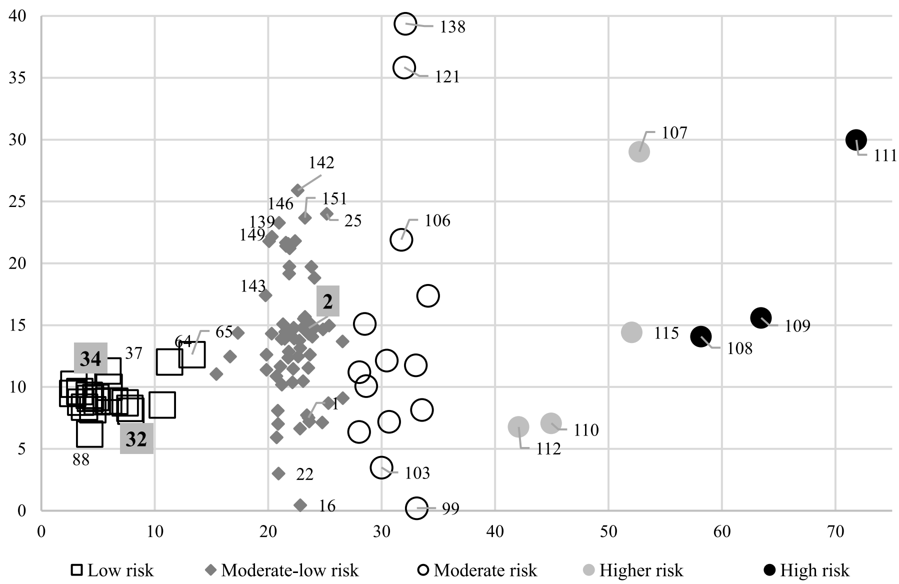

**Note.** A more detailed description of investment strategies and their sequential numbers is provided in the Annex to this section.

*Fig. 17.* **Average annual nominal yield and risk of ruble-denominated investments in financial instruments of Russian issuers over time horizon 2015–2024, % p. a.**

*Source:* own estimates based on statistics of Moscow exchange, information resources Cbonds, Investfunds.ru: URL: https://investfunds.ru/ and information resource of the Laboratory for analysis of institutions and financial markets IAES RANEPA. Constructor CAPM–ru Shares URL: https://aea.ru/CAPM-RU.html .

*Fig. 18* shows the return and risk map of 105 investment strategies categorized into five risk levels: high, higher, moderate, moderate-low, and low. Over 2015–2024 time horizon, the above strategies, excluding one, had annualized standard deviations ranging from 0 to 70%. Dividing this risk range into five equal parts, the portfolios will be high risk with a standard deviation of 56% and above, higher risk with a standard deviation of 42% to 55%, moderate risk from 28% to 41%, moderate-low risk from 14% to 27%, and low risk from 0% to 13%.

The sample showed a predominant number of portfolios and indices placed in the low or moderately-low risk strategy groups. From the entire sample, 21 stra-




**Note.** A more complete description of the investment strategies and their sequence numbers is provided in *Table A7* of the Annex to this section.

*Fig. 18.* **Mean annual values of nominal yield and risk of ruble-denominated investments in financial instruments of Russian issuers over time horizon 2015–2024, % p. a.**

*Source:* own estimates based on statistics of Moscow exchange, information resources Cbonds, Investfunds.ru: URL: https://investfunds.ru/ and information resource of the Laboratory for analysis of institutions and financial markets IAES RANEPA. Constructor CAPM–ru Shares URL: https://aea.ru/CAPM-RU.html .

tegies or 20.0% of their total number belonged to low-risk portfolios, 63 strategies or 60.0% to moderate-low risk portfolios, 14 strategies or 13.3% to moderate-risk portfolios, only 4 strategies or 3.8% to higher-risk portfolios and 3 strategies or 2.9% to high-risk portfolios.

Strategies with higher and high risk included 7 issues of shares of the third echelon. These strategies can hardly be used by a wide range of unqualified investors. Direct investments in blue chips, certain industrial and factor strategies prevailed in moderate-risk portfolios. In terms of return/risk, the most favorable investments in this group of portfolios over a 10-year time horizon were small company stock portfolio, total return (138), Sberbank privileged shares (106), and transportation index (METNTR) showing 1.23, 0.69, and 0.53, respectively.

The group of strategies with moderately low risk is the largest. It is represented by various equity portfolios: broad market indices and industrial indices of Moscow exchange, open-end mutual funds of shares and factor strategies. This group also included three mixed investment strategies: a mixed strategy portfolio: equities 60%, bonds 40% (66), the Alfa Capital Balance MC Alfa Capital OMIF (94) and the SI First—

Balanced MC First OMIF (71). In terms of return/risk, the most profitable investments in this group over a 10-year time horizon were the following factor portfolios evaluated by total return: large-cap stocks (142), high-dividend yielding stocks (146), and private company stocks (149) with indexes of 1.15, 1.11, and 1.09, respectively.

The group of conservative strategies included mixed investment portfolios, as well as bond indices and mutual funds. In terms of yield/risk, the most profitable investments in this group over a 10-year time horizon were IFX-Cbonds corporate bond index (34), IF-MM — money market mutual funds index (62) and the Cbonds-CBI RU 1–3Y short-term corporate bond index (48) with indexes of 3.57, 3.44 and 2.85, respectively.

### 2.1.4. Institutional characteristics of Russian equity market

Like many emerging capital markets, the Russian market is very volatile and often faces financial crises when the stock price drops by 20–25%. This instability of emerging markets is a serious barrier to implementing long-term savings strategies.

*Challenges related to long-term equity market stability*

In 2024, Russian market experienced another financial crisis, when the RTS stock index in terms of exchange rate returns fell by 24.0% from May to December. This time the main reason was the increase in the key rate by the Bank of Russia to 21%.

Over the previous 30 years since 1995, the RTS currency index has experienced six financial crises, when it declined by 25% or more, and three of them, which happened in June 2008, November 2021 and May 2024 have not ended until now (*Fig. 19*). From June 2008 to February 2025, in 201 months (16.7 years), the value of the RTS index in terms of exchange rate return reached only 46.6% of its pre-crisis peak in May 2008. The decline of the index since November 2021 continues for 41 months (3.4 years), when the value of the index in February 2025 was only 62.0% compared to October 2021. The index decline from May 2024 continues for 10 months, when it has recovered to 94.2% in February 2025.

The length of RTS index recovery after May 2008 is not a record for similar worldwide events. The most famous in the list of the longest financial crises is the recovery of the Dow Jones Industrial Average (DJIA) in the USA after the Great Depression of 1929 during 25.3 years. However, it is currently behind, for example, Japan's MSCI[1] index in terms of duration, which recovered to 94.1% in February 2025 after falling since February 1989 for 432 months (36 years), the MSCI China index, which reached in 374 months (31.2 years) only 54.3% of its peak in December 1993, and the MSCI Thailand index, which reached in the same 374 months (31.2 years) only 47.9% of its peak in December 1993 (*Fig. 20*).

1. All MSCI indices mentioned in this section are calculated based on dollar value of shares.

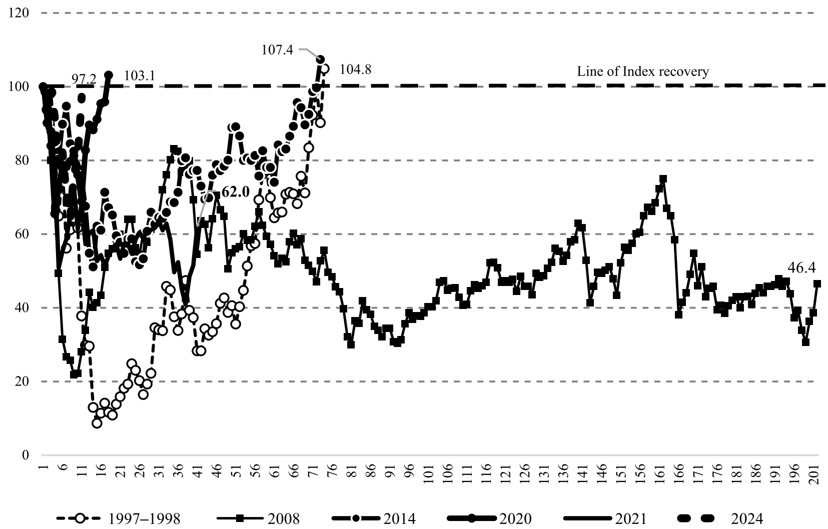



*Fig. 19*. Changes in the RTS index relative to its peak values in July 1997, May 2008, February 2014, December 2019, October 2021, and April 2024 on a time horizon measured in months, as of February 28, 2025, in % (peak=100%)

*Source:* own estimates according to Moscow exchange.

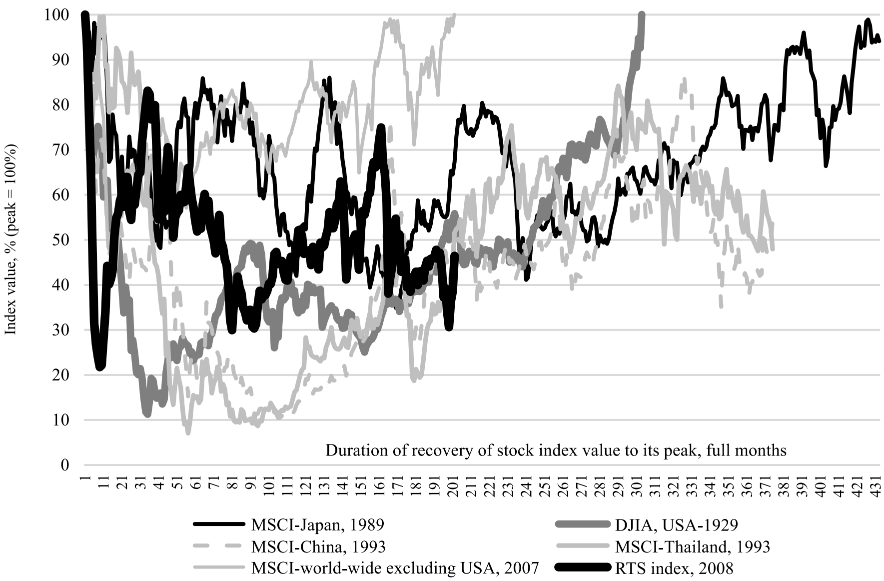



*Fig. 20*. Dynamics of RTS index recovery since May 2008 amid of the longest global financial crises (duration of recovery in months, index value in % (peak=100%)

*Source:* own estimates according to MSCI.

The duration of the RTS index recovery has already surpassed classic medium-term crises, such as the crisis of the NASDAQ index in 2000 and the South Korean Kospi index with recovery within 14.8 and 15.3 years, respectively. The RTS index has so far followed the path of DJIA's recovery from the Great Depression of 1929 in terms of its current slow recovery trajectory.

Slow recovery of equity indices after the 2008 crisis is typical for all BRICS countries except India (*Fig. 21*). Like the Russian RTS index, the MSCI-Brazil index has been unable to recover for 16.7 years since May 2008, and its current value from pre-crisis of 26.8% is even lower than that of the Russian index. The MSCI indices of Chinese and South African companies reached a recovery point at different times after 2008, i. e. they formally overcame the 2008 crisis. However, these markets have since experienced new recessions, so that on February 28, 2025, the values of MSCI-China and MSCI-South Africa were only 70.52% and 79.4 %, respectively, of their peak values in October 2007 for both indices. More dynamic growth of the MSCI-India index is associated with high rates of economic growth in this country and stable inflow of foreign portfolio investments in securities of Indian issuers. Currently, the MSCI index of large Indian companies is 135.6% vs. December 2008

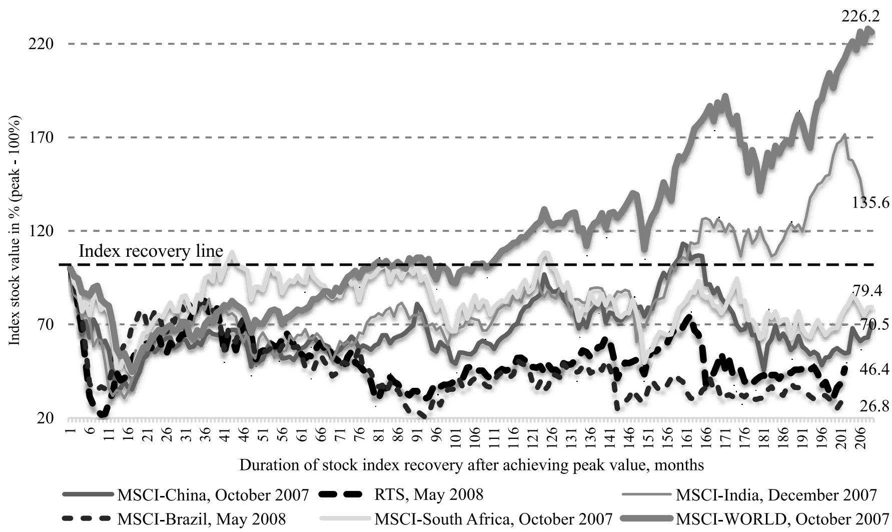



*Fig. 21.* **Dynamics of BRICS and MSCI-World indices recovery in dollar terms after peaks reached in 2007–2008 (peak=100%) as of February 28, 2025**

*Source:* own estimates according to MSCI.

Compared to peak value on December 29, 2021, after the start of the SMO, the Moscow exchange ruble index recovered only by 83.6% by March 7, 2025 (*Fig. 22*). Factors hampering recovery of blue chip stocks, constituting the index core, demonstrate their dependence on blocked foreign fund investments and limited demand from domestic investors compared to market value of outstanding shares of major issuers.

In the period under review, the recovery rate of Gazprom shares amounted to 50.5%, MMC Norilsk Nickel — 59.6%, Novatek — 73.8%, Rosneft 88.4%. Meanwhile, Sberbank common shares recovered in value to 107.4% and Lukoil to 109.2%, while preferred shares of Sberbank and Surgutneftegaz recovered to 112.0% and 140.9%.

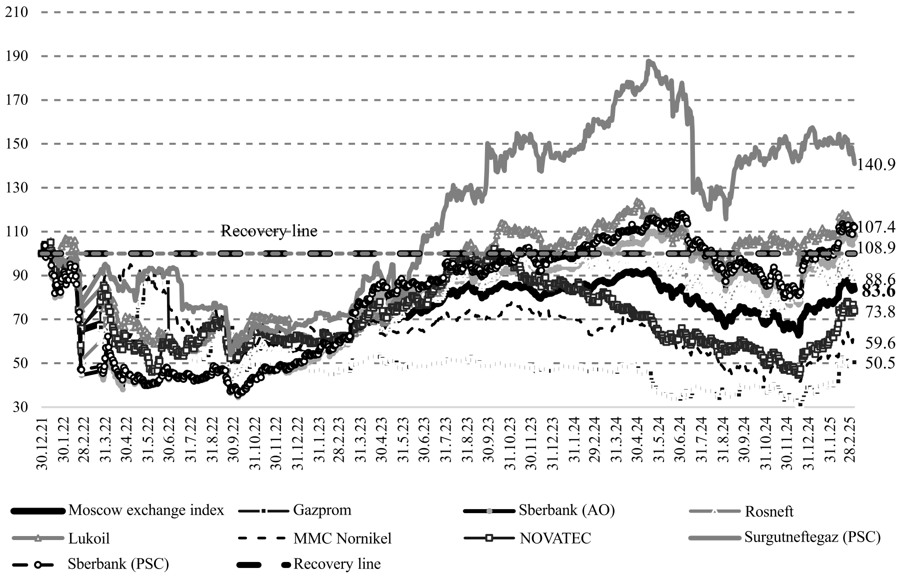


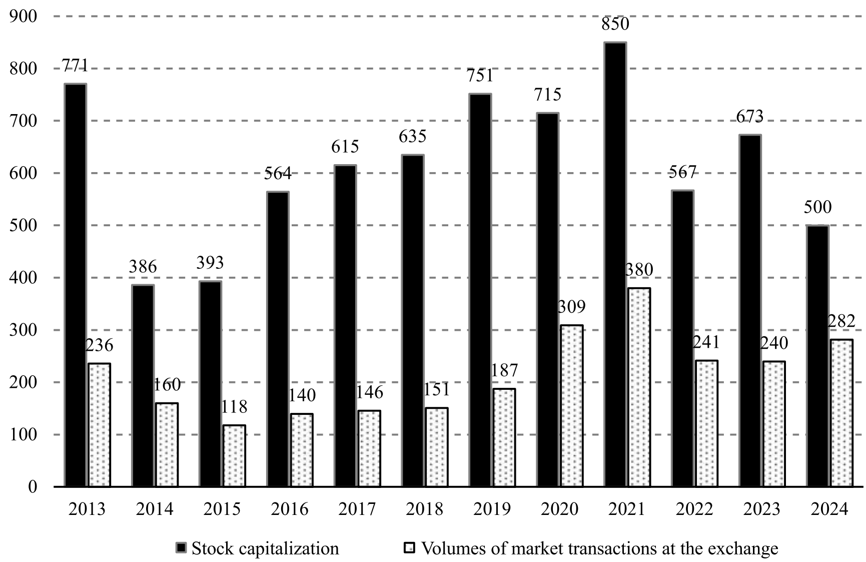

*Fig. 22*. **Value change of the Moscow exchange index and share prices of Gazprom, MMC Norilsk Nickel, Novatek, Lukoil, Rosneft and Sber as of March 7, 2025, % (values of the Moscow exchange index and share prices of issuers as of 30.12.2021 = 100%)**

*Source:* own estimates according to Moscow exchange.

The phenomenon of 2023 was the multiple growth in the value of many second- and third-tier stocks due to trading activity of predominantly wealthy private investors. However, in 2024, prices for these shares fell significantly due to a reduction in the interest of private investors. Nevertheless, on March 7, 2025, prices of most of the shares under review remained at a higher level than those of blue chips and the Moscow exchange index in relation to prices on December 29, 2021. Thus, they were 156.7% for JSC Belon shares, 159.8% for GAZ, 339.2% for RSC Energia, 351.4% for TGK-14, 364.0% for Sollers, 385.2% for Ashinskiy Metallurgical plant, 449.9% for Krasny Oktyabr, 530.7% for TNS Energo Rostov-on-Don and 1087.9% for Globaltrax (GTM). The outstripping growth of profitability of the second and third tier shares and a number of new companies is an important phenomenon of the domestic capital market and one of the promising directions of its influence on the structural transformation of the Russian economy.

### *Capital market depth and capitalization growth plans*

In 2024, capitalization of Russian companies dropped from $673bn in 2023 to $500bn, or by 25.7% (*Fig. 23).* The liquidity of the stock exchange market increased to $282 bn in 2024 compared to $240 bn in 2023, or by 17.5% (*Fig. 23*).




**Note.** Data on volume of secondary share trading in 2022–2024 are based on Moscow Exchange converted into dollars at the year-end exchange rate.

*Fig. 23.* **Capitalization and volume of market transactions in shares in the Moscow exchange from 2013 to 2024, billion dollars**

*Source:* own estimates according to Moscow exchange and World Federation of Exchanges.

In accordance with the Executive Order of the President of the Russian Federation No. 309 of 07.05.2024 "On the national development goals of the Russian Federation until 2030 and prospectively until 2036" it is envisaged to increase the capitalization rate from 33% of GDP in 2023 to 66% in 2030 and 75% of GDP in 2036. However, how a capitalization/GDP ratio of 66% by 2030 can be achieved in an environment of a high key rate and limited demand for equities from domestic investors remains an open question.

According to our most conservative calculations, to achieve capitalization of 66% in 2030, the size of capitalization should grow from Rb 53 trillion in 2024 to Rb 173 trillion in 2030, or by Rb 120.0 trillion. This task can be achieved through IPO of new companies and growth in capitalization of operating public companies.

According to Federal Project "Development of financial market"[1] in 2025–2030 it is planned to hold IPOs of the companies in the amount of $4.5 trillion. Assuming that such IPOs will place an average of 10% of issuers' shares, this will increase capitalization of the stock market due to new companies by about Rb 45 trillion. These estimates imply that within 6 years Russian market IPOs worth Rb 750 bn will take place annually, while, according to our data, over the period 1996–2024 IPO volumes averaged about Rb 490 bn per year, i. e. 1.5 times less than assumed in the federal project. However, major demand for shares of IPO companies used to be provided by foreign institutional investors. In current environment, the stock market can count, as a rule, only on domestic demand.

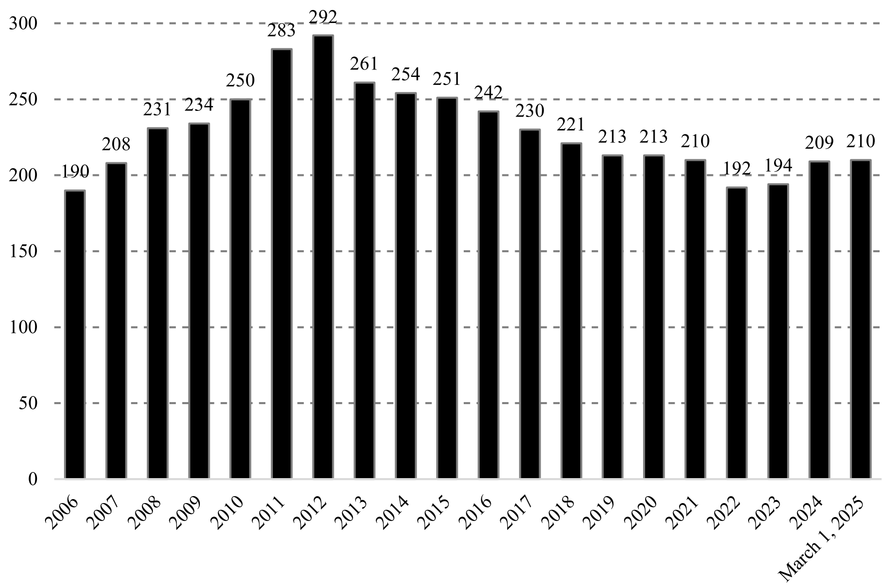
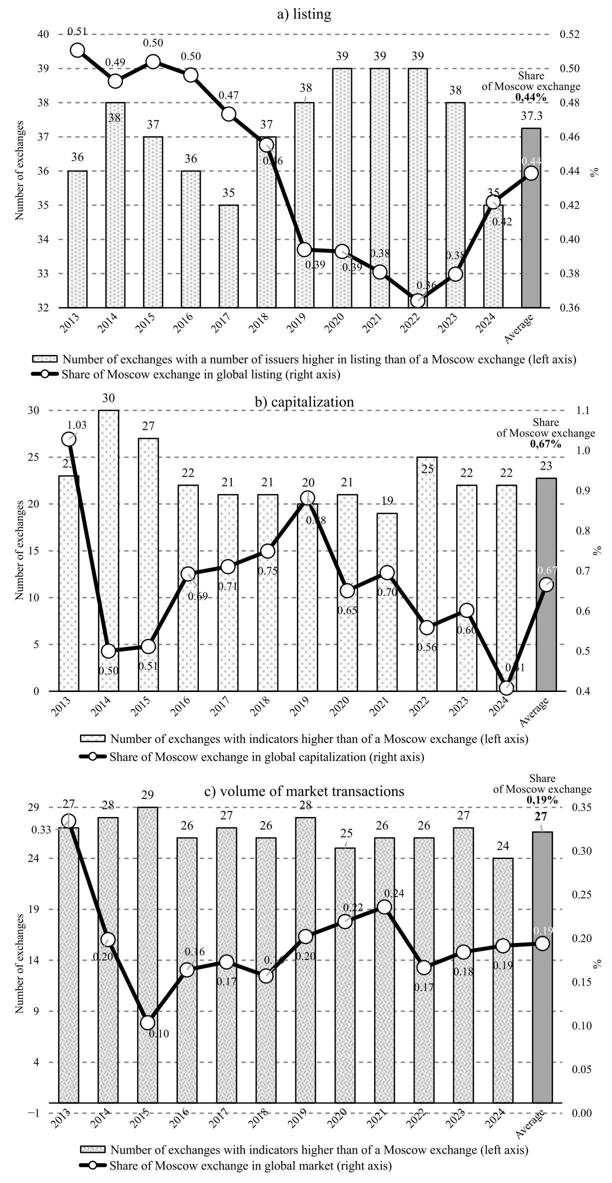



*Fig. 24*. **Number of Russian companies listed on the Moscow exchange from 2006 to March 1, 2025**[2]

*Source:* own estimates based on NAUFOR report "Russian stock market in 2015. Events and facts", for 2006–2008, as well as data of the World Federation of Exchanges and Moscow exchange for 2009–2025.

1. URL: https://www.economy.gov.ru/material/directions/np_effektivnaya_i_konkurentnaya_ekonomika/fp_razvitie_finansovogo_rynka/
2. Data on MICEX exchange listing for 2006–2011 and on JSC Moscow exchange for 2012–2025.




**Note.** a) number of foreign exchanges with a higher number of listed issuers than the Moscow Exchange (ME) and share in % of the ME in the sample of listed companies on the global stock market; b) number of exchanges with a larger capitalization of listed issuers than the Moscow Exchange and share in % of MB in global capitalization; c) number of exchanges surpassing the Moscow exchange in terms of volume of market transactions and share in % of ME in terms of total value of market share transactions worldwide.

*Fig. 25*. **Indicators of competitiveness of the Russian equity market in 2013–2024**

*Source:* own estimates according to World Federation of exchanges and Moscow exchange.

The remaining Rb 75 trillion of capitalization growth should probably be attributed to growth in capitalization of operating companies. According to our estimates, the annual capitalization growth rate will have to be 16.9%. It is not yet clear how achievable this is. Mean geometric growth rate of capitalization over the period 2015–2024, when non-residents primarily withdrew from the Russian equity market, was 10.4%. The average annual growth rate of capitalization in 1999–2024 amounted to 17.5%, but this indicator ensured mainly rapid growth of the Russian stock market in the first half of the 2000s due to entry of large foreign investors.

Thus, despite all the significance of the problem of capitalization growth of Russian companies, there remains a question of how to achieve this indicator up to 66% of GDP. In our opinion, the issue of taking coordinated measures by regulators, issuers and financial intermediaries aimed at the growth of this indicator is relevant, while certain long-term benchmarks in the sphere of unpredictable financial markets can hardly be prescriptive.

Since 2023, due to revival of IPO transactions, the Moscow exchange has shown signs of overcoming the long-standing trend of a constant reduction in the number of listed companies (*Fig. 24*), which continued in 2024. The number of issuers in the exchange listing increased from 192 in 2022 to 194 in 2023 and 210 as of March 1, 2025. However, shares of non-resident-owned companies, which under sanctions were transferred to Russian owners, or shares of nationalized companies, which the Ministry of Finance would have put up for re-privatization, never appeared on the exchange.

In terms of key indicators describing the depth of the stock market, the Moscow exchange is noticeably inferior to many foreign competitors. However, introduction of sanctions against Russian financial market did not practically affect the deterioration of key indicators of its competitiveness.

*Fig. 25* shows that in terms of the number of national companies listed in 2024, the Moscow exchange was behind 35 other global exchanges, i. e. fewer exchanges than it was in 2023 and even in 2021. Its share of the total number of publicly traded global companies even rose to 0.42% compared to 0.38% in 2021. In terms of capitalization, Moscow exchange was behind 22 global exchanges in 2024 compared to 19 in 2021, and its share in global corporate capitalization fell from 0.70% to 0.41%. In contrast to listing in terms of capitalization, the gap with global markets intensified. In terms of market share transactions in 2024, Moscow exchange was second to 24 exchanges compared to 26 in 2021, but its share in total volume of stock exchange transactions declined from 0.24% in 2021 to 0.19% in 2024.

### *Shares IPO-SPO*

One of the most important developments in the domestic capital market was the revival of the Russian IPO and SPO market from December 2022 due to efforts of usually small companies from the financial sector, IT, food industry and some other industries to attract market equity financing amid high debt market rates and demand for shares of new public companies from private investors. According to experts of the Bank of Russia, people's interest in the stock market grew amid rising household incomes, development of retail financing mechanisms and high dividend payments on Russian companies' shares.[1]

According to our estimates based on an extensive sample of public offering transactions of Russian companies[2] (*Fig. 26* and *Table 2*) for the period from 1996 to 2024, the total volume of transactions with shares of the above companies amounted to $135.8bn, of which 98.7% accounted for transactions in 1996–2021 and only 1.3% for the period 2022–2024. However, in terms of the number of IPO-SPO transactions, the 2022–2024 accounted for 11.9% of all transactions over 28 years. The average IPO-SPO deal size in 2022–2024 was $53 mn compared to $549 mn in 1996–2021, or 10.4 times less.

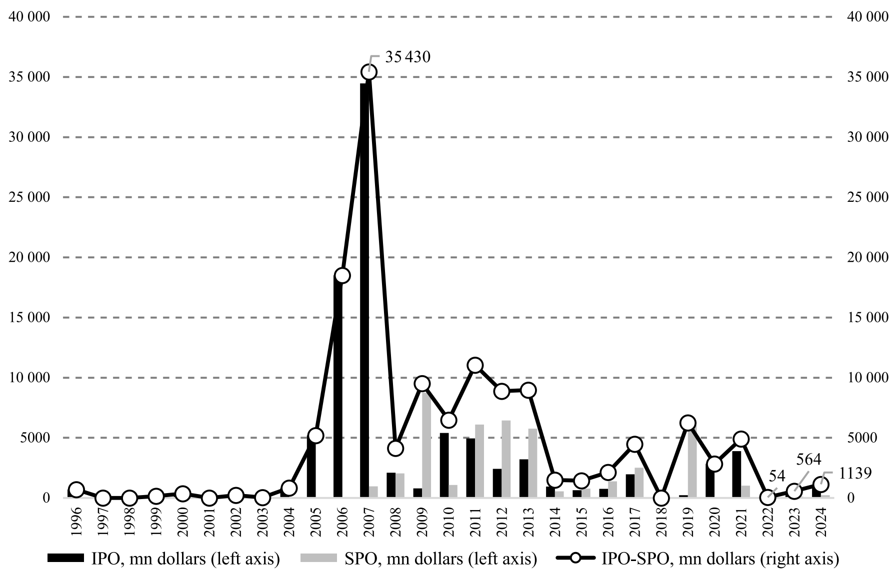



*Fig. 26*. **Stock transactions IPO-SPO[3] of Russian companies from 1996 to 2024, mn dollars**

*Source:* Estimates of the Laboratory for analysis of institutions and financial markets IAES RANEPA according to official information of issuers and Moscow exchange.

1. Bank of Russia. Review of financial instruments. 2023. Analytic material. P. 24. https://www.cbr.ru/Collection/Collection/File/48944/fi_review_2023.pdf
2. Hereinafter, in the section on IPO-SPO transactions, Russian companies are legal entities registered in the Russian Federation (onshore companies), as well as foreign (offshore) companies whose main activities are performed in the territory of the Russian Federation.
3. Hereinafter, the concept of IPO-SPO transaction includes 8 categories of exchange transactions with shares of Russian offshore and onshore companies, classified according to three criteria: place of transaction (Russian or foreign exchange), type of transaction (IPO or SPO), as well as the content of transaction (attraction of new capital into company or resale of a block of shares by their former owner).

*Table 2*

**Parameters of IPO-SPO transactions of Russian companies for 1996–2024**

| | 1996–2021 | 2022 | 2023 | 2024 | 2022–2024 | 1996–2024 |
|---|---|---|---|---|---|---|
| 1. Volume of transactions, mn dollars | | | | | | |
| 1.1. IPO | 90 631 | 37 | 451 | 904 | 1392 | 92 022 |
| 1.2. SPO | 43 406 | 17 | 112 | 235 | 364 | 43 771 |
| 1.3. Total | 134 037 | 54 | 564 | 1139 | 1756 | 135 793 |
| 2. Number of transactions, pieces | | | | | | |
| 2.1. IPO | 164 | 1 | 8 | 15 | 24 | 188 |
| 2.2. SPO | 80 | 1 | 4 | 4 | 9 | 89 |
| 2.3. Total | 244 | 2 | 12 | 19 | 33 | 277 |
| 3. Average volume of transaction, mn dollars | | | | | | |
| 3.1. IPO | 553 | 37 | 56 | 60 | 58 | 489 |
| 3.2. SPO | 543 | 17 | 28 | 59 | 40 | 492 |
| 3.3. Total | 549 | 27 | 47 | 60 | 53 | 490 |
| 4. 4. Average underpricing, % | | | | | | |
| 4.1. IPO | 5.9 | 0.2 | 10.1 | 3.4 | 4.6 | 5.7 |
| 4.2. SPO | 3.9 | 19.9 | 0.3 | 4.3 | 8.2 | 4.7 |
| 5. Type of transaction IPO-SPO, share in % | | | | | | |
| 5.1. IPO | 67.6 | 68.4 | 80.0 | 79.4 | 79.3 | 67.8 |
| 5.2. SPO | 32.4 | 31.6 | 20.0 | 20.6 | 20.7 | 32.2 |
| 6. IPO-SPO transactions by criterion of raising capital to the company, share in % | | | | | | |
| 6.1. Attracting capital (cash-in) | 53.4 | 62.5 | 79.0 | 52.7 | 61.4 | 53.5 |
| 6.2. Without involving capital (cash-out) | 46.6 | 37.5 | 21.0 | 47.3 | 38.6 | 46.5 |
| 7. IPO-SPO transactions by location, share in % | | | | | | |
| 7.1. Russian exchanges | 43.2 | 100.0 | 100.0 | 100.0 | 100.0 | 44.0 |
| 7.2. Foreign exchanges | 56.8 | 0.0 | 0.0 | 0.0 | 0.0 | 56.0 |
| 8. IPO-SPO transactions by privatization criterion, share in % | | | | | | |
| 8.1. Privatization transactions IPO-SPO | 38.8 | 0.0 | 0.0 | 0.0 | 0.0 | 38.8 |
| 8.2. Other transactions IPO-SPO | 61.2 | 100.0 | 100.0 | 100.0 | 100.0 | 61.2 |

*Source:* Estimates of the Laboratory for the analysis of institutions and financial markets IAES RANEPA.

IPO-SPO deals concluded in 2022–2024 account for only $1.8 bn of the total volume of public offering deals of Russian companies over the entire historical horizon of 28 years. Nevertheless, this period can be regarded as the start of a qualitatively new stage of public offering transactions of Russian companies for several reasons. First, it is the market growth relying on domestic investors and placements conducted on Russian stock exchanges. Second, more companies started to show interest in IPOs, allowing to hope that this market segment will play an important role in the structural transformation of the Russian economy. Thirdly, for the first time, supporting the IPO market became a priority goal of the government. In line with the federal program of financial market development adopted in follow-up to the Executive Order of the President of the Russian Federation No. 309 dated 07.05.2024, the government aims to hold IPOs worth Rb 4.5 trillion (about $45 bn) or Rb 750 bn ($7.5 bn) per year during 2025–2030. IPOs worth Rb 4.5 trillion (about $45 bn) or Rb 750 bn per year ($7.5 bn).

The modern wave of IPO-SPO transactions is featured by a number of qualitative differences from the previous period of 1996–2021 (*Table 2*).[1] In 2022–2024, the share of IPO-SPO transactions in the total volume of IPO-SPO has increased to 79.3%. In 1996–2021 it amounted to 67.9%. This indicates a more active arrival of new companies to the market compared to a relatively narrow range of issuers that regularly conduct repeat offerings. Amid sanctions in 2022–2024, all IPO-SPO transactions of Russian companies were exclusively performed on Russian stock exchanges, while for the entire period 1996–2021, an average of 56.8% of IPO-SPO transactions were performed on foreign stock exchanges. In 1996–2021, an important growth driver of the IPO-SPO market of Russian companies included privatization transactions with their shares performed on stock exchanges, which accounted for 38.8% of the value of transactions. Total amount of privatization transactions for the above period amounted to Rb 51.9 bn or Rb 5.2 trillion. There were no IPO-SPO privatization transactions in 2022–2024. According to forecasts of the federal project of financial market development, the Ministry of Finance of Russia plans to secure the above transactions in 2025–2030 worth Rb 1.0 trillion.

The so-called "underpricing" indicator plays an important role in estimating IPO success.[2] As a rule, academic studies mostly dominate the view of underpricing as a premium that the issuer pays to investors for higher level of information asymmetry when offering shares. IPOs of Russian companies are usually marked, on average, by one of the lowest sizes of underpricing compared to their parameters in other countries, which evidences the reluctance of many Russian companies to compensate for investors' information risks amid a high level of information asymmetry.

1. For details refer *A. E. Abramov, M. I. Chernova*, IPO of Russian companies' shares: theory, indicators, trends and prospects // Financial Journal. 2024. V. 16. No. 6. p. 42–60. URL: https://doi.org/10.31107/2075–1990-2024-6-42-60.
2. Underpricing reflects the difference between the closing price of the shares on the first stock exchange day and the offering price of these shares.

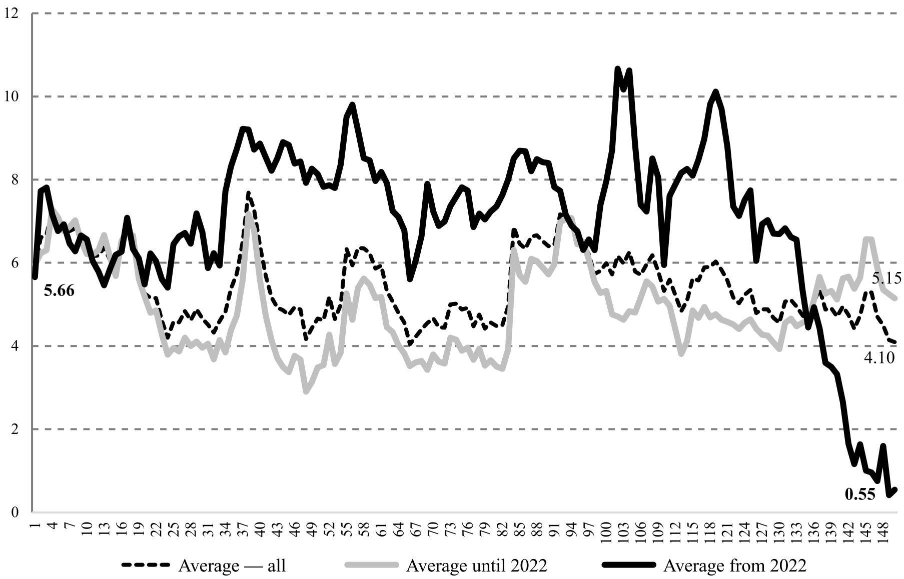



*Fig. 27.* **Cumulative excess return of the IPO portfolio of Russian companies' shares for 150 days from the date of the IPO in a sample of 95 IPOs transactions concluded from 2002 to 2024, p. p.**

*Source:* estimates of the Laboratory for analysis of institutions and financial markets IAES RANEPA.

The average level of IPO underpricing in 2022–2024 was lower than the same indicator in 1996–2021 (*Table 2*). However, the alarming trend is that the level of underpricing dropped to 3.4% for IPOs in 2024. The low premium for investors amid a high level of information asymmetry is a factor preventing attraction of new funds to this segment of the capital market.

Average cumulative excess return on IPO-companies' shares relative to the offering price (CAR)[1] in 150 business days from the start of their exchange trades was positive for both 2002 through 2021 and 2022 through 2024 trades of 5.15% and 0.55%, respectively (*Fig. 27*). However, a worrying trend for prospects for the new wave of IPOs and the attractiveness of these deals for investors is that over 150-day horizon under review, the average CAR of stocks in the new wave was significantly lower than that of the 2002–2021 deals. Low average performance of 2022–2024 deals was achieved due to negative CARs for such issuers as VI.ru, Svetofor and Kristall Group in the amount of −54.0%, −53.9% and −39.8%.

1. It is calculated as a difference, e. g. on day 150, between the stock's return to the offering price on day 150 and the index return over the same time period. Average CAR is defined as simple average CAR of different shares in the sample.

In terms of median value, this indicator for 150 trading days was indeed negative: for IPO deals 2002–2021 in the amount of −2.1%, and for deals 2022–2024. −8,0%. Consequently, attractiveness of these deals for investors remains a serious issue.

*Dividend policy*

Active dividend policy of public companies became a significant phenomenon of the Russian stock market starting from 2012. Growth in dividend yields and, above all, in shares of state-owned companies ("SOCs") resulted from the government's intention, as a major shareholder, to attract dividend income to finance the budget. In accordance with the Resolution of the Government of the Russian Federation No. 1589-r dated June 11, 2021, starting from July 1, 2021, a requirement was introduced for mandatory allocation to dividend payments of at least 50% of the annual profit calculated according to consolidated financial reporting prepared in line with IFRS and adjusted for a number of factors (net adjusted profit) for issuers holding federally owned shares. However, for a significant portion of both public and private issuers, increasing the dividend yield of shares was an effort to maintain shareholder loyalty by offsetting their losses in terms of declining share price. As shown above (*Fig. 13*), over time horizon 2015–2024, with the exchange rate geometric mean return of the Moscow exchange index at 7.5% and inflation at 7.0%, dividend payments by the largest companies yielded a return of 14.8% for the Moscow exchange index portfolio, i. e. full return (including dividends), and 23.3% for the factorized portfolio of high-dividend stocks.

Over 2005–2024, Russian companies paid Rb 32.8 trillion in dividends, of which Rb 26.5 trillion or 80.9% were dividends paid in 2012–2024 (*Fig. 28*).[1] Meanwhile, number of public companies paying dividends has stabilized over the past 10 years, varying year-to-year between 103 and 146 companies.

Most dividend payments go to state-owned companies (SOC). From 2017 to 2024, except for 2021, the year for payment dividends accrued in the year of the coronavirus epidemic, the share of SOC dividends ranged from 54–56% of total dividend payments (*Fig. 29*).

High dividend strategy is largely hedging; it generates higher total shareholder return (TSR) during stock market falls, however, during market rises, high-dividend portfolios tend to generate lower returns than broad equity indexes. Risk of high dividend paying strategy would be that it may limit the share of issuers' net profit allocated to business development. This risk confirms that the rate of return on shares, and thus the capitalization of issuers paying high dividends, usually grows slower than the rate of return on other shares, and sometimes may be accompanied by its decline.

1. Hereinafter, one can see results of the study by the Laboratory of analysis of institutions and Financial Markets IAES RANEPA on dividend policy of Russian companies for 2005–2024.

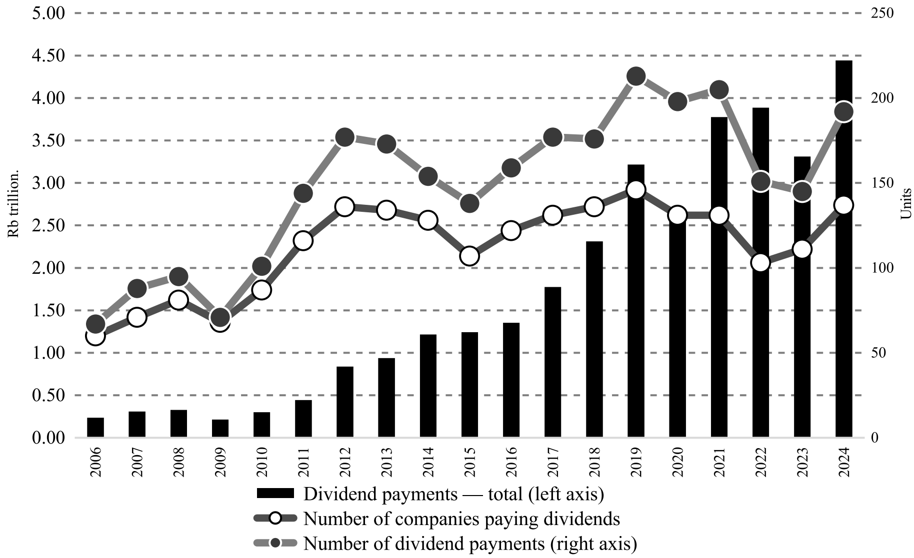



*Fig. 28*. **Number of Russian public companies paying dividends, number of dividend payments and amount of dividend payments in 2005–2024, Rb trillion**

*Source:* own estimates according to Cbonds, SPARK and Moscow exchange.

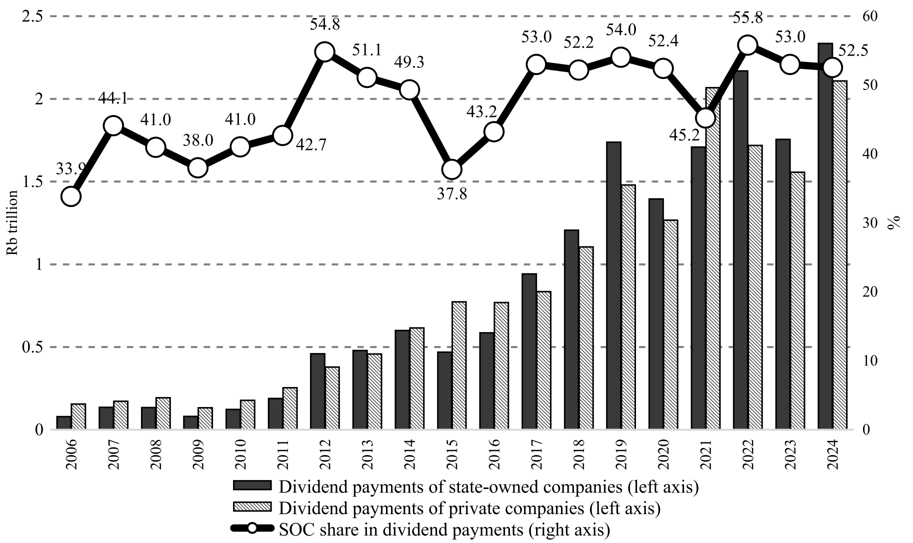



*Fig. 29*. **Value of dividends paid by private companies and SOCs in Rb trillion and share of dividend payments by SOCs in total dividend payments, %**

*Source:* own estimates according to Cbonds, SPARK and Moscow exchange.

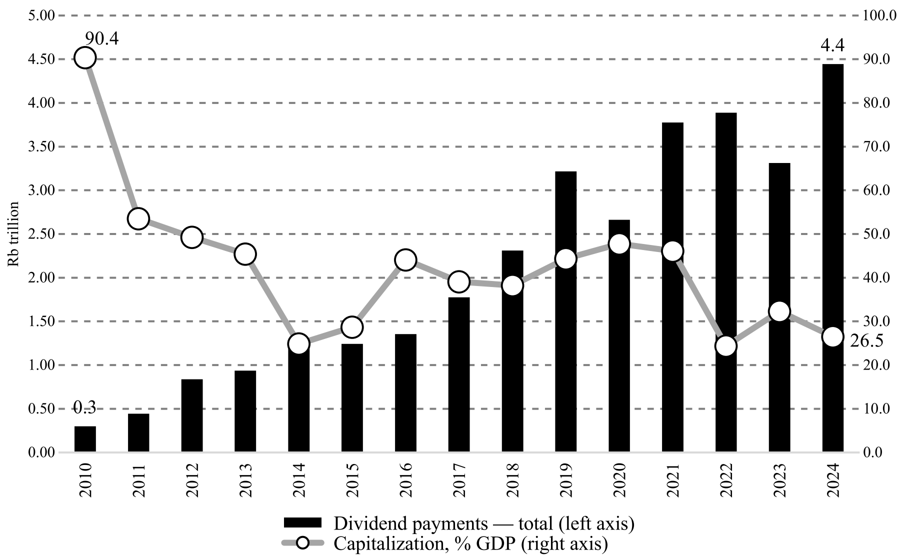



*Fig. 30*. **Capitalization (% GDP) and amount of dividend payments by Russian public companies in 2010–2024, Rb trillion**

*Source:* own estimates according to Cbonds, SPARK and Moscow exchange.

Growth of dividend payments by companies from Rb 0.3 trillion in 2010 to Rb 4.4 trillion in 2024, or by 17.7 times, was accompanied by a reduction in capitalization/GDP from 90.4% in 2010 to 26.5% in 2024 (*Fig. 30*). The reduction in relative capitalization for given years could be due to various factors, but one of them was the growth of dividend payments.

### *Mergers and acquisitions*

Stock markets contribute to structural changes in economy through merger-acquisition (M&A) transactions. Amid high central bank interest rates in the US and the EU and geopolitical uncertainty, M&A deals declined globally in 2023, as in the previous year (*Fig. 31*). Weak growth of the M&A market that has started in 2024 is still fragile.

The 2024 completed deals of $3.4 trillion were significantly lower than $5.4 trillion in 2021. In Russia, merger-acquisition deals also declined in 2022 and 2023. Growth of such transactions amid sanctions, when many subsidiaries of foreign companies moved to Russian owners, did not cause any increase in M&A market volumes due to their low value, formed in accordance with legislative requirements. As a result, M&A deals involving Russian companies fell from $37.7 bn in 2021 to $28.1 bn

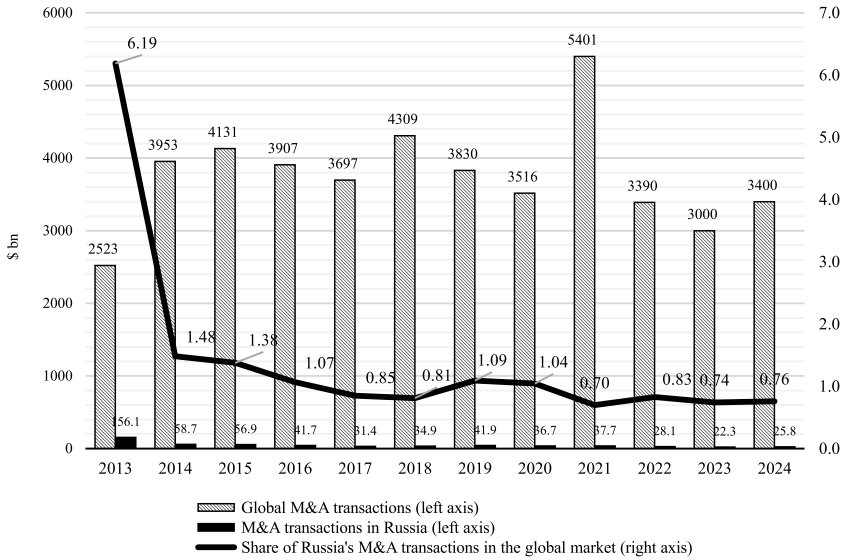



*Fig. 31*. **M&A value worldwide and in Russia ($ bln) and share of M&A transactions in Russia in the total value of similar transactions in the world (%) in 2013–2024**

*Source:* own estimates according to information resources Merger.ru (URL: http://mergers.ru/), SIFMA and McKinsey.

in 2022, $22.3 bn in 2023 and $25.8 bn in 2024. However, according to our estimates based on Merger.ru data, Russia's share in the global M&A deal volume slightly rose from 0.70% in 2021 to 0.76% in 2023.

### *Competition in the equity market*

Russian equity market evidences a high level of concentration of issuers by capitalization, however, starting from 2020, there is a tendency towards its reduction (*Table 3* and *Fig. 32*). The share of top 10 PJSCs in total issuer capitalization fell from 70.1% in 2019 to 62.5 in 2024, while the share of top 20 issuers fell from 82.9% to 75.8%, respectively. This partly reflects changes in the structure of stock exchange listings consisting in the outstripping growth of market value and investment attractiveness of less liquid second and third tier shares compared to blue chips.

In 2024, capitalization declined to Rb 53.0 trillion compared to Rb 57.0 trillion in 2023. as for capitalization structure, 9 of the 10 largest companies retained their position in the top 10 list in terms of capitalization. Only Severstal PJSC replaced the restructured Yandex ICPJSC. Compared to 2023, share in capitalization of the following issuers increased in 2024: Rosneft — from 11.0% to 12.0%, Sberbank — from 10.3% to 11.2%, Lukoil — from 8.2% to 9.4%, Polyus — from 2.5% to 2.8% and V. D. Shashin Tatneft —

*Table 3*

## Capitalization of the 10 largest Russian public joint stock companies in 2022–2024

| | Name of issuer | 2022 | | Name of issuer | 2023 | | Name of issuer | 2024 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Capitalization Rb bn | Relative share, % | | Capitalization Rb bn | Relative share, % | | Capitalization Rb bn | Relative share, % |
| 1 | PJSC Gazprom | 3852 | 10.1 | PJSC Rosneft | 6278 | 11.0 | PJSC Rosneft | 6377 | 12.0 |
| 2 | PJSC Rosneft | 3834 | 10.0 | PJSC Sber | 5863 | 10.3 | PJSC Sber | 5962 | 11.2 |
| 3 | PJSC NOVATEK | 3242 | 8.5 | PJSC LUKOIL | 4680 | 8.2 | PJSC LUKOIL | 4968 | 9.4 |
| 4 | PJSC Sber | 3040 | 7.9 | PJSC NOVATEK | 4448 | 7.8 | PJSC Gazprom | 3118 | 5.9 |
| 5 | PJSC LUKOIL | 2811 | 7.4 | PJSC Gazprom neft | 3983 | 7.0 | PJSC Gazprom neft | 3098 | 5.8 |
| 6 | PJSC MMC Norilsk Nickel | 2339 | 6.1 | PJSC Gazprom | 3790 | 6.7 | PJSC NOVATEK | 2965 | 5.6 |
| 7 | PJSC Gazprom neft | 2169 | 5.7 | PJSC MMC Norilsk Nickel | 2476 | 4.3 | PJSC Polyus | 1904 | 3.6 |
| 8 | PJSC Polyus | 1044 | 2,7 | PJSC V. D.Shashin Tatneft | 1539 | 2.7 | PJSC MMC Norilsk Nickel | 1762 | 3.3 |
| 9 | PJSC FosAgro | 828 | 2.2 | PJSC Polyus | 1444 | 2.5 | ICPJSC YANDEX | 1505 | 2.8 |
| 10 | PJSC Surgutneftegaz | 774 | 2,0 | PJSC Severstal | 1172 | 2.1 | PJSC V. D.Shashin Tatneft | 1483 | 2.8 |
| | **Capitalization of all issuers at ME** | **38 238** | **100** | **Capitalization of all issuers at ME** | **56 981** | **100** | **Capitalization of all issuers at ME** | **53 015** | **100** |
| | **Capitalization of top 5 issuers** | **16 778** | **43.9** | **Capitalization of top 5 issuers** | **25 252** | **44.3** | **Capitalization of top 5 issuers** | **23 523** | **44.4** |
| | **Capitalization of top 10 issuers** | **23 931** | **62.6** | **Capitalization of top 10 issuers** | **35 673** | **62.6** | **Capitalization of top 10 issuers** | **33 142** | **62.5** |

*Source:* own estimates according to Moscow exchange URL: https://www.moex.com/s26

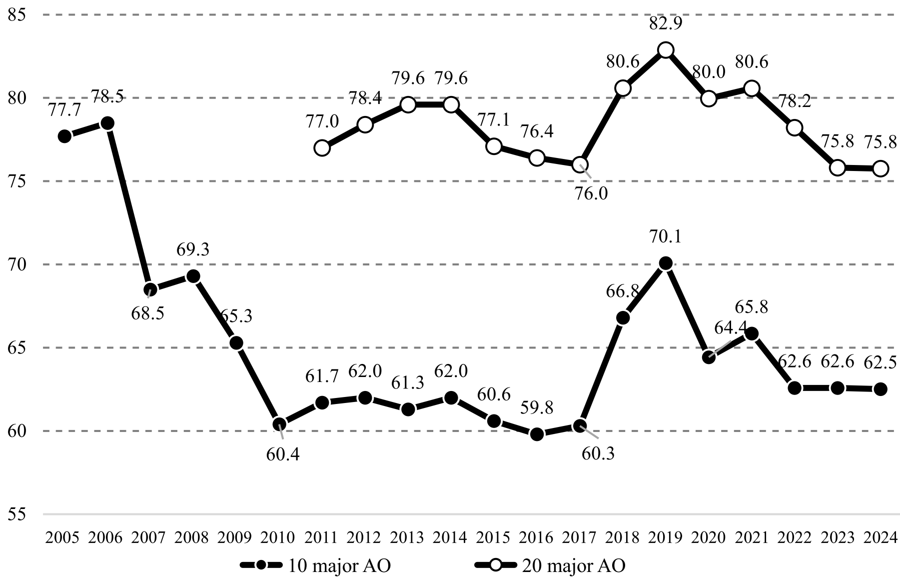



*Fig. 32*. **Share of the largest PJSCs in capitalization of domestic equity market, %**

*Source:* own estimates according to Moscow exchange.

from 2.7% to 2.8%. On the contrary, the share in capitalization of the following major issuers declined: Gazprom—from 6.7% to 5.6%, NOVATEK—from 7.8% to 5.6%, Gazpromneft—from 7.0% to 5.8% and MMC Norilsk Nickel—from 4.3% to 3.3%.

Thus, in 2024, due to a high key rate, sanctions and geopolitical uncertainties, the capitalization of Russian companies declined, while the yield of the Moscow Exchange Index including dividends was slightly above zero. There were no clear signs that the equity finance market was contributing to structural transformation. Both the market actors and the regulators were looking for ideas of capitalization growth and stimulation of domestic demand for shares. The most exciting drivers of market growth were companies' active dividend policy and expectations of growth in the market of public offerings.

## 2.1.5. The bond market

### *The situation on the bond market*

From the end of July 2024, a new wave of a rise in the key rate from 16.0% to 21.0% amid a steady increase in the inflation rate created difficult conditions for bond market growth. RGBITR Broad Government Bond Index Yield was equal to −2.1% at the end of the year, with an inflation rate of 9.5%.

However, even in such conditions, the bond market did not stop growing because, on the one hand, both the government and corporate issuers had to keep refinancing their previous debts, and, on the other hand, market participants managed to adapt quickly to the new situation by switching over to the money market, using floaters, as well as currency, yuan and other types of bonds. The bond market stability was facilitated by a surplus of bank liquidity, which remained almost throughout 2024. At the end of 2024, amid hopes for a settlement in Ukraine, the suspension of an increase in the key rate and the prospects for a reduction thereof in H2 2025, there was a marked decrease in the yield on repayment of many bond issues, and investors' interest in buying OFZs with a constant coupon income began to decline.

According to the data of the Moscow Stock Exchange, in 2024, private investors reduced their investments in stocks through the exchange by Rb 109.8 bn, bringing new funds to the bond market in the amount of Rb 859.3 bn of which 74.0% accounted for corporate bonds. Another Rb 570.6 bn of new funds went to exchange-traded funds, mainly money market funds.

In 2024, the value of RF government securities increased from Rb 20.2 trillion in 2023 to Rb 23.2 trillion, or by 14.9%. The value of domestic corporate bonds increased from Rb 25.2 trillion to Rb 31.0 trillion, or by 23.0%. The volume of regional bonds decreased from Rb 0.8 trillion to Rb 0.6 trillion, or by 22.5% (*Fig. 33*).

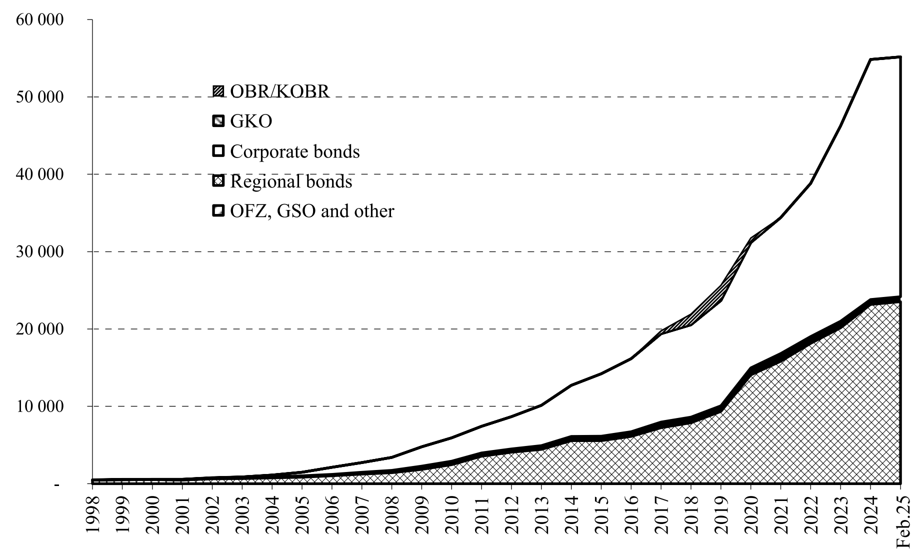



*Fig. 33*. **The volume of outstanding ruble-denominated bonds from 1998 to February 2025, billion rubles**

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

Unlike 2023, when the first wave of a key rate rise occurred and the volume of OFZ placements at auctions decreased by 15.2%, in 2024 the situation changed: growth in new OFZ issues considerably surpassed that in corporate bond placements. By contrast with the previous year, in 2024, new OFZ issues increased from Rb 2.8 trillion to Rb 4.3 trillion, or by 57.3%, and the volume of corporate bond placements increased from Rb 7.2 trillion to Rb 8.1 trillion, or by 11.3%. It is to be noted that only new issues of regional bonds decreased from Rb 0.03 trillion to Rb 0.01 trillion, or by 61.0% (*Fig. 34*).

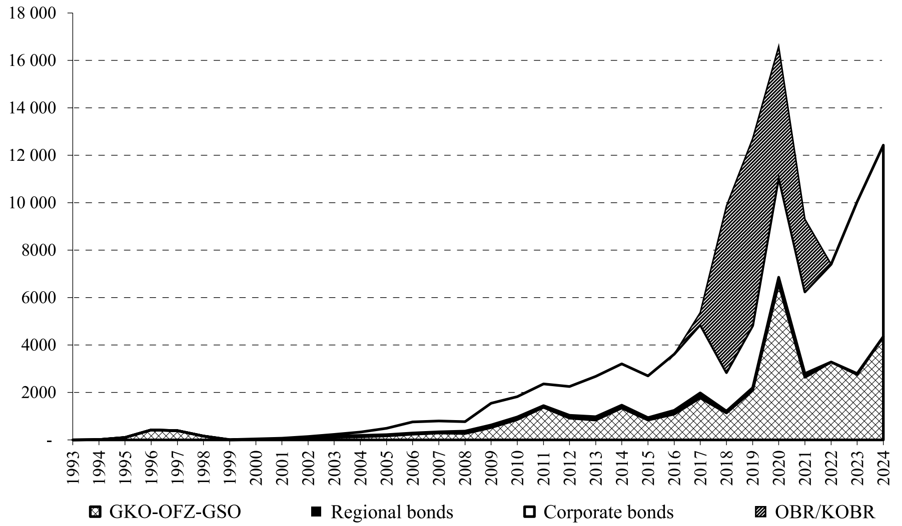
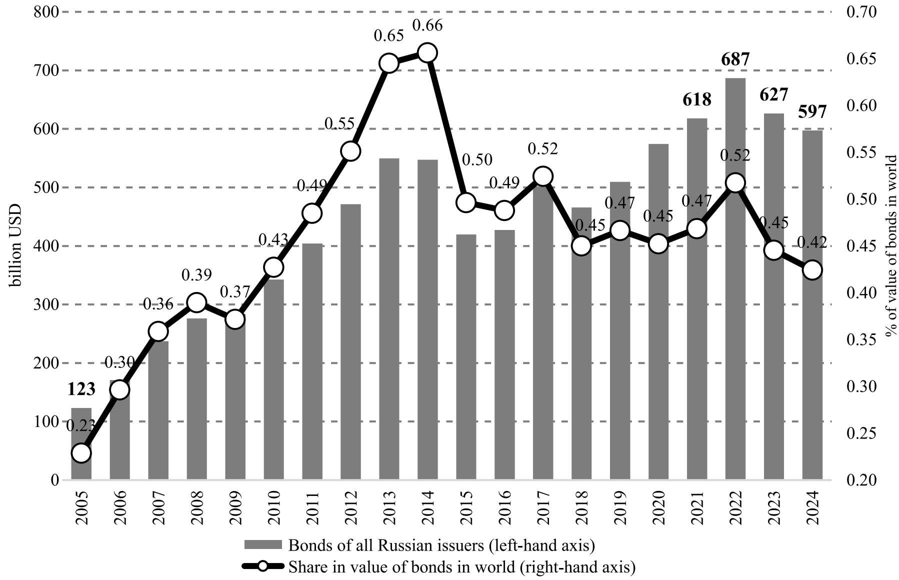



*Fig. 34*. **The volume of ruble-denominated bond placements from 1993 to 2024, billion rubles**
*Source:* own calculations based on the data of Cbonds.

In 2024, all types of bonds issued by Russian issuers accounted for 0.42% of the value of outstanding bonds worldwide (*Fig. 35*). The value of Russian issuers' bond issues in dollar terms and their share in the value of outstanding bonds in the world grew rapidly from 2005 to 2014, during which period the Russian debt market grew at a faster pace than the global one. Since 2015, the Russian bond market growth has slowed down and become more volatile. Over 10 years from 2015 to 2024, the share of Russian bonds in the value of outstanding bonds in the world decreased from 0.50% to 0.42%. For comparison, the share of capitalization of Russian companies in the world decreased almost the same way over the same period from 0.51% to 0.41%.

The increase in the key rate since July 24, 2024, in a situation where bond issuers had to refinance their debts, led to higher credit risks in the corporate bond market,




**Note.** Russian issuers' bonds include corporate, government and municipal domestic bonds and Eurobonds.

*Fig. 35*. **The value of Russian issuers' outstanding bonds (USD billion) and their share in the value of bonds in the world (%) in 2005–2024**

*Source:* own calculations based on the data of Cbonds and SIFMA Capital Markets Fact Book: URL: https://www.sifma.org/resources/research/statistics/fact-book/

which manifested themselves both in an increase in the overall level of G-spreads of bond issues[1] and an increase in the dispersion of these credit spreads for bonds with different credit quality. The spreads of the broad portfolio of IFX-Cbonds corporate bonds increased from 167.9 p. p. as of December 29, 2023 to 304.7 as of December 30,2024, or 81.5% (*Fig. 36*). At the same time, the credit spread on the Cbonds-GBI RU High Yield index increased from 391.7 p. p. to 2367.4 p. p., or 6.0 times over.

Since 2025, the Cbonds information resource has stopped updating some corporate bond indices, but has begun to disclose a wide range of new corporate bond indices with different rating levels, but with less depth of archival data. Data on G-spreads of new corporate bond indices show an increase in the level of credit spreads of many bond portfolios in 2024 to the level of April 2022 immediately after the opening of the corporate bond market after the pause caused by the start of the special military operation (SMO) and sanctions. The G-spread of bonds with the highest credit

1. G-spread is an indicator of the credit risk of corporate bond issues, representing the difference between the yield to maturity of corporate bonds and the yield to maturity of government bonds with a similar duration.

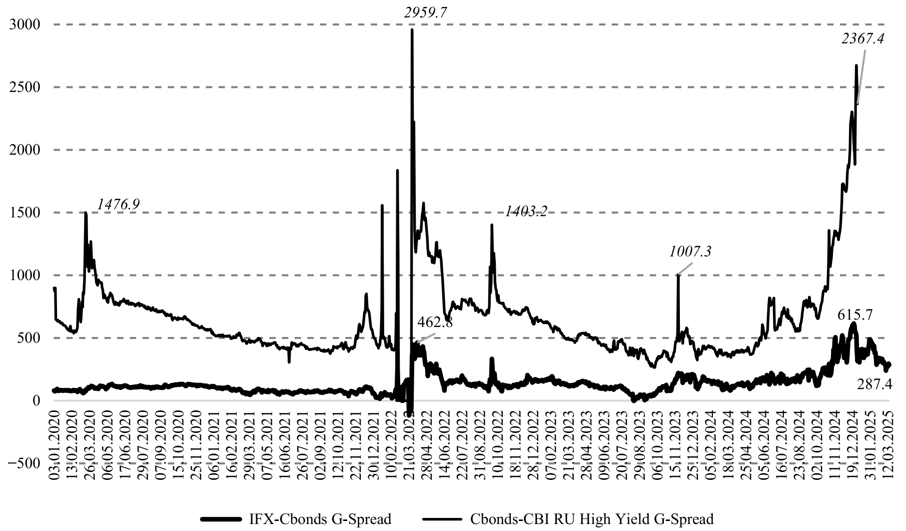



*Fig. 36.* **Average G–spreads of ruble-denominated corporate bonds with different credit ratings from 2020 to March 14, 2025, p. p.**

*Source:* own calculations based on the data of Cbonds.

rating Cbonds CBI AAA increased from −2.5 p. p. on December 29, 2023 to 74.6 p. p. and 151.9 p. p. on December 30, 2024 and March 14, 2025, respectively. The G-spread of the VDO Cbonds CBI HY portfolio with ratings from B- to BBB increased on similar dates from 662.5 p. p. to 2657.5 p. p., but then declined to 1667.2 p. p.

Another reaction of corporate issuers to the increase in interest rate risk is a reduction in the maturity, or duration, of the bonds they issue. The duration of the broad IFX-Cbonds bond portfolio decreased from 437 days at the end of 2023 to 358 days in 2024, or by 18.1%, the duration of the bond with a high investment rating of Cbonds-CBI RU BBB/ruAA- decreased from 660 days to 611 days, or by 7.4%, over the same period; for VDO (high yield bonds) it increased from 310 days to 332 days, or by 7.1% (*Fig. 37*). A decrease in bond duration occurs during periods of economic uncertainty and expectations of interest rate growth. Low duration bonds are more difficult to use as a source of long-term investment, so in the current situation they act more as an instrument of refinancing issuers' current activities and repaying their debt on bank loans.

Similar trends in the reduction of corporate bond duration are highlighted by the RF Central Bank's more systematic data on bonds with different durations (*Fig. 38*). The share of bonds with a duration of up to one year increased from 34.6% in 2023 to 41.3% in 2024. Over the same period, the share of bonds with a duration of 3 to 5 years decreased from 21.4% to 18.0%, and that of bonds with maturities from 1 year to 3 years, from 31.2% to 26.4%. At the same time, the share of bonds with a duration of 10 years and longer increased from 6.9% to 9.6%, which shows

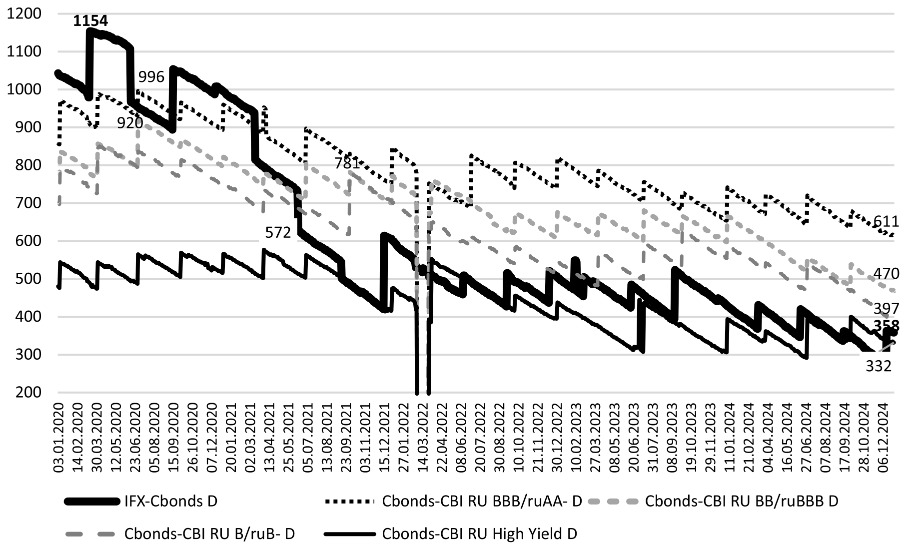



*Fig. 37*. Duration of corporate bonds (days) from January 1, 2020 to December 30, 2024

*Source:* own calculations based on the data of Cbonds.

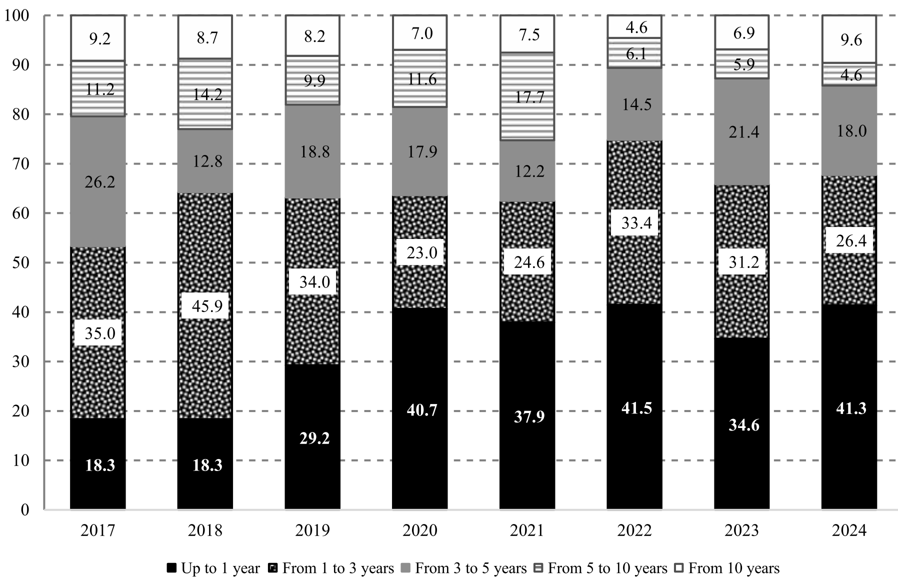
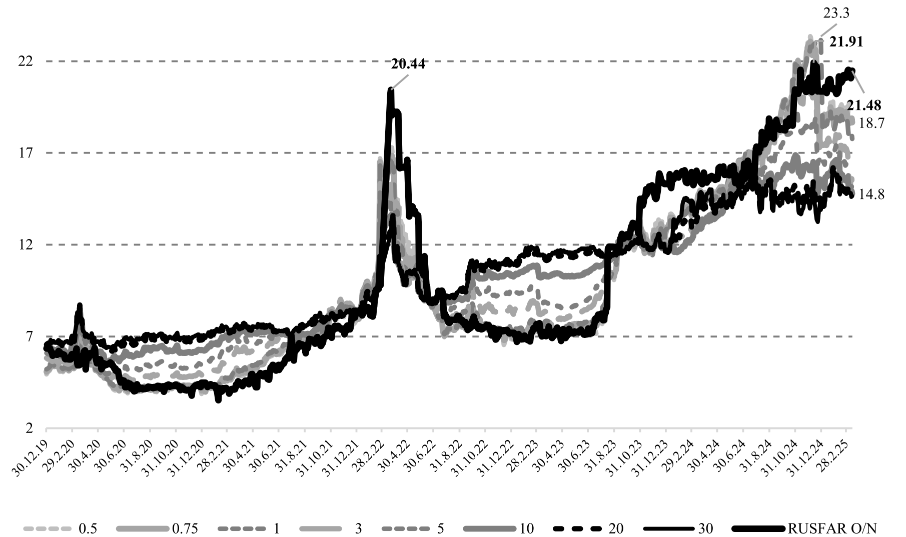



*Fig. 38*. Structure of corporate bonds with different maturities in 2017–2024, %

*Source:* own calculations based on data of the RF Central Bank's Financial Instruments Review for a number of years; URL: https://www.cbr.ru/ec_research/analitics/




**Note:** RUSFAR is the interest rate of the Russian money market, calculated by the Moscow Exchange on the basis of REPO transactions with the Central Counterparty, which are secured by clearing participation certificates.

*Fig. 39*. **Values of the zero-coupon yield curve of OFZ with a maturity of 0.5 to 30 years and the RUSFAR money market rate from December 30, 2019 till March 14, 2025 (% per annum)**

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

a pickup in demand for very long-term corporate bonds in anticipation of normalization of inflation and a decrease in the key rate in the medium term.

As shown in *Fig. 39*, the two-stage increase in the key rate in July 2023 and July 2024 caused an inversion of the yield curve of government bonds, when the money market rate (RUSFAR O/N) and the yield to maturity of short-term (1-year) OFZs begin to exceed the yield on 10-year and other long-term government securities. Generally, the exit from the reversion takes place when the central bank begins to cut rates and the yield on short-term bonds falls at an accelerated pace, catching up with the yield on long-term securities. As rate cuts are often carried out in order to prevent a recession, the moment of exit from the inversion often signals the possible onset of a recession in 6 months or more.

The increase in the key rate in July 2023 led to an increase in the yield on short-term bond issues and money market rates with a moderate increase in the yield to maturity of long-term OFZ issues because investors expected that the high key rate would help reduce inflation and that the RF Central Bank would start reducing this rate no later than the beginning of H2 2024. In July- December 2023, the yield on 1-year OFZs grew from 8.5% to 12.5%, while that on 10-year government bonds, only from 10.9% to 11.9%.

However, as early as January-February 2024, amid the lack of marked progress in reducing inflation, OFZ market participants began to doubt that the Bank of Russia would be able to bring inflation to the level of 4.0–4.5% by the end of 2024, so the yield on long-term OFZ issues began to grow at a high rate, and when placing new OFZ issues, the RF Ministry of Finance had to increase the yield on bonds, providing buyers with an additional premium compared to the yield on similar outstanding bonds.[1] From December 2023 to July 2024, with an increase in the yield on 1-year OFZs from 12.5% to 16.8%, or by 4.3 p.p., the yield on 10-year bonds increased from 11.9% to 15.9%, or by 4.0 p.p., that is, market participants did not expect inflation to decrease in the long term.

A new wave of a rise in the key rate from July to October 2024 proved market participants' expectations that actual inflation would be higher than the RF Central Bank's targets. On the back of a rise in the key rate, the inversion of the OFZ yield curve increased. At the same time, growth in yields on long-term bonds slowed down. From July to December 2024, the yield on 1-year OFZs increased from 16.8% to 23.3%, and that on 10-year OFZs decreased from 15.9% to 15.2%. This means that market participants expect the current rate to facilitate a decrease in inflation and no considerable increases are expected.

### *The Corporate Bond Market*

High interest rates have slowed growth of the corporate bond market in 2024. After the cost of new corporate bond issues increased by 75.3% in 2023, it fell to 11.3% in 2024. The share of corporate bonds in the value of bank loans to businesses decreased from 39.9% in 2023 to 35.7%.

Nevertheless, the continued growth of the corporate bond market, albeit at a slightly slower rate, in 2024 amid a record-high key rate of the RF Central Bank is an unusual phenomenon. It can be explained by companies' stable need to refinance previous bond issues, as well as the use of floaters, which are attractive to investors when high inflation prevails. Further, with growth of credit spreads, the bond market remained stable, without mass defaults. This is explained not only by the fact that over the previous years issuers have accumulated some liquidity and investors were ready to buy bonds even amid banks' very high deposit rates. In our opinion, the propensity of issuers to default remained low also due to their fear of being subject to administrative and criminal prosecution as a result of such events.

In 2024, the new corporate bond issues' overall volume of Rb 8.1 trillion was higher than that of Rb 7.2 trillion in 2023 only owing to companies' increased issuing activity in September-December 2024 after issuers began to adapt to the conditions of a high key rate of 21% per annum (*Fig. 40*).

1. URL: https://quote.rbc.ru/news/article/65d611589a79479c6573e62c

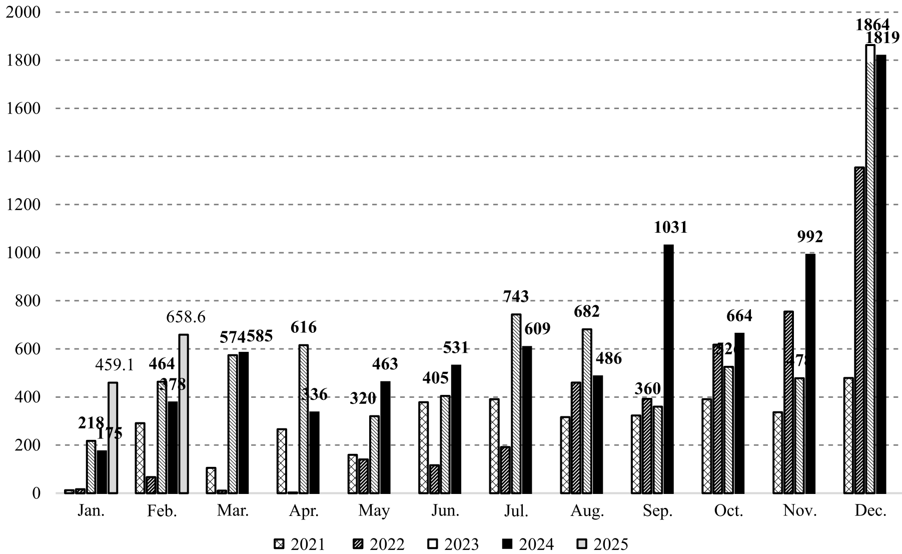


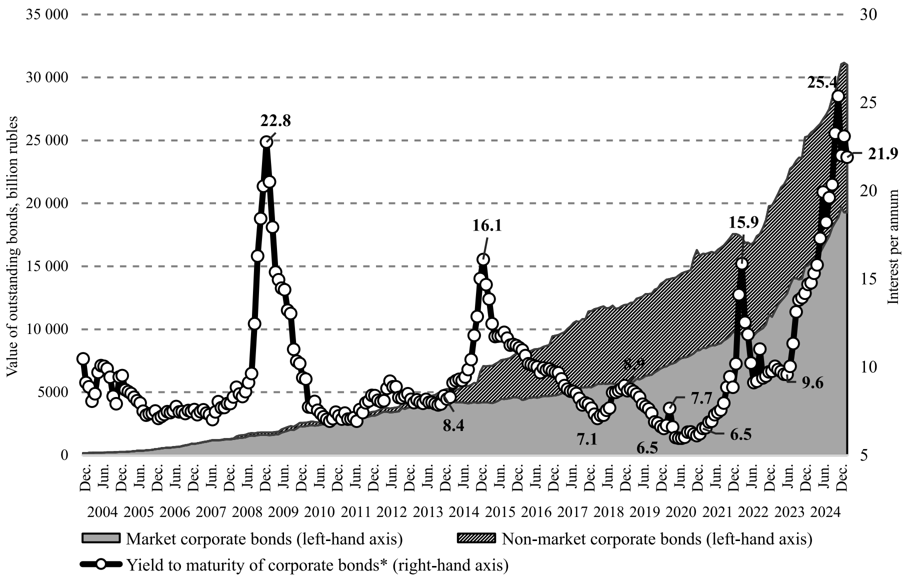

*Fig. 40.* **The volumes of corporate bond placements in 2020–2024 and January–February 2025, billion rubles**

*Source:* own calculations based on the data of Cbonds.

After the 2008 crisis, the ruble yield on the IFXCBND index of the most liquid corporate bonds of large issuers grew now and then on the back of drops in oil prices and investor fears amid geopolitical risks (*Fig. 41*). The peaks of the yield to maturity of the index portfolio in 2014 and in February 2022 coincided with the highest values of the key rates set by the RF Central Bank Since 2014, the corporate bond market growth has been largely facilitated by growth of non-market bond issues.[1]

In November 2024, the yield to maturity of IFXCBND bond index reached 25.4%, an absolute record since the beginning of 2004. It is noteworthy that even during the 2008 crisis this ratio was equal to 22.8%, and with the start of the SMO and the introduction of sanctions it amounted only to 15.9%. As the situation stabilized and investors began to hope that the key rate would stop growing and decrease from H2 2025, this ratio fell to 21.9% in February 2025. In February 2025, out of the total value of Rb 31.0 trillion worth of outstanding ruble-denominated corporate bonds, market bond issues accounted for Rb 19.2 trillion, or 62.2%.

1. According to the definition of the RF Central Bank, a non-market issue means a situation where the buyback of all or most of the placed issue is carried out by the lead bank or companies close to the issuer (The RF Central Bank (2020). Review of the Russian Financial Sector and Financial Instruments. 2019. Analytical material. P. 37).




* Yield to maturity (YTM) on IFXCBN portfolio.

*Fig. 41.* **The value of outstanding ruble-denominated corporate bonds and the yield to maturity of the IFX-Cbonds corporate bond portfolio from December 2003 to February 2025**

*Source:* own calculations based on Cbonds data.

In 2024, the pattern of corporate bond issues was dominated by financial instruments with a high credit rating. The share of bonds with an AAA rating increased from 55.5% in 2023 to 65.2% in 2024, while bonds with ratings from A- to AA+ decreased slightly — from 32.0% to 29.5% (*Fig. 42*). At the same time, the share of bonds with a rating below investment grade BB+ to BBB+ and the share of bonds with no or withdrawn credit rating decreased over the same time from 2.0% to 1.3% and 10.3% to 3.9%, respectively. In the absence of access to external financing, the largest issuers with a high-quality investment rating entered the domestic bond market first.

The number of issuers on the Moscow Exchange corporate bond market considerably exceeds that of companies listed on the stock exchange. In this sense, the corporate bond market is used more actively than the stock market to attract new funds and refinance companies in various sectors of the economy. The number of corporate bond issuers on the Moscow Exchange increased from 451 in 2023 to 606 in February 2025, or by 34.4% (*Fig. 43*).

A positive trend is the gradual decrease in the concentration level of new bond issues starting from 2021, which is evidence that an increasingly wider range of issuers are gaining access to bond borrowing. The share of the top 20 issuers in the over-

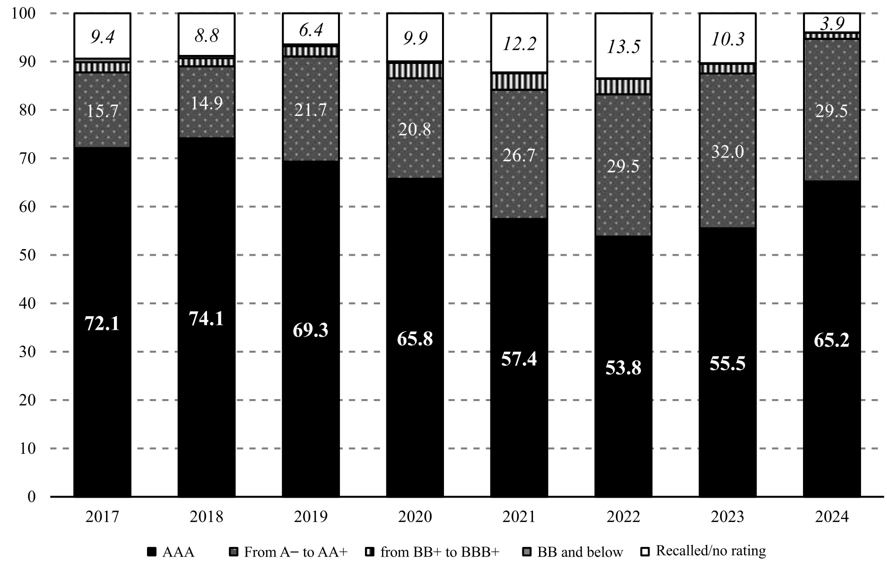



*Fig. 42.* Rating pattern of corporate bonds by issue value in 2017–2024, %

*Source:* own calculations based on the data of the Review of Financial Instruments of the RF Central Bank for a number of years URL: https://www.cbr.ru/ec_research/analitics/

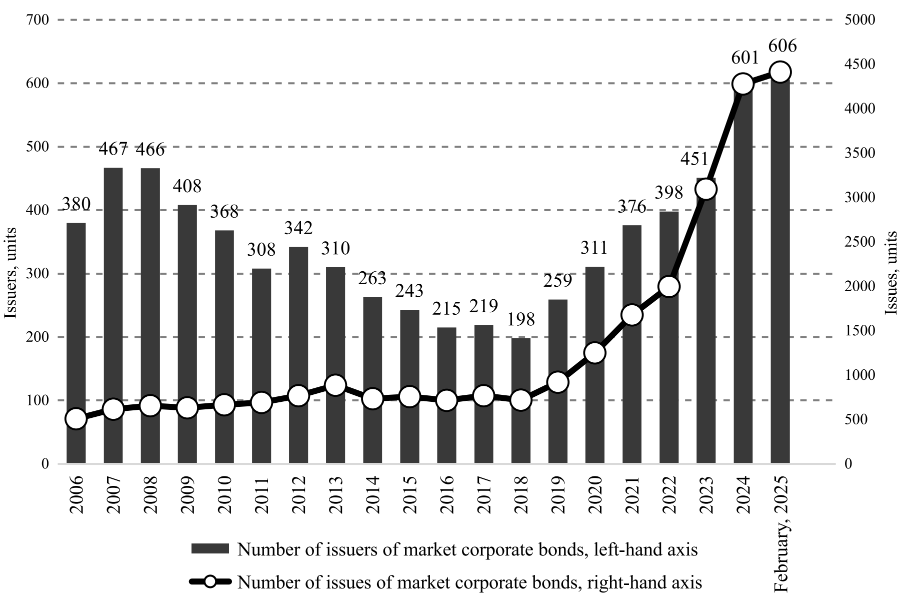



*Fig. 43*. Number of issuers and market issues of corporate bonds on the Moscow Exchange from 2006 to February 2025

*Source:* own calculations based on the data of Cbonds.

all volume of new bond issues decreased from 78.6% in 2020 to 73.4% in 2024, and the share of the top 10 issuers, from 68.3% to 56.7, respectively (*Fig. 44*).

In 2024, the group of issuers DOM.RF, DOM.RF Mortgage Agent, Bank DOM.RF and SOPF DOM.RF accounted for about 10.6% of the value of ruble-denominated corporate bond issues, Rosneft 9.0%, VEB.RF 7.5%, SFO Optimum Finance 02 7.1%, SFO Ideas and Investments 5.0%, Rostec 4.5% and VTB 4.1% (*Table 4*). In 2022–2024, a specific feature of the corporate bond market was the active attraction of funds by the so-called SFO (specialized financial companies), established as JSC or LLC on the basis of Article 15.1 of Federal Law No 39-FZ of April 22, 1996 "On the Securities Market" with a non-transparent ownership structure and data on their activities. As a rule, such organizations are formed to finance large business projects to limit sanction risks for issuers and investors, or for the purpose of issuing structured notes by financial institutions. According to our calculations, in 2024 the cost of new issues of SFO bonds to finance development projects (excluding issues of structured notes) amounted to about Rb1.5 trillion, or 19.7% of the market issues of corporate bonds in our sample when calculating the data in *Table 4*.

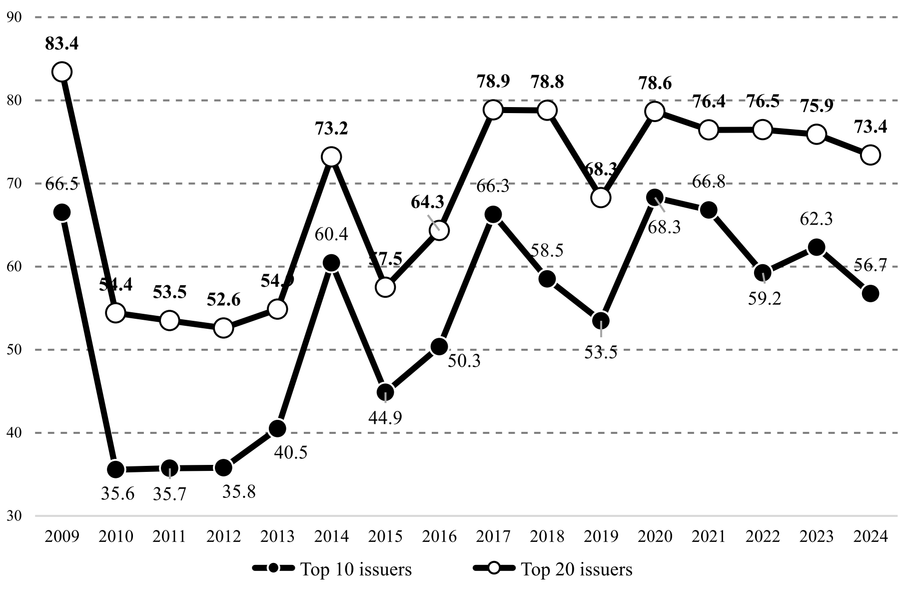



*Fig. 44*. **Share of the top 10 and top 20 issuers in new issues of ruble-denominated corporate bonds in 2009–2024, %**

*Source:* own calculations based on the data of Cbonds.

In 2022–2024, the share of KGU (municipal public institutions) and SFO, which are essentially government-sponsored business financing programs, increased si-

*Table 4*

**The top 10 issuers of corporate bonds (CB) and their share in the total value of the issue of ruble-denominated CB**

| | Issuers | 2021 | | Issuers | 2022 | | Issuers | 2023 | | Issuers | 2024 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Billion rubles | % | | Billion rubles | % | | Billion rubles | % | | Billion rubles | % |
| 1 | DOM.RF Mortgage Agent | 418 | 13.3 | DOM.RF and DOM.RF Mortgage Agent | 519 | 18.6 | Gazprombank and Gazprom Capital | 1106 | 18.6 | DOM.RF and DOM.RF Mortgage Agent. Bank DOM.RF and SOPF DOM.RF | 806 | 10.6 |
| 2 | VEB.RF | 411 | 13.1 | Avtodor | 277 | 10.0 | DOM.RF and DOM.RF Mortgage Agent | 776 | 13.0 | Rosneft | 684 | 9.0 |
| 3 | Sberbank of Russia and Sberbank KIB | 399 | 12.7 | SFO Ideas and Investments | 156 | 5.6 | SFO Ideas and Investments | 316 | 5.3 | VEB.RF | 568 | 7.5 |
| 4 | VTB, including Demetra Holding | 273 | 8.7 | VEB.RF | 156 | 5.6 | NLK-Finans | 265 | 4.4 | SFO Optium Finans, 02 | 542 | 7.1 |
| 5 | Veresayeva 6 | 130 | 4.1 | Sberbank of Russia and Sberbank KIB | 149 | 5.3 | Avtodor | 263 | 4.4 | SFO Ideas and Investments | 377 | 5.0 |
| 6 | Gazprombank and Gazprom Capital | 162 | 5.2 | SFO Aurum–1 | 101 | 3.6 | Sberbank of Russia and Sberbank KIB | 259 | 4.3 | Rostec | 340 | 4.5 |
| 7 | OTEKO-Portservis | 96 | 3.1 | SFO MIP–1 | 83 | 3.0 | SFO Optium Finans | 208 | 3.5 | VTB Bank (PAO) | 315 | 4.1 |
| 8 | Alfa-Leasing | 76 | 2.4 | Rosseti | 80 | 2.9 | VEB.RF | 186 | 3.1 | Gazprom Capital | 260 | 3.4 |
| 9 | RZhD | 69 | 2.2 | MTS | 72 | 2.6 | Aviakapital-Servis | 180 | 3.0 | SFO PB Servis Finans. 01 | 226 | 3.0 |
| 10 | AFK Sistema | 63 | 2.0 | SFO Media Assets | 58 | 2.1 | RZhD | 150 | 2.5 | GMK Norilsk Nickel | 200 | 2.6 |
| | **Capitalization of all issues of CB** | **3137** | **100** | **Capitalization of all issues of CB** | **2787** | **100** | **Capitalization of all issues of CB** | **5958** | **100** | **Capitalization of all issues of CB** | **7611** | **100** |
| | **Capitalization of issues of Top–10 issuers of CB** | **2096** | **66.8** | **Capitalization of issues of Top–10 issuers of CB** | **1651** | **59.2** | **Capitalization of issues of Top–10 issuers of CB** | **3710** | **62.3** | **Capitalization of issues of Top–10 issuers of CB** | **4319** | **56.7** |

*Source:* own calculations based on the data of Cbonds.

gnificantly in the top 20 issues of the largest issuers. If in 2020 and 2021 the share of KGU in the top 20 issues was equal to 85.3% and 84.2%, in 2022, 2023, and 2024 the share of KGU and SFO amounted to 96.7%, 87.4%, and 92.4%, respectively. This is a manifestation of the upward trend of the role of government borrowers in the debt market of corporate issuers.

The data in *Table 5* show that corporate bonds, despite the annual volume of new issues amounting to Rb 8.1 trillion in 2024, are not yet an instrument for financing the structural transformation of the Russian economy. In the overall value of outstanding corporate bonds, the share of financial institutions' bond issues increased from 43.7% in 2023 to 47.4% in 2024. The share of the financial sector, together with mining, transportation, electric power industry, construction and basic materials, which traditionally dominate in the Russian economy, amounted to 86.3% of the value of corporate bond issues in 2024. Companies in such sectors as manufacturing, chemistry and petrochemistry, IT, telecommunications and communications, education and other currently account for the mere 13.7% of outstanding bonds.

*Table 5*

**Industry structure of the ruble corporate bond market in 2018-February 2025, %**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | February 2025 |
|---|---|---|---|---|---|---|---|---|
| Financial institutions | 40.3 | 41.8 | 40.2 | 42.9 | 43.7 | 43.7 | 47.4 | 47.7 |
| Production of oil, gas and coal | 30.2 | 27.9 | 28.3 | 25.5 | 25.3 | 27.1 | 26.4 | 25.3 |
| Transportation | 9.5 | 8.9 | 9.3 | 9.7 | 7.6 | 5.9 | 5.4 | 5.6 |
| Electric power industry | 4.6 | 3.9 | 3.2 | 2.8 | 3.1 | 2.9 | 3.1 | 3.1 |
| Building | 4.1 | 4.4 | 4.4 | 4.3 | 5.4 | 5.2 | 4.0 | 4.0 |
| Basic materials | 2.0 | 2.8 | 2.6 | 1.9 | 3.7 | 4.3 | 4.9 | 4.7 |
| IT, telecommunications, communications | 2.2 | 2.9 | 3.0 | 2.7 | 2.5 | 3.3 | 3.3 | 3.5 |
| Chemistry and petrochemistry | 2.6 | 2.1 | 2.5 | 3.7 | 2.4 | 2.3 | 2.4 | 2.3 |
| Other industries | 4.4 | 5.4 | 6.5 | 6.5 | 6.3 | 5.3 | 3.1 | 2.1 |

*Source:* own calculations based on the data of Cbonds.

As a result of the requirement for Russian companies to replace Eurobond issues with replacement bonds, the volume of Eurobond issues decreased from \$46 bn in 2023 to \$30 bn in 2024, or by 25.0% (*Fig. 45*). At the same time, a considerable portion of Eurobond issuers maintain these issues in the hope of returning to the global financial market if sanctions are eased.

In 2024, the corporate bond market saw a surge in innovative activity by issuers in terms of issuing various types of debt financing instruments. The value of replacement bond issues increased from Rb 1.8 trillion in 2023 to Rb 2.4 trillion in 2024,

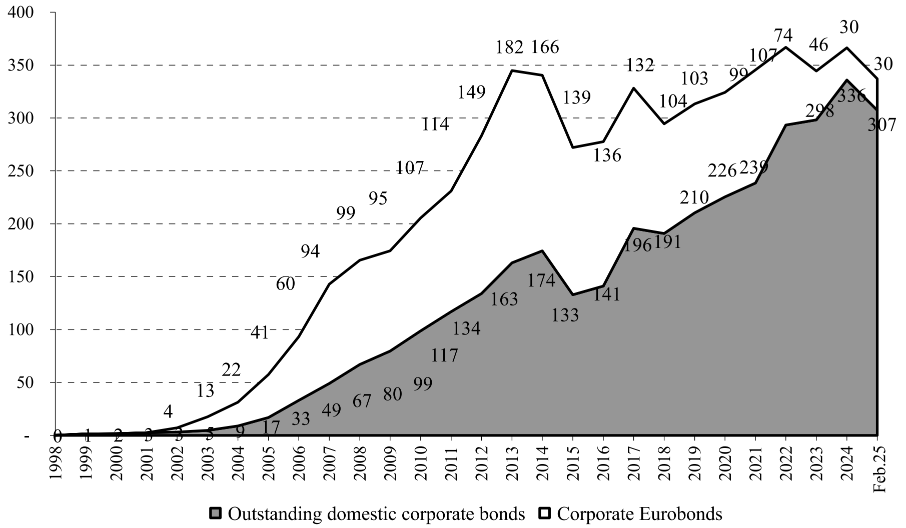



*Fig. 45*. **Volumes of Russian issuers' corporate bonds in circulation from 1998 to February 2025, billion USD**

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

*Table 6*

**Value of outstanding corporate bond issues with special risk features or issue terms, billion rubles**

| Types of bonds | 2022 | 2023 | 2024 | Increase in 2024 on 2023, % |
|---|---|---|---|---|
| Replacement bonds | 545.9 | 1788.2 | 2393.4 | 33.8 |
| Foreign currency bonds (domestic market) | 4006.5 | 5008.9 | 6671.2 | 33.2 |
| Bonds in yuan | 599.4 | 1088.1 | 1754.8 | 61.3 |
| Corporate bonds – floaters | 3696.3 | 4160.5 | 5497.6 | 32.1 |
| Gold-linked bonds | | 17.8 | 34.0 | 90.9 |
| VDO (High Yield Bonds) | 73.0 | 89.5 | 18.7 | −79.1 |
| Green bonds | 300.3 | 336.6 | 337.1 | 0.2 |

*Source:* own calculations based on data of Cbonds and the RF Central Bank's Financial Instruments Review for a number of years.

or by 33.8%. The value of foreign currency bonds increased from Rb5.0 trillion in 2023 to Rb6.7 trillion in 2024, or by 33.2%, the volume of corporate bonds in yuan, from Rb1.1 trillion to Rb1.8 trillion, or by 61.3% (*Table 6*).

To raise the attractiveness of corporate bonds for investors amid high inflation and a volatile key rate of the RF Central Bank in 2023, companies began to issue more actively floaters with a floating coupon income. The cost of their issues increased from Rb 4.2 trillion in 2023 to Rb 5.5 trillion in 2024, or by 32.1%. According to the data of the RF Central Bank, 49.3% of the total volume of corporate floater issues in 2024 was accounted for by the oil and gas industry, 11.6% by transportation, 9.3% by energy and 6.1% by non-ferrous metallurgy. The risks of an increase in floater issues are reflected in the fact that companies have begun to take on the risks of interest rate changes to a greater extent.

By contrast with 2023, in 2024 there was a significant reduction in VDO issues. Their value decreased from Rb 89.5 bn in 2023 to Rb 18.7 bn in 2024, or by 79.1%. According to the RF Central Bank, in 2023 the main VDO investors were private investors and credit institutions, which accounted for 83.6% and 12.1%, respectively, in the structure of holders of these bonds. The dominance of individuals in the structure of VDO holders distinguishes the Russian market from those of developed countries in which institutional investors are the main holders of these bonds.

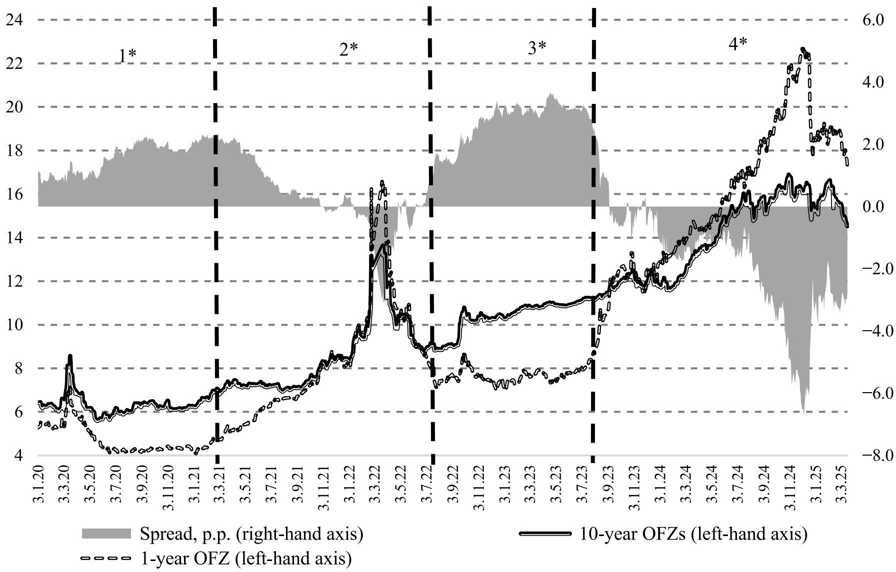
Despite the decline in global interest in ESG investments, there has been no noticeable decline in the green bond market in Russia. In 2024, their issues worth Rb 337.1 bn remained virtually at the previous year level. In 2023, two gold mining companies issued Rb 17.8 bn worth of bonds linked to the price of gold, that is, a new type of bonds on the domestic market interesting for investors who invest in gold and its derivatives. In 2024, the value of gold-linked bond issues increased to Rb 34.0 bn, or by 90.9%.

Thus, the corporate bond market kept growing in 2024, although at a more moderate pace compared to its growth in 2023 and that of bank loans to businesses. Amid record high interest rates, issuers had to refinance debts by taking on credit and interest rate risks. At the same time, the bond market demonstrated a high level of adaptability of its participants to difficult business conditions. This was reflected in the outpacing growth of new bond categories such as yuan-denominated bonds, corporate floaters, foreign currency bonds and bonds pegged to the value of gold.

### *The government bond market of the Russian Federation*

Despite the difficult situation on the financial market in 2024, OFZ new issues amounted to Rb 4.3 trillion this year, an increase of 57.3% on 2023. In 2024, the RF Ministry of Finance surpassed the planned target for gross attraction to the budget by issuing Rb 3.9 trillion worth of government bonds, with its specification in July 2024 taken into account. The volume of new OFZ issues in 2024 in the amount of 4.3 trillion rubles. In 2024, the volume of new OFZ issues, amounting to Rb 4.3 trillion, was second only to the volume of funds (Rb 6.6 trillion) raised in 2020.

It is planned to raise significant amounts of funds for the budget through the issue of government bonds in 2025–2027. In accordance with the budget legislation, the net funds raised through the placement of OFZs should amount to Rb 3.4 trillion, Rb 3.7 trillion and Rb 3.9 trillion in 2025, 2026 and 2027, respectively.




**Notes.** 1* is the period of a stable key rate from January 03, 2020 to January 22, 2021, when the key rate first decreased from 6.25% to 4.25% and then remained low and stable at 4.25% from July 20, 2020 to March 22, 2021; 2* is the period of high volatility of the key rate from March 22, 2021 to July 25, 2022 when it increased from 4.25% to 20.0% by April 08, 2022 and then began to sharply decrease to 8.0% by July 25, 2022; 3* is a period of relative stability of the key rate from July 25, 2022 to July 24, 2023, when the rate decreased from 8.0% to 7.5% and remained at this level from September 19, 2022 to July 24, 2023; 4* is a new wave of growth of the key rate on the back of inflation expectations from July 24, 2023 to the present (March 18, 2025), when the rate increased from 7.5% to 21.0% with expectations of its decrease only in H2 2025.

*Fig. 46*. **Yield to maturity of one- and 10-year OFZs in percent per annum and the spread between the yield on 10- and one-year OFZs in percentage points from January 3, 2020 to March 18, 2025**

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

One of the indicators of the stability of conditions for the placement of government bonds is the yield-to-maturity spread of 10-year and 1-year government bonds. With positive expectations of a decrease in the rate of inflation and continued economic growth, the yield on long-term securities normally exceeds that on short-term bonds. With high inflation, an unstable key rate and expectations of growth slowdown, an inversion of the yield curve of bonds take place, when the yield to maturity of short-term bonds exceeds the ratio for securities with a long duration. Due to a high key rate or a shortage of liquidity, the short-term cost of money is high, and a decrease in key rates is expected for long-term bonds to support economic growth.

From January 2020 to March 18, 2025, four periods can be singled out in the government securities market (*Fig. 46*). The first period from January 3, 2020 to March 22, 2021 is characterized by a stable key rate and favorable conditions for the placement of OFZs. During this period, the yield to maturity of 1-year OFZs decreased from 5.6% per annum to 5.4% per annum, or by 0.2 p. p., the yield on 10-year government securities increased from 6.4% to 7.4%, or by 1.0 p. p.

The second period from March 22, 2021 to July 25, 2022 is characterized by increased volatility of the key rate, inversion of the yield curve of government bonds and difficulties in raising funds when issuing OFZs. During this period, the yield to maturity of one-year OFZs increased from 5.4% to 7.2% per annum, or by 1.8 p. p. and the yield on 10-year government securities, from 7.4% to 8.8%, or by 1.4 p. p.

The third period — July 25, 2022 to July 24, 2023 — was characterized by relative stability of the key rate and high activity of the RF Ministry of Finance in placing bonds to finance the budget deficit. During this period, the yield to maturity of one-year OFZs increased from 7.2% per annum to 8.4% per annum, or by 1.2 p. p. and the yield on 10-year government securities, from 8.8% to 11.2%, or by 2.4 p. p.

The fourth period — July 24, 2023 to March 18, 2025 — saw growth in the key rate, recovery of the yield curve inversion and volatile investor demand for OFZs. During this period, the yield to maturity of one-year OFZs increased from 8.4% per annum to 17.3% per annum, or by 8.9 p. p. and the yield on 10-year government bonds, from 11.2% to 14.5%, or by 3.3 p. p.

Thus, it can be assumed that the signs of unfavorable conditions for the placement of OFZs are high volatility of the key rate and growth of the spread between 1year- and 10-year government bonds in the process of inversion of the yield curve of government securities. With the inversion prevailing, the yield on bonds has begun to decline since November 29, 2024 and this spread started to decrease. Accordingly, the opportunities for new issues of government bonds began to increase.

The placement of new OFZ issues in 2024 was highly uneven (*Fig. 47*). Of the total value of new bond issues amounting to Rb 4.3 trillion, Rb 2.1 trillion, or 48.6% of all annual placements, were raised in December alone. This was facilitated by the RF Central Bank's refusal to raise the key rate above 21%, despite the continued growth in inflation in November and December 2024. In addition, according to a number of experts[1], the main buyers of new OFZ issues in December 2024 were state-owned banks, particularly VTB. In order to buy new OFZs, state-owned banks could use funds raised from the RF Central Bank through repo transactions against the pledge of securities.

The total value of government bond issues increased from Rb 20.2 trillion in 2023 to Rb 23.2 trillion in 2023, or by 14.9% (*Fig. 48*). The growth in the value of OFZs was facilitated by three types of government securities: OFZ-PK, a floating-coupon bond (floaters), OFZ-PD (a fixed-income bond) and OFZ-IN, a bond with a par value indexed to the inflation rate (linkers).

1. The Kommersant daily (2024). Repetition is the Mother of Attraction // The Kommersant online, December 11, 2024. URL: https://www.kommersant.ru/doc/7364972?from=glavnoe_7

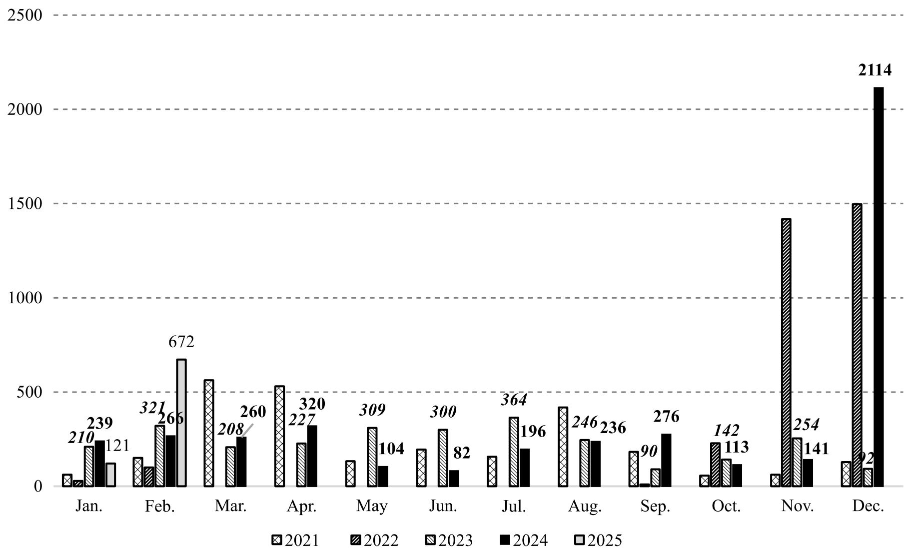
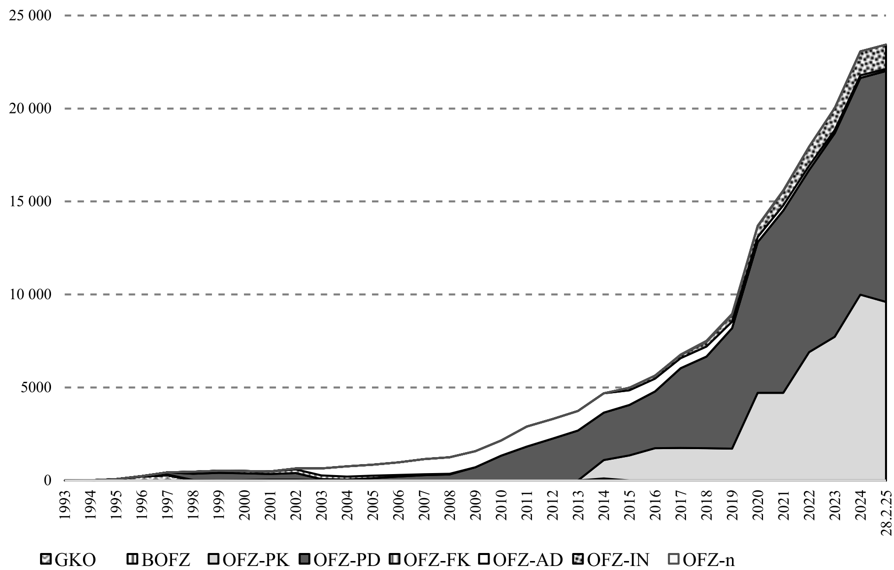



*Fig. 47*. **Volumes of OFZ placements at auctions in 2021–2024 and January–February 2025, billion rubles**

*Source:* own calculations based on the data of Cbonds.

The most significant segment of the OFZ market in terms of value is OFZ-PD with a constant coupon income. The amount of coupon income on these OFZs is set in advance for the entire period of duration, thus making it feasible the RF Ministry of Finance to effectively manage the costs related to public debt servicing without taking on interest rate risks. OFZ-PDs are characterized by a diversified owner structure facilitating a higher level of liquidity of this type of OFZ. According to the RF Central Bank, in 2023, 27.3% of these bonds belonged to credit institutions, 22.9% to public sector entities, 15.6% to NPFs, 13.7% to non-residents, 7.4% to insurers, 6.9% to other financial institutions and 3.5% to private investors. Before the sanctions, the main investors in OFZ-PDs, particularly with a long duration, were for quite a long time foreign portfolio investors. The value of OFZ-PD increased from Rb10.9 trillion in 2023 to Rb11.7 trillion in 2024, or by 7.3%.

Amid rising inflation and the key rate, OFZs with a floating coupon (OFZ-PK) are usually more attractive to domestic investors, providing them with more flexibility in managing liquidity and interest rate risks. In OFZ-PK, the coupon size is linked to the RUONIA money market rate, which usually follows the values of the RF Central Bank's key rate. The overall value of outstanding OFZ-PK bonds increased from Rb7.7 trillion in 2023 to Rb10.0 trillion in 2024, or by 29.9%, that is, floater issues grew faster than OFZ-PD.




**Note:** The following abbreviations are used here and below:
BOFZ is zero-coupon federal loan bonds;
GKOs is government short-term zero-coupon bonds;
OFZ is federal loan bonds;
OFZ-AD is federal loan bonds with debt amortization;
OFZ-IN is federal loan bonds with a par value indexed to the inflation rate in the Russian Federation ("linkers");
OFZ-PD is federal loan bonds with a fixed coupon income;
OFZ-PK is federal loan bonds with a variable coupon income "tied" to the RUONIA rate ("floaters");
OFZ-n is federal loan bonds for individuals ("people's bonds").

*Fig. 48*. **Volume of outstanding GKO-OFZ issues from 1993 to February 2025, billion rubles**

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

Based on the results of the federal budget execution in 2024, the RF Accounts Chamber stated[1] that the use of floating rate instruments under unfavorable macroeconomic conditions may lead to an increase in the cost of servicing the national domestic debt, thus limiting the federal budget's ability to finance infrastructure projects. According to the calculations of the RF Accounts Chamber, the cost of servicing the national domestic debt increased from Rb1.3 trillion in 2022 to Rb1.7 trillion in 2023 and Rb2.3 trillion in 2024, which is equal to 3.8%, 4.8% and 5.4% of the federal budget expenditure, respectively. According to our estimates, the spe-

1. The RF Accounts Chamber. The Operational report on the implementation of the federal budget in January-December 2024. URL: https://ach.gov.ru/upload/iblock/f7d/mp3zg8a6s3o7gzxxv2sl260u2r6mwmu4.pdf

cified amount of expenditure for 2024 exceeds government expenditure on education and healthcare separately.

OFZ-IN (linkers) envisage indexation of the nominal value of bonds depending on the level of inflation measured by the consumer price index (CPI). By virtue of their protective properties, they are in demand among domestic institutional investors. According to the RF Central Bank, in 2023, 33.4% of linkers belonged to credit institutions, 30.8% to NPFs, 28.3% to other financial institutions, 4.7% to non-residents, 1.3% to insurers and only 1.3% to private investors. Such a structure with a dominance of institutional investors holding bonds until maturity reduces the liquidity of OFZ-IN on the stock market. The value of OFZ-IN increased from Rb1.2 trillion in 2023 to Rb1.3 trillion in 2024, or by 9.5%.

Two other types of government bonds—OFZ-AD with amortization of the principal debt for investing pension savings in a volatile financial market and OFZ-n, which are called “people’s bonds” because of their focus on private investors’ investments in the over-the-counter market -- are not popular under the current conditions. The value of OFZ-AD decreased from Rb176 bn rubles in 2023 to Rb140 bn in 2024, or by 20.5%. OFZ-n were fully repaid by February 28, 2025. The issuer’s previous hopes for the popularity of these bonds with households when selling them to private investors directly through banks, with the exchange infrastructure bypassed, did not come true.

Over 12 years from February 2013, i.e. from the moment the nominee holder accounts were opened with the National Settlement Depository (NSD) by Euroclear and Clearstream, foreign settlement and clearing institutions, until January 2025, the share of non-resident investments in OFZ was very volatile (*Fig. 49*). The maximum share of non-resident investments in OFZ was reached in February 2020 (34.9%), in January 2025 it fell to 4.0%.

Such a sharp decrease in the volume of non-resident investments in OFZs, despite the blocking of these funds in Russian depositories during the sanctions, suggests that many non-residents from unfriendly countries still managed to avoid Russian counter restrictions provided for by Federal Law No. 319-FZ of July 14, 2022, by reselling securities to entities that were not subject to sanctions.[1]

The value of non-residents’ investments in Russian Eurobonds decreased from $14.8 bn in 2023 to $9.1 bn in 2023, or by 38.5% (*Fig. 50*). At the same time, the share of non-residents in Russian Eurobonds decreased from 44.8% in 2023 to 28.1% in 2024, or by 16.7 p.p. In the future, the share of non-residents in government Eurobonds will decrease as the RF Ministry of Finance expands the practice of issuing replacement bonds.

The total value of RF government bonds increased slightly from $272 bn in 2023 to $278 bn in 2024, or by 2.2%. At the same time, the share of ruble-denominated bonds increased from 87.5% in 2023 to 90.3% in 2024 (*Fig. 51*).

1. *Frank Media* (2023). Non-residents continue to sell OFZs at a discount of up to 40% in 2023. URL: https://frankrg.com/110155

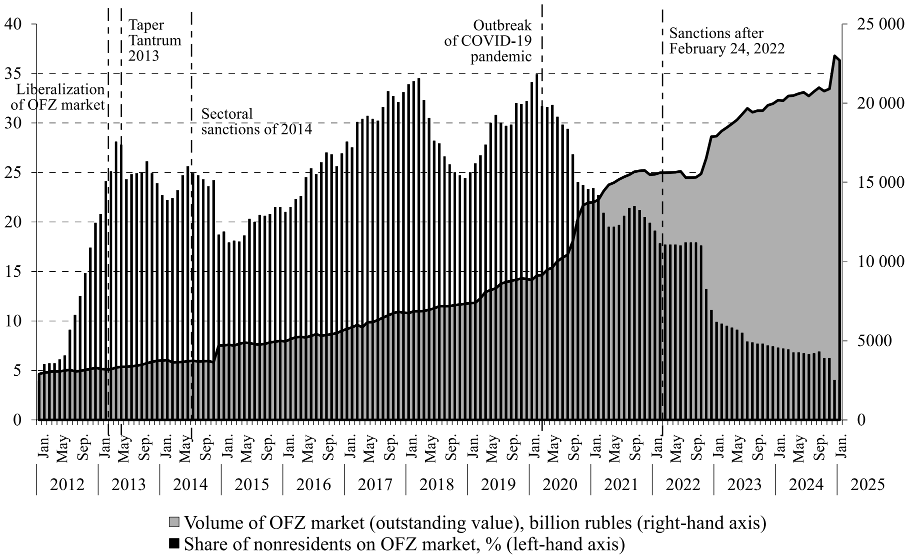



*Fig. 49*. Share of non-residents in the OFZ market (%) and the value of outstanding OFZs (billion rubles) from February 2012 to January 2025

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

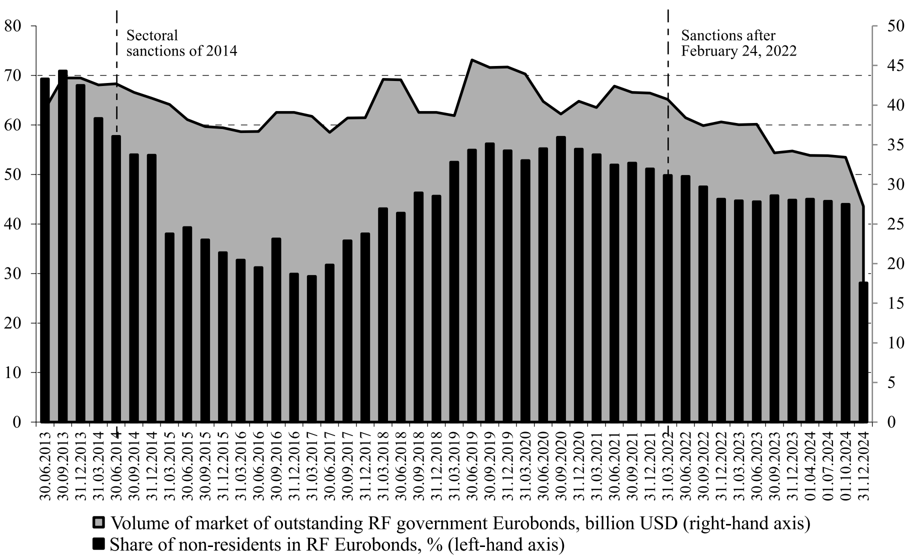



*Fig. 50.* Share of non-residents in the RF government Eurobonds market (%) and the value of outstanding RF government Eurobonds (billion USD), July 2013 to December 2024

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

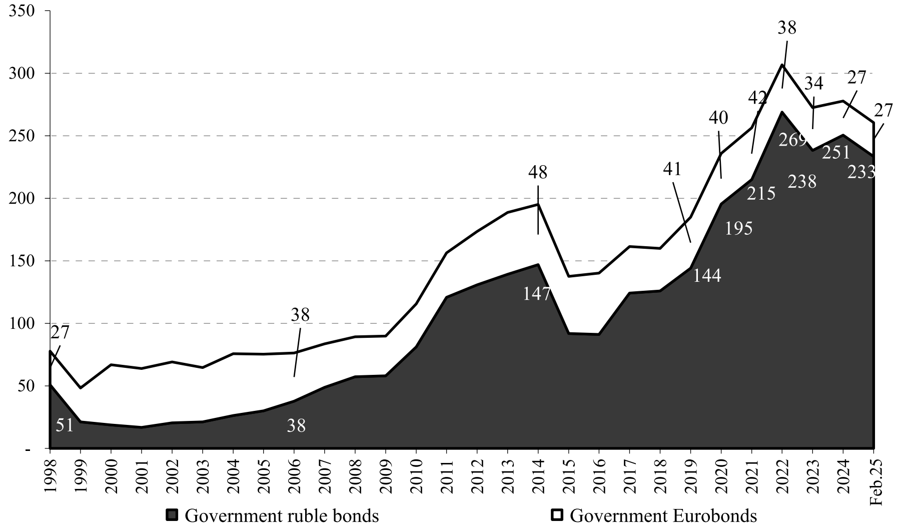



*Fig. 51.* **Volumes of outstanding RF government domestic bonds and Eurobonds, 1998-February 2025, billion USD**

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

Thus, in 2024, the RF Ministry of Finance managed to increase considerably the volume of borrowings for the budget by placing government bonds in amounts second only to those in 2020. The successful placement of OFZs at the end of the year was facilitated by the banking sector's liquidity surplus supported by the Central Bank's refinancing of the banking sector. The share of floaters in the structure of the OFZ issue grew, thus increasing the risks of higher expenses on the public debt servicing. The start of issuing replacement bonds reduced further the dependence of the budget deficit on the external market. The share of non-residents in the structure of OFZ and Eurobond holders reached a historical minimum. Lower borrowing rates at OFZ auctions in 2024 and early 2025 point to the fact that key investors (banks) expect the RF Central Bank to solve the problem of inflation in H2 2025 and the key rate to decline.

## 2.1.6. The futures market

The economic importance of the futures market lies in setting prices for investment assets, as well as in providing market participants with the opportunity to hedge themselves against sudden changes in asset prices in the future. However, the futures market, which is dominated by private investors, is often used not for risk management, but for speculative operations using high leverage.

The prevailing private investors in the futures market, according to the Moscow Stock Exchange they accounted for 62% of transactions in the futures market in 2024, use it more for short-term transactions rather than for hedging. The futures market trading volumes of the Moscow Stock Exchange increased from Rb 77.9 trillion in 2023 to Rb 96.6 trillion in 2024, or by 24.0% and the volume of transactions with options increased from Rb 2.9 trillion to Rb 3.3 trillion, or by 26.9% (*Fig. 52*). At the same time, in 2024, the liquidity of the futures and options markets reached only 67.3% and 48.3%, respectively, of the trading volumes seen in 2021.

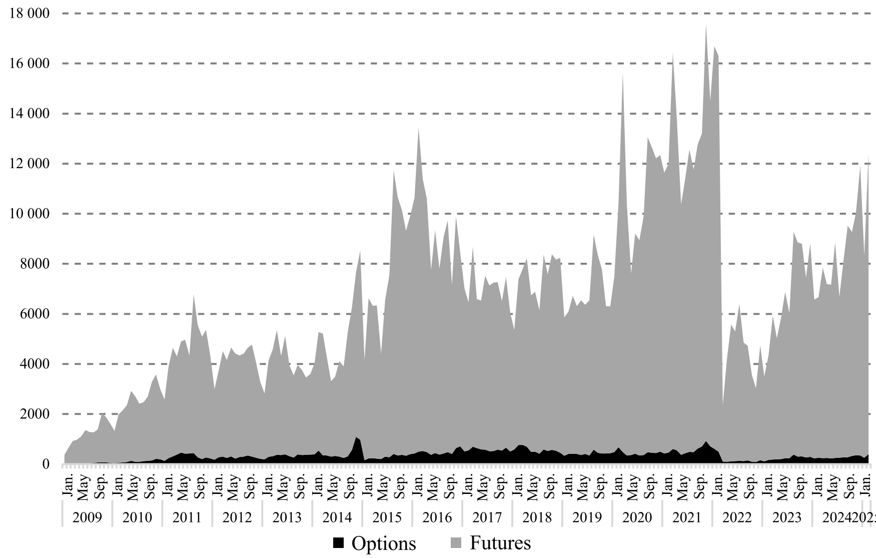



*Fig. 52*. **The value of futures and options transactions on the Moscow Stock Exchange, January 2009 to February 2025, billion rubles**

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

The Moscow Exchange futures market is dominated by foreign exchange instruments, but their share in the total volume of transactions decreased from 56.2% in 2023 to 49.3% in 2024 (*Fig. 53*). According to the RF Central Bank[1], in 2024 the most popular futures contracts were forwards for the USD/ruble exchange rate, the exchange rate of the ruble against the yuan and other currencies of friendly countries, the euro/ruble exchange rate and the euro/dollar exchange rate. In 2024, the share of commodity futures in the volume of transactions decreased slightly from 28.4% to 24.5%. Among these instruments, futures for gold, natural gas, Brent crude oil, silver and cocoa fruits were the most in demand.

1. URL: https://www.cbr.ru/collection/collection/file/50717/derivatives_market_2024.pdf

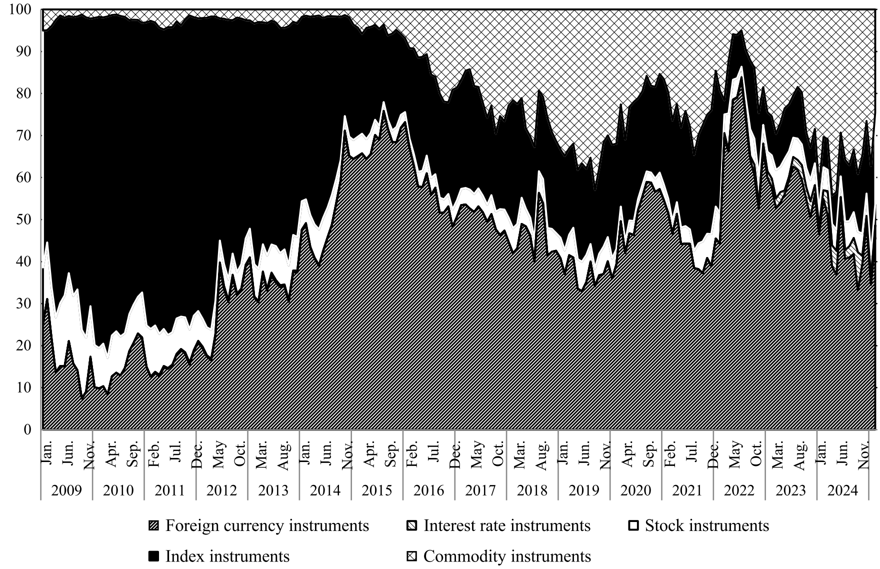



*Fig. 53*. **The structure of the futures market of the Moscow Stock Exchange, January 2009 to February 2025, % of the value of transactions**

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

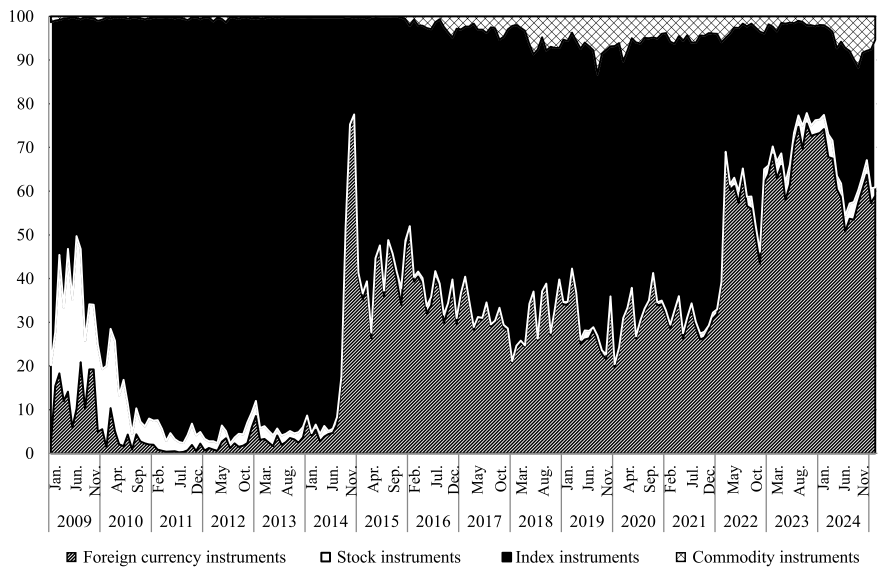



*Fig. 54*. **The structure of the options market of the Moscow Stock Exchange, January 2009 to February 2025, % by transaction value**

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

Over the year, the share of index instruments in the total volume of transactions increased from 8.2% to 21.9%. Contracts for the Moscow Stock Exchange index, shares of the American exchange-traded fund SPY for the S&P500 index, the RTS index, the Moscow Stock Exchange IPO index and others were most actively concluded there. The share of contracts for stock instruments increased from 4.9% to 5.2%. These contracts were concluded for individual shares of Russian issuers and a number of foreign securities. The share of interest rate futures remained the lowest, falling from 3.0% to 2.0% over the year.

The options market is highly risky for individuals' short-term transactions. Unlike previous years, foreign currency options have become the most traded contracts on the stock exchange in recent years (*Fig. 54*). The volume of options on foreign currency instruments decreased from Rb 2.2 trillion in 2023 to Rb 1.7 trillion in 2024, or by 23.3%. The volume of options on index instruments increased from Rb 771 bn in 2022 to Rb 964 bn rubles in 2024, or by 24.5%. Options on commodity instruments increased from Rb 61 bn to Rb 235 bn, or 3.2 times. The volume of transactions with options on individual stock instruments amounted to Rb 104 bn and remained virtually unchanged over the year.

### 2.1.7. Financial intermediaries and exchanges

According to the theory of competitive markets, competition is determined not by the number of actors, but by the freedom to enter the market.[1] Many improvements in the market in the interests of consumers are made by market participants under the threat of entry by new firms in cases where existing firms set prices above marginal costs and receive excess profits.[2]

A characteristic feature of the Russian financial market is that, despite the development of fintech and the arrival of tens of millions of private investors to the market, the long-term trend of a decrease in the number of licenses for professional activities in the securities market is accompanied by a very limited number of new companies entering the market. In 2024, compared to 2023, the number of entities with a broker's license increased from 254 to 255, while that with a dealer's license decreased from 282 to 280 and that with a trust management license, from 183 to 177 (*Fig. 55*). The number of new licenses issued for a professional participant in the securities market increased from 35 to 46.

In our opinion, the insufficient level of competition in the domestic stock market is evident in the following.

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1. *Baumol W.* Contestable Markets: An Uprising in the Theory of Industry Structure: Reply, The American Economic Review, 1982, Vol. 72/1. URL: http://www.jstor.org/action/showPublisher?publisherCode=aea
2. *Claessens S.* Competition in the Financial Sector: Overview of Competition Policies, The World Bank Research Observer, 2009, Vol. 24/1, pp. 83–118. URL: https://doi.org/10.1093/wbro/lkp004.

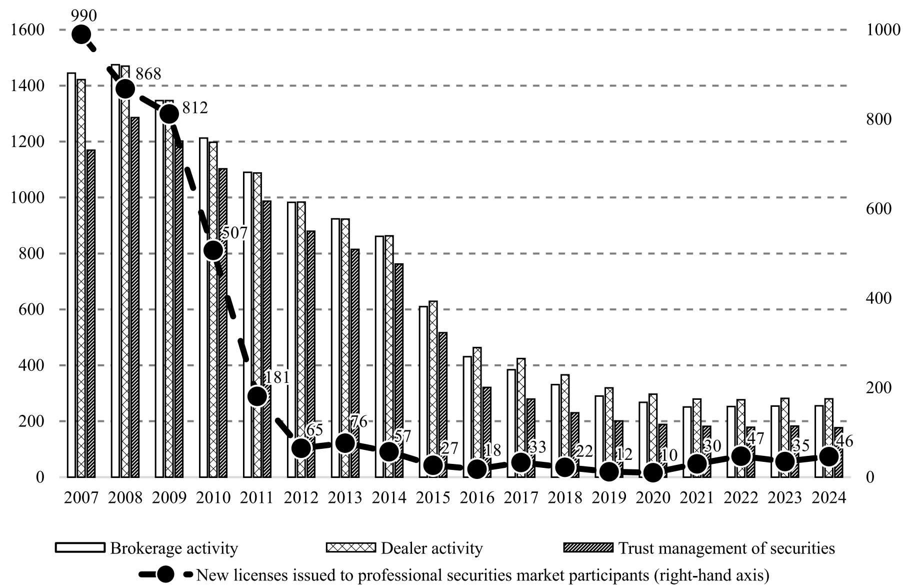



*Fig. 55*. **The number of licenses for brokerage, dealer, and trust management of securities (left-hand axis) and the number of licenses issued to professional securities market participants (right-hand axis), 2007–2024**

*Source:* own calculations based on the data of NAUFOR and the registers of the RF Central Bank. URL: https://www.cbr.ru/securities_market/statistic/

Unlike the United States, China, and EU countries, Russia has not developed independent fintech companies that could compete with large banks and brokers in the field of payment services, cash liquidity management and the formation of individual securities portfolios for private investors. In Russia, there are no analogues to such structures as Revolut, Robinhood, Betterment, Acorns, SoFi and many others. Unlike China, large bigtech companies in the Russian market have not become banks' competitors in the field of money settlements, payment services and the provision of financial services. Despite the use of modern financial technologies in banks, the level of tariffs for payment services and financial asset management related costs remain high, and the range and quality of financial services are rather limited.

In the Russian market, there is no competition between financial products from different suppliers, it is replaced by competition between financial institutions dominated by 4–5 large retail banks. As a result, financial institutions' clients have to use financial products only from the provider where their brokerage or other account is maintained. Due to a lack of competition between products, where an investor could purchase products from different suppliers using the same account, the products received by such an investor are not the best on the market and involve high costs for investors.

A typical Russian investor does not have access to comparative analytics on the financial products they seek to purchase.[1]

In 2011, the consolidation of the MICEX and RTS exchanges took place and it allowed to speed up the development of exchange technologies and concentrate liquidity in a single settlement and trading system. Along with the positive changes, the merger of the RTS and MICEX exchanges has led to the disappearance of competition between exchanges. In 2020–2021, the accelerated development of the St. Petersburg Stock Exchange (SPB), which organized trading in foreign issuers' equities, facilitated the restoration of competition between stock exchanges in the equity market. However, in 2023 the St. Petersburg Stock Exchange practically ceased its main activity due to the sanctions imposed on it and its settlement depository.

In recent years, the Moscow Stock Exchange has tried to realize its advantages in the market as a universal organizer of trading in various financial instruments. The total volume of exchange trading increased from Rb1310 trillion in 2023 to Rb1490 trillion in 2024, or by 11.4 (*Fig. 56*).

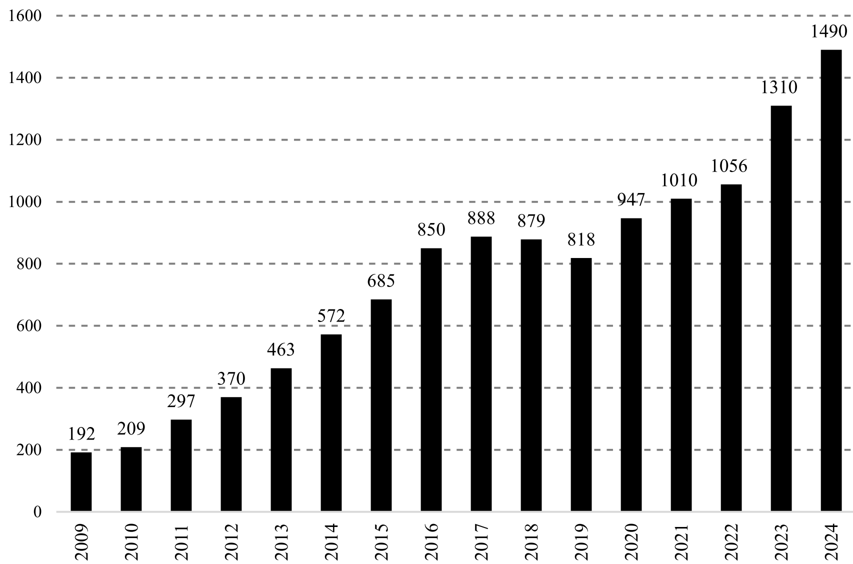



*Fig. 56*. **Total trading volumes of all instruments on the Moscow Exchange, 2009–2024, trillion rubles**

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

1. For more information on the issues of competition in the domestic market and their causes, see *Abramov A.* People's Financial Options // Bulletin of NAUFOR, No. 1, January 2025, pp. 5–15. URL: https://naufor.ru/download/pdf/2025/1/Abramov.pdf

The universal exchange model has not only advantages, but also creates risks that reduce its incentives to develop business segments that do not generate high commissions. As shown in *Table 7*, the share of the stock market decreased from 5.2% in 2921 to 4.8% in 2024, while in 2010 it was equal to 13.2%. The main trading volumes on the Moscow Stock Exchange are generated by the currency and money market, its share in 2022–2024 was at the level of 89–90% compared to 72.0% in 2010. The share of the futures market increased slightly from 6.2% in 2023 to 6.7% in 2024.

*Table 7*

**The structure of the Moscow Stock Exchange market from 2010 to February 2025, %**

| | 2010 | 2015 | 2020 | 2021 | 2022 | 2023 | 2024 | February 2025 |
|---|---|---|---|---|---|---|---|---|
| **Stock market** | **13.2** | **3.0** | **5.8** | **5.2** | **3.5** | **4.8** | **4.8** | **5.6** |
| Including: | | | | | | | | |
| Equities, RDR and units | 8.0 | 1.4 | 2.5 | 3.0 | 1.7 | 1.8 | 2.2 | 3.5 |
| Bonds | 5.2 | 1.6 | 3.2 | 2.2 | 1.9 | 3.0 | 2.6 | 2.1 |
| Secondary trading | 3.4 | 1.2 | 1.2 | 1.0 | 0.6 | 0.9 | 0.3 | 0.5 |
| Offering market | 1.8 | 0.4 | 2.1 | 1.2 | 1.2 | 2.2 | 1.9 | 1.1 |
| **Foreign exchange and money market** | **72.0** | **83.3** | **80.5** | **78.9** | **89.1** | **89.0** | **88.5** | **85.7** |
| Including: | | | | | | | | |
| Money market | 33.9 | 38.0 | 45.7 | 47.2 | 63.7 | 64.0 | 71.5 | 78.2 |
| REPO operations | 31.5 | 33.2 | 40.7 | 41.7 | 51.3 | 50.4 | 56.9 | 68.2 |
| Credit market | 2.4 | 4.8 | 5.0 | 5.5 | 12.4 | 13.6 | 14.6 | 9.9 |
| Foreign exchange and commodity markets | 38.1 | 45.4 | 34.7 | 31.7 | 25.4 | 25.1 | 17.0 | 7.6 |
| **Futures market** | **14.8** | **13.7** | **13.7** | **15.7** | **7.4** | **6.2** | **6.7** | **8.7** |
| **TOTAL** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | **100** |

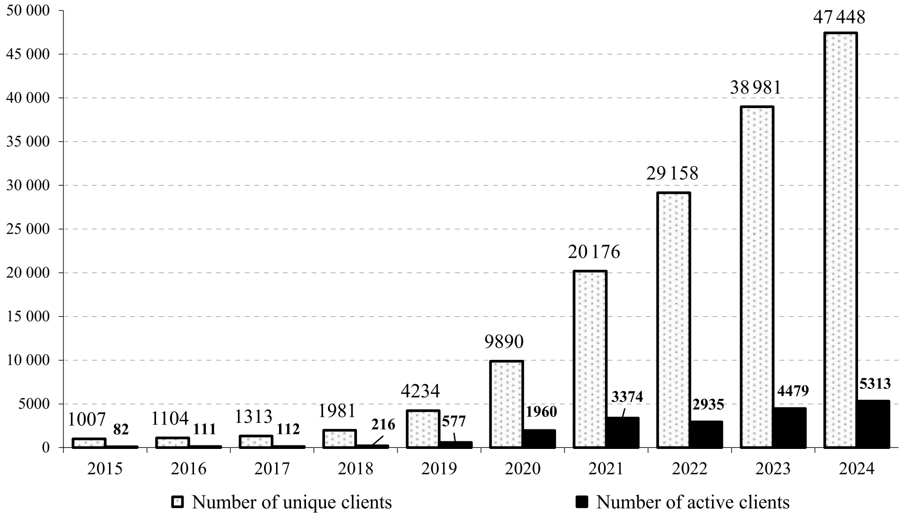
*Source:* own calculations based on the data of the Moscow Exchange.

### 2.1.8. Investors in the domestic financial market

Over the past 5–7 years, the number of private investors has been growing in the Russian market. According to the RF Central Bank, the number of unique client accounts with brokers increased from 39.0 mn in 2023 to 47.4 mn in 2024, or by 21.5 (*Fig. 57*).[1] However, as most of these accounts have no assets, a more ob-

1. Unfortunately, the exchange statistics on the number of accounts of private investors are becoming less transparent. Following the refusal to publish statistics on customer accounts with a breakdown into individual brokers, the Moscow Stock Exchange has stopped publicly disclosing information on the total number of broker customer accounts and actively managed accounts since May 2024.

jective indicator of the trading activity of private investors is the number of accounts of active clients who have made at least one exchange transaction once a month. The number of such accounts with brokers increased from 4.5 mn in 2023 to 5.3 mn in 2024, or by 17.7%.




**Note.** The number of unique broker clients in 2015–2018 was determined by adding up the unique brokerage accounts on the Moscow and St. Petersburg stock exchanges. The number of active clients was calculated based on the number of unique active brokerage accounts on the Moscow and St. Petersburg stock exchanges. In 2019–2024, data on the number of broker clients is based on the data of the "Dynamic Series of Key Broker Performance Indicators" of the RF Central Bank:

*Fig. 57*. **The number of accounts of registered and active clients of brokers on Russian stock exchanges, 2015–2024, thousand**

*Source:* own calculations based on data of the Moscow and St Petersburg Stock Exchanges and the RF Central Bank.

At the same time, information about the existence of 44.7 mn private investor accounts with brokers is not fully correct because most of these accounts do not have any assets. The number of funded accounts is only 35.2% of the total number of accounts with brokers, i. e. the number of funded customer accounts with brokers increased from 13.6 mn in 2023 to 16.7 mn in 2024, or by 22.8% (*Fig. 58*).

In the practice of other countries – the USA, the EU, China, India and South Korea — information is normally published only on clients' funded accounts with brokers.

The number of individual investment accounts (IIS) of private investors increased from 6.0 mn in 2023 to 6.1 mn in 2023, or by only 1.7% (*Fig. 59*). The value of assets in IIS increased from Rb 543 bn in 2023 to Rb 595 bn in 2024, or by 9.6%.

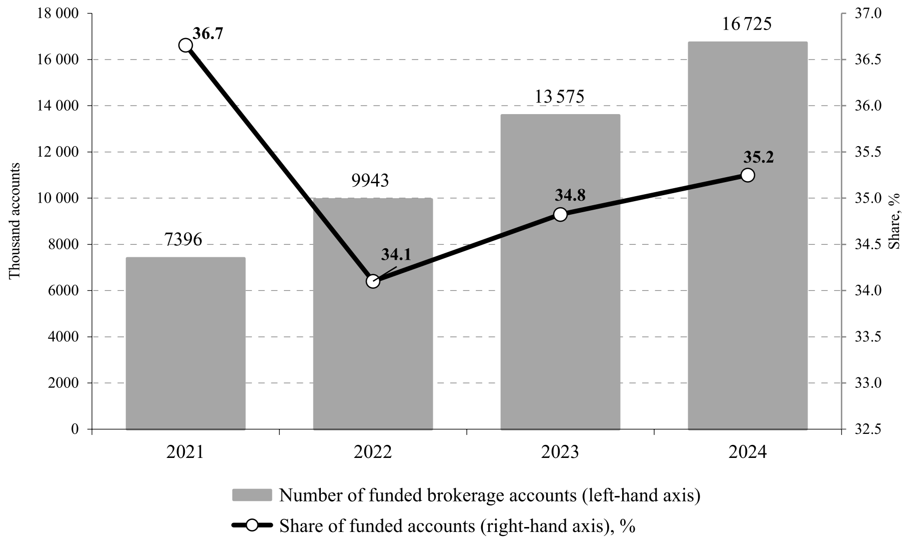



*Fig. 58*. **The number of clients' funded brokerage accounts (thousands) and their share in the total number of brokerage accounts (%) in 2021–2024**

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

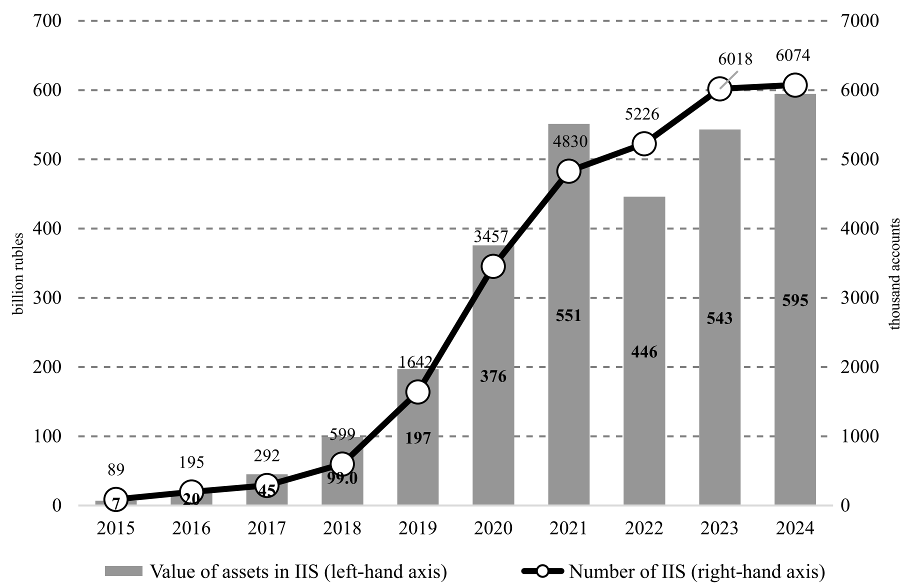



*Fig. 59*. **The number of individual investment accounts (IIS 1–3) in thousands and the value of client assets in these accounts, billion rubles, 2015–2024**

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

In accordance with the Federal Law "On the Securities Market" as amended, which entered into force on January 1, 2024[1], instead of the previous IIS-1 and IIS-2, individuals could open only accounts of a new type, that is, the so-called IIS-3. The new type of IIS allows their owners to enjoy a wider range of tax benefits in terms of personal income tax deduction when depositing new funds to the account in the amount of up to Rb 400,000 per year, as well as exemption from personal income tax on investment income when withdrawing savings from the account. At the same time, the amount of funds deposited into the IIS-3 account is not limited, and the maximum amount of investment income exempt from tax is equal to Rb 30 mn. The main disadvantage of IIS-3 compared to IIS-1 and IIS-2[2] is that the minimum duration of asset retention in the account should be 5 years with a subsequent increase to 10 years.

In our opinion, the rule on a minimum asset retention period of 5 years or more amid high volatility of the domestic stock market, with a share of household deposits for up to 1 year in the total value of ruble deposits being equal to 98.1% in 2024[3], is a serious obstacle for these accounts being attractive to households.

In terms of the number of accounts and assets held on them, brokerage IIS grow significantly slower as compared to similar indicators of individuals' ordinary brokerage accounts (*Fig. 60*). At the peak of popularity of IIS in 2020, the value of assets kept on them was equal to the mere 6.7% of individuals' assets in brokerage accounts, while in 2024 this indicator fell to 4.7%. The share of brokerage accounts with IIS status in the total number of brokerage accounts peaked at 33.6% in 2019, and then decreased to 12.3% in 2024.

The data on the number of brokerage accounts registered by exchanges do not reflect the actual extent of households' involvement in stock market transactions. Most brokerage accounts opened by individuals are empty or hold insufficient assets for safe investment. As shown in *Table 8*, the value of assets in private investors' brokerage accounts increased from Rb 9.2 trillion in 2023 to Rb 10.6 trillion in 2024, and the number of unique broker clients, from 38.2 mn to 47.4 mn over the same period of time.[4] Similar indicators for trust management accounts were 0.8 mn and 0.8 mn, respectively, as well as Rb 1.8 trillion and Rb 2.0 trillion.

In 2024, of the total number of brokerage account holders 30.7 mn (64.5%) had no assets in their accounts compared with 65.1% in 2023. According to our estimates, in order to build a very simple diversified portfolio a private investor needs

1. Federal Law No. 600-FZ of December 19, 2023 "On Amendment of Individual Statutory Acts of the Russian Federation."
2. The minimum asset retention period on IIS-1 and IIS-2 was three years, and it was not linked to the time of depositing funds into the account.
3. Calculations based on the RF Central Bank's data as of January 1, 2025.
4. The data on the number of private investors' brokerage accounts disclosed by the RF Central Bank normally exceed the indicator on the number of brokers' unique clients published by the Moscow Stock Exchange.

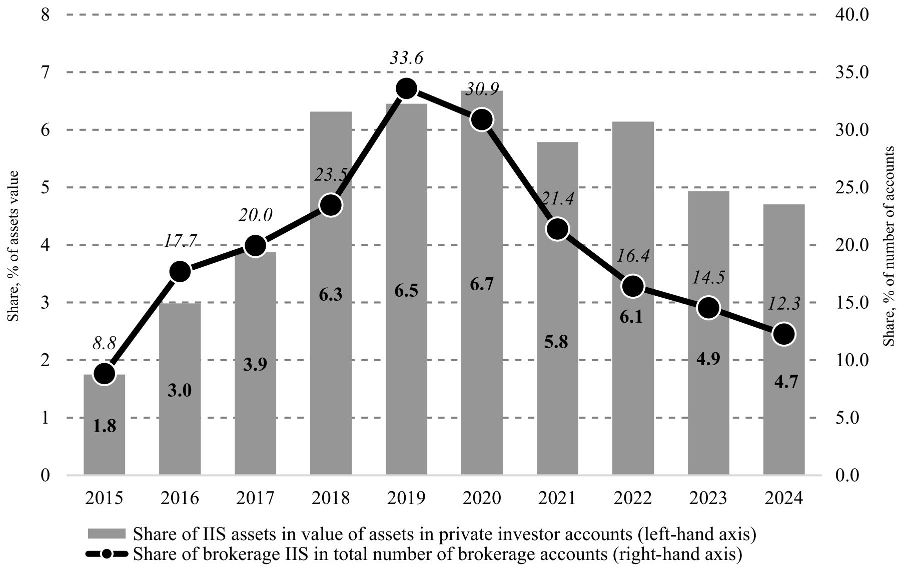



*Fig. 60.* **The share of assets on IIS (IIS-1 and IIS-2) in the total value of assets in private investor accounts and the share of brokerage IIS in the total number of brokerage accounts, 2015–2024**

*Source:* own calculations based on the data of the RF Central Bank. URL: (https://www.cbr.ru/analytics/rcb/iis_4q_2024/

to have at least Rb 100,000 on the account.[1] In 2024, the number of private investors with investment potential (with assets of Rb 100,000 and more in the brokerage account) was equal only 2.5 mn people, or 5.3% of the total number of brokerage account holders; in 2023 The share of such investors was equal to 6.2%. Similar indicators for individual trust management accounts (IDU) were equal to 0.3 mn people with a share of 42.6% in 2023 and 0.3 mn people with a share of 34.2% in 2024.

The data in *Table 8* also show a high concentration of private investors' assets with brokers. In 2024, only 800,000 people with assets of Rb 1 mn or more had 93.2% of assets held in brokerage accounts. Similar indicators for IDU accounts were 100,000 people and 95.8% of assets.

In 2024, amid high bank deposit rates, households sharply increased investments in deposits from Rb 59.7 trillion in 2023 to Rb 75.3 trillion in 2023, the share of deposits in the structure of household assets increased from 55.4%

1. According to a study by the RF Central Bank, owing to a failure to fully diversify the portfolios of broker clients with assets from Rb 10,000 to Rb 100,000, this group of investors experienced the worst negative returns on individual portfolios across different investor groups in H1 2022 (RF Central Bank (2022). Portrait of the Broker's Client. H1 2022, Moscow, p. 14: URL: https://cbr.ru/Content/Document/File/143859/Portrait_client_brok.PDF)

*Table 8*

## Data on the distribution of the number of private investors and the value of client assets depending on the value of assets in the brokerage account in 2021–2024

a) Broker's clients

| | Number of clients | | | | | | | | Portfolio volume | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2021 | | 2022 | | 2023 | | 2024* | | 2021 | | 2022 | | 2023 | | 2024 * | |
| | **Million people** | **%** | **Million people** | **%** | **Million people** | **%** | **Million people** | **%** | **Trillion rubles** | **%** | **Trillion rubles** | **%** | **Trillion rubles** | **%** | **Trillion rubles** | **%** |
| 1. From Rb1 mn and above | 0.6 | 3.0 | 0.5 | 1.8 | 0.7 | 1.8 | 0.8 | 1.7 | 7.6 | 91.1 | 5.3 | 87.6 | 8.5 | 91.9 | 9.9 | 93.2 |
| 2. From Rb100,000 and above | 2.0 | 9.9 | 2.0 | 6.9 | 2.4 | 6.2 | 2.5 | 5.3 | 8.2 | 99.1 | 5.9 | 98.5 | 9.1 | 99.1 | 10.5 | 99.1 |
| 3. Up to Rb100,000 | 5.4 | 26.8 | 8.0 | 27.4 | 11.2 | 28.7 | 14.2 | 30.0 | 0.1 | 0.9 | 0.1 | 1.5 | 0.1 | 0.9 | 0.1 | 0.9 |
| 4. Empty accounts | 12.8 | 63.3 | 19.2 | 65.7 | 25.3 | 65.1 | 30.7 | 64.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **5. Total (sum of lines 2–4)** | **20.2** | **100.0** | **29.1** | **100.0** | **38.9** | **100.0** | **47.4** | **100.0** | **8.3** | **100.0** | **6.0** | **100.0** | **9.2** | **100.0** | **10.6** | **100.0** |

b) Clients of trust managers:

| | Number of clients | | | | | | | | Portfolio volume | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2021 | | 2022 | | 2023 | | 2024. | | 2021 | | 2022 | | 2023 | | 2024 | |
| | **Million people** | **%** | **Million people** | **%** | **Million people** | **%** | **Million people** | **%** | **Trillion rubles** | **%** | **Trillion rubles** | **%** | **Trillion rubles** | **%** | **Trillion rubles** | **%** |
| 1. From Rb1 mn and above | 0.1 | 9.3 | 0.1 | 9.1 | 0.1 | 11.0 | 0.1 | 10.5 | 1.1 | 88.4 | 1.1 | 88.7 | 1.7 | 94.5 | 2.0 | 95.8 |
| 2. From Rb100,000 and above | 0.4 | 48.0 | 0.4 | 43.0 | 0.3 | 42.6 | 0.3 | 34.3 | 1.2 | 98.9 | 1.2 | 99.1 | 1.8 | 99.7 | 2.0 | 99.8 |
| 3. Up to Rb100,000 | 0.4 | 51.8 | 0.5 | 56.7 | 0.5 | 56.7 | 0.5 | 65.0 | 0.0 | 1.1 | 0.0 | 0.9 | 0.0 | 0.3 | 0.0 | 0.2 |
| 4. Empty accounts | 0.0 | 0.2 | 0.0 | 0.3 | 0.0 | 0.7 | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **5. Total (sum of lines 2–4)** | **0.8** | **100.0** | **0.8** | **100.0** | **0.8** | **100.0** | **0.8** | **100.0** | **1.2** | **100.0** | **1.2** | **100.0** | **1.8** | **100.0** | **2.0** | **100.0** |

* For 2024, data on the number of clients in the "Less than 0" category, which includes client portfolios where the amount of net liabilities to the broker exceeds the amount of assets, are taken into account in the "empty accounts" line, and for net assets – in the category of clients with assets from Rb0 to Rb10,000.

*Source:* The RF Central Bank. Statistical data for the review of key indicators of securities market professional participants. URL: https://www.cbr.ru/securities_market/statistic/

to 58.4% (*Table 9*). Investments in stocks decreased from Rb 7.2 trillion to Rb 6.9 trillion; their share in the structure of financial assets fell from 6.7% to 5.4%. During the period under review, the share of household investments in bonds decreased from 3.6% to 3.4% and the share of investments in investment funds (mainly closed–end mutual funds) increased from 4.9% to 6.7%.

However, cash reserves remained the second largest category of household financial assets. The share of these investments decreased from 23.2% in 2023 to 20.1% in 2024, but the value of these assets increased from Rb 24.9 trillion in 2023 to Rb 25.9 trillion in 2024. An alarming trend in 2024 is a decrease in the share of pension and insurance reserves in household financial assets from 6.3% to 6.0%.

Thus, in 2024 the consolidated portfolio of household financial assets remained emphatically conservative, focused more on preserving value rather than generating additional income from investments in risky assets.

*Table 9*

**Structure of financial assets of households from 2017 to January 2025, %**

| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | January 2025 |
|---|---|---|---|---|---|---|---|---|---|
| Cash | 24.7 | 25.5 | 23.5 | 26.3 | 24.3 | 25.1 | 23.2 | 20.1 | 19.4 |
| Deposits and funds in escrow accounts | 57.8 | 56.4 | 56.4 | 52.9 | 52.5 | 54.6 | 55.4 | 58.4 | 57.6 |
| Shares | 3.7 | 3.6 | 4.4 | 5.3 | 6.8 | 5.3 | 6.7 | 5.4 | 6.0 |
| Bonds | 1.9 | 2.3 | 3.0 | 3.3 | 4.0 | 3.3 | 3.6 | 3.4 | 3.5 |
| Mutual funds | 2.3 | 2.8 | 3.0 | 3.4 | 4.1 | 3.9 | 4.9 | 6.7 | 7.1 |
| Pension and insurance reserves | 9.6 | 9.4 | 9.7 | 8.8 | 8.3 | 7.8 | 6.3 | 6.0 | 6.4 |
| **Financial assets — overall** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |

*Source:* own calculations based on the data of the RF Central Bank. URL: http://www.cbr.ru/statistics/macro_itm/households/

With the freezing of non-resident investments in Russian issuers' securities in 2022 and the insufficient level of development of domestic institutional investors, private investors have become the main driving force supporting the exchange liquidity of stocks and bonds. As shown in *Fig. 61*, the share of non-residents in market transactions with shares on the Moscow Stock Exchange decreased from 48.5% in 2021 to zero in 2022–2024, and, conversely, the share of private investors increased from 38.5% to 75.0% in February 2025. The share of resident institutions, primarily non–bank financial institutions, also increased from 13.0% in 2021 to 25.0% in February 2025.

The high level of dependence of the stock market on private investors leads to new challenges. In particular, private investors' funds that are newly entering the market normally contribute to growth in the value of small and medium-sized companies in which non-residents did not participate. Here, the funds of private investors produce the greatest effect on the example of rising share prices of the second and third echelons and the boom of companies' IPO-SPO market. At the same time, most blue chips have significant blocks of shares blocked in non-resident accounts and this factor is constraining growth in the value of these issuers' shares. In future, domestic institutional investors are expected to become growth drivers of these stocks.

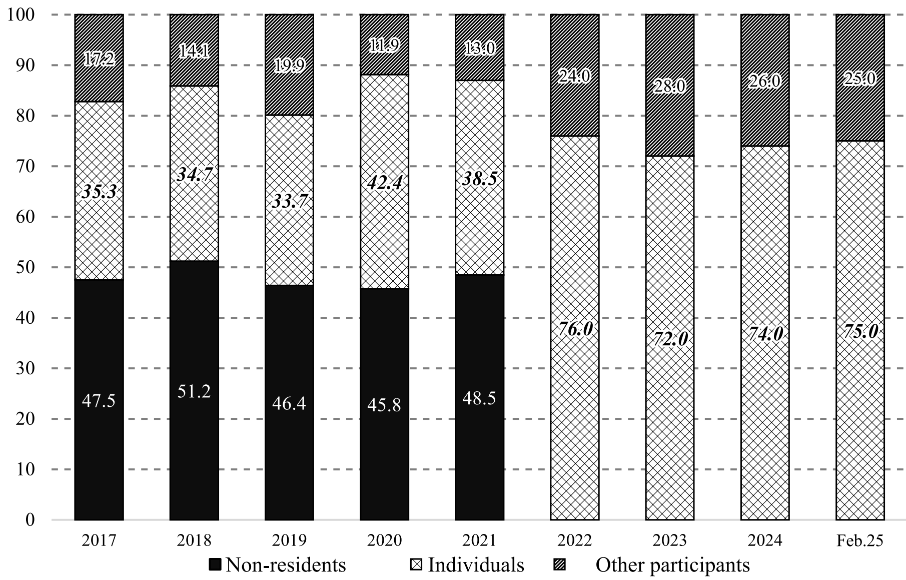



*Fig. 61*. **The structure of investors in secondary stock trading on the Moscow Stock Exchange, 2017-February 2025, %**

*Source:* own compilation based on the data of the Moscow Exchange.

As shown in *Fig. 62* and in *Table 10*, the main holders of corporate bonds are credit institutions, NPFs, and other financial institutions. In 2024, as compared with the previous year, the share of credit institutions in the structure of corporate bondholders decreased from 42.9% to 34.3%, the share of other financial institutions increased from 19.2% to 25.1%, the share of NPFs decreased from 14.1% to 12.1%. The share of private investors (households) increased from 3.8% in 2023 to 4.4%. The share of non-residents in corporate bonds does not exceed 1%. In future, growth of the corporate bond sector depends on attracting funds from credit institutions and banks, as well as private investors and partly non-residents of friendly countries.

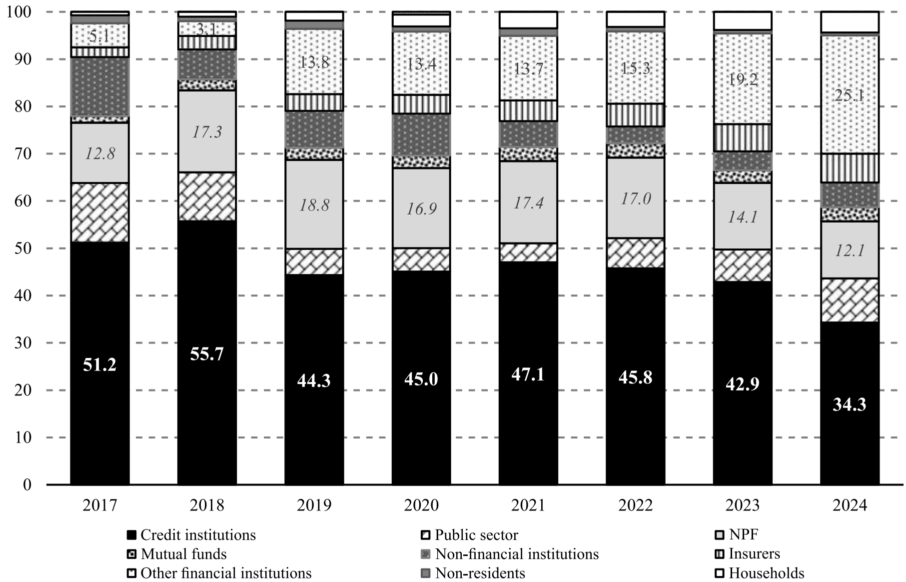



*Fig. 62*. **The structure of corporate bondholders in 2017–2024, %**

*Source:* own calculations based on the data of the Review of Financial Instruments of the RF Central Bank for a number of years.

*Table 10*

## The structure of corporate bondholders in 2017–2024, %

| | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** |
|---|---|---|---|---|---|---|---|---|
| Credit institutions | 51.2 | 55.7 | 44.3 | 45.0 | 47.1 | 45.8 | 42.9 | 34.3 |
| Other financial institutions | 5.1 | 3.1 | 13.8 | 13.4 | 13.7 | 15.3 | 19.2 | 25.1 |
| Non-residents | 1.7 | 1.0 | 1.7 | 1.1 | 1.6 | 0.9 | 0.8 | 0.6 |
| Households | 0.7 | 1.0 | 1.9 | 2.5 | 3.5 | 3.2 | 3.8 | 4.4 |
| NPF | 12.8 | 17.3 | 18.8 | 16.9 | 17.4 | 17.0 | 14.1 | 12.1 |
| Mutual funds | 1.4 | 2.3 | 2.6 | 2.7 | 3.0 | 3.0 | 2.7 | 3.0 |
| Public sector | 12.7 | 10.4 | 5.5 | 5.0 | 4.0 | 6.4 | 6.8 | 9.4 |
| Insurers | 2.1 | 2.9 | 3.6 | 4.0 | 4.4 | 4.8 | 5.8 | 6.1 |
| Non-financial institutions | 12.4 | 6.3 | 7.7 | 8.8 | 5.4 | 3.6 | 4.0 | 5.2 |
| Other | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Overall | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| *For reference:* share of non-residents as per RF Central Bank's previous data published before 2023. | 14.0 | 10.0 | 13.0 | 12.0 | 11.0 | 1.0 | | |

*Source:* own calculations based on the data of the Review of Financial Instruments of the RF Central Bank for a number of years.

As shown in *Fig. 63*, the main government bondholders are currently credit institutions, non-residents, NPFs and the public sector (development institutions, etc.). In 2024, as compared with 2023, the share of banks in the structure of government bondholders increased from 61.5% to 64.0%, the share of non-residents decreased from 8.1% to 4.5, the share of NPFs rose from 11.6% to 12.2% and the share of the public sector grew from 3.5% to 4.0%. The size of the households' participation in government bonds remains moderate so far, its share increased from 2.3% in 2023 to 2.5% in 2024. In this segment of financial instruments, the main growth prospects of the market are associated with banks, domestic institutional investors, partly households and non-residents of friendly countries.

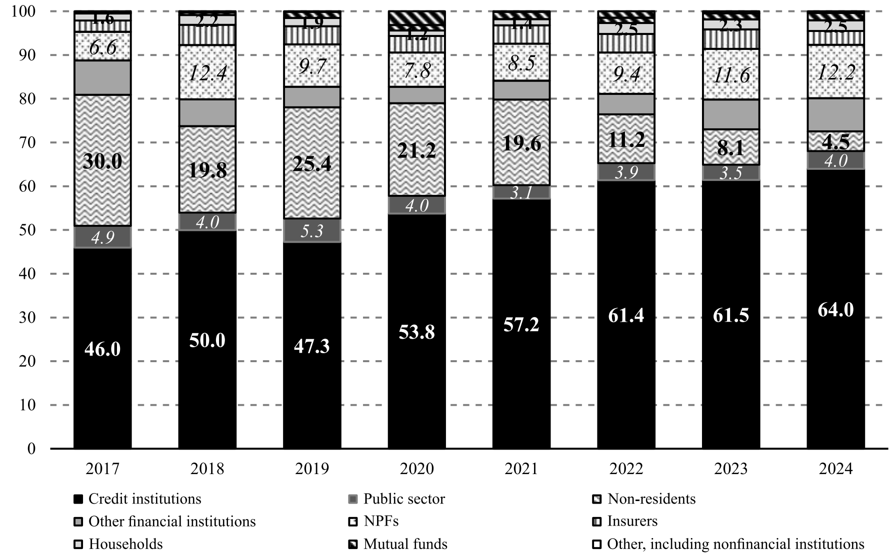


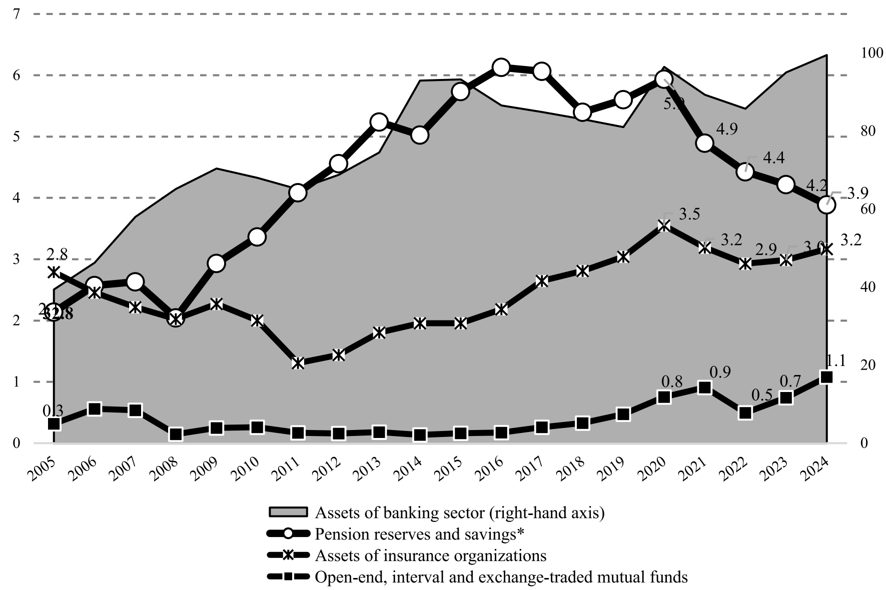

*Fig. 63*. **The structure of government bondholders in 2017–2024, %**

*Source:* own calculations based on the data of the RF Central Bank's Review of the Russian Financial Sector and Financial Instruments for a number of years.

In 2024, as compared with 2021, the value of financial institutions' assets[1] relative to GDP increased from 98.3% to 107.6% (*Fig. 64*). However, the main growth in this indicator was facilitated by the share of banks' assets in GDP, which increased

1. This review provides a narrower list of other financial institutions than Strategy 2030, which sets targets for the growth of the share of assets of all financial institutions to GDP by 2030 to 140–180%, including assets of non-bank financial institutions to 40–60%. Our list of financial institutions under study does not include closed-end mutual funds and proprietary assets of professional participants in the securities market.

from 89.3% to 99.5%. Most of other financial institutions saw multidirectional dynamics of their share in GDP. The share of net assets of open-ended, interval and exchange-traded mutual funds (mutual funds) in GDP increased from 0.9% in 2021. In 2024, the share of pension reserves and savings decreased from 4.9% to 3.9%, while the share of insurers' assets remained unchanged at 3.2%. Thus, the size of long-term savings of households is still considerably lagging behind bank deposits. The total share of these savings in GDP decreased from 9.0% in 2021 to 8.2% in 2024, while the share of banks' assets in GDP increased by more than 10 p. p. from 89.3% to 99.5%.




* For 2024, data on pension reserves and savings are calculated as of October 1.

*Fig. 64*. **The share of bank assets, pension reserves and savings, assets of insurance organizations and the value of net assets of open-end, interval and exchange-traded mutual funds in Russia's GDP from 2005 to 2024, %**

*Source:* own calculations based on the data of the RF Central Bank, the VEB and Rosstat.

The year 2024 saw some acceleration in growth of net asset value of open-end, interval and exchange-traded mutual funds compared to previous years. However, in 2024 the main growth driver in pooled investments was money market exchange-traded funds, which demonstrated high returns while the value of stock and bond portfolios decreased.

As shown in *Fig. 65*, the net asset value (NAV) of exchange-traded mutual funds increased from Rb 381 bn in 2023 to Rb 1,133 bn in 2024, or 3.0 times. At the same time,

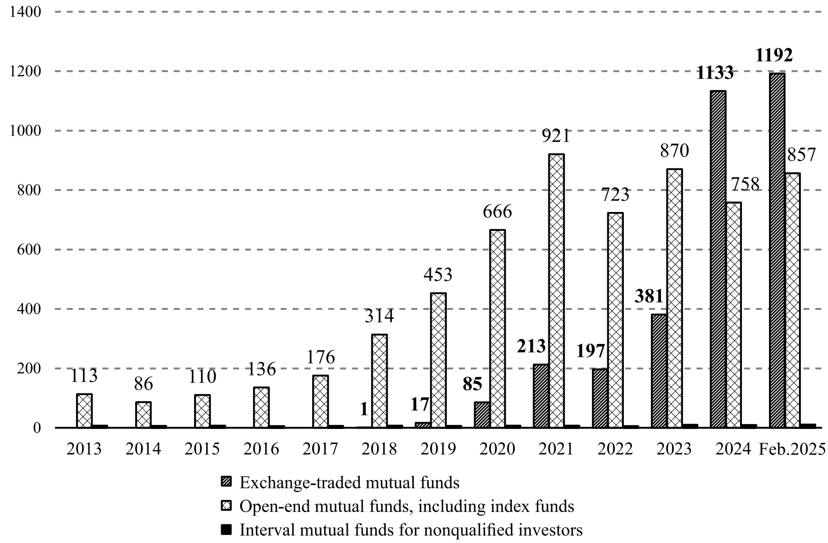
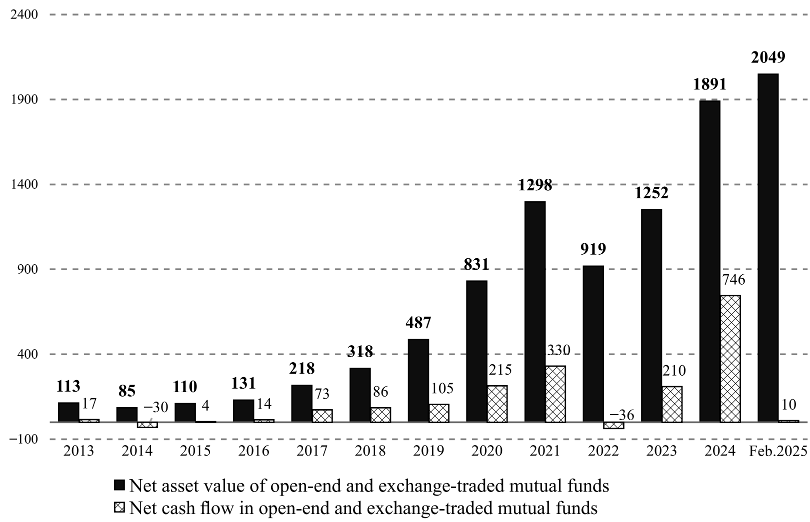



*Fig. 65.* **Net asset value of open-end and exchange-traded mutual funds, 2013–February 2025, billion rubles**

*Source:* own calculations based on the data of Investfunds.ru, including the value of funds with blocked assets.




**Note:** The net asset value of open-end and exchange-traded mutual funds in 2022–2024 includes the value of mutual funds with blocked assets.

*Fig. 66*. **Net asset value of open-end and exchange-traded mutual funds and net cash flow of investors into these funds from 2013 to February 2025, billion rubles**

*Source:* own calculations based on the data of Investfunds.ru.

the NAV of money market mutual funds increased from Rb 207 bn to Rb 1,048 bn, or 5.1 times, that is, almost all of the growth in exchange-traded mutual funds was facilitated by money market funds. Among other things, this means that the bulk of investors' funds in exchange-traded mutual funds in 2024 moved from investments in stocks and bonds to money market funds, which profitability is provided mainly by repo transactions in the money market.

The NAV of shares of open-end mutual funds decreased from Rb 870 bn in 2023 to Rb 758 bn in 2024, or by 12.9%. In addition to the unfavorable economic situation, growth of open-end mutual fund assets is largely hampered by their low information transparency for investors, outdated practices for selling equity units, high costs of assets management and insufficient effectiveness of investment strategies used by many mutual funds.

The attractiveness of investments, primarily in exchange-traded mutual funds, ensured the inflow of new investor funds into mutual funds in 2024 (*Fig. 66*). The value of net cash inflows into exchange-traded and open-end mutual funds increased from Rb 210 bn in 2023 to Rb 746 bn in 2024, or 3.6 times.

* * *

The year 2024 was a difficult one for the Russian financial market. In addition to externally imposed sanctions, the domestic economy faced a record high level of the Bank of Russia's key rate, which caused a decline in stock and bond indices, as well as a shift of private investors' funds into bank deposits and money market instruments.

However, the financial market demonstrated its ability to adapt even to such difficult conditions. In the capital market, this was facilitated by companies' active dividend policy which allowed to mitigate the fall in the share price for investors and achieve, if not a high, but a positive overall return on investment. In 2024, mainly in H1, the market for public offerings of shares was actively growing. A goal to increase the level of capitalization in 2030 set in the Executive Order of the President of the Russian Federation as one of the guidelines for national projects mobilized market participants to search for internal reserves for growth of company value, the IPO market and the system of internal savings.

The bond market continued to grow in 2024. In 2024, it allowed the RF Ministry of Finance to place government bonds to finance the budget; it was record-breaking in terms of volume in recent years. In the corporate bond market, issuers refinanced their debts and attracted new funds for development. A number of financial innovations (floaters, linkers, replacement bonds, yuan bonds, etc.) made it feasible to find a balance of interests between issuers and investors. Despite growth of interest rate and credit risks, the bond market avoided mass defaults.

Moderate growth in the derivatives market, especially the futures market, was accompanied by the emergence of new instruments attractive to investors.

The demand for financial instruments and the stability of the market were supported by liquidity surplus in the banking sector, activity of private investors in the stock and futures markets, and the growing popularity of pooled investments. In 2024, such long-term savings mechanisms as PDS and IIS-3 began to operate.

At the same time, the market is facing serious challenges.

- For now, stock and corporate bond markets do not play a significant role in the structural transformation of the Russian economy.
- Capitalization keeps declining, and the measures discussed to increase it do not yet allow one to be confident in achieving the goal of capitalization of 66% of GDP in 2030.
- Partly due to the difficult economic situation in 2024, new savings mechanisms in terms of PDS and IIS-3 have not yet revealed their potential in increasing individuals' long-term savings.
- The level of competition between financial institutions remains low and is accompanied by high tariffs in the payment services sector and high costs of asset management services. There are still outdated practices of selling financial products.
- The negative trend in disclosing material information for investors about issuers and securities has failed to be reversed.

The solution of these issues requires a more detailed discussion within the scope of the RF Central Bank's development of the Main Guidelines for the Development of the RF Financial Market for the Next Year and possible changes to the Strategy for the Development of the Financial Market for the Period up to 2030.

# *Annex*

*Table A1*

## Nominal total dollar returns of popular equity and alternative investment portfolios for the period 2015–2024 (% p.a.) and for January-February 2025, %

| № | Investment strategies | Benchmarks: Morningstar indexes and exchange traded funds (ETFs) | 2025 Jan-Feb | 2024 | 2022–2024 | 2015–2024 |
|---|---|---|---|---|---|---|
| | **Global market** | | | | | |
| 1 | Broad stock market | Morningstar Global Markets | 2.45 | 16.81 | 5.41 | 9.51 |
| 2 | Shares of companies from developed countries | Morningstar Developed Markets | 2.66 | 18.08 | 6.20 | 10.16 |
| 3 | Shares of companies from developed countries excluding the USA | Morningstar Developed Markets ex-US | 6.20 | 4.93 | 1.78 | 5.82 |
| 4 | Fintech stocks | Morningstar Global Fintech Innovation | 1.64 | 15.68 | −5.34 | |
| 5 | Dividend shares of international companies | Vanguard International Dividend Appreciation (VIGI) | 4.50 | 2.73 | −0.19 | |
| 6 | Stocks of European companies | Vanguard European Stock Index/FTSE Europe ETF (VEUSX, VGK) | 10.60 | 1.89 | 0.95 | 5.27 |
| 7 | Shares of world companies | Vanguard Total World Stock Index/ETF (VTWAX, VT) | 2.63 | 16.49 | 5.23 | 9.32 |
| 8 | Shares of European, Australian and Far Eastern large companies | iShares MSCI EAFE (EFA) | 7.90 | 3.51 | 1.63 | 5.21 |
| 9 | Shares of small capitalization companies | Dimensional International Small Cap ETF (DFIS) | 3.64 | 3.79 | | |
| 10 | Quality stocks of global companies | Harbor International Compounders ETF (OSEA) | 4.10 | −0.72 | | |
| 11 | Shares of value of non-U.S. companies in developed countries (unhedged) | iShares MSCI EAFE Value (EFV) | 9.21 | 5.40 | 5.92 | 4.26 |
| 12 | Growth shares of non-U.S. developed country companies (unhedged) | iShares MSCI EAFE Growth (EFG) | 6.22 | 1.54 | −2.81 | 5.62 |
| 13 | Investing in non-U.S. growth shares in developed countries with hedging of local currency risks | iShares Currency Hedged MSCI EAFE (HEFA) | 6.91 | 13.72 | 9.22 | 8.84 |
| 14 | Shares of 23 developed and 24 emerging markets (unhedged) | iShares MSCI ACWI ex US ETF (ACWX) | 6.06 | 5.19 | 0.71 | 4.70 |
| 15 | Share investments in companies from 23 developed and 24 emerging markets, hedging local currency risks | iShares Currency Hdgd MSCI ACWI exUS ETF (HAWX) | 5.03 | 14.89 | 7.13 | |
| 16 | Global equity portfolios based on quantum computing | Defiance Quantum ETF (QTUM) | −2.80 | 50.54 | 14.46 | |

| № | Investment strategies | Benchmarks: Morningstar indexes and exchange traded funds (ETFs) | 2025 Jan-Feb | 2024 | 2022–2024 | 2015–2024 |
|---|---|---|---|---|---|---|
| | **USA** | | | | | |
| | **Broad stock market** | | | | | |
| 17 | U. S. Broad Equity Market | Morningstar US Market | 1.32 | 24.09 | 8.13 | 12.66 |
| 18 | S&P 1500 Index Stocks (90% of equity capitalization in the U. S.) | SPDR® Port S&P 1500 Comps Stk Mkt ETF (SPTM) | 1.15 | 23.87 | 8.55 | 12.65 |
| 19 | S&P500 Index Stocks | Vanguard S&P 500 ETF (VOO) | 1.40 | 24.98 | 8.90 | 13.07 |
| 20 | U. S. Broad Stock Market | Vanguard Total Stock Market Index/ETF (VTSAX) (VTI) | 1.09 | 23.81 | 7.90 | 12.50 |
| 21 | NASDAQ–100 Index Stock | Invesco QQQ Trust (QQQ) | −0.60 | 25.58 | 9.45 | 18.28 |
| | **Factor strategies** | | | | | |
| 22 | Value Equity | Vanguard US Value (VTV) | 5.22 | 15.94 | 7.47 | 9.99 |
| 23 | Growth Stocks | Vanguard US Growth (VUG) | −1.15 | 32.69 | 9.21 | 15.75 |
| 24 | Stocks of major companies | Vanguard Large Cap Index/ETF (VLCAX) (VV) | 1.49 | 25.25 | 8.47 | 13.01 |
| 25 | Stocks of small companies | Vanguard Small-Cap ETF (VB) | −1.12 | 14.17 | 3.64 | 9.08 |
| 26 | Morningstar strategy momentum | Morningstar US Momentum Factor TR USD | 3.19 | 43.21 | 8.75 | 15.52 |
| 27 | Morningstar stock quality strategy | Morningstar US Quality Factor TR USD | −0.35 | 29.31 | 8.96 | 14.00 |
| 28 | Quality Stocks | iShares MSCI USA Quality Factor ETF (QUAL) | 1.96 | 22.28 | 8.37 | 12.89 |
| 29 | ESG-companies shares | Morningstar US Sustainability | 2.55 | 21.21 | 7.59 | 12.37 |
| 30 | Shares with minimum volatility | iShares MSCI USA Min Vol Factor ETF (USMV) | 6.51 | 15.75 | 4.98 | 10.24 |
| 31 | Multi-factor strategy in the US (active ETF) | iShares U. S. Equity Fac Rotation Act ETF (DYNF) | 1.72 | 30.29 | 12.28 | |
| 32 | Smart (strategic) beta equity fund | Vanguard Value Index Adm (VVIAX) | 5.21 | 15.99 | 7.45 | 9.99 |
| 33 | Smart (strategic) beta equity fund | Nuveen ESG Large-Cap Value ETF (NULV) | 5.50 | 11.94 | 2.70 | |
| 34 | Smart (strategic) beta equity fund | DFA US Small Cap Value I (DFSVX) | −2.49 | 9.57 | 7.93 | 8.61 |
| | **Dividend strategies** | | | | | |
| 35 | Dividend stocks — broad diversification | Schwab U. S. Dividend Equity ETF (SCHD) | 4.47 | 11.67 | 4.16 | 11.03 |
| 36 | High-dividend stocks (beta for dividend strategies in the US broadest index of the most dividend-paying US companies) | Morningstar US High Dividend Yield | 4.78 | 16.86 | 7.22 | 9.64 |
| 37 | Index of 75 quality (moat) stocks with high dividends | Morningstar Dividend Yield Focus TR USD (MDYFT) | 7.51 | 14.21 | 7.63 | 7.91 |
| 38 | Stocks of companies with high dividends | WisdomTree US High Dividend ETF (DHS) | 7.15 | 18.02 | 8.34 | 8.17 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 39 | US stocks with stable dividends and growth potential | JPMorgan Equity Income A (OIEIX) | 6.18 | 12.23 | 4.70 | 8.81 |
| 40 | Index of stocks of US companies with high dividend yields | Morningstar US High Dividend Yield TR USD (2750632) | 4.78 | 16.86 | 7.22 | 9.64 |
| 41 | Index of shares of global companies with high dividend yields | Morningstar Global Markets High Dividend Yield GR USD (2750630) | 5.13 | 12.25 | 6.34 | 7.69 |
| | **Sectors of the US economy** | | | | | |
| 42 | Telecommunications and communications | Morningstar US Communication Services | 2.38 | 39.13 | 8.27 | 12.63 |
| 43 | Cyclical consumer goods sector | Morningstar US Consumer Cyclical Sector | −4.66 | 25.49 | 4.11 | 13.99 |
| 44 | Counter-cyclical consumer goods sector | Morningstar US Consumer Defensive Sector | 5.97 | 14.23 | 4.43 | 8.64 |
| 45 | Energy sector | Morningstar US Energy | 5.24 | 6.70 | 19.91 | 4.42 |
| 46 | Financial services | Morningstar US Financial Services Sector | 7.45 | 31.23 | 10.12 | 12.12 |
| 47 | Medicine and healthcare | Morningstar US Healthcare Sector | 7.67 | 2.67 | −0.16 | 8.75 |
| 48 | Manufacturing | Morningstar US Industrials Sector | 1.31 | 16.57 | 9.01 | 11.13 |
| 49 | Utilities Sector | Morningstar US Utilities Sector | 4.65 | 26.74 | 6.19 | 8.64 |
| 50 | Technology Sector | Morningstar US Technology Sector | −3.45 | 36.16 | 14.03 | 21.39 |
| 51 | Basic Materials Sector | Morningstar US Basic Materials Sector | 5.51 | −1.78 | 0.01 | 8.08 |
| 52 | Real Estate Sector | Morningstar US Real Estate Sector | 5.87 | 5.03 | −4.39 | 5.14 |
| | **Thematic strategies** | | | | | |
| 53 | Investments in shares of AI companies | Global X Robotics & Artificial Intelligence ETF (BOTZ) | 0.38 | 12.26 | −3.66 | |
| 54 | Investments in shares of AI companies | Robo Global Artificial Intelligence ETF (THNQ) | 2.80 | 18.82 | 3.88 | |
| 55 | Portfolios compiled using AI | QRAFT AI-Enhanced US Large Cap Mmntm ETF (AMOM) | −6.84 | 35.79 | 8.34 | |
| 56 | Portfolios compiled using AI | AI Powered Equity ETF (AIEQ) | −0.80 | 12.54 | −1.03 | |
| 57 | Blue chip growth stocks in the US | Fidelity® Blue Chip Growth ETF (FBCG) | −2.85 | 39.04 | 10.19 | |
| 58 | Stocks of innovation companies | ARK Innovation ETF (ARKK) | −1.99 | 8.40 | −15.65 | 12.01 |
| 59 | Investments in blockchain technologies | iShares Blockchain and Tech ETF (IBLC) | −11.64 | 18.59 | | |
| 60 | Investments in IPO shares | Renaissance IPO ETF (IPO) | −3.32 | 15.68 | −8.98 | 6.90 |
| 61 | Leveraged investment in shares of an IT company investing in Bitcoins (super risk) | Defiance Daily Target 2X Lng MSTR ETF (MSTX) | −33.34 | | | |
| 62 | Portfolio reflecting the investments of Democrats in Congress (“Nancy”) | Unusual Whales Subversive Dem Trd ETF (NANC) | 0.86 | 26.83 | | |

| № | Investment strategies | Benchmarks: Morningstar indexes and exchange traded funds (ETFs) | 2025 Jan-Feb | 2024 | 2022–2024 | 2015–2024 |
|---|---|---|---|---|---|---|
| 63 | Portfolio reflecting the investments of Republicans in Congress (“Cruz”) | Unusual Whales Subversive Rep Trd ETF (KRUZ) | 1.72 | 14.45 | | |
| | **Alternative assets** | | | | | |
| 64 | Gold | SPDR® Gold Shares (GLD) | 8.73 | 26.66 | 12.30 | 7.86 |
| 65 | Real estate | Vanguard Real Estate ETF (VNQ) | 5.41 | 4.81 | −4.75 | 5.04 |
| 66 | Cryptocurrency | ProShares Bitcoin Strategy ETF (BITO) | −10.82 | 105.41 | 20.72 | |
| 67 | Cryptocurrency | S&P Bitcoin Index | −9.88 | 122.29 | 26.75 | 76.52 |
| 68 | S&P Commodity Assets Index | iShares S&P GSCI Commodity-Indexed Trust (GSG) | 1.93 | 8.52 | 8.36 | 0.09 |
| 69 | Return index of public private equity funds | The S&P Listed Private Equity Index | 2.23 | 25.40 | 8.33 | 13.46 |
| 70 | Fund investing in publicly traded private equity funds globally | Invesco Global Listed Private Equity ETF (PSP) | 2.52 | 17.35 | 0.41 | 8.77 |
| 71 | Mutual Venture Investment Fund | AXS FTSE Vntr Cptl RetTrckr I (LDVIX) | 2.15 | 26.64 | −4.66 | 16.82 |
| 72 | Mutual fund of non-public companies’ shares | The Private Shares Fund I (PIIVX) | −0.37 | 11.66 | 1.08 | |
| 73 | Mutual fund of shares of non-public global companies | HarbourVest Global Priv Equity Ord (HVPE) | 3.58 | 12.50 | −2.56 | 12.80 |
| | Speculative and hedging strategies in the US | | | | | |
| 74 | Down play on NASDAQ–100 index stocks | ProShares UltraPro Short QQQ ETF (SQQQ) | 0.83 | −49.77 | −37.73 | −52.17 |
| 75 | Upside play on NASDAQ–100 index stocks | ProShares UltraPro QQQ ETF (TQQQ) | −5.32 | 58.23 | −0.43 | 35.10 |
| 76 | Betting on changes in VIX index | ProShares Ultra VIX (UVXY) | −2.94 | −50.90 | −67.82 | −75.76 |
| 77 | Shares popular on social media | VanEck Social Sentiment ETF (BUZZ) | −1.39 | 33.74 | 2.67 | |
| 78 | Buy low, sell high strategy for US stocks | Invesco FTSE RAFI US 1000 ETF (PRF) | 4.31 | 16.72 | 7.59 | 10.47 |
| 79 | Hedging strategies for trend reversal (“crisis alpha”) | iMGP DBi Managed Futures Strategy ETF (DBMF) | −1.15 | 7.25 | 5.88 | |
| 80 | Hedging strategies for trend reversal (“crisis alpha”) | Simplify Managed Futures Strategy ETF (CTA) | 3.01 | 24.15 | | |
| 81 | Risk parity hedging strategies (investments in less volatile assets) | AQR Equity Market Neutral N (QMNNX) | 7.35 | 25.00 | 22.83 | 5.93 |
| 82 | Fund with covered options (hedging by selling call options) | JPMorgan Equity Premium Income ETF (JEPI) | 3.84 | 12.58 | 6.05 | |
| 83 | Fund with covered options (hedging by selling call options) | Global X NASDAQ–100 Covered Call ETF (QYLD) | 0.36 | 17.16 | 5.18 | 8.28 |
| 84 | Long/Short strategy — buy undervalued stocks, sell stocks whose prices are likely to fall | Neuberger Berman Long Short Instl (NLSIX) | 2.40 | 7.47 | 4.23 | 5.78 |

*Source:* own calculations on Morningstar statistics: URL: https://www.morningstar.com/

*Table A2*

## Nominal dollar returns on global bond and blended portfolios for the period 2013–2022 (% p. a.) and for January-February 2025, %

| No. | Investment strategies | Benchmarks: Morningstar indexes and exchange traded funds (ETFs) | 2025 Jan-Feb | 2024 | 2022–2024 | 2015–2024 |
|---|---|---|---|---|---|---|
| | **Global market** | | | | | |
| 85 | Broad bond market | Morningstar Global Core Bond | 2.03 | −1.86 | −5.17 | −0.21 |
| 86 | Broad global bond market (active management) | Fidelity Total Bond Fund (FTBFX) | 2.94 | 2.49 | −1.45 | 2.28 |
| 87 | Government bonds | Morningstar Global Treasury Bond | 1.99 | −3.62 | −6.66 | −0.91 |
| 88 | Inflation-linked government bonds | Morningstar Global Treasury Inflation-Linked Securities | 2.41 | −3.64 | −7.83 | 0.06 |
| 89 | Corporate bonds | Morningstar Global Corporate Bond | 2.30 | 0.47 | −3.10 | 1.27 |
| 90 | Long-term US and global corporate bonds | Vanguard Long-Term Corporate Bond Index/ETF (VLTCX, VCLT) | 3.86 | −1.91 | −6.70 | 2.07 |
| 91 | Infrastructure bonds | Morningstar Global Bond Infrastructure | 2.48 | 0.25 | −3.79 | 1.22 |
| 92 | Global Money Market Fund | Invesco Treasurer’s Ser Tr Prem Instl (IPPXX) | 0.71 | 5.33 | 4.05 | 1.84 |
| | **USA** | | | | | |
| 93 | US money market fund | Vanguard Cash Rsrv Federal MnyMktAdmiral (VMRXX) | 0.69 | 5.24 | 3.96 | 1.84 |
| 94 | US money market fund | Fidelity® Treasury Money Market (FZFXX) | 0.65 | 4.90 | 3.65 | |
| 95 | Broad bond market | Morningstar US Core Bond | 2.73 | 1.36 | −2.43 | 1.32 |
| 96 | Broad bond market | Vanguard Total Bond Market Index/ETF (VBTIX, BND) | 2.71 | 1.38 | −2.37 | 1.34 |
| 97 | Broad bond market of US issuers | iShares Core US Agg Bond ETF (AGG) | 2.76 | 1.31 | −2.36 | 1.29 |
| 98 | 1–3 Yr broad bond market | Morningstar US 1–3 Yr Core Bond | 1.15 | 4.99 | 1.82 | 1.66 |
| 99 | 5–10 Yr broad bond market | Morningstar US 5–10 Yr Core Bond | 3.02 | 0.74 | −2.63 | 1.27 |
| 100 | Government bonds | Morningstar US Treasury Bond | 2.69 | 0.76 | −2.86 | 0.83 |
| 101 | 1–5 Yr government bonds | Morningstar US 1–5 Yr Treasury Bond | 1.48 | 3.41 | 0.67 | 1.34 |
| 102 | 5–10 Yr government bonds | Morningstar US 5–10 Yr Treasury Bond | 3.12 | 0.45 | −3.00 | 1.00 |
| 103 | Inflation-protected securities | Morningstar US Treasury Inflation-Protected Securities | 3.49 | 2.08 | −2.29 | 2.17 |
| 104 | ETF municipal bonds | iShares National Muni Bond ETF (MUB) | 1.32 | 1.26 | −0.32 | 2.03 |
| 105 | Mortgage securities | Morningstar US Asset-Backed Securities | 1.33 | 5.87 | 2.42 | 2.21 |

| No. | Investment strategies | Benchmarks: Morningstar indexes and exchange traded funds (ETFs) | 2025 Jan-Feb | 2024 | 2022–2024 | 2015–2024 |
|---|---|---|---|---|---|---|
| 106 | Commercial mortgage-backed securities | Morningstar US Commercial Mortgage-Backed Securities | 2.28 | 4.73 | −0.23 | 2.13 |
| 107 | Corporate bonds | Morningstar US Corporate Bond | 2.68 | 2.13 | −2.27 | 2.36 |
| 108 | 1–5 Yr corporate bonds | Morningstar US 1–5 Yr Corporate Bond | 1.57 | 4.87 | 1.47 | 2.41 |
| 109 | Short-term corporate bonds | Vanguard Short-Term Corporate Bond Index/ETF (VSTBX, VCSH) | 1.48 | 4.91 | 1.69 | 2.33 |
| 110 | 5–10 Yr corporate bonds | Morningstar US 5–10 Yr Corporate Bond | 2.67 | 3.13 | −1.14 | 2.81 |
| 111 | Investments in the US CO floaters | T. Rowe Price Floating Rate ETF (TFLR) | 0.76 | 8.84 | | |
| 112 | ETF fallen angel bonds | VanEck Fallen Angel High Yield Bond (FALN) | 2.15 | 7.69 | 1.74 | |
| 113 | US high-yield bonds (DLJ) | Morningstar US High-Yield Bond | 2.07 | 8.20 | 2.91 | 5.17 |
| 114 | Hight-yield securities | CrossingBridge Low Dur Hi Yld Instl CBLDX | 1.30 | 7.18 | 5.23 | |
| | **USA and world: ESG factors** | | | | | |
| 115 | ESG corporate bonds USA | iShares ESG USD Corporate Bond ETF (SUSC) | 2.58 | 1.91 | −2.39 | |
| 116 | ESG corporate bonds USA | Vanguard ESG US Corporate Bond ETF (VCEB) | 2.57 | 2.22 | −2.00 | |
| 117 | A broad portfolio of US green bonds | iShares USD Green Bond ETF (BGRN) | 2.21 | 2.77 | −1.64 | |
| 118 | US broad bond ESG index | Nuveen ESG US Aggregate Bond ETF (NUBD) | 2.45 | 1.30 | −2.38 | |
| 119 | US broad bond ESG index | NYLI MacKay ESG Core Plus Bond ETF (CPLB) | 2.87 | 4.18 | −1.52 | |
| 120 | ESG HYB USA | Nuveen ESG High Yield Corporate Bd ETF (NUHY) | 2.47 | 7.26 | 1.69 | |
| 121 | ESG corporate securities USA | Morningstar US Corporate Bond Sustainability TR USD (MSBICSTU) | 2.71 | 1.88 | −2.36 | |
| 122 | ESG global corporate securities | Morningstar Global Corporate Bond Sustainability GR USD | 2.33 | 0.38 | −3.12 | |
| 123 | ESG corporate securities Eurozone | Morningstar Eurozone Corporate Bond Sustainability GR USD | 1.50 | −2.17 | −4.15 | |
| | **Eurozone, UK, Japan** | | | | | |
| 124 | Broad bond market | Morningstar Eurozone Core Bond | 1.16 | −4.02 | −6.26 | −1.32 |
| 125 | Government bonds | Morningstar Eurozone Treasury Bond | 1.04 | −4.60 | −6.82 | −1.32 |
| 126 | 1–3 Yr government bonds | Morningstar Eurozone 1–3 Yr Treasury Bond | 0.96 | −3.28 | −2.56 | −1.36 |
| 127 | 5–7 Yr government bonds | Morningstar Eurozone 5–7 Yr Treasury Bond | 1.29 | −4.22 | −5.15 | −1.21 |
| 128 | Government inflation-linked securities | Morningstar Eurozone Treasury Inflation-Linked Securities | 1.14 | −6.23 | −4.45 | 0.17 |
| 129 | Corporate bonds | Morningstar Eurozone Corporate Bond | 1.49 | −2.30 | −4.27 | −0.76 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 130 | High-yield securities (HYS) | Morningstar Eurozone High-Yield Bond | 2.09 | 1.56 | −0.35 | 2.11 |
| 131 | Broad bond market | Morningstar UK Core Bond | 2.19 | −4.59 | −10.36 | −2.32 |
| 132 | Government bonds | Morningstar UK Gilt Bond | 2.21 | −5.76 | −11.68 | −2.79 |
| 133 | Corporate bonds | Morningstar UK Corporate Bond | 2.08 | −0.75 | −6.65 | −0.53 |
| 134 | Government bonds | Morningstar Japan Treasury Bond | 2.76 | −13.23 | −12.41 | −2.89 |
| | **Developing markets** | | | | | |
| 135 | Broad bond market | Morningstar Emerging Markets Composite Bond | 2.86 | 4.34 | −1.38 | 3.00 |
| 136 | Government bonds | Morningstar Emerging Markets Sovereign Bond | 3.14 | 2.30 | −1.88 | 2.51 |
| 137 | Corporate bonds | Morningstar Emerging Markets Corporate Bond | 2.61 | 6.15 | −0.96 | 3.32 |
| 138 | Infrastructure bonds | Morningstar Emerging Markets Infrastructure Bond | 2.45 | −7.62 | −4.93 | 1.84 |
| 139 | High-yield bonds (HYB) EM | Morningstar Emerging Markets High-Yield Bond | 2.77 | 9.77 | 1.69 | 4.42 |
| 140 | Broad bond market of Chinese issuers | Morningstar China USD Broad Market Bond | 2.73 | 6.34 | −1.35 | 1.95 |
| | **Mixed investments** | | | | | |
| 141 | 60% stocks / 40% bonds — the largest fund | American Funds American Balanced A (ABALX) | 2.65 | 14.95 | 4.82 | 8.14 |
| 142 | 60% stocks / 40% bonds — the oldest fund | Vanguard Wellington™ Inv VWELX | 2.01 | 14.76 | 3.98 | 8.36 |
| 143 | Life cycle fund 2025 (50%/50%) | Fidelity Freedom® 2025 (FFTWX) | 3.29 | 8.21 | 0.96 | 6.23 |
| 144 | Life cycle fund 2040 (85%/15%) | Fidelity Freedom® 2040 (FFFFX) | 3.28 | 13.21 | 3.56 | 8.74 |
| 145 | Life cycle fund 2065 (90%/10%) | Fidelity Freedom® 2065 (FFSFX) | 3.32 | 14.02 | 3.95 | |
| 146 | Life cycle fund 2045 (85%/15%) | Vanguard Target Retirement 2045 Fund (VTIVX) | 2.60 | 13.91 | 4.00 | 8.57 |
| 147 | Life cycle fund 2035 (70%/30%) | Vanguard Target Retirement 2035 Fund (VTTHX) | 2.50 | 11.78 | 2.97 | 7.51 |
| 148 | 70% stock / 30% bonds | Fidelity Asset Manager® 70% (FASGX) | 2.31 | 10.84 | 2.36 | 7.46 |
| 149 | Classic fund with 60/40 strategy in the US | Vanguard Balanced Index I (VBAIX) | 1.75 | 14.60 | 3.86 | 8.18 |
| 150 | Morningstar strategy 60/40 | Morningstar US Moderate Target Allocation NR USD (MSAAUMTU) | 2.15 | 12.95 | 3.75 | 7.45 |
| 151 | Global Market Dynamic Asset Allocation Mixed Fund with 35% to 70% equity exposure | Loomis Sayles Global Allocation A (LGMAX) | 2.19 | 12.25 | 1.72 | 7.89 |
| 152 | Roubini Defense Fund against market shocks in the form of rising inflation and geopolitics (10% equities /60% bonds/other 30% | Atlas America Fund (USAF) | 1.55 | | | |

*Source:* Own compilations based on Morningstar statistics: URL: https://www.morningstar.com/

*Table A3*

**Nominal dollar total returns of emerging market equity index portfolios for the period 2014–2023 (% p. a.) and for January-February 2025, %**

| No. | Investment strategies | Benchmarks: Morningstar indexes and exchange traded funds (ETFs) | Ticker | 2025 Jan-Feb | 2024 | 2022–2024 | 2015–2024 |
|---|---|---|---|---|---|---|---|
| 153 | ETF broad market | iShares Core MSCI Emerging Markets ETF | IEMG | 2.34 | 6.51 | −1.66 | 3.79 |
| 154 | ETFs of emerging markets bonds | iShares MSCI Emerging Markets | EEM | 3.33 | 6.50 | −2.67 | 2.88 |
| 155 | Broad market indexes | Morningstar Emerging Markets | Index 1 | 0.75 | 7.41 | −0.45 | 4.71 |
| 156 | Dividend stocks | Morningstar Emerging Markets Dividend Yield Focus | Index 4 | 2.12 | 4.52 | −0.83 | 4.09 |
| 157 | Developing countries except China | iShares MSCI Emerging Mkts ex China ETF | EMXC | −1.57 | 2.76 | −0.57 | |
| 158 | European developing countries | Morningstar Emerging Markets Europe | Index 3 | 2.34 | 12.42 | −23.59 | −2.14 |
| 159 | BIC (Formerly – BRIC) | Morningstar BIC (formerly — BRIC) | Index 2 | 0.81 | 0.22 | −1.89 | 4.39 |
| 160 | BIC (ETF) | iShares MSCI BIC ETF | BKF | 5.35 | 9.23 | −4.70 | 2.46 |
| 161 | China | iShares MSCI China ETF | MCHI | 14.34 | 17.71 | −6.89 | 1.18 |
| 162 | China, major companies | iShares China Large-Cap ETF | FXI | 15.74 | 28.95 | −3.57 | −0.69 |
| 163 | China, small companies | iShares MSCI China Small-Cap ETF | ECNS | 8.48 | 5.61 | −15.02 | −1.49 |
| 164 | China, bonds class A | Xtrackers Harvest CSI 300 China A ETF | ASHR | 0.38 | 11.95 | −10.79 | 0.23 |
| 165 | Brazil | iShares MSCI Brazil ETF | EWZ | 7.11 | −30.47 | 1.20 | 0.07 |
| 166 | Brazil, small companies | iShares MSCI Brazil Small-Cap | EWZS | 7.68 | −35.99 | −8.95 | −0.88 |
| 167 | India | iShares MSCI India ETF | INDA | −8.62 | 8.64 | 5.04 | 7.16 |
| 168 | India, small companies | iShares MSCI India Small-Cap ETF | SMIN | −17.96 | 16.83 | 10.71 | 10.43 |
| 169 | RSA | iShares MSCI South Africa ETF | EZA | 5.94 | 7.30 | 1.10 | 0.18 |
| 170 | Saudi Arabia | iShares MSCI Saudi Arabia | KSA | 0.71 | −0.17 | 2.56 | |
| 171 | Poland | iShares MSCI Poland ETF | EPOL | 21.13 | −2.47 | 3.49 | 1.01 |
| 172 | Argentina | Global X MSCI Argentina ETF | ARGT | 0.13 | 63.48 | 41.09 | 17.31 |
| 173 | Indonesia | iShares MSCI Indonesia ETF | EIDO | −13.64 | −12.95 | −3.75 | −1.81 |
| 174 | Chili | iShares MSCI Chile ETF | ECH | 14.30 | −8.63 | 7.62 | −1.55 |
| 175 | Turkey | iShares MSCI Turkey ETF | TUR | −4.41 | 12.91 | 28.51 | −1.29 |
| 176 | Mexico | iShares MSCI Mexico ETF | EWW | 7.90 | −28.20 | 0.68 | 0.08 |
| 177 | Malasia | iShares MSCI Malaysia ETF | EWM | −3.51 | 19.49 | 2.69 | −1.00 |
| 178 | Vietnam | VanEck Vietnam ETF | VNM | 4.48 | −11.15 | −16.83 | −3.48 |
| 179 | Russia | RTS Index | RTSI | 27.89 | −17.56 | −17.59 | 1.23 |
| 180 | Russia | RTS Index — total yield | RTSTR | 28.49 | −9.93 | −10.32 | 8.06 |

*Source:* Own compilations based on Morningstar statistics: URL: https://www.morningstar.com/

*Table A4*

## Largest exchange traded funds (ETFs) investing in crypto assets as of February 29, 2024

| No. | Investment strategies | Benchmarks: indexes | Ticker | Asset value, USD bn | 2025 Jan-Feb | 2024 | 2022–2024 | 2015–2024 |
|---|---|---|---|---|---|---|---|---|
| 181 | Investments in cryptocurrency derivatives | ProShares Bitcoin Strategy ETF | BITO | 2.3 | −10.82 | 105.41 | 20.72 | |
| 182 | Investing in cryptocurrency derivatives, betting on Bitcoin's decline in value | ProShares Short Bitcoin Strategy ETF | BITI | 0.1 | 9.25 | −62.60 | | |
| 183 | Direct investment in Bitcoin on the spot market not through ETFs | Grayscale Bitcoin Trust (BTC) | GBTC | 19.2 | −10.01 | 137.30 | 33.86 | 73.37 |
| 184 | Direct investment in Ethereum on the spot market not through ETFs | Grayscale Ethereum Trust (ETH) | ETHE | 4.7 | −1.03 | 44.14 | −4.69 | |
| 185 | Direct investment in a basket of cryptocurrencies on the spot market not through ETFs | Grayscale Digital Large Cap ETC | GDLC | 0.7 | −16.16 | 136.98 | 19.27 | |
| 186 | Direct Bitcoin investment in the spot market | iShares Bitcoin Trust ETF | IBIT | 51.7 | −9.71 | | | |
| 187 | Direct Bitcoin investment in the spot market | Fidelity Wise Origin Bitcoin ETF | FBTC | 18.8 | −9.90 | | | |
| 188 | Direct Bitcoin investment in the spot market | ARK 21Shares Bitcoin ETF | ARKB | 4.4 | −9.87 | | | |
| 189 | Direct Bitcoin investment in the spot market | Bitwise Bitcoin ETF | BITB | 3.8 | −9.85 | | | |
| 190 | Direct Bitcoin investment in the spot market | Invesco Galaxy Bitcoin ETF | BTCO | 0.7 | −9.92 | | | |
| 191 | Direct Bitcoin investment in the spot market | Hashdex Bitcoin Futures ETF | DEFI | 0.0 | −10.37 | 109.39 | | |
| 192 | Digital Asset Fund for US government securities | BlackRock USD Institutional Digital Liquidity Fund | BUIDL | 90.2 | 1.06 | 4.59 | 4.70 | 3.50 |
| 193 | Direct investment in Ethereum on the spot market | Fidelity Ethereuem Fund | FETH | 1.5 | −33.73 | | | |

| No. | Investment strategies | Benchmarks: indexes | Ticker | Asset value, USD bn | 2025 Jan-Feb | 2024 | 2022–2024 | 2015–2024 |
|---|---|---|---|---|---|---|---|---|
| 194 | Direct investment in Ethereum on the spot market | iShares Ethereuem Trust | ETHA | 3.6 | −33.61 | | | |
| 195 | Direct investment in Ethereum on the spot market | Franklin Ethereum ETF | EZET | 0.0 | −33.62 | | | |
| 196 | Direct investment in Ethereum on the spot market | Invesco Galaxy Ethereuem ETF | QETH | 0.0 | −33.72 | | | |
| 197 | Direct investment in Ethereum on the spot market | Grayscale Ethereum Mini Trust ETF | ETH | 1.6 | −33.57 | | | |
| 198 | Direct investment in Ethereum on the spot market | 2x Ether ETF | ETHU | 0.9 | −62.44 | | | |
| 199 | Direct investment in Ethereum on the spot market | Proshares Ultra Ether ETF | ETHT | 0.2 | −63.10 | | | |
| 200 | Direct investment in Ethereum on the spot market | ProShares Ether ETF | EETH | 0.1 | −34.40 | 33.34 | | |
| 201 | Direct investment in Ethereum on the spot market | Proshares UltraShort Ether ETF | ETHD | 1.0 | 85.52 | | | |
| 202 | Bitcoin and Ethereum in view of capitalization | ProShares Bitcoin&EtherMktCapWtdETF | BETH | 0.0 | −14.82 | 85.18 | | |

*Source:* Own compilations based on Morningstar statistics: URL: https://www.morningstar.com/

*Table A5*

**Return and risk map of investment strategies in the global financial market over a 10-year time horizon from 2015 to 2024***

| | No. | Investment strategies (141) | Benchmarks: Morningstar and exchange funds indexes | Yield**, % | Risk***, % | Yield/ Risk |
|---|---|---|---|---|---|---|
| High risk | 76 | Betting on changes in the VIX index | ProShares Ultra VIX (UVXY) | −75.76 | 112.52 | −0.67 |
| | 67 | Cryptocurrency | S&P Bitcoin Index | 76.52 | 78.75 | 0.97 |
| | 183 | Direct investment in Bitcoin on the spot market not through ETFs | Grayscale Bitcoin Trust (BTC) | 73.37 | 77.26 | 0.95 |
| Increased risk | 75 | Upside play on the NASDAQ–100 Index stocks | ProShares UltraPro QQQ ETF (TQQQ) | 35.10 | 57.71 | 0.61 |
| | 74 | Down play on the NASDAQ–100 Index stocks | ProShares UltraPro Short QQQ ETF (SQQQ) | −52.17 | 51.50 | −1.01 |
| Moderate risk | 166 | Brazil, small companies | iShares MSCI Brazil Small-Cap | −0.88 | 36.54 | −0.02 |
| | 58 | Shares of innovation companies | ARK Innovation ETF (ARKK) | 12.01 | 36.10 | 0.33 |
| | 165 | Brazil | iShares MSCI Brazil ETF | 0.07 | 33.57 | 0.00 |
| | 175 | Turkey | iShares MSCI Turkey ETF | −1.29 | 33.23 | −0.04 |
| | 179 | Russia | RTS Index | 1.23 | 32.20 | 0.04 |
| | 180 | Russia | RTS Index — total yield | 8.06 | 32.20 | 0.25 |
| | 172 | Argentina | Global X MSCI Argentina ETF | 17.31 | 31.70 | 0.55 |
| | 158 | Developing countries in Europe | Morningstar Emerging Markets Europe | −2.14 | 31.51 | −0.07 |
| | 45 | Energy sector | Morningstar US Energy | 4.42 | 30.01 | 0.15 |
| Moderate-low risk | 71 | Mutual venture capital investment fund | AXS FTSE Vntr Cptl RetTrckr I (LDVIX) | 16.82 | 28.59 | 0.59 |
| | 171 | Poland | iShares MSCI Poland ETF | 1.01 | 27.81 | 0.04 |
| | 60 | Investment in IPO shares | Renaissance IPO ETF (IPO) | 6.90 | 26.71 | 0.26 |
| | 163 | China, small companies | iShares MSCI China Small-Cap ETF | −1.49 | 25.94 | −0.06 |
| | 174 | Chile | iShares MSCI Chile ETF | −1.55 | 25.37 | −0.06 |
| | 169 | South Africa | iShares MSCI South Africa ETF | 0.18 | 25.08 | 0.01 |
| | 161 | China | iShares MSCI China ETF | 1.18 | 24.98 | 0.05 |
| | 162 | China, Major companies | iShares China Large-Cap ETF | −0.69 | 24.79 | −0.03 |
| | 164 | China, shares of class A | Xtrackers Harvest CSI 300 China A ETF | 0.23 | 24.35 | 0.01 |

| | No. | Investment strategies (141) | Benchmarks: Morningstar and exchange funds indexes | Yield**, % | Risk***, % | Yield/ Risk |
|---|---|---|---|---|---|---|
| | 176 | Mexico | iShares MSCI Mexico ETF | 0.08 | 23.69 | 0.00 |
| | 168 | India, small companies | iShares MSCI India Small-Cap ETF | 10.43 | 22.62 | 0.46 |
| | 34 | Smart (strategic) beta equity fund | DFA US Small Cap Value I (DFSVX) | 8.61 | 22.35 | 0.39 |
| | 70 | Fund investing in global publicly traded private equity funds | Invesco Global Listed Private Equity ETF (PSP) | 8.77 | 22.05 | 0.40 |
| | 69 | Return index of public private equity funds | The S&P Listed Private Equity Index | 13.46 | 21.97 | 0.61 |
| | 173 | Indonesia | iShares MSCI Indonesia ETF | −1.81 | 21.80 | −0.08 |
| | 178 | Vietnam | VanEck Vietnam ETF | −3.48 | 21.79 | −0.16 |
| | 68 | S&P commodity-indexed assets | iShares S&P GSCI Commodity-Indexed Trust (GSG) | 0.09 | 21.59 | 0.00 |
| | 43 | Cyclical sector of consumer goods | Morningstar US Consumer Cyclical Sector | 13.99 | 20.90 | 0.67 |
| | 51 | Masic materials sector | Morningstar US Basic Materials Sector | 8.08 | 20.55 | 0.39 |
| | 50 | Technology sector | Morningstar US Technology Sector | 21.39 | 20.00 | 1.07 |
| | 46 | Financial services | Morningstar US Financial Services Sector | 12.12 | 19.65 | 0.62 |
| | 25 | Small companies shares | Vanguard Small-Cap ETF (VB) | 9.08 | 19.43 | 0.47 |
| | 160 | BIC (ETF) | iShares MSCI BIC ETF | 2.46 | 19.12 | 0.13 |
| | 48 | Manufacturing sector | Morningstar US Industrials Sector | 11.13 | 18.75 | 0.59 |
| | 21 | Stocks of the NASDAQ–100 Index | Invesco QQQ Trust (QQQ) | 18.28 | 18.51 | 0.99 |
| | 159 | BIC (previously -BRIC) | Morningstar BIC (previously — BRIC) | 4.39 | 18.31 | 0.24 |
| | 65 | Real estate | Vanguard Real Estate ETF (VNQ) | 5.04 | 18.13 | 0.28 |
| | 167 | India | iShares MSCI India ETF | 7.16 | 18.09 | 0.40 |
| | 52 | Real estate operations | Morningstar US Real Estate Sector | 5.14 | 17.93 | 0.29 |
| | 23 | Growth shares | Vanguard US Growth (VUG) | 15.75 | 17.80 | 0.88 |
| | 26 | Morningstar strategy momentum | Morningstar US Momentum Factor TR USD | 15.52 | 17.79 | 0.87 |
| | 42 | Communications | Morningstar US Communication Services | 12.63 | 17.59 | 0.72 |
| | 154 | ETFs stocks of developing economies | iShares MSCI Emerging Markets | 2.88 | 17.18 | 0.17 |
| | 6 | Shares of European companies | Vanguard European Stock Index/FTSE Europe ETF (VEUSX, VGK) | 5.27 | 17.08 | 0.31 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Low risk | 153 | ETF of broad market | iShares Core MSCI Emerging Markets ETF | 3.79 | 16.99 | 0.22 |
| | 27 | Morningstar strategy of quality shares | Morningstar US Quality Factor TR USD | 14.00 | 16.71 | 0.84 |
| | 155 | Broad market Index | Morningstar Emerging Markets | 4.71 | 16.64 | 0.28 |
| | 11 | Shares of value of non-US developed economies companies (unhedged) | iShares MSCI EAFE Value (EFV) | 4.26 | 16.56 | 0.26 |
| | 78 | Buy low, sell high strategy for US stocks | Invesco FTSE RAFI US 1000 ETF (PRF) | 10.47 | 16.07 | 0.65 |
| | 20 | US broad stock market | Vanguard Total Stock Market Index/ETF (VTSAX) (VTI) | 12.50 | 15.82 | 0.79 |
| | 12 | Growth stocks of non-US developed economies (unhedged) | iShares MSCI EAFE Growth (EFG) | 5.62 | 15.81 | 0.36 |
| | 17 | US broad stock market | Morningstar US Market | 12.66 | 15.75 | 0.80 |
| | 28 | Quality shares | iShares MSCI USA Quality Factor ETF (QUAL) | 12.89 | 15.75 | 0.82 |
| | 177 | Malasia | iShares MSCI Malaysia ETF | −1.00 | 15.65 | −0.06 |
| | 18 | Shares of the S&P 1500 Index (90% of equity capitalization in the US) | SPDR® Port S&P 1500 Comps Stk Mkt ETF (SPTM) | 12.65 | 15.58 | 0.81 |
| | 8 | Shares of European, Australian, and Far Eastern major companies | iShares MSCI EAFE (EFA) | 5.21 | 15.57 | 0.33 |
| | 24 | Shares of major companies | Vanguard Large Cap Index/ETF (VLCAX) (VV) | 13.01 | 15.51 | 0.84 |
| | 29 | Shares of ESG-companies | Morningstar US Sustainability | 12.37 | 15.43 | 0.80 |
| | 19 | Shares of the S&P500 Index | Vanguard S&P 500 ETF (VOO) | 13.07 | 15.36 | 0.85 |
| | 3 | Shares of companies from developed economies, excluding the US | Morningstar Developed Markets ex-US | 5.82 | 15.32 | 0.38 |
| | 14 | Shares of 23 developed and 24 emerging markets (unhedged) | iShares MSCI ACWI ex US ETF (ACWX) | 4.70 | 15.30 | 0.31 |
| | 49 | Utilities sector | Morningstar US Utilities Sector | 8.64 | 15.25 | 0.57 |
| | 2 | Shares of companies from developed economies | Morningstar Developed Markets | 10.16 | 15.18 | 0.67 |
| | 7 | Stocks of global companies | Vanguard Total World Stock Index/ETF (VTWAX, VT) | 9.32 | 15.04 | 0.62 |
| | 22 | Value shares | Vanguard US Value (VTV) | 9.99 | 15.00 | 0.67 |
| | 32 | Smart (strategic) beta equity fund | Vanguard Value Index Adm (VVIAX) | 9.99 | 15.00 | 0.67 |
| | 35 | Dividend equities — broad diversification | Schwab U. S. Dividend Equity ETF (SCHD) | 11.03 | 14.95 | 0.74 |
| | 1 | Broad stock market | Morningstar Global Markets | 9.51 | 14.93 | 0.64 |
| | 38 | High dividend yield stocks | WisdomTree US High Dividend ETF (DHS) | 8.17 | 14.83 | 0.55 |

| | No. | Investment strategies (141) | Benchmarks: Morningstar and exchange funds indexes | Yield**, % | Risk***, % | Yield/ Risk |
|---|---|---|---|---|---|---|
| | 36 | High dividend yield stocks (beta for dividend strategies in the US broadest index of the most dividend yield US companies) | Morningstar US High Dividend Yield | 9.64 | 14.66 | 0.66 |
| | 40 | High dividend yield stocks of US companies | Morningstar US High Dividend Yield TR USD (2750632) | 9.64 | 14.66 | 0.66 |
| | 47 | Healthcare sector | Morningstar US Healthcare Sector | 8.75 | 14.57 | 0.60 |
| | 41 | Global high dividend yield stocks | Morningstar Global Markets High Dividend Yield GR USD (2750630) | 7.69 | 14.48 | 0.53 |
| | 37 | Index of 75 quality (moat) stocks with high dividend yield | Morningstar Dividend Yield Focus TR USD (MDYFT) | 7.91 | 14.38 | 0.55 |
| | 39 | US stocks with stable dividends and growth potential | JPMorgan Equity Income A (OIEIX) | 8.81 | 14.37 | 0.61 |
| | 156 | Dividend yield stocks | Morningstar Emerging Markets Dividend Yield Focus | 4.09 | 14.37 | 0.28 |
| | 145 | Life Cycle Fund 2040 (85%/15%) | Fidelity Freedom® 2040 (FFFFX) | 8.74 | 14.07 | 0.62 |
| | 147 | Life Cycle Fund 2045 (85%/15%) | Vanguard Target Retirement 2045 Fund (VTIVX) | 8.57 | 13.57 | 0.63 |
| | 64 | Gold | SPDR® Gold Shares (GLD) | 7.86 | 13.56 | 0.58 |
| | 133 | Corporate bond | Morningstar UK Corporate Bond | −0.53 | 13.12 | −0.04 |
| | 152 | Global market dynamic asset allocation mixed fund with 35% to 70% equity exposure | Loomis Sayles Global Allocation A (LGMAX) | 7.89 | 12.99 | 0.61 |
| | 13 | Investments in non-US growth stocks in developed economies hedging local currency risks | iShares Currency Hedged MSCI EAFE (HEFA) | 8.84 | 12.66 | 0.70 |
| | 44 | Counter-cyclical consumer goods sector | Morningstar US Consumer Defensive Sector | 8.64 | 12.66 | 0.68 |
| | 30 | Shares with minimum volatility | iShares MSCI USA Min Vol Factor ETF (USMV) | 10.24 | 12.51 | 0.82 |
| | 90 | Long-term US and global corporate bonds | Vanguard Long-Term Corporate Bond Index/ETF (VLTCX, VCLT) | 2.07 | 12.12 | 0.17 |
| | 132 | Government bonds | Morningstar UK Gilt Bond | −2.79 | 11.90 | −0.23 |
| | 149 | 70% shares/ 30% bonds | Fidelity Asset Manager® 70% (FASGX) | 7.46 | 11.86 | 0.63 |
| | 148 | Life Cycle Fund 2035 (70%/30%) | Vanguard Target Retirement 2035 Fund (VTTHX) | 7.51 | 11.84 | 0.63 |
| | 131 | Broad bond market | Morningstar UK Core Bond | −2.32 | 11.76 | −0.20 |
| | 73 | Mutual fund of stocks of non-public global companies | HarbourVest Global Priv Equity Ord (HVPE) | 12.80 | 11.63 | 1.10 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 83 | Fund with covered options (hedging by selling call options) | Global X NASDAQ–100 Covered Call ETF (QYLD) | 8.28 | 11.60 | 0.71 |
| | 130 | High-yield bonds | Morningstar Eurozone High-Yield Bond | 2.11 | 11.52 | 0.18 |
| | 134 | Government bonds | Morningstar Japan Treasury Bond | −2.89 | 10.53 | −0.27 |
| | 144 | Life Cycle Fund 2025 (50%/50%) | Fidelity Freedom® 2025 (FFTWX) | 6.23 | 10.42 | 0.60 |
| | 150 | Classic fund with 60/40 strategy in the US | Vanguard Balanced Index I (VBAIX) | 8.18 | 10.39 | 0.79 |
| | 143 | 60% stocks / 40% bonds — the oldest fund | Vanguard Wellington™ Inv VWELX | 8.36 | 10.35 | 0.81 |
| | 139 | High-yield bonds | Morningstar Emerging Markets High-Yield Bond | 4.42 | 10.19 | 0.43 |
| | 81 | Risk parity hedging strategies (investments in less volatile assets) | AQR Equity Market Neutral N (QMNNX) | 5.93 | 9.92 | 0.60 |
| | 151 | Morningstar strategy 60/40 | Morningstar US Moderate Target Allocation NR USD (MSAAUMTU) | 7.45 | 9.89 | 0.75 |
| | 128 | Government inflation-linked securities | Morningstar Eurozone Treasury Inflation-Linked Securities | 0.17 | 9.82 | 0.02 |
| | 142 | 60% stocks / 40% bonds — the largest fund | American Funds American Balanced A (ABALX) | 8.14 | 9.74 | 0.84 |
| | 129 | Corporate bonds | Morningstar Eurozone Corporate Bond | −0.76 | 9.49 | −0.08 |
| | 125 | Government bonds | Morningstar Eurozone Treasury Bond | −1.32 | 9.48 | −0.14 |
| | 124 | Broad bond market | Morningstar Eurozone Core Bond | −1.32 | 9.27 | −0.14 |
| | 136 | Government bonds | Morningstar Emerging Markets Sovereign Bond | 2.51 | 8.80 | 0.29 |
| | 127 | 5–7 Yr government bonds | Morningstar Eurozone 5–7 Yr Treasury Bond | −1.21 | 8.77 | −0.14 |
| | 91 | Infrastructure bonds | Morningstar Global Bond Infrastructure | 1.22 | 8.31 | 0.15 |
| | 88 | Government inflation-linked securities | Morningstar Global Treasury Inflation-Linked Securities | 0.06 | 8.10 | 0.01 |
| | 126 | 1–3 Yr government bonds | Morningstar Eurozone 1–3 Yr Treasury Bond | −1.36 | 7.68 | −0.18 |
| | 113 | High-yield bonds | Morningstar US High-Yield Bond | 5.17 | 7.65 | 0.68 |
| | 135 | Broad bond market | Morningstar Emerging Markets Composite Bond | 3.00 | 7.55 | 0.40 |
| | 89 | Corporate bonds | Morningstar Global Corporate Bond | 1.27 | 7.31 | 0.17 |
| | 87 | Government bonds | Morningstar Global Treasury Bond | −0.91 | 7.07 | −0.13 |
| | 84 | Long/Short strategy — buy undervalued stocks, sell stocks whose prices are likely to fall | Neuberger Berman Long Short Instl (NLSIX) | 5.78 | 6.96 | 0.83 |
| | 137 | Corporate bonds | Morningstar Emerging Markets Corporate Bond | 3.32 | 6.91 | 0.48 |

| | No. | Investment strategies (141) | Benchmarks: Morningstar and exchange funds indexes | Yield**, % | Risk***, % | Yield/ Risk |
|---|---|---|---|---|---|---|
| | 107 | Corporate bonds | Morningstar US Corporate Bond | 2.36 | 6.89 | 0.34 |
| | 138 | Infrastructure bonds | Morningstar Emerging Markets Infrastructure Bond | 1.84 | 6.82 | 0.27 |
| | 110 | 5–10 Yr corporate bonds | Morningstar US 5–10 Yr Corporate Bond | 2.81 | 6.67 | 0.42 |
| | 85 | Broad bond market | Morningstar Global Core Bond | −0.21 | 6.46 | −0.03 |
| | 102 | 5–10 Yr government bonds | Morningstar US 5–10 Yr Treasury Bond | 1.00 | 5.57 | 0.18 |
| | 140 | Broad bond market of Chinese issuers | Morningstar China USD Broad Market Bond | 1.95 | 5.47 | 0.36 |
| | 99 | 5–10 Yr broad bond market | Morningstar US 5–10 Yr Core Bond | 1.27 | 5.38 | 0.24 |
| | 86 | Broad global bond market (active management) | Fidelity Total Bond Fund (FTBFX) | 2.28 | 5.15 | 0.44 |
| | 96 | Broad bond market | Vanguard Total Bond Market Index/ETF (VBTIX, BND) | 1.34 | 5.07 | 0.26 |
| | 97 | Broad bond market of US issuers (Bloomberg US Aggregate) | iShares Core US Agg Bond ETF (AGG) | 1.29 | 5.03 | 0.26 |
| | 103 | Inflation-protected securities | Morningstar US Treasury Inflation-Protected Securities | 2.17 | 4.96 | 0.44 |
| | 95 | Broad bond market | Morningstar US Core Bond | 1.32 | 4.90 | 0.27 |
| | 100 | Government bonds | Morningstar US Treasury Bond | 0.83 | 4.87 | 0.17 |
| | 104 | ETF municipal bonds | iShares National Muni Bond ETF (MUB) | 2.03 | 4.75 | 0.43 |
| | 106 | Commercial mortgage-backed securities | Morningstar US Commercial Mortgage-Backed Securities | 2.13 | 3.89 | 0.55 |
| | 109 | Short-term corporate bonds | Vanguard Short-Term Corporate Bond Index/ETF (VSTBX, VCSH) | 2.33 | 2.99 | 0.78 |
| | 108 | 1–5 Yr corporate bonds | Morningstar US 1–5 Yr Corporate Bond | 2.41 | 2.98 | 0.81 |
| | 101 | 1–5 Yr government bonds | Morningstar US 1–5 Yr Treasury Bond | 1.34 | 2.25 | 0.60 |
| | 105 | Mortgage securities | Morningstar US Asset-Backed Securities | 2.21 | 2.09 | 1.06 |
| | 98 | 1–3 Yr broad bond market | Morningstar US 1–3 Yr Core Bond | 1.66 | 1.53 | 1.08 |
| | 92 | Global money market fund | Invesco Treasurer's Ser Tr Prem Instl (IPPXX) | 1.84 | 0.55 | 3.35 |
| | 93 | US money market fund | Vanguard Cash Rsrv Federal MnyMktAdmiral (VMRXX) | 1.84 | 0.53 | 3.47 |

* In order to classify investment strategies into 5 categories depending on the level of risk, the strategies in the sample with standard deviation from 0% to 80% were divided into 5 groups with equal risk range.
** Geometric mean total return of portfolios for the period 2015–2024.
*** Standard deviation of portfolio returns for the period 2015–2024, %.

*Source:* Own compilations based on Morningstar statistics: URL: https://www.morningstar.com/

*Table A6*

## Nominal yields of various financial instruments in the Russian financial market for the period 2015–2024 (% p. a.) and for January-February 2025, %

| | No. | Investment strategies (105) | Yield, % | Risk, % | Yield/ Risk |
|---|---|---|---|---|---|
| Broad stock indexes | 1 | Moscow Exchange Index (IMOEX) | 7.52 | 23.5 | 0.32 |
| | 2 | Moscow Exchange Total Return Gross Index (MCFTR) | 14.77 | 23.58 | 0.63 |
| | 5 | Moscow Exchange Mid and Small Capitalization Index (MCXSM) | 5.95 | 20.75 | 0.29 |
| | 6 | Moscow Exchange Small and Medium Capitalization Index (MESMTR) | 10.89 | 20.73 | 0.53 |
| | 7 | Moscow Exchange Broad Market Index (MOEXBMI) | 7.74 | 23.42 | 0.33 |
| | 10 | Moscow Exchange Blue Chip Index (MOEXBC) | 7.13 | 24.78 | 0.29 |
| | 11 | Moscow Exchange Blue Chip Index (MEBCTR) | 14.67 | 24.82 | 0.59 |
| Sectoral stock indexes | 12 | Moscow Exchange Oil and Gas Index (MOEXOG) | 8.70 | 25.31 | 0.34 |
| | 13 | Moscow Exchange Oil and Gas Index (MEOGTR) | 16.43 | 25.29 | 0.65 |
| | 14 | Power Industry Index (MOEXEU) | 7.23 | 23.63 | 0.31 |
| | 15 | Power Industry Index (MEEUTR) | 13.16 | 22.84 | 0.02 |
| | 16 | Telecommunications Index (MOEXTL) | 0.45 | 22.84 | 0.02 |
| | 17 | Telecommunications Index (METLTR ) | 10.40 | 22.14 | 0.47 |
| | 18 | Moscow Exchange Metals and Mining Index (MOEXMM) | 6.65 | 22.81 | 0.29 |
| | 19 | Moscow Exchange Metals and Mining Index (MEMMTR) | 13.77 | 22.74 | 0.61 |
| | 20 | Finance Index (MOEXFN) | 9.10 | 26.58 | 0.34 |
| | 21 | Finance Index (MEFNTR) | 13.70 | 26.55 | 0.52 |
| | 22 | Moscow Exchange Consumer Sector Index (MOEXCN) | 3.01 | 20.91 | 0.14 |
| | 23 | Moscow Exchange Consumer Sector Index (MECNTR) | 7.03 | 20.88 | 0.34 |
| | 24 | Chemicals and Petrochemicals Index (MOEXCH) | 14.98 | 25.38 | 0.59 |
| | 25 | Chemicals and Petrochemicals Index (MECHTR) | 24.01 | 25.16 | 0.95 |
| | 26 | Transportation Index (MOEXTN) | 10.09 | 28.63 | 0.35 |
| | 27 | Transportation Index (METNTR) | 15.11 | 28.52 | 0.53 |
| Mutual investment funds | 60 | IF-FI – bond funds | 9.16 | 4.82 | 1.90 |
| | 61 | IF-MM – monetary markets funds | 9.50 | 2.76 | 3.44 |
| | 62 | IF-EG – stock funds | 14.39 | 17.34 | 0.83 |
| | 80 | OPIF Pervaya — Russian Equity Fund MC Pervaya | 11.55 | 23.55 | 0.49 |
| | 81 | OPIF SI First — Balanced MC First | 11.06 | 15.43 | 0.72 |
| | 82 | Aton Equity OPIF — Pyotr Stolypin MC Aton Management | 11.47 | 22.21 | 0.52 |
| | 83 | Aton Equity OPIF — Echelon 2.0 MC Aton Management | 19.18 | 21.86 | 0.88 |
| | 85 | Oil and gas sector equity OPIF VIM Investments Management Company | 14.62 | 22.15 | 0.66 |
| | 87 | OPIF Treasury MC VIM Investments | 8.73 | 7.39 | 1.18 |
| | 88 | Raiffeisen OPIF — Corporate Bonds Raiffeisen Capital Management Company | 6.20 | 4.26 | 1.45 |
| | 89 | Raiffeisen OPIF — Dividend Stocks Raiffeisen Capital Management Company | 8.10 | 20.86 | 0.39 |

| | No. | Investment strategies (105) | Yield, % | Risk, % | Yield/ Risk |
|---|---|---|---|---|---|
| | 91 | Metallurgy equity mutual investment fund VIM Investments Management Company | 10.20 | 21.21 | 0.48 |
| | 92 | April Capital OPIF — Stocks April Capital Management Company | 21.68 | 21.56 | 1.01 |
| | 93 | Alfa Capital Liquid Stocks OPIF | 12.47 | 22.63 | 0.55 |
| | 94 | Alfa Capital Balance OPIF (Alfa Capital) | 12.46 | 16.65 | 0.75 |
| Direct investment in stocks | 99 | Gazprom | 0.21 | 33.10 | 0.01 |
| | 100 | Sberbank (JSC) | 17.39 | 34.09 | 0.51 |
| | 101 | Rosneft | 11.77 | 33.01 | 0.36 |
| | 102 | Lukoil | 12.14 | 30.46 | 0.40 |
| | 103 | GMK Nornikel | 3.50 | 29.99 | 0.12 |
| | 104 | NOVATEK | 8.15 | 33.55 | 0.24 |
| | 105 | Surgutneftegaz (PAO) | 7.20 | 30.65 | 0.23 |
| | 106 | Sberbank (PAO) | 21.92 | 31.74 | 0.69 |
| | 107 | PJSC Ashinskiy Metzavod (AMEZ) | 29.01 | 52.73 | 0.55 |
| | 108 | PJSC PKK Energia (RKKE) | 14.08 | 58.15 | 0.24 |
| | 109 | OJSC Belon (BLNG) | 15.59 | 63.46 | 0.25 |
| | 110 | PAO GAZ (GAZA) | 7.08 | 44.96 | 0.16 |
| | 111 | PAO Krasny Oktyabr (KROT) | 29.98 | 71.85 | 0.42 |
| | 112 | PAO Sollers (SVAV) | 6.77 | 42.09 | 0.16 |
| | 115 | PAO TGK–14 (TGKN) | 14.42 | 52.05 | 0.28 |
| Factor strategies | 119 | Broad stock market | 14.12 | 21.63 | 0.65 |
| | 120 | Stocks of major companies | 13.91 | 21.45 | 0.65 |
| | 121 | Stocks of small companies | 35.85 | 31.99 | 1.12 |
| | 122 | Growth Stocks | 12.62 | 19.85 | 0.64 |
| | 123 | Value Stocks | 10.48 | 23.08 | 0.45 |
| | 124 | Stocks of companies with low capitalization | 6.38 | 28.02 | 0.23 |
| | 125 | Stocks of companies with high capitalization | 14.80 | 22.24 | 0.67 |
| | 126 | Low-liquidity stock | 11.40 | 19.85 | 0.57 |
| | 127 | High-liquidity stock | 13.93 | 22.28 | 0.63 |
| | 128 | Stocks with low dividend yield | 14.07 | 23.89 | 0.59 |
| | 129 | Stocks with high dividend yield | 11.67 | 21.09 | 0.55 |
| | 130 | Stocks without dividends | 13.91 | 21.19 | 0.66 |
| | 131 | Stocks with dividends | 12.87 | 21.82 | 0.59 |
| | 132 | Private companies stock | 14.33 | 20.30 | 0.71 |
| | 133 | KGU stock | 12.63 | 23.69 | 0.53 |
| | 134 | Equities of companies with low P/E | 15.52 | 23.15 | 0.67 |
| | 135 | Equities of companies with high P/E | 12.37 | 21.76 | 0.57 |
| | 136 | Broad stock market (total return) | 21.58 | 21.76 | 0.99 |
| | 137 | Stocks of large companies (total return) | 21.41 | 21.58 | 0.99 |
| | 138 | Stocks of small companies (total return) | 39.38 | 32.10 | 1.23 |
| | 139 | Growth stocks (total return) | 21.80 | 20.09 | 1.08 |

| | No. | Investment strategies (105) | Yield, % | Risk, % | Yield/Risk |
|---|---|---|---|---|---|
| | 140 | Value stocks (total return) | 15.69 | 23.24 | 0.67 |
| | 141 | Shares of companies with low capitalization (total return) | 11.22 | 28.03 | 0.40 |
| | 142 | Stocks of companies with high capitalization (total return) | 25.90 | 22.61 | 1.15 |
| | 143 | Low-liquidity stocks (total return) | 17.42 | 19.76 | 0.88 |
| | 144 | High-liquidity stocks (total return) | 21.82 | 22.37 | 0.98 |
| | 145 | Stocks with low dividend yield (total return) | 18.84 | 24.09 | 0.78 |
| | 146 | Stocks with high dividend yield (total return) | 23.28 | 20.96 | 1.11 |
| | 147 | Stocks without dividends (total return) | 15.09 | 21.32 | 0.71 |
| | 148 | Stocks with dividends (total return) | 21.23 | 21.90 | 0.97 |
| | 149 | Shares of private companies (total return) | 22.16 | 20.32 | 1.09 |
| | 150 | KGU shares (total return) | 19.72 | 23.82 | 0.83 |
| | 151 | Shares of companies with low P/E (total return) | 23.69 | 23.24 | 1.02 |
| | 152 | Shares of companies with high P/E (total return) | 19.74 | 21.87 | 0.90 |
| Bonds and mixed investments indexes | 32 | Moscow Exchange Government Bond Index RGBITR | 8.06 | 7.89 | 1.02 |
| | 34 | IFX-Cbonds | 10.24 | 2.87 | 3.57 |
| | 35 | Cbonds-CBI RU BBB/ruAA- | 8.79 | 3.48 | 2.53 |
| | 36 | Cbonds-CBI RU BB/ruBBB | 9.34 | 4.23 | 2.21 |
| | 37 | Cbonds-CBI RU B/ruB- | 11.30 | 5.86 | 1.93 |
| | 48 | Cbonds-CBI RU 1–3Y | 9.65 | 3.39 | 2.85 |
| | 49 | Cbonds-CBI RU 3–5Y | 8.86 | 6.47 | 1.37 |
| | 51 | Cbonds-GBI RU | 8.28 | 7.81 | 1.06 |
| | 52 | Cbonds-GBI RU 1–3Y | 8.38 | 3.81 | 2.20 |
| | 53 | Cbonds-GBI RU 3–5Y | 8.88 | 5.94 | 1.50 |
| | 54 | Cbonds-GBI RU 5Y | 8.56 | 10.66 | 0.80 |
| | 57 | Tier 1 CO Index (RUCBITRL1) | 8.17 | 4.53 | 1.80 |
| | 58 | Tier 2 CO Index (RUCBITRL2) | 9.10 | 4.34 | 2.10 |
| | 59 | Tier 3 CO Index (RUCBITRL3) | 8.83 | 4.93 | 1.79 |
| | 63 | Mixed strategy portfolio: equities 10%, bonds 90% | 9.99 | 5.98 | 1.67 |
| | 64 | Mixed strategy portfolio: equities 40%, bonds 60% | 12.04 | 11.31 | 1.07 |
| | 65 | Mixed strategy portfolio: equities 50%, bonds 50% | 12.63 | 13.29 | 0.95 |
| | 66 | Mixed strategy portfolio: equities 60%, bonds 40% | 14.45 | 21.49 | 0.67 |

*Source:* Own calculations on the basis of resources of the Moscow Exchange, Cbonds and Konstructor CAPM-ru IAES RANEPA. URL: https://aea.ru

*Table A7*

**Map of yields and risks of 105 investment strategies in ruble-denominated financial instruments of Russian issuers on a 10-year time horizon in 2015–2024**

| | No. | Investment strategies (105) | Yield, % | Risk, % | Yield/Risk |
|---|---|---|---|---|---|
| High risk | 111 | PAO Krasny Oktyabr (KROT) | 29.98 | 71.85 | 0.42 |
| | 109 | JSC Belon (BLNG) | 15.59 | 63.46 | 0.25 |
| | 108 | PAO RKK Energia (RKKE) | 14.08 | 58.15 | 0.24 |
| Heightened risk | 107 | PAO Ashinsky metzavod (AMEZ) | 29.01 | 52.73 | 0.55 |
| | 115 | PAO TGK–14 (TGKN) | 14.42 | 52.05 | 0.28 |
| | 110 | PAO GAZ (GAZA) | 7.08 | 44.96 | 0.16 |
| | 112 | PAO Sollers (SVAV) | 6.77 | 42.09 | 0.16 |
| Moderate risk | 100 | Sberbank (pao) | 17.39 | 34.09 | 0.51 |
| | 104 | NOVATEK | 8.15 | 33.55 | 0.24 |
| | 99 | Gazprom | 0.21 | 33.10 | 0.01 |
| | 101 | Rosneft | 11.77 | 33.01 | 0.36 |
| | 138 | Shares of small companies (total return) | 39.38 | 32.10 | 1.23 |
| | 121 | Shares of small companies | 35.85 | 31.99 | 1.12 |
| | 106 | Sberbank (pao) | 21.92 | 31.74 | 0.69 |
| | 105 | Surgutneftegaz (pao) | 7.20 | 30.65 | 0.23 |
| | 102 | Lukoil | 12.14 | 30.46 | 0.40 |
| | 103 | GMK Nornikel | 3.50 | 29.99 | 0.12 |
| | 26 | Transportation Index (MOEXTN) | 10.09 | 28.63 | 0.35 |
| | 27 | Transportation Index (METNTR) | 15.11 | 28.52 | 0.53 |
| | 141 | Shares of companies with low capitalization (total return) | 11.22 | 28.03 | 0.40 |
| | 124 | Shares of companies with low capitalization | 6.38 | 28.02 | 0.23 |
| Moderate-low risk | 20 | Financial Index (MOEXFN) | 9.10 | 26.58 | 0.34 |
| | 21 | Financial Index (MEFNTR) | 13.70 | 26.55 | 0.52 |
| | 24 | Chemicals and petrochemicals index (MOEXCH) | 14.98 | 25.38 | 0.59 |
| | 12 | Moscow Exchange Oil and Gas Index (MOEXOG) | 8.70 | 25.31 | 0.34 |
| | 13 | Moscow Exchange Oil and Gas Index (MEOGTR) | 16.43 | 25.29 | 0.65 |
| | 25 | Chemicals and petrochemicals index (MECHTR) | 24.01 | 25.16 | 0.95 |
| | 11 | Moscow Exchange blue chips index (MEBCTR) | 14.67 | 24.82 | 0.59 |
| | 10 | Moscow Exchange blue chips index (MOEXBC) | 7.13 | 24.78 | 0.29 |
| | 145 | Shares with low dividend yield (total return) | 18.84 | 24.09 | 0.78 |
| | 128 | Shares with low dividend yield | 14.07 | 23.89 | 0.59 |
| | 150 | KGU shares (total return) | 19.72 | 23.82 | 0.83 |
| | 133 | KGU shares | 12.63 | 23.69 | 0.53 |
| | 14 | Power sector index (MOEXEU) | 7.23 | 23.63 | 0.31 |
| | 2 | Moscow Exchange Index of total return “gross” (MCFTR) | 14.77 | 23.58 | 0.63 |
| | 1 | Moscow Exchange Index (IMOEX) | 7.52 | 23.5 | 0.32 |
| | 80 | OPIF Pervaya — Russian Equity Fund MC Pervaya | 11.55 | 23.55 | 0.49 |

| | No. | Investment strategies (105) | Yield, % | Risk, % | Yield/ Risk |
|---|---|---|---|---|---|
| | 7 | Moscow Exchange Broad Market Index (MOEXBMI) | 7.74 | 23.42 | 0.33 |
| | 151 | Shares of companies with low P/E (total return) | 23.69 | 23.24 | 1.02 |
| | 140 | Value shares (total return) | 15.69 | 23.24 | 0.67 |
| | 134 | Corporate stock with los P/E | 15.52 | 23.15 | 0.67 |
| | 123 | Value shares | 10.48 | 23.08 | 0.45 |
| | 15 | Power sector index (MEEUTR) | 13.16 | 22.84 | 0.02 |
| | 16 | Communications sector index (MOEXTL) | 0.45 | 22.84 | 0.02 |
| | 18 | Moscow Exchange Metals and Mining Index (MOEXMM) | 6.65 | 22.81 | 0.29 |
| | 19 | Moscow Exchange Metals and Mining Index (MEMMTR) | 13.77 | 22.74 | 0.61 |
| | 93 | Alfa Capital Liquid Stocks OPIF | 12.47 | 22.63 | 0.55 |
| | 142 | Shares of companies with high capitalization (total return) | 25.90 | 22.61 | 1.15 |
| | 144 | High liquidity stocks (total return) | 21.82 | 22.37 | 0.98 |
| | 127 | High liquidity stocks | 13.93 | 22.28 | 0.63 |
| | 125 | Shares of companies with high capitalization | 14.80 | 22.24 | 0.67 |
| | 82 | Aton Equity OPIF — Pyotr Stolypin MC Aton Management | 11.47 | 22.21 | 0.52 |
| | 85 | Oil and gas sector equity OPIF VIM Investments Management Company | 14.62 | 22.15 | 0.66 |
| | 17 | Communications Index (METLTR) | 10.40 | 22.14 | 0.47 |
| | 148 | Shares with dividends (total return) | 21.23 | 21.90 | 0.97 |
| | 152 | Corporate shares with high P/E (total return) | 19.74 | 21.87 | 0.90 |
| | 83 | Mutual Fund Shares Aton — Echelon 2.0 Management Company Aton-management | 19.18 | 21.86 | 0.88 |
| | 131 | Shares with dividend | 12.87 | 21.82 | 0.59 |
| | 135 | Corporate shares with high P/E | 12.37 | 21.76 | 0.57 |
| | 136 | Broad bond market (total return) | 21.58 | 21.76 | 0.99 |
| | 119 | Broad bond market | 14.12 | 21.63 | 0.65 |
| | 137 | Major companies' shares (total return) | 21.41 | 21.58 | 0.99 |
| | 92 | April Capital OPIF — Stocks April Capital Management Company | 21.68 | 21.56 | 1.01 |
| | 66 | Mixed strategy portfolio: equities 60%, bonds 40% | 14.45 | 21.49 | 0.67 |
| | 120 | Shares of major companies | 13.91 | 21.45 | 0.65 |
| | 147 | Shares without dividends (total return) | 15.09 | 21.32 | 0.71 |
| | 91 | Metallurgy equity mutual investment fund VIM Investments Management Company | 10.20 | 21.21 | 0.48 |
| | 130 | Shares without dividends | 13.91 | 21.19 | 0.66 |
| | 129 | Shares with high dividend yield | 11.67 | 21.09 | 0.55 |
| | 146 | Shares with high dividend yield (total return) | 23.28 | 20.96 | 1.11 |
| | 22 | Moscow Exchange Consumer Sector Index (MOEXCN) | 3.01 | 20.91 | 0.14 |
| | 23 | Moscow Exchange Consumer Sector Index (MECNTR) | 7.03 | 20.88 | 0.34 |
| | 89 | Raiffeisen OPIF — Dividend Shares Raiffeisen Capital Management Company | 8.10 | 20.86 | 0.39 |
| | 5 | Moscow Exchange Mid and Small Capitalization Index (MCXSM) | 5.95 | 20.75 | 0.29 |

| | No. | Investment strategies (105) | Yield, % | Risk, % | Yield/ Risk |
|---|---|---|---|---|---|
| | 6 | Moscow Exchange Small and Medium Capitalization Index (MESMTR) | 10.89 | 20.73 | 0.53 |
| | 149 | Shares of private companies (total return) | 22.16 | 20.32 | 1.09 |
| | 132 | Shares of private companies | 14.33 | 20.30 | 0.71 |
| | 139 | Growth stocks (total return) | 21.80 | 20.09 | 1.08 |
| | 122 | Growth Stocks | 12.62 | 19.85 | 0.64 |
| | 126 | Low-liquidity shares | 11.40 | 19.85 | 0.57 |
| | 143 | Low-liquidity shares ( total return) | 17.42 | 19.76 | 0.88 |
| | 62 | IF-EG – funds of shares | 14.39 | 17.34 | 0.83 |
| | 94 | Alfa Capital Balance OPIF (Alfa Capital) | 12.46 | 16.65 | 0.75 |
| | 81 | OPIF SI First — Balanced MC First | 11.06 | 15.43 | 0.72 |
| Low risk | 65 | Mixed strategy portfolio: equities 50%, bonds 50% | 12.63 | 13.29 | 0.95 |
| | 64 | Mixed strategy portfolio: equities 40%, bonds 60% | 12.04 | 11.31 | 1.07 |
| | 54 | Cbonds-GBI RU 5Y | 8.56 | 10.66 | 0.80 |
| | 32 | Moscow Exchange Government Bond Index RGBITR | 8.06 | 7.89 | 1.02 |
| | 51 | Cbonds-GBI RU | 8.28 | 7.81 | 1.06 |
| | 87 | OPIF Treasury MC VIM Investments | 8.73 | 7.39 | 1.18 |
| | 49 | Cbonds-CBI RU 3–5Y | 8.86 | 6.47 | 1.37 |
| | 63 | Mixed strategy portfolio: equities 10%, bonds 90% | 9.99 | 5.98 | 1.67 |
| | 53 | Cbonds-GBI RU 3–5Y | 8.88 | 5.94 | 1.50 |
| | 37 | Cbonds-CBI RU B/ruB- | 11.30 | 5.86 | 1.93 |
| | 59 | Tier 3 CO Index (RUCBITRL3) | 8.83 | 4.93 | 1.79 |
| | 60 | IF-FI — bond funds | 9.16 | 4.82 | 1.90 |
| | 57 | Tier 1 CO Index (RUCBITRL1) | 8.17 | 4.53 | 1.80 |
| | 58 | Tier 2 CO Index (RUCBITRL2) | 9.10 | 4.34 | 2.10 |
| | 88 | Raiffeisen OPIF — Corporate Bonds Raiffeisen Capital Management Company | 6.20 | 4.26 | 1.45 |
| | 36 | Cbonds-CBI RU BB/ruBBB | 9.34 | 4.23 | 2.21 |
| | 52 | Cbonds-GBI RU 1–3Y | 8.38 | 3.81 | 2.20 |
| | 35 | Cbonds-CBI RU BBB/ruAA- | 8.79 | 3.48 | 2.53 |
| | 48 | Cbonds-CBI RU 1–3Y | 9.65 | 3.39 | 2.85 |
| | 34 | IFX-Cbonds | 10.24 | 2.87 | 3.57 |
| | 61 | IF-MM — money market funds | 9.50 | 2.76 | 3.44 |

*Source:* Own calculations on the basis of resources of the Moscow Exchange, Cbonds and Constructor CAPM-ru IAES RANEPA. URL: https://aea.ru

*Table A8*

**Financial Crisis Strength Ranking: 100 worst country financial crises by exchange rate return in dollar terms as of June 30, 2024**

| | Country | Market | Period | Force Index | Done? | Term, years | K max., % |
|---|---|---|---|---|---|---|---|
| 1 | China | EM | Dec.93 — Jun.24 | 100.0 | no | 30.5 | −89.8 |
| 2 | Thailand | EM | Dec.93 — Jun.24 | 92.3 | no | 30.5 | −93.0 |
| 3 | Taiwan | EM | Jan.90 — Nov.20 | 84.8 | | 30.8 | −78.0 |
| 4 | New Zealand | DM | Sep.87 — Jun.20 | 83.0 | | 32.8 | −73.9 |
| 5 | Greece | EM | Oct.07 — Jun.24 | 82.6 | no | 16.7 | −98.7 |
| 6 | Finland | DM | Apr.00 — Jun.24 | 79.8 | no | 24.2 | −77.7 |
| 7 | Bahrein | FM | Mar.08 — Jun.24 | 79.0 | no | 16.2 | −94.7 |
| 8 | Bulgaria | FM | Oct.07 — Jun.24 | 78.9 | no | 16.7 | −92.4 |
| 9 | Philippines | EM | Jan.97 — Jun.24 | 77.1 | no | 27.4 | −88.4 |
| 10 | Serbia | FM | Jun.08 — Jun.24 | 72.3 | no | 16.0 | −88.3 |
| 11 | Jordan | FM | Nov.05 — Jun.24 | 72.2 | no | 18.6 | −89.3 |
| 12 | Indonesia | EM | Mar.90 — Apr.11 | 69.6 | | 21.1 | −94.5 |
| 13 | UAE | EM | Sep.05 — Jun.24 | 68.4 | no | 18.8 | −86.5 |
| 14 | Spaine | DM | Apr.74 — Dec.96 | 66.5 | | 22.7 | −87.9 |
| 15 | Nigeria | FM | Feb.08 — Jun.24 | 66.4 | no | 16.3 | −100.0 |
| 16 | Japan | DM | Feb.89 — Jun.24 | 66.3 | no | 35.3 | −65.4 |
| 17 | Irland | DM | May.07 — Jun.24 | 65.7 | no | 17.1 | −84.4 |
| 18 | Austria | DM | May.07 — Jun.24 | 62.1 | no | 17.1 | −81.2 |
| 19 | Slovenia | FM | Dec.07 — Jun.24 | 61.1 | no | 16.5 | −79.5 |
| 20 | Portugal | DM | Nov.07 — Jun.24 | 59.8 | no | 16.6 | −78.2 |
| 21 | Vietnam | FM | Feb.07 — Jun.24 | 59.5 | no | 17.3 | −77.6 |
| 22 | Saudia Arabia | EM | Feb.06 — Jun.24 | 56.1 | no | 18.3 | −77.6 |
| 23 | Pakistan | FM | Feb.08 — Jun.24 | 54.5 | no | 16.3 | −92.7 |
| 24 | Italy | DM | Apr.07 — Jun.24 | 54.1 | no | 17.2 | −72.0 |
| 25 | Chechia | EM | Jun.08 — Jun.24 | 53.6 | no | 16.0 | −80.7 |
| 25 | Poland | EM | Oct.07 — Jun.24 | 53.6 | no | 16.7 | −83.0 |
| 27 | Egypt | EM | Apr.08 — Jun.24 | 52.8 | no | 16.2 | −78.2 |
| 28 | Oman | FM | May.08 — Jun.24 | 52.4 | no | 16.1 | −74.9 |
| 29 | Croatia | FM | Dec.07 — Jun.24 | 51.2 | no | 16.5 | −68.9 |
| 30 | Shri-Lanka | FM | Feb.94 — Aug.10 | 51.0 | | 16.5 | −88.0 |
| 31 | Kuwait | EM | Feb.08 — Jun.24 | 49.7 | no | 16.3 | −72.4 |
| 32 | Brazil | EM | May.08 — Jun.24 | 49.2 | no | 16.1 | −79.4 |
| 33 | Rumania | FM | Jul.07 — Jun.24 | 49.0 | no | 16.9 | −88.6 |

| | Country | Market | Period | Force Index | Done? | Term, years | K max., % |
|---|---|---|---|---|---|---|---|
| 34 | Marocco | FM | Mar.08 — Jun.24 | 48.8 | no | 16.2 | −69.4 |
| 35 | Turkey | EM | Oct.07 — Jun.24 | 48.6 | no | 16.7 | −80.6 |
| 36 | Kazakhstan | FM | May.08 — Jun.24 | 48.5 | no | 16.1 | −81.4 |
| 37 | Estonia | FM | Jul.07 — Jun.24 | 48.4 | no | 16.9 | −77.1 |
| 38 | Hungary | EM | Jul.07 — Jun.24 | 46.0 | no | 16.9 | −78.1 |
| 39 | Spain | DM | Oct.07 — Jun.24 | 45.7 | no | 16.7 | −68.6 |
| **40** | **Russia** | **EM** | **May.08 — Jun.24** | **45.1** | **no** | **16.1** | **−78.3** |
| 41 | Hong-Kong | DM | Feb.73 — Dec.86 | 43.8 | | 13.8 | −88.9 |
| 42 | Poland | EM | Feb.94 — Jan.07 | 42.5 | | 12.9 | −77.9 |
| 43 | Belgium | DM | Apr.07 — Jun.24 | 42.0 | no | 17.2 | −74.5 |
| 43 | Norway | DM | May.08 — Jun.24 | 42.0 | no | 16.1 | −69.0 |
| 45 | Pakistan | FM | Mar.94 — May.07 | 38.9 | | 13.2 | −85.5 |
| 46 | Malasia | EM | Feb.97 — Mar.11 | 38.7 | | 14.1 | −87.7 |
| 47 | Bosnia Herzegovina | FM | Mar.11 — Jun.24 | 37.6 | no | 13.2 | −70.6 |
| 48 | Columbia | EM | Jan.13 — Jun.24 | 36.1 | no | 11.4 | −76.5 |
| 49 | Italy | DM | Jun.73 — Nov.85 | 34.8 | | 12.4 | −76.1 |
| 50 | Shri-Lanka | FM | Sep.10 — Jun.24 | 34.7 | no | 13.8 | −85.3 |
| 51 | Korea | EM | Mar.89 — Feb.05 | 34.3 | | 15.9 | −83.6 |
| 52 | Chili | EM | Dec.10 — Jun.24 | 34.2 | no | 13.5 | −70.6 |
| 53 | UK | DM | Oct.07 — Jun.24 | 32.9 | no | 16.7 | −61.3 |
| 53 | Bangladesh | FM | Dec.10 — Jun.24 | 32.9 | no | 13.5 | −67.9 |
| 55 | Mauritius | FM | Feb.08 — Jun.24 | 32.8 | no | 16.3 | −67.7 |
| 56 | Austria | DM | Jul.90 — Sep.04 | 32.1 | | 14.2 | −59.0 |
| 57 | Australia | DM | Oct.07 — Jun.24 | 26.7 | no | 16.7 | −65.0 |
| 58 | Columbia | EM | Jul.94 — Sep.04 | 26.4 | | 10.2 | −76.7 |
| 59 | Turkey | EM | Jul.90 — Dec.99 | 25.6 | | 9.4 | −76.6 |
| 60 | Argentina | FM | Jun.08 — Oct.17 | 24.3 | | 9.3 | −75.9 |
| 61 | Israel | DM | Mar.10 — Jun.24 | 23.8 | no | 14.2 | −47.2 |
| 62 | France | DM | Oct.07 — May.21 | 23.5 | | 13.6 | −58.7 |
| 63 | Zimbabwe | FM | Sep.19 — Jun.24 | 23.0 | no | 4.8 | −96.1 |
| 64 | Belgium | DM | Jun.73 — Nov.85 | 22.9 | | 12.4 | −58.9 |
| 65 | Greece | EM | Jun.90 — Jul.98 | 21.7 | | 8.1 | −68.9 |
| 66 | India | EM | Dec.07 — Dec.20 | 21.5 | | 13.0 | −69.4 |
| 67 | Malasia | EM | Aug.14 — Jun.24 | 20.6 | no | 9.8 | −55.1 |
| 68 | Singapore | DM | Oct.07 — Jun.24 | 20.3 | no | 16.7 | −61.2 |

| | Country | Market | Period | Force Index | Done? | Term, years | K max., % |
|---|---|---|---|---|---|---|---|
| 69 | Germany | DM | Dec.07 — May.21 | 19.8 | | 13.4 | −61.8 |
| 70 | Chili | EM | Jun.95 — Jul.05 | 19.5 | | 10.1 | −63.7 |
| 71 | Brazil | EM | Jul.97 — Aug.05 | 19.4 | | 8.1 | −77.3 |
| 71 | Katar | EM | May.14 — Jun.24 | 19.4 | no | 10.1 | −50.6 |
| 73 | Greece | EM | Sep.99 — May.07 | 19.3 | | 7.7 | −77.4 |
| 74 | Mexico | EM | Jan.94 — Feb.04 | 18.9 | | 10.1 | −67.8 |
| 74 | Turkey | EM | Apr.00 — Jan.06 | 18.9 | | 5.8 | −83.5 |
| **76** | **Russia** | **EM** | **Jul.97 — Aug.03** | **18.2** | | **6.1** | **−91.4** |
| 77 | South Africa | EM | Jan.96 — Nov.04 | 17.8 | | 8.8 | −62.2 |
| 78 | Katar | EM | Sep.05 — May.14 | 17.6 | | 8.7 | −66.4 |
| 79 | Jordan | FM | Jun.93 — Jan.04 | 17.5 | | 10.6 | −51.9 |
| 80 | South Africa | EM | Apr.11 — Jun.24 | 17.4 | no | 13.2 | −54.4 |
| 81 | Canada | DM | Oct.07 — May.21 | 17.3 | | 13.6 | −57.3 |
| 81 | Mexico | EM | Mar.13 — Jun.24 | 17.3 | no | 11.2 | −59.4 |
| 83 | Hong-Kong | DM | Jul.97 — Dec.06 | 16.8 | | 9.4 | −60.1 |
| 84 | Sweden | DM | Feb.00 — Dec.06 | 16.5 | | 6.8 | −73.8 |
| 85 | Portugal | DM | Jan.88 — May.97 | 16.4 | | 9.3 | −52.7 |
| 86 | Singapore | DM | Jan.73 — Jan.80 | 16.0 | | 7.0 | −71.6 |
| 87 | Portugal | DM | Apr.98 — Dec.06 | 15.9 | | 8.7 | −64.3 |
| 87 | Argentina | FM | Feb.00 — Sep.05 | 15.9 | | 5.6 | −84.1 |
| 89 | Australia | DM | Dec.69 — Jan.80 | 15.8 | | 10.1 | −61.9 |
| 89 | Argentina | FM | Jan.18 — Nov.23 | 15.8 | | 5.8 | −77.8 |
| 91 | Norway | DM | Jan.74 — Nov.79 | 15.7 | | 5.8 | −68.8 |
| 92 | Netherlands | DM | Oct.07 — Jul.17 | 15.5 | | 9.8 | −61.4 |
| 93 | Italy | DM | Apr.87 — Sep.97 | 15.4 | | 10.4 | −52.0 |
| 94 | Indonesia | EM | Apr.13 — Jun.24 | 15.3 | no | 11.2 | −49.3 |
| 95 | Egypt | EM | Jan.00 — Dec.04 | 15.0 | | 4.9 | −75.5 |
| 96 | Marocco | FM | Aug.98 — Feb.06 | 14.9 | | 7.5 | −59.7 |
| 97 | Denmark | DM | Jul.73 — Mar.83 | 14.8 | | 9.7 | −47.5 |
| 98 | Peru | EM | May.97 — Nov.03 | 14.5 | | 6.5 | −58.8 |
| 99 | UK | DM | Apr.72 — Apr.79 | 14.3 | | 7.0 | −72.1 |
| 100 | Lithuania | FM | Apr.14 — Jun.24 | 13.7 | no | 10.2 | −40.2 |

**Note.** DM — developed markets (data since 1969), EM — emerging markets (data since 1987), FM — frontier markets (data since 1987, for most — since 2002); “unfinished crisis” means the absence of recovery of the index value from the moment of reaching the last historical maximum before the index falls by 20% or more (market shock).

*Source:* Own calculations based on data from MSCI.