Competitiveness of Banks in Terms of Financial Stability: Technologies and Innovations

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Abstract: *In the article, the authors have analyzed how the regulator's revocation of bank licenses influences the formation of the standard for the competitiveness of Russian lending institutions in terms of financial stability. The analysis has shown ambiguous results concerning the influence of the regulator's rehabilitation policy on the equilibrium of cash flows at commercial banks as the main indicator of their financial stability. The authors have studied methods related to the calculation of a bank's competitiveness standard in terms of their financial stability and have drawn conclusions about the use of the most suitable one. The authors have proposed to improve the formula used in calculating the standard of the competitiveness of banks in terms of their financial stability by integrating two methods (parametric and index). This will make it possible to monitor on a broader basis the financial stability of banks, to calculate the standard of the competitiveness of banks in terms of financial stability more accurately and to make wider use of adjustment factors and indices for the calculation of such a standard.*

Keywords: *standard, regulation methods, financial stability, competitiveness of banks, restructuring, rehabilitation, regulator, revocation of licenses, specific parameter, adjustment factors, indices, banking sector.*

I. INTRODUCTION

In the modern conditions of globalization, banks have to integrate with international banking business and have access to resources offered in the global financial market [1]. For the purpose of efficient integration, it becomes objectively necessary to increase the competitiveness of Russian banks. However, this process has been ambiguous, first and foremost, because the regulator pursues the rehabilitation (restructuring) policy in the national banking sector. On the one hand, restructuring is designed to improve the financial condition of lending institutions, prevent bankruptcy, as well as restore financial stability, liquidity and creditworthiness of banks by taking special economic and financial measures. On the other hand, since 2002, the regulator has revoked 792 licenses, or 60% compared with 2002, i.e. more than half of lending institutions in the Russian banking sector operated while violating banking laws [2].

These numbers raise substantial concerns due to the fact that banks, above all, are financial intermediaries in the market and help direct money flows into the budget. Banks make settlements and process payments for economic entities, which directly influences the operation of the economy in separate regions and territories and, in the long run, the Russian economy as a whole. We believe that reasons for this situation can be not only inefficient executives at specific banks but also gray areas and loopholes in the regulator's methodologies designed for the rehabilitation of lending institutions. Trends related to the revocation of licenses held by Russian banks for the period are presented in Table 1.

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Table 1: Banking licenses revoked in 2013-2018

Item	Year										
	2013	2014	2014/ 2013, %	2015	2015/ 2014, %	2016	2016/ 2015, %	2017	2017 2016, %	2018	2018/ 2017, %
Number of licenses revoked	32	86	168.7	87	1.2	93	6.8	47	-50.5	57	21.3
Total number of banks as of January 1	956	923	-3.5	834	-9.6	733	-12.1	623	-15.0	561	-9.9
Share of revoked licenses in the total number of licenses	3.3	9.3	2.8x	10.4	11.8	12.7	22.1	7.5	-40.9	10.2	36.0

Compiled by the authors based on [2].

Table 1 shows that the revocation of licenses was ambiguous. Most of the licenses were revoked in 2014 (168.7%) and the process had slowed down to 50.5% by 2017. The pace of the contraction in the number of banks constantly accelerated and had moderated only by 2018. Changes in the share of revoked licenses in the total number of banking licenses reflect a general contraction in the number of banks in the course of their rehabilitation by the regulator. The trend had slowed down only by 2017 and again gained momentum at a gradual pace. A sharp decline in the number of Russian lending institutions produces an adverse effect on their competitiveness, so it becomes objectively necessary to improve the competitiveness standard of Russian banks while they are rehabilitated by the regulator.

II. LITERATURE REVIEW

The scientific community has long tried to determine criteria and indicators of bank competitiveness. For example, some researchers mark out such competitiveness criteria of banks as absolute and relative market shares, trends of changes in market shares, relative profitability of a bank's activities, relative quality and cost of services, emergence of new services, degree of client concentration, bank's relative capital-output ratio, etc. [3-5]. These and other authors refer to the indicators of the competitiveness of banks an assortment of banking services and their consumer properties, terms and speed of their provision, marketing channels, quality of after-sales services, level of risks associated with the use of a service and quality of consultations [6-10].

Other scholars view competitiveness of banks as two interdependent but equal factors (reliability and client orientation). Reliability sub-factors include the image of a bank, its financial stability and efficiency. Availability, assortment of banking services and their appeal are associated with the sub-factors of client orientation. A criterion is a specific weight distributing the ratio of a bank's credit rating and capitalization as 60 to 40 [11]. Experts point out that the banking system's weak competitiveness, especially at the level of regional banks, is attributable to a substantial gap in the measures taken to keep clients supplied with banking services [12-14].

III. PROPOSED METHODOLOGY

A. General description

We share the opinion of the aforementioned scholars with regard to the highlighted criteria and indicators. However, among all criteria for banks as financial intermediaries, we propose distinguishing financial stability, which is ensured by the equilibrium of cash flows, as the most important one. In our opinion, most violations that lending institutions commit are related to imbalanced cash flows, liquidity shortage, as well as substantial decline in creditworthiness, which results in bankruptcy. Within the scope of the Russian banking sector, imbalanced cash flows are especially noticeable (Table 2).

Table 2: Banks' profit-loss ratio, million rubles

Item	2017	2018	2018/2017, %	2019	2019/2018, %
Profit generated on average by a bank per year (specific profit)	2,903.07	3,709.37	+27.7	4,998.45	+34.76
Losses suffered on average by a bank per year (specific loss)	2,034.86	5,510.61	+70.8	5,745.78	+4.26

Compiled by the authors based on [2].

Table 2 shows that losses suffered on average by a bank in 2018 virtually increased two times faster than profit generated on average by a bank. That year, profit earned on average by a bank was rising much faster than losses.

On the one hand, faster growth of specific profit that year had a positive effect on the operation of the entire banking sector. On the other hand, an initially sharp increase in losses and later faster profit growth are signs that the banking sector's cash flows are substantially imbalanced, which adversely impacts the financial stability of separate lending institutions, especially in the course of interaction in the inter-bank lending market, as well as the financial stability of the entire banking sector and, ultimately, its competitiveness. Instances when the regulator rehabilitates separate lending institutions, unfortunately, do not contribute to solidifying the stability and competitiveness of Russian banks.

Regarding the development of competitiveness standards for Russian commercial banks, calculation, analytical and expert methods or analytical procedures, which are based on correlation and regression analysis [15, 16],

can be used. However, not all of the aforementioned methods and procedures can be efficiently used in practice in relation to competitiveness standards for Russian commercial banks. When using the normative method in setting a standard, e.g. for such a factor (criterion, indicator) of competitiveness as financial stability of commercial banks, it is necessary to go backwards from the reverse, i.e. from the final result, which needs to be achieved in the future; in our case, it is the level of a lending institution's competitiveness worldwide. However, most Russian commercial banks can achieve such a level only if such a competitiveness factor as financial stability improves faster than that of their rivals. To this end, it is essential to adopt a set of global measures and to use an advanced comparative base, which is difficult to achieve in the real-life conditions.

B. Algorithm

The application of experimental statistical methods for competitiveness standards for Russian commercial banks requires the use of statistical data; experience and intuition do not guarantee the accuracy of the definition and establishment of acceptable boundaries for the use of the standard. Experimental regulation methods are ineffective because they are used for low-value pilot projects with minor deviations from the main parameter, which prevents from using them in establishing the competitiveness standard for banks in terms of financial stability. Expert methods can be subjective while procedures based on correlation and regression analysis show the influence of factors on economic indicators only within definite boundaries under the hyperbolic form of communication.

Parametric and index methods can be regarded as the most acceptable methods for establishing the competitiveness standard for Russian commercial banks in terms of financial stability. Parametric regulation methods set competitiveness of banks standard in terms of financial stability on the basis of specific indicators of parameters, in our case, specific profit or loss of a bank under analysis and regulation. In our view, the competitiveness standard for banks (Scb) in terms of financial stability can take the following form:

$$Scb = Sfr \times k_1 \times k_2 \times k_3 \text{ (1)}$$

where Sfr is a specific indicator of the financial result (profit or loss) in terms of a bank's financial stability;

k_1, k_2, k_3 are adjustment factors, which take into account changes in other parameters of banks' financial stability (cash held on accounts, loans, funds, money of clients, other assets and liabilities of a bank).

The index method stipulates the reduction of the standard's value at present to the future moment by using indices that show changes in standard-establishing factors. We suggest improving the competitiveness standard for banks in terms of financial stability taking into account changes in factors of competitiveness, except for financial stability, and reducing this standard to the future moment [17, 18]:

$$Sbf = Scb \times d_1 \times d_2 \times d_3 \text{ (2)}$$

where Sbf is a bank's competitiveness standard in the future in terms of financial stability taking into account changes in factors of competitiveness, except for the factor of financial stability;

d_1, d_2, d_3 are indices of changes in factors of the competitiveness of banks, except for the factor of financial

stability (efficiency, price, quality, availability, assortment, market share, image and others).

We think that a bank's competitiveness standard in terms of financial stability will take the following form:

$$Sbf = (Scb \times k_1 \times k_2 \times k_3) \times d_1 \times d_2 \times d_3 \text{ (3)}$$

IV. RESULT ANALYSIS

Results of a bank's competitiveness standard in terms of financial stability can be positive if the specific weight of financial results is higher than zero and all adjustment factors and if competitiveness indices are above zero as well. A bank's competitiveness standard in terms of financial stability will increase. If the specific weight of a financial result is negative while adjustment factors and indices are below zero, i.e. changes in non-financial stability factors are negative, the standard will decrease.

Our results found do not contradict the main provisions of the theory of competitiveness standardization under various factors, in our case, in terms of financial stability, which is used by scholars and experts. However, there is a condition which should be taken into account. It is the equilibrium of cash flows because the formula, which we propose, marks out this component; financial stability can show itself in case of the virtually equal pace of changes in a positive or negative result or changes within very limited boundaries, e.g. not higher than 0.01%. While the regulator pursues the rehabilitation (restructuring) policy in the banking sector, banks' cash flows tend to be more volatile, above all, in the inter-bank lending market. For this reason, it is advisable to pay close attention to adjustment factors and the indices used, which can help approximate separate positive or negative "bursts" in the competitiveness of banks.

V. CONCLUSION

The following conclusions can be drawn on the basis of the above calculations:

- when calculating the standard of the competitiveness of banks in terms of financial stability, it is necessary to take into consideration the policy pursued by the central bank in order to rehabilitate separate banks and the banking sector as a whole;

- when defining specific indicators of profit or losses of a bank, it is mandatory to pay attention to the pace of changes in positive and negative flows to determine whether they are balanced;

- when calculating the competitiveness standard in terms of financial stability, it is important to take into account the scope and the direction of changes in adjustment factors and indices of parameters in addition to the financial stability of lending institutions;

- for a more accurate and detailed calculation of the standard for the competitiveness of a bank in terms of financial stability, one needs to interpret all found changes in the parameters in relation to their economic feasibility.

The situation when the specified parameters will not change at all is unlikely because cash flows are sensitive to various types of risks, especially during the rehabilitation by the central bank.

For this reason, changes in the standard will be constant because adjustment factors and the aforementioned indices will change as well.

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