ORIGINAL PAPER



DOI: 10.26794/2220-6469-2021-15-3-28-37 UDC 336.71(045) JEL E5

Assessment of the Stability of the Russian Banking Sector in the Context of Macroeconomic Volatility*

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ABSTRACT

In recent years, one of the main features of the development of the world and, in particular, the Russian economy has become macroeconomic volatility and instability, which requires flexible approaches from the state and financial institutions to regulate and promptly respond to crisis phenomena. The new normalcy and the resulting new challenges for the Russian economy create the need for banks to maintain a high level of asset quality and an acceptable level of capital adequacy. The analysis made it possible to conclude that the introduction of the BCBS standards and IFRS 9 by the banking system led to the expected reduction in the capital base of Russian banks. At the same time, the Russian banking sector also demonstrates heterogeneous growth rates of total assets and stable growth of equity capital. Despite the impact of COVID-19 on the global and Russian economies, the authors' assessment of the stability of the Russian banking sector showed that at the end of 2020, the financial position of the Russian banking sector could be characterized as stable.

Keywords: banking sector; stability; macroeconomic volatility; capital adequacy; absorption of losses; corporate loan portfolio; retail loan portfolio

For citation: Belyaev I.I., Silvestrov S.N., Gaibov T.S. Assessment of the stability of the Russian banking sector in the context of macroeconomic volatility. *Mir novoi ekonomiki = The World of New Economy*. 2021;15(3):28-37. DOI: 10.26794/2220-6469-2021-15-3-28-37

^{*} The article was prepared based on the results of research carried out at the expense of budgetary funds on a state order to the Financial University under the Government of the Russian Federation in 2021.

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uring the last two decades, the domestic economy has experienced many stressful and crisis events. Thus, 2008 was marked by the global financial crisis, which affected the 6% drop in the GDP of the Russian Federation and the first bank bailouts. In 2013, with the change of management of the Bank of Russia, a largescale revocation of banking licences began. By May 2021, this had reduced the number of active credit organizations by more than twice. In 2014, the European Union and the USA imposed sector-specific sanctions on major banks, particularly state-owned banks, significantly reducing the ability of the banking sector to attract foreign funding. Moreover, the subsequent devaluation of the rouble also weakened the position of the Russian economy on the world capital market. In the past 2020, the COVID-19 pandemic has been affected by restrictions on the movement of citizens and the functioning of businesses. In order to mitigate the impact of the virus on the economy, the Government of the Russian Federation and the Bank of Russia adopted concessional lending programmers and relaxation of banks' recognition and restructuring of problematic loans. [1–4]

It should be noted that the Russian banking sector has historically exhibited uneven growth rates in aggregate assets (*fig. 1*). When the movement of assets is linked to the movement of the rouble against the United States dollar, the sector experienced the most stable period of growth from 2010 to 2013when the sector grew at a rate of 18.3–18.8% per year.

The recovery of the banking sector has been very slow since the 2008 crisis, with total assets growing at or below 1.6% in 2009. In

2014, following the imposition of sanctions,² devaluation of the ruble followed (the dollar appreciated almost 1.7 times) and the growth of the banking sector became more limited (4.8–6.1% per year).

Developments in the 2008 crisis highlighted the need to revise the then existing Basel I and Basel II standards, as a result, Basel III claims were submitted to the Basel Committee on Banking Supervision (hereinafter BCBS) in September 2010.³ [5] A feature of the introduction of BCBS standards into Russian practice was the instantaneous implementation of all standards (Basel I, Basel II and Basel III), while European banks had been implementing standards for 10 years. [3, 6]

Implementation of Basel I and Basel II standards for capital adequacy approaches started in 2012: total (equity) capital of banks updated,⁴ introduction of new requirements for the calculation of market⁵ and credit risks,⁶.⁷ In addition to a standardized approach to calculating credit risk (based on fixed risk weights for each asset group), the Bank of Russia has started the process of preparing for the IRB-approach, allowing

¹ In September 2008 "Commercial Bank "Globax" and "Svyaz-Bank" faced problems against the backdrop of the outflow of funds and the collapse of the stock market due to which "Vnesheconombank" had to start the procedure of their financial recovery.

² Citizens of EU countries and European companies were prohibited from trading in securities of Sberbank, VTB, GPB, VEB, Rosselhozbank and their subsidiaries for more than 30 days. Residents of the USA have been barred from extending credit to previously designated banks and related entities beyond 90 days.

³ Basel Committee on Banking Supervision. Basel III transitional arrangements, 2017–2028. URL: https://www.bis.org/bcbs/basel3/b3_trans_arr_1728.pdf.

⁴ On the basis of the Regulation of the Bank of Russia from 28 December 2012 No.395-P "On the method of determining the amount and assessing the sufficiency of own funds (capital) of credit organizations ("Basel III""». The document is no longer in force.

⁵ On the basis of the Regulation of the Bank of Russia from 28 September 2021 No. 387-P "On the procedure of calculation by credit organizations of the value of market risk".

⁶ On the basis of the Directive of the Bank of Russia from 03 December 2012 No.139-I "On mandatory regulations of banks".

⁷ Basel Committee on Banking Supervision. Basel II: International Convergence of Capital Measurement and Capital Standards. URL: http://www.bis.org/publ/bcBS 128.PDF.

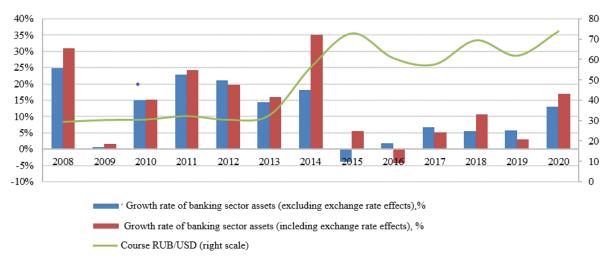


Fig. 1. Growth rates of the banking sector in the Russian Federation and dynamics of the ruble/US dollar exchange rate for the period from 2008 to 2020

banks to independently determine, based on statistically sound models, the level of risk of borrowers to calculate capital adequacy standards. Capital adequacy requirements were more stringent than those defined by BCBS requirements. It was proposed that the capital adequacy ratio of base capital should be 5% instead of 4.5% and the capital adequacy ratio of total capital should be 10% instead of 8% (since January 1, 2016, Bank of Russia has changed requirements and synchronized them with BCBS standards). Basel III requirements for the calculation of leverage, short-term liquidity, net stable funding, and the application of additions to capital adequacy standards (counter-cyclical buffer and capital conservation buffer) have been fully implemented in regulatory practice since early 2019.

However, since 2014, despite the general downward trend in inflation and interest rates, the ratio of total assets of the banking sector to GDP has exceeded 80% for the first time and reached a record 97% in 2020 (fig. 2).

Interest rate trends in the economy changed in 2021. Inflation and inflationary expectations increased in the context of the post-pandemic recovery. Thus, due to high inflation

expectations (annual inflation exceeded 6% in July 2021), the Bank of Russia consistently raised the key rate from 4.25% at the beginning of the year to 5.5% on 11 June 2021, and on 23 July decided to increase it to 6.5%.

Since 2015, when, for the first time since the end of the 2008 financial crisis, a 0.2% reduction in the loan portfolio has been recorded, the banking sector has shown strong growth in the loan portfolio (*fig. 3*). The growth of the total credit portfolio (12.1% in 2020) has been and continues to be driven by the growth of the retail rather than corporate credit portfolio (13.6% in 2020), which is also confirmed by the ratings agency's findings ACRA.⁸ Retail lending is driven by three factors:

- 1. Decline in real disposable cash income.
- 2. The decline in the cost of loans following the decline in the key rate.
- 3. Low base effect, as retail lending in the Russian Federation is 1.7 times lower than corporate loans.

Increased demand in the retail-lending segment drives banks to increase their

⁸ Российский банковский сектор: прогноз до 2020 года. Слабый спрос на кредиты стимулирует аппетит российских банков к риску. URL: https://www.acra-ratings.ru/upload/iblock/850/61eqni56jhoomg03tpjy4l7gqrv2uqvf.pdf.

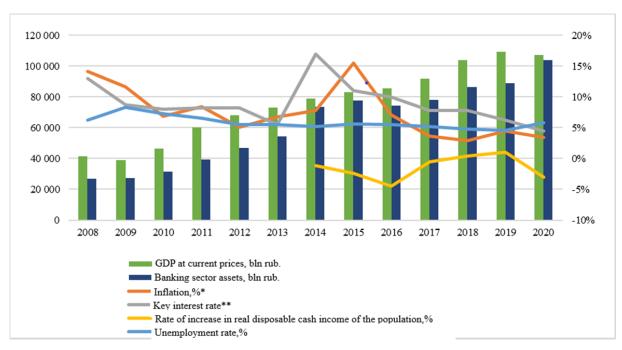


Fig 2. Overall dynamics of banking sector assets and macro indicators for the period from 2008 to 2020

Note: * – according to the World Bank; ** – up to 2012 inclusive, the refinancing rate is given.

risk appetite, as evidenced by the constant increase in the cost of risk, which in 2020, it was 2.2%. According to 2021 results, rating agencies expect a risk cost increase of 1.5–1.7% (NCR) or 2.8% (ACRA). [7, 8]

Given the gradual phasing out of the COVID-19 easing in 2020, the ACRA forecast of 2.8% seems realistic.

One of the crisis factors in the development of retail credit other than mortgages is unsecured consumer credit. Thus, according to the Bank of Russia, the volume of unsecured consumer credit in 2020 exceeded 9 trillion rub., which accounts for almost 47% of the retail portfolio.

In order to maintain the quality of the loan portfolio as well as to cool the market, the Bank of Russia gradually increases the retail credit risk premium, and from 1 October 2019, introduced a borrower debt burden indicator to limit lending to highly indebted borrowers

and hence to high credit risk.¹⁰

In terms of the quality of the loan portfolio, there has been a slight decline in the proportion of non-performing loans after 2015 (the proportion of delinquent loans, combined with the appreciation of the dollar and the imposition of sanctions, rose to 7.4 per cent of the total loan portfolio) up to 6.5 per cent in subsequent years. The 6.4% level of arrears in 2020 is due to the introduction of business and citizen support measures in the context of the COVID-19 pandemic. At the same time, the Bank of Russia, analysts, rating agencies expect in 2021 an increase in reserve growth and arrears on loans for which banks took advantage of the preferences in 2020.

In general, despite all the external shocks that occurred during the period under review, the change in approach to calculating capital and the introduction of IFRS 9, the banking sector has shown a steady increase in equity

⁹ Показатель Cost of Risk (CoR) рассчитывается как отношение созданных резервов по отчету о прибылях и убытках к среднему за период кредитному портфелю до вычета резервов.

¹⁰ Банк России. Показатель долговой нагрузки. URL: http://www.cbr.ru/finstab/instruments/pti/.

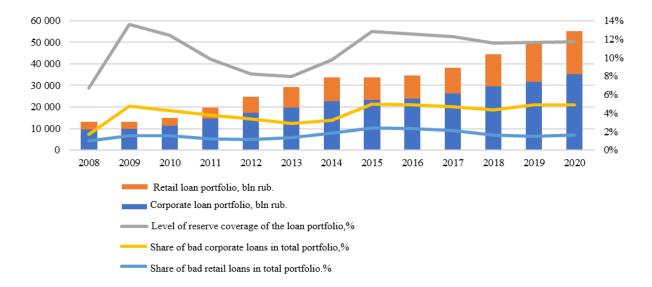


Fig. 3. Loan portfolio structure and share of overdue loans for the period from 2008 to 2020

(fig. 4).

Since 2018, banks have started to adopt IFRS 9 "Financial Instruments" accounting standard, which has changed the approach to assessing the impairment of loan indebtedness. Two aspects are specific to the IFRS 9 standard. The first involves three asset categories:

- assets measured at fair value through profit or loss;
- assets measured at fair value through other total income;
 - assets measured at amortized cost.

The second introduces a model for the valuation of impairment of financial assets based on expected credit losses instead of the previous model for credit losses incurred. The adoption of new standards will generally contribute to the stability of the banking sector by pre-emptive recognition of potential losses, but even in the opinion of the Bank of Russia, IFRS 9 defines the basic criteria for asset classification and estimation of expected losses, where the determination of the specific parameters of the model remains entirely at the discretion of the particular bank. [9] The first full results of the implementation

of this standard were reflected in the 2018 IFRS reports of banks. Thus, the introduction mainly led to a decrease in the capital of banks (e.g., VTB - 124 billion rub., or - 8% capital, Rosselhozbank - 83.2 billion rub., or 55% capital, Sberbank - 69,5 billion rub., or - 2% capital, GPB - 26,1 billion rub., or - 4% capital), although there were banks that, on the contrary, were able to release additional capital (for example, the Alpha Bank released some 37.5 billion rub.).

However, the impact on capital from the introduction of IFRS 9 was felt by banks, which are predominantly in the retail-lending segment, given the traditionally high level of defaults among borrowers in this segment. For example, Tinkoff Bank had the greatest impact on capital (9,8 billion rub., or –15% capital), Pochta Bank (–6,3 billion rub., or –20% capital), East bank (–5,4 billion rub., or –23% capital), Bank Russian Standard (–2,8 billion rub., or –13% capital) and MTS Bank (–2,5 billion rub., or –3% capital).

Since the beginning of 2019, IFRS 9 standards have been implemented in Russian accounting standards (RAS), as a result of the results of 2019 and 2020, the banking

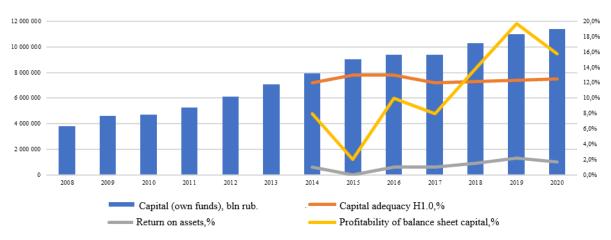


Fig. 4. Dynamics of the total capital of the banking sector, profitability and total capital adequacy Source: Data of the Bank of Russia. compiled by the authors.

sector created an additional 486 billion rub. (8.6% total reserves on loan portfolio) and 395 billion rub. (6.1% total reserves on loan portfolio) reserves, respectively. In general, the downward trend in banks' capital when switching to a model of reflecting expected losses is indicative of increased credit risks in Russia, as well as the existence of significant potentially problematic assets on banks' balance sheets.

Despite an average annual growth rate of 10% in equity (H1.0), capital adequacy remains stable at 12%, owing to the recovery of capital due to asset growth combined with increased risk weights on specific asset groups (e.g., retail lending) (fig. 4). Theoretically, the ability of the banking sector to absorb potential losses should be reduced or at best unchanged. However, the synchronization of the Bank of Russia's regulatory requirements with those of BCBS in the area of capital adequacy standards has increased the buffer for the absorption of potential losses in the banking sector by a factor of 1.5–2 times (table 1).

At the same time, a 2% reduction in minimum capital adequacy requirements made it possible to double the ability of the banking sector to absorb losses on the loan portfolio.

Historically, rating agencies have assessed the liquidity and funding of the Russian banking sector with some restraint. In its annual Banking Industry Country Risk Assessment (BICRA), international rating agency Standard & Poor's Global Ratings has expressed a clear opinion that "banking sector financing carries with it high risks" (to 2019 "very high risk"), referring to the "large volume of domestic deposits (which account for about 70% of total funding)". It was stated that "deposits are a reliable and stable source of funding for Russian banks". 11 These observations are quite valid, as customer funds have traditionally been the basis of bank sector financing, averaging at least 65% of total liabilities.

In turn, domestic credit rating agencies rarely assess current or forecast positions on liquidity as well as banking sector financing structure, limiting themselves to brief remarks or comments.

The liquidity of the banking sector across the full horizon can be described as satisfactory in view of the maintenance of an optimal level of highly liquid assets to cover



 $^{^{\}rm 11}$ S&P still classifies the FM banking sector as Group 8 by level BICRA. URL: http://www.finmarket.ru/news/5088453.

Assessment of the absorption buffer for potential losses of the banking sector

Indicator	2014	2015	2016	2017	2018	2019	2020
Capital (own funds), billion rub.	7928	9009	9387	9397	10269	10981	11413
Minimum H1.0 at date, %	10.0%	10.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Capital required to meet minimum standards	6607	6930	5777	6265	6734	7124	7324
Capital buffer, billion rub.	1321	2079	3610	3132	3535	3857	4090
Capital stock in relation to total portfolio before reserve	3.9%	6.2%	10.4%	8.2%	8.0%	7.8%	7.4%

wholesale funding (despite slight volatility, average coverage is 106% (*table 2*).

It should be noted, however, that the share of highly liquid assets has been declining steadily, with increasing concentration on the funds of clients who are the most stable sources of funding. This is a low-level risk factor for the banking sector, combined with a general decline in interest rates (fig. 2). Thus, in 2020, while the key rate was constantly falling, and hence the yield of bank deposits was reduced, transfers from individual deposit accounts to current accounts were recorded (according to the results of 2020 the inflow to the current accounts amounted to 4.1 trillion rubles against outflow from the deposit accounts in the amount of 1.7 trillion rubles.), which substantially adjusted the internal structure of funds of individuals (table 2).

It's to be expected, that in 2021, because of the rise in the key rate, banks would adjust the yield of deposits upwards, which in turn would increase the term deposit base. [7] Unfortunately, statistics as at the end of April 2021 show a continued upward trend in current accounts (for 4 months of 2021, the funds in the accounts of natural persons increased by 7%, or 840 billion rub.) and reduction of the deposit base (in the first

four months of 2021, fixed-term deposits of individuals decreased by 3%, or 732 billion rub.).

One of the features of the sector's funding in 2020 was a final return to a sustained liquidity deficit, with the economy growing from surplus in 2017. At the same time, the banking sector's projections up to 2020 assumed that it would maintain a surplus in liquidity and remain a net creditor of the Bank of Russia in subsequent periods.¹²

In addition, we would like to mention an absolutely unique situation for the Russian banking sector in terms of currency liquidity. From November 2020 to April 2021 (i.e. 6 months), the banking sector experienced a currency liquidity deficit in terms of the ratio of foreign exchange assets to liabilities. However, the situation deteriorates from month to month (in November 2020, the deficit was 98 billion rub., in April, it was 1119 billion rub., or 9.8% of the banking sector's capital stock).

Thus, a number of factors that, in 2021, could lead to a deterioration in the financial

 $^{^{12}\,}$ Russia's banking sector: forecast to 2020. Weak demand for credit boosts Russian banks' appetite for risk. URL: https://www.acra-ratings.ru/upload/iblock/850/61eqni56jhoomg03tpjv4l7gqrv 2uqvf.pdf .

Aggregate indicators of liquidity and funding of the Russian banking sector for the period from 2008 to 2020

Indicator	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Ratio of HLA* to assets	28.4%	22.8%	22.6%	27.9%	22.0%	17.6%	16.4%	13.8%	13.0%	14.0%	13.8%	13.8%	13.1%
Coverage of wholesale funding ** HLA	113.9%	134.6%	115.5%	136.6%	116.3%	108.5%	%6.06	102.5%	92.1%	88.8%	80.06	106.9%	92.5%
Currency gap between assets and liabilities, billion rub.	1077	692	454	733	99	518	789	1183	566	421	288	-32	-622
Funds in the Bank of Russia, billion rub.	297	289	821	770	887	1021	1739	923	1 267	2 845	2476	1645	1934
Loans from the Bank of Russia, billion rub.	3370	1423	326	1212	2691	4439	9287	5363	2726	2016	2 607	2451	3 598
Net position to attract regulatory funding, billion rub.	-3073	-737	495	-442	-1804	-3418	-7549	-4440	-1459	828	-132	-807	-1664
Liability diversification (HHI)***	0.20	0.23	0.25	0.25	0.23	0.23	0.21	0.25	0.25	0.26	0.27	0.27	0.26
Share of current accounts of legal persons	41.8%	41.6%	44.8%	39.1%	37.4%	37.7%	30.6%	32.1%	34.9%	33.7%	31.1%	31.8%	35.9%
Share of legal persons deposits	58.2%	58.4%	55.2%	%6.09	62.6%	62.3%	69.4%	%6′29	65.1%	%2'99	%6.89	68.2%	64.1%
Current account share of individuals	14.3%	14.3%	15.5%	17.2%	17.2%	17.2%	15.9%	15.3%	16.9%	19.6%	22.3%	24.8%	35.4%
Share of individuals deposits	85.7%	85.7%	84.5%	82.8%	82.8%	82.8%	84.1%	84.7%	83.1%	80.4%	77.7%	75.2%	64.6%

Notes: * — highly liquid assets are defined as the amount under the items "Cash and cash equivalents", "Funds with the Bank of Russia", "Loans to banks" and "Securities: "Loans from the Bank of securities are defined as the amount under "Due to banks" and "Debt securities issued"; *** — the Herfindahl-Hirschman Index is calculated for the following grouping of liabilities: "Loans from the Bank of Russia", "Due to banks", "Funds of legal entities," "Funds of individuals", "Other customer funds", "Escrow accounts under Participation ", Debt securities issued ", "Liabilities on derivative financial instruments for which economic benefits are expected to decrease "," Other liabilities "and" Balance sheet capital".

position of banks and the soundness of the banking system should be highlighted:

- non-performing loans gradually mature against a backdrop of declining credit growth. Thus, in 2020 and the first half of 2021, the growth rate of non-performing loans coincided or even exceeded the growth rate of the loan portfolio;
- against the backdrop of another increase in interest rates and a decline in income, credit portfolio growth will be supported only by government programmers;
- currency asset and liability imbalances are on the rise, reaching 9.8% of the banking system's equity by the end of Q1 in 2021, which could result in losses due to negative currency revaluation;
 - despite the expectations of the growth

of the deposit base as the key rate increases, there is an increase in the current accounts of individuals, which increases the risk of "investors' raiding" on banks under economic stress.

Despite macroeconomic volatility (in particular the events of 2020–2021), the banking sector shows mixed and sometimes contradictory indicators, but, at the end of 2020, the financial situation of the Russian banking sector can be described as stable.

The banking sector had a good stock of equity at the beginning of 2021 to absorb a full depreciation of up to 4 trillion rub., or 4.6% assets. The quality of assets is reasonable, the share of delinquent loans in the loan portfolio is 6.5%, the position on financing and liquidity is adequate.

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Authors' declared contributions:

Belyaev I.I.— development of the general concept of the article.

Silvestrov S.N.— general guidance on writing an article, formulation of conclusions.

Gaibov T.S.— collection of analytical material and definition of the logic of research; assessing the stability of the banking sector based on the consolidated financial statements of IFRS banks; analysis of regulation and implementation of BCBS standards in Russian banking practice; analysis and generalization of the results obtained.

The article was received on 30.06.2021; revised on 15.07.2021 and accepted for publication on 10.08.2021. The authors read and approved the final version of the manuscript.