

Analysis of Performance Standards to Identify Distortions in Financial Statements of Credit Organizations

Vladislav S. Stolbovoy*, Zoya V. Udalova

Department of Business Analysis and Forecasting, Rostov State Economic University (RSEU), Rostov-on-Don, Russia

**Corresponding author. Email: Japanesefenk@mail.ru*

ABSTRACT

The article is devoted to the use of financial analysis methods to analyze performance standards of existing banks and banks with a revoked license due to distortion of financial statements. The issue of creating accurate financial analysis tools to recognize an intentional misrepresentation of an organization's financial statements is relevant. The purpose of the article is to highlight performance standards, based on which it is possible to identify a distortion of the bank financial statements. The article presents the works of domestic scientists on this topic, explains a formed sample of reports in detail, and conducts an analysis on basis of this sample, as well as describes the standards that banks must comply with. As a result of the study, we determined the standards with the help of which we can assess presence of distortions in financial statements, this information can be used to build a statistical model for detecting distortions in bank statements.

Keywords: *financial analysis, methods of financial analysis, financial statements, credit organizations, distortion of financial statements*

1. INTRODUCTION AND THEORETICAL PART

To analyze financial statements of an organization is possible by various methods, depending on the desired result. Such methods as comparison and average values allow you to compare average values of indicators of organizations related to the same industry, but having a different result of activity, both among themselves and with normative values. To conduct such an analysis, we need an array of data, consisting of financial statements of organizations, the indicators of which will represent the sample. In this study, organizations are divided into two types: existing banks and non-performing banks with a revoked license due to distorted financial statements. As a result, some information will be obtained about the difference in the values of statutory requirements of banks in both samples, which will help various external users of the annual report with a deeper analysis, for example, identifying a material misstatement in the financial statements.

At the first stage of the study, it is important to determine a list of interested parties who need information on the reliability of financial statements. The reliability of banks' financial statements is of interest to the following users of external reporting: The Central Bank, bank shareholders, prospective investors, creditors, auditors, tax authorities. The Central Bank has an interest in the reliability of financial statements in terms of the need for a lawful and stable work of the bank in order to avoid non-payment of funds to creditors. Shareholders are concerned with

receiving a stable income from their participation in the capital, that is, in the successful operation of the bank without the risk of revoking the license. Prospective investors should understand that financial statements reflect the real state of affairs, and investments will bring profit in the future. Creditors should know the actual liquidity indicator and other financial stability ratios in order to be sure of getting their own funds back. Auditors are concerned with the reliability of financial statements in order to reduce the risk of providing an erroneous audit report. The tax authority is concerned with objectivity of the amount of taxes received.

It should be noted that the Central Bank and auditors are the sources of data on the reliability of financial statements. And if an auditor, in the case of high audit risk, can cancel an audit, fail to recognize a misrepresentation of the reporting data or even give a deliberately false audit report during the audit, the Central Bank is an accurate source of information about the reliability of financial statements of a bank. Nevertheless, the result of this study will be useful to all users of external financial statements. The next step is to determine the causes and methods of distortion of information in financial statements. A deliberate significant distortion of the reporting indicators can be aimed at increasing financial attractiveness of a bank, concealing the withdrawal of assets, but primarily at compliance with the mandatory performance standards of banks. Compilers of financial reports artificially inflate the bank's own funds, manipulate reserves and assets, improve liquidity, etc. Let us consider examples of distortion of the most attractive indicators of a financial report. Overstatement of capital can occur by selling shares at

inflated prices, as a result of which the bank generates share premium. Such purchase is of a credit nature, which negatively affects the reliable reflection of the amount of capital. At the same time, a bank can distort assets by purchasing shares with a deliberately high price, for example, on a stock exchange. The difference between the purchase price of the shares and their actual value is displayed in the form of cash from the bank, but the allegedly liquid purchased shares remain in the financial statements. Equity can also be artificially increased by lending through founders, whose money will soon be returned through third parties and various banking operations. Low-quality bank assets have a significant impact on the financial situation, since the return on such assets is unstable, and most often artificially high, to increase attractiveness of the bank's financial statements. The capital adequacy ratio can be artificially inflated by manipulating loans to friendly organizations that lend to another organization, but in the end, the last organization in the chain increases the bank's capital. Liquidity ratios are inflated with the help of interbank loans when a chain of banks is created in which banks issue loans to each other. Another option is to draw a good liquidity indicator due to the presence in the financial statements of a large number of highly liquid assets - cash, but in fact the bank does not have this cash, and when the regulator checks it, a cash shortage is revealed.

The number of scientific publications that examine distortion of financial statements of the bank is small. Thus, Tulin D.V. [1], Gushchev M.E., Lushin E.A. and Shuvalova A.M. [2] in their works consider ways of falsification of financial statements by banks. In his article Rudas I.V. [3] addresses bank reporting and problems arising from its unreliability. The work by Bychkova S.M. and Itygilova E.Yu. [4] considers procedures for identifying distortions in the financial statements of banks. Egorova O.Yu. [5] discloses causal relationships between dishonest (fraudulent) actions of interested parties and distortions in bank statements. Tsoi A.S. and Kurnykina O.V. [6] analyzed the features of Russian financial system in the context of financial offenses related to fraud and falsification of data in financial statements. Zverev V.A. and Nikitina D.P. [7] in their article consider fraud with financial reporting in the banking sector. At the same time, there are only few works examining the practical side of this issue not from the point of view of distortion methods, but rather methods of detecting distortion. One of these early studies is a publication by A.V. Buzdalin [8], which describes the methods for detecting distortions in financial statements by analyzing statutory requirements, calculating various ratios and comparing balance sheet lines. The next similar work is an article by Glazkova G.V. and Znaenko D.A. [9], which analyzes some balance sheet indicators of several banks with revoked licenses due to misstatement of reports. Among other works, stands out the study by Arzhenovsky S.V., Bakhteev A.V. and Slobodyan A.S. [10], in which the authors, using the regression analysis method, built a logit model for assessing the risk of distortion of the bank's financial statements.

Based on the results of a review of studies by various scientists in this subject, an analysis of bank standards for discrepancies in the values of existing banks and banks with a revoked license seems relevant. Since the distortion of financial statements is aimed, inter alia, at improving indicators so that they comply with the Central Bank standards, it is necessary to analyze these standards reflected in the documents disclosed on the website of the Central Bank of Russia. To begin with, let us consider the list of standards and their minimum or maximum acceptable values [11].

1. Bank basic capital adequacy ratio (R1.1). The minimum acceptable value is 4.5 percent.
 2. Bank sunk capital adequacy ratio (R1.2). The minimum acceptable value is 6 percent.
 3. Capital adequacy ratio (R1). The minimum acceptable value is 8 percent.
 4. Financial leverage ratio (R1.4). The minimum acceptable numerical value is 3 percent.
 5. Instant liquidity ratio (R2). The minimum acceptable value is 15 percent.
 6. Current liquidity ratio (R3). The minimum acceptable value is 50 percent.
 7. Long-term liquidity ratio (R4). The maximum acceptable value is 120 percent.
 8. The maximum risk ratio per one borrower or a group of related borrowers (R6). The maximum allowable value is 25 percent.
 9. Ratio for the maximum amount of large credit risks (R7). The maximum allowable value is 800 percent.
 10. Capital use ratio for acquisition of shares (interests) of other legal entities (R12). The maximum allowable value is 25 percent.
 11. The maximum risk ratio for a person associated with a bank (a group of persons associated with a bank) (R25). The maximum allowable value is 20 percent.
- After the description of statutory requirements that banks must comply with, we proceed to the stage of generating a sample of financial statements, on basis of which we will analyze financial statements of existing banks and banks with revoked licenses due to misrepresentation.

2. FORMING A FINANCIAL REPORTING SAMPLE

For conducting the analysis, a sample of financial statements of operating banks was prepared, as well as a sample of financial statements of banks with revoked licenses. The second sample consists of reports whose indicators are recognized as intentionally distorted. First you need to understand what to consider as a fact of distortion of financial statements. To create the sample, a reliable source of information about the presence of a material misstatement in the financial statements of the bank was used. Such a source is the website of the Central Bank of Russia (<https://cbr.ru/>), which publishes orders on the revocation of a license for

banking operations, as well as press releases on the revocation of a license of a bank. The difference in the information that can be obtained from an order and a press release is that an order to revoke a license publishes brief information about the reasons for this decision, and a press release presents the information in more detail. Therefore, to accurately determine the reasons for revoking a license, it is necessary to consider both sources of information.

For the analysis, we selected reasons closely related to the reflection of the financial position of a bank in the financial statements. There are various reasons for revoking a banking license, including a significant distortion of financial statements, but the most common is the conduct of a high-risk credit policy related to the placement of funds in low-quality assets, which affects the reliability of financial statements. Thus, as a result of fulfillment of the supervisor's requirements on the formation of reserves adequate to the accepted risks, the bank completely loses its own funds (capital). That is, in this case, the assets' value was inaccurately reflected in the financial report and the indicators were distorted so that the bank did not fall under measures to prevent insolvency (bankruptcy) and did not lose its license, knowingly working not in accordance with the requirements of the Central Bank.

There are several options for the cause of such an event. The bank management deliberately invested money in low-quality assets that do not provide stable and expected returns, but artificially increase capital. Another reason may be the lack of an adequate assessment of the risks of financial investments as a result of the lack of professionalism of management. That is, the credit institution had an ineffective risk management system and poor internal control. Alternatively, there was an ineffective business model and the bank was unprofitable. Also, assets can become low-quality due to reasons unrelated to the bank, for example, due to falling prices for purchased shares, bankruptcy of the organization in which the bank invested funds, etc. As a result of discovery of low quality assets, there is a need to form reserves adequate

to the accepted risks, which leads to the loss of the bank's own funds (bankruptcy).

Since the Central Bank's orders and press releases on the revocation of licenses do not indicate exact reasons for the appearance of low-quality assets, the use of financial reports from banks, whose reasons for license revocation is placement of funds in low-quality assets, can adversely affect accuracy of the model. An exception is existence of such reason in conjunction with another indication of a material misstatement of financial statements.

Thus, to form the sample we selected credit organizations whose licenses were revoked for at least one of the following reasons:

- establishment of facts of material inaccuracy of reporting data;
- conducting operations aimed at concealing the real financial position of a bank;
- consummation of setup transactions, which made it possible to ensure formal compliance with the established requirements for the amount of capital and statutory standards.

Based on the analysis of more than 400 orders of the Central Bank of Russia to revoke licenses, the sample was obtained consisting of the financial statements of 32 banks whose licenses were revoked for the above reasons from 2015 to November 2019. The sample of operating banks included credit institutions from the list of 100 largest for which the values required for the analysis of statutory requirements on the Central Bank's website are fully reflected.

3. COMPARISON AND ANALYSIS OF FINANCIAL STATEMENTS

At this stage, the values of statutory requirements of both samples of banks have been collected. The values of statutory requirements of existing banks (for example, 5 banks) and banks with a revoked license due to distortion of financial statements (for example 5 banks) are shown in Table 1 and Table 2, respectively.

Table 1 Values of banks with revoked licenses.

№	H1.1	H1.2	H1	H1.4	H2	H3	H4	H6	H7	H12	H25
1	22.4	22.4	22.6	-	31.2	60.7	1.8	21.0	215.4	0.0	-
2	6.5	7.1	11.5	-	28.7	70.9	60.1	23.7	390.0	0.0	-
3	21.5	21.5	22.5	27.0	22.8	56.5	41.2	18.6	245.0	0.0	-
4	16.0	16.0	18.5	14.0	139.3	128.5	6.0	23.0	246.7	0.0	-
5	6.1	12.2	21.9	10.0	127.9	130.4	41.5	17.9	163.0	0.0	-

Table 2 Values of existing banks.

№	H1.1	H1.2	H1	H1.4	H2	H3	H4	H6	H7	H12	H25
1	9.8	10.6	13.0	9.7	105.0	136.8	48.6	17.2	149.4	1.8	7.2
2	8.8	9.6	12.8	8.3	72.0	113.1	52.9	19.1	169.3	4.8	14.1
3	9.5	10.3	12.6	7.5	146.8	85.1	42.2	20.8	238.8	8.0	3.8
4	7.8	8.6	12.1	5.1	68.2	75.0	36.3	23.7	466.0	8.6	8.2
5	14.4	16.4	18.1	16.6	122.8	95.1	63.2	23.8	249.8	3.0	15.7

For comparison and analysis of indicators, it is necessary to compare the data from the reports of both samples with each other and with statutory requirements of the Central Bank. For this, the method of average values is used, which consists in summing the values of the indicators of 32 banks of each sample and dividing the resulting amount for each sample by 32.

Before starting the analysis, it should be noted that it is impossible to calculate the ratios on your own using only external financial statements. Therefore, it is necessary to be guided only by the indicators disclosed by the Central Bank. One of the ratios, the lack of which in some banks of the sample is striking, is R1.4, which is mandatory for use only from 2018. At the same time, the indicator of financial leverage according to Basel III, which was used before the appearance of this ratio and after it, based on the name, is a reflection of R1.4. In addition, the value of the indicator of financial leverage according to Basel III in the financial

statements of 2018 coincides with the value of R1.4. Thus, since on the Central Bank's website the indicator of financial leverage according to Basel III is reflected in the financial statements of 2015 and newer, the sample for this indicator is reduced. Herewith, to calculate the sample of operating banks, the values of R1.4 ratio are used, and to calculate the sample of banks with revoked licenses, the values of the financial leverage indicator according to Basel III before 2018 and the values of R1.4 ratio after 2018 are used. That is, the calculation of the average values of R1.4 ratio was carried out using 22 reports of banks with revoked licenses and 22 existing banks. In addition to that, it should be noted that in the disclosed information the values of R25 ratio are not available for banks with revoked licenses.

The resulting average values are compared between two samples and with the acceptable values of the statutory requirements - Table 3.

Table 3 Average values of indicators and acceptable values of statutory requirements.

Statutory ratio	H1.1	H1.2	H1	H1.4	H2	H3	H4	H6	H7	H12	H25
Acceptable value of ratio	min. 4.5	min. 6.0	min. 8.0	min. 3.0	min. 15.0	min. 50.0	max. 120.0	max. 25.0	max. 800.0	max. 25.0	max. 20.0
Value of ratio for a bank with a revoked license	16.0	18.3	22.6	21.1	118.1	158.6	42.9	20.3	270.3	0.3	-
Value of ratio for an existing bank	10.3	11.0	13.8	9.1	108.0	129.7	53.0	19.0	212.3	6.1	11.1

Based on the data presented in the Table, it can be noted that the values of both samples correspond to the acceptable values of statutory requirements. Nevertheless, it is necessary to determine the ratios, the values of which should raise suspicion in the reliability of financial statements of the interested user of external reporting.

1. On average, banks whose licenses are revoked due to misstatements have higher capital adequacy ratios than existing banks. The excess is more than 1.5 times.
2. The value of the financial leverage ratio for banks with revoked licenses exceeds the value for existing banks by more than 2 times.
3. The instant liquidity ratio for banks with revoked licenses is slightly higher than for existing banks.

4. The current liquidity ratio exceeds on average by 15% the value of existing banks.

5. The long-lasting liquidity ratio of banks with revoked licenses is lower than that of existing banks.

6. The value of the maximum risk ratio per borrower or per group of related borrowers is approximately at the same level for banks of both categories.

7. The value of the ratio for the maximum amount of large credit risks for banks with revoked licenses is significantly higher than that for existing banks.

8. The ratio of capital use for acquisition of shares (interests) of other legal entities differs significantly in both samples. For most banks with revoked licenses, the value of this ratio is 0, while for most existing banks specifically in this sample, the ratio is above 0.

9. The value of the maximum risk ratio for a person associated with the bank (a group of persons associated with the bank) was absent in the disclosed information of banks with revoked licenses.

4. CONCLUSION

According to the results of the analysis, it can be said that the values of most ratios really differ in existing banks and in banks with revoked licenses due to distortion of financial statements. Moreover, the difference in values can vary from 15% to more than 200%.

Since in both samples there is a significant discrepancy between the values of the R12 ratio, an in-depth study of this ratio was conducted for various banks. In the course of the study, it became clear that the value of R12 ratio for most operating banks is around 0.00, since not all banks invest their capital in the acquisition of shares (interests) of other legal entities. An analysis of the data posted on the Central Bank website showed that as of October 1, 2019 only 79 credit institutions had a value of R12 above 0.00.

Thus, many operating banks, with the exception of a certain number of credit organizations from the list of 100 largest banks, have R12 ratio, which equals 0.00. The vast majority of banks with revoked licenses have the same value. This suggests that R12 ratio is not suitable for its use in identifying distortions in financial statements of credit organizations.

The value of R25 ratio for banks with revoked licenses due to distortion of financial statements is not reflected in the annual financial statements on the website of the Central Bank. The reason for this is that the reflection of the value of R25 ratio was introduced only on 01.01.2018. [12], [13]. That is, R25 ratio has been disclosed in financial statements from 01.04.2018. Thus, in a sample of 32 banks with revoked licenses, only two banks had their license revoked in 2019, which means that only two banks have financial statements as of 01.01.2019. And only one of them reflects R25 ratio. At the same time, the values of this ratio are reflected for existing banks, since the existing banks with financial statements as of 01.01.2019 are used in the sample. Thus, R25 standard is not suitable to be used in identifying distortions in financial statements of credit organizations.

As a result of the study, information was obtained on the statutory ratios of banks that are most suitable for constructing a model for identifying significant distortions in the financial statements of a bank: capital adequacy ratios (R1.1, R1.2, R1), financial leverage ratio (R1.4), liquidity ratios (R2, R3, R4), ratio for the maximum size of large credit risks (R7). Such logit regression models can help all users of banks' external financial statements to determine if there is a distortion in the financial statements, reducing the time and labor costs of analysis.

REFERENCES

- [1] Tulin D.V. (2006). About methods of falsification of financial statements by banks. *Money and credit*. No. 3, Pp. 15-20.
- [2] Gushchev M.E., Lushin E.A., Shuvalova A.M. (2015). Some ways of falsifying financial organizations' reports. Investigation of crimes: problems and ways to solve them. No. 1 (7). Pp. 43-45.
- [3] Rudas I.V. (2016). Reliability of bank statements. Problems of social and economic development of Russia. Collection of articles based on conference materials. Publisher: Aeterna LLC. Pp. 114-119.
- [4] Bychkova S.M., Itygilova E.Y. (2010). Procedures to identify distortions of financial statements of banks. IFRS and ISA in credit institutions. No. 4, Pp. 98-110.
- [5] Egorova O.Y. (2012). Special methods for identifying bank bankruptcy circumstances. *Money and credit*. No. 7, Pp. 57-60.
- [6] Tsoi A. S., Kurnykina O. V. (2018). Features of the Russian financial system as an object of fraudulent actions and falsification of financial statements. Forum of young scientists. Publisher: Institute of management and socio-economic development, LLC. No. 5-3 (21), Pp. 761-766.
- [7] Zverev V.A., Nikitina D.P. (2015). Fraud with financial reporting in the banking sector (from the series "Features of national fraud in the financial market"). *Financial business*. No. 6 (179), Pp. 45-50.
- [8] Buzdalin A.V. (2004). Secrets of remote analysis of the bank, "Business and banks", no. 36 (722).
- [9] Glazkova G.V., Znenko D.A. (2018). Detection of tampering reporting of the Russian banks. *Economics and management: problems, solutions*. No. 5, volume 6, Pp. 183-193.
- [10] Arzhenovsky S.V., Bakhteev A.V., Slobodyan A.S. (2017). Logit-models for assessing the risk of deliberate misrepresentation of financial statements of Russian banks. *Economic analysis: theory and practice*. Vol. 16, no. 8. - Pp. 1567-1582.
- [11] About mandatory standards and allowances to the capital adequacy standards of banks with a universal license. Instruction of the Central Bank of the Russian Federation of November 29, 2019 N 199-I.
- [12] The Bank of Russia from 06.12.2017, No. 4637-U "On amending the Bank of Russia from November 24, 2016 No. 4212-U "On list, forms and procedure for compiling and presenting of reporting forms of credit organizations in Central Bank of the Russian Federation". (in Russian).
- [13] About mandatory standards of banks. Instruction of the Central Bank of the Russian Federation of June 28, 2017 N 180-I (as amended on May 6, 2019). (in Russian).