Development of Methodological Approach to the Reliability Analysis of Commercial Banks under Changing Conditions

Irina D. Anikina

Doctor of Economic Sciences, Professor, Volgograd State University, Volgograd, Russia
anikina.irina@bk.ru

Albina V. Gukova

Doctor of Economic Sciences, Professor, Volgograd State University, Volgograd, Russia
gukova@volsu.ru

Marina S. Tolstel

Candidate of Economic Sciences, Associate Professor, Volgograd State University (VolSU), Volgograd, Russia
marina-tolstel@yandex.ru

Aleksandr V. Kirov

Doctor of Economic Sciences, Professor, Lobachevsky State University of
Nizhni Novgorod (UNN), Nizhny Novgorod, Russia
kfbd@volsu.ru

Eleanora S. Godgaeva

Candidate of Economic Sciences, Senior lecturer, Kalmyk State University, Elista, Russia
kfbd@volsu.ru

Abstract

The paper presents the results of research bank's in the changing conditions of their operation. It is shown that the need to assess the reliability of commercial banks in the context of applying firm's stakeholder theory. The authors created the methodological approach to the study of bank's reliability based on the calculation of the integral indicator of the bank's reliability based on the deviation of the actual values of financial and non-financial indicators of reliability from reference, from the perspective of internal and external stakeholders (Shareholders, Customers, Bank of Russia, Bank managers). The results in the analysis showed that at different phases of the economic cycle there is a dominance of certain stakeholder interests when assessing the bank's reliability. This increases the accuracy of measuring the bank's reliability at the expense of a comprehensive assessment of the affect factors, and the quality of the results used in the development program to ensure the bank's reliability. The presented methodological approach develops a matrix based on the comparison of the estimates of the bank's reliability external and internal stakeholders, which allows to define and early diagnose problem areas in the management of the bank's reliability and choose from a variety of management solutions for its improvement.

Keywords: reliability, commercial bank, stakeholders, phases of the economic cycle, integrated indicator

1. Introduction

Instability in the financial sector associated with the effects of the global financial crisis, stagnation in the stock markets, economic developments in Europe, the problems of the banking sector in the Russian economy, determines the main directions of further development of the Russian banking system taking into account the influence of modern global trends, one of which is the decline of public confidence in the stability of the financial system. This is evidenced by the results of a survey by the National Agency for financial studies (NAFI) on the measurement of the public confidence level of the Russian financial system, which showed that citizens have become more cautious and even negative in their

assessments of the prospects of safety of the invested funds, compliance commitments and lack of potential fraud on the part of financial institutions.

Such mistrust affects the situation in the banking system and the domestic economy, as it inhibits the activity of investors, slows the flow of household savings into the real economy. To assess the reliability of Russian banks are most often used expert judgment and the ratings which are to some extent subjective or based on a closed, false information (Godgaeva E.S., Pronskaya N.S. (2012)). The dynamic development banks, toughening competition between them for customers in the context of resource constraints caused by the crisis in the economy, require the development of new techniques that will allow any external stakeholders to objectively assess the level of the bank's reliability, with which he intends to build a financial relationship, and credit organizations to consider these results in the management of reliability. In this regard, for financial science important is the determination of the bank's reliability from the standpoint of internal and external stakeholders, and development of new methodologies to assess its level through the proper selection of evaluation criteria activity of banks in periods of economic growth in the crisis conditions.

2. Methods and Materials

2.1 The reliability of a commercial bank under the stakeholder theory of the firm.

Terminological analysis of the economic category of «reliability» in relation to commercial banks revealed a lack of unity in the approaches to its definition (Godgaeva E.S., Anikina I.D. (2011)). According to the authors, the bank's reliability largely predicated upon its relationships with stakeholders that necessitates a consideration of the following principles of assessment and reliability:

- creation of conditions for realization of mutual interests: banks are interested in the growth of operations, as get from this activity income, and clients in the banking services that ensure their smooth functioning and the generation of additional income;
- parity: banks and their customers are equal partners, equally interested in cooperation;
- integrity functions: the relations between banks and their customers contain the elements of integration, manifested in the establishment for each other enabling conditions for the exercise of economic activity;
- consistency: the relationship of banks with subordinated entities strategic development consistent with other areas of their activities and taking into account the prospects of further cooperation;
- mutual awareness: banks serve customers on the basis of objective, reliable and sufficient information about them, while providing information about yourself in the form of published financial statements and audit reports on which anyone can make a submission on the bank's reliability.

The diversity in the positions of different stakeholder groups (the Bank of Russia, Shareholders, Customers, Bank managers) about the nature of «the bank's reliability» due to their subjective perception of the activity of credit institutions and unequal expected order of interaction in different economic conditions (Table 1).

Table 1. Purposes of reliability's evaluation for various stakeholders

The subjects of the evaluation	The purpose of bank reliability's evaluation in the period of economic recovery and growth	The purpose of bank reliability's evaluation in a phase of economic recession and the crisis phenomena in the economy
The Bank Of Russia	- protection of interests of depositors and creditors; - determining the stability and sustainability of the banking system	
Shareholders and investors	- determination of long-term and profitable development of the Bank; - the increase in the market value of Bank shares	- assess the threat of liquidation, the procedure of readjustment; - to maintain market positions
Bank customers (individuals and legal entities, counterparties)	- to determine the feasibility of placing savings in the Bank; - determination of the ability of a Bank to meet its obligations to customers; - identification of prospects for future relations with the Bank	- assessment of the probability of bankruptcy and liquidation
Bank staff	- job security, stable and high wages; - career opportunities	- the probability of job loss; - assess the threat of redundancies

Using stakeholder theory of the firm can more accurately assess the reliability of the Russian credit organizations and offer methodological tools and practical recommendations to ensure the bank's reliability for all participants in the relationship.

2.2 The bank's reliability on the basis of the external and internal stakeholders' interests and the macroeconomic conditions of functioning of the Bank.

The specificity of understanding the bank's reliability from the position of the stakeholder theory of the firm and the importance of considering the phase of the economic cycle, based on the different interests of bank's stakeholders, has necessitated the development of an appropriate system of indicators of bank's reliability.

The results in the analysis showed that at different phases of the economic cycle there is a dominance of certain stakeholder interests when assessing the bank's reliability (Table 1). Therefore, from the point of authors view, in the period of economic recovery and growth in economic activity counterparties the most promising in assessing the bank's reliability is a Toolkit of expectations-based management for external stakeholders, which leads to the need to take into account when assessing the reliability and the development strategy of the Russian banks mainly profitability and market position (Gukova A.V., Anikina I.D., Gogol D.A. (2012)).

In the phase of economic recession and growing crisis in the economy to assess the bank's reliability, it is advisable to give priority to the requirements of the regulator, which is manifested in the increasing importance of regulatory requirements, and the need to focus not on the profitability and growth of operations, and to ensure the stable bank operation.

The accounting phase of the economic cycle when assessing the bank's reliability, the strategy for ensuring the reliability allows to differentiate determining the reliability of the indicators into two groups: indicators characterizing the reliability of a credit institution from the perspective of the stakeholder theory of the firm, and reliability from the viewpoint of stability of bank functioning (mandatory regulation of the bank activities).

According to grounded position, the first group of indicators characterizes the bank's reliability from the point of view of stakeholders related to bank financial relations, considers the need to achieve the expected goals of the interaction and includes the following key indicators: 1) shareholders - the return on equity, return on assets; 2) for customers (legal entities and individuals) - the number of clients, the amount of cash balances in their accounts at the Bank, market position; 3) for the Bank of Russia: the dynamics of a commercial bank, measured by the growth in assets without compromising their quality, profitability of own capital; the liquidity and financial stability; 4) for the managers of the Bank (employees upper-and lower-level) - employee satisfaction index employee engagement.

The second group of indicators reflects the implementation of mandatory norms of commercial Bank (adequacy ratio of own capital - H1.0, liquidity ratios - H2, H3, H4, the ratio of the maximum risk per borrower or group of related borrowers - H6, the norm of the maximum amount of loans, Bank guarantees and sureties granted by the Bank to its participants (shareholders) - H9.1, the ratio for the use of own funds (capital) of the Bank for the acquisition of shares (participation interests) of other legal entities - H12) (Gogol, D. A. (2012)).

2.3 The method of estimating the bank's reliability for external stakeholders.

External stakeholders could assess the bank's reliability on the basis of the following sources of information: reporting forms (101, 102, 134, 135), audited annual IFRS financial statements, the website of the credit institution and other public sources. Under the proposed approach, the method of reliability assessment (hereinafter - the methodology), comprising the following stages:

1. The formation of the indicator system to evaluate reliability for different stakeholder groups:

   group 1 - financial indicators: the increase of the balance of the term loan debt; the return on equity (ROE), return on assets (ROA), the share of funds shareholders in the total amount of equity capital, the increase of the balance of borrowed funds, the share of funds in connection with the change in the quality of loans in the total amount of additional reserve for possible losses on loans, loan and similar debt in the reporting period, non-financial indicators: market position;

   group 2 - mandatory requirements of the Bank's activities (Table 2).

Table 2. The system bank's reliability (in the phase of economic recovery)

Indicators of bank's reliability	Unit of measure	Target value	Nature of effect indicator	Weight indicator
Group 1				
Market position	-	10	Direct	0,40
The growth rate of the outstanding debt	%	15	Direct	0,09
ROE	%	26	Direct	0,10
ROA	%	14	Direct	0,08
The increase of the balance of borrowed funds	%	10	Direct	0,09
The share of funds shareholders in the total amount of equity	%	20	Direct	0,09
The share of funds in connection with the change in the quality of loans in the total amount of additional reserve for possible losses on loans, loan and similar debt in the reporting period	%	35	Return	0,03
Weight group 1				**0,80**
Group 2				
The adequacy of capital	%	10	Direct	0,08
Instant liquidity ratio of the Bank	%	15	Direct	0,05
The Bank's current liquidity ratio	%	50	Direct	0,05
The long-term liquidity of the Bank	%	120	Return	0,02
Weight group 2				**0,20**
Total:				**1,00**

2. Determination of the indicator groups specific weight, in accordance with the prevailing macroeconomic conditions: for the phase of economic recovery and 0,80 and 0,20; for the phase of the economic downturn to 0,20 and 0,80, respectively.
3. The choice of key indicators and giving them specific weights within each group, based on the specific priorities of stakeholders related to Bank financial relations.
4. The calculation of the integral indicator of the degree of bank's reliability (N) on the basis of valuation of the actual values of key performance indicators according to the following formula:

$$N = \sqrt{\sum_{i=1}^{n} d_i (1 - k_i)^2}$$

where k_i is the normalized value of the i-bank's reliability;

d_i - weighting factor (set by expert based on the specific gravity of the group of factors relates to the indicator).

Proposed for assessing bank's reliability integrated indicator multicomponent, it fully reflects and fully characterizes the office of the credit institution. In the period of economic recovery and growth in economic activity counterparties, in addition to the mandatory requirements of the Bank of Russia and indicators of achievement of the expected objectives from its interaction with the subject of assessment, it is advisable to include indicators of the unit's market position. Based on the analysis of the Bank's site is formed by scoring non-financial indicators that are measured in the method using the indicator «market position», taking into account the duration of work on the market, loyalty, geography of business, the entry into the Deposit insurance system, the reputation of the owners and management of the Bank, diversification of activities, channels of distribution of products, awards, bonus programs, completeness of the financial statements. Thus, it is possible to obtain the value of the index market position in the range from 0,00 to 10,00.

Depending on the value of the integral indicator of the bank's reliability the authors define for the organization of one of the following degrees of reliability: 1) 0,00-0,49 - low; 2) of 0,50 to 0,99 - medium; 3) 0,99 and more - high.

Under a low degree of bank's reliability is understood to mean the state of the credit institution in which it's not capable of functioning with a degree of reliability that meets the interests of the stakeholder groups of users who lack the necessary financial capacity, structure of assets and liabilities is not balanced, the Bank of Russia regulations are implemented, but close to the minimum. If the value of the integral indicator is closer to the lower boundary of the interval, the potential increase of the bank's reliability is virtually absent, the high probability of the use of rehabilitation state regulator, the upper bound indicates the existence of the possibility of increasing the degree of reliability to the average level due to the implementation of complex of measures by the business units of the subject of evaluation.

Thus, the use of the proposed methodology for assessing the bank's reliability allows external users to avoid problems and mistakes when choosing a bank as a financial partner. In addition, it may be useful for banking analysts, as it promotes early detection of problems in the functioning of the Bank, the managers choice of priority areas for the prevention of adverse changes in the financial stakeholder relations with the Bank.

3. The Result of the Analysis

The proposed approach to assessing the bank's reliability external stakeholders can be used for evaluation and analysis of internal reliability analysts, thus, as a result of access to more detailed information about the status of a credit institution, a set of indicators should be complemented. So, in our opinion, it is appropriate to include in the system reliability indices such as the average daily balance (SDO) term loan indebtedness of legal entities, the share of loans with overdue over 90 days loans, SDO attracted funds of legal entities, the index of quality of customer service, employee engagement index. The end result reliability evaluation of a financial institution is determining the problem areas to ensure the bank's reliability by constructing the final matrix, reflecting the results of the analysis of internal experts and external clients, as shown in the figure.

Table 3. Matrix analysis of the bank's reliability by analysts

		Reliability in assessing external stakeholders		
		High	Average	Low
Reliability in assessing internal analysts	High	1. An exceptionally high degree of reliability	2. The high degree of reliability when there is insufficient information	3. The high degree of reliability in the absence of work with mass media
	Average	4. The average degree of reliability in aggressive advertising campaign	5. An acceptable degree of reliability	6. The satisfactory degree of reliability
	Low	7. The high probability of bankruptcy	8. The low degree of reliability	9. Lost the reliability of the Bank

Quadrants 2, 3, 5, 6 describe inadequate customer of a credit institution, but there is the potential to increase the degree of bank's reliability from the perspective of stakeholders. Based on international experience, we can conclude that in the medium term domestic credit institutions will have to provide customers with banking products of higher quality, therefore, banks must be prepared to meet the growing requirements of banking products from increasingly well-informed and financially literate customers using customer-centric approach (Sinky J. (2007)). As a result of a transition in a quadrant of a higher order.

The quadrants 4, 7, 8 characterize the presence of large-scale advertising campaign (4 - even aggressive), the probability of contractual obligations default, the absence of violations of economic standards, but their values do not provide effective activity of the Bank, stay credit institutions in these States requires more attention and management impacts from the management of the Bank.

Quadrant 1 represents, when clients receive objective information about a high degree of reliability of the credit institution, the Bank recognizes the best performance measures: actual value economic standards and other performance indicators optimal.

Quadrant 9 reflects economic norms are violated, other indicators have a negative value or reflect inefficient activities of the Bank, a high probability of the use of rehabilitation state regulator.

The use of a matrix assessing the bank's reliability, you can analyze the conformity assessment external stakeholders the actual condition of the credit institution, to develop a program to ensure the reliability of the credit institution. Moving from one quadrant to another quadrant of the matrix determines the effectiveness of the implementation strategy.

The effectiveness of the bank's reliability is determined on the basis of the analysis of variance of the target (or expected) values of the reliability indicators from the actual Bank that will allow you to analyse the reasons for the identified negative deviations (incidents of non-compliance in the program reflected the corresponding colors). Monitoring the bank's reliability is advantageously carried out by means of a counter and continuous monitoring of the indicators of reliability and the factors influencing them, as also revealed in the analysis of deviations of actual values from the target with a subsequent adjustment of administrative decisions by the managers of the relevant management levels (depending on the materiality of the identified deviations and their impact on the activities of the credit institution).

The main types of possible deviations of monitored indicators: the deviation is insignificant; unimportant deviation;

critical deviation. Characteristic of these disorders, as well as the level of management responsible for the further analysis of the identified deviations and corrective solutions are shown in Table 3.

Table 4. Deviation benchmarks

The type of deviation	Specification	The value of the amount of variation, %	Management level	Options for action
Deviation slightly	The deviation is insignificant and has no significant impact on the assessment	Less than 5	Operative	Further activities of the Bank in accordance with the parameters. It is possible to conduct a rapid analysis to confirm the insignificance of the selected deviation
Uncritical rejection	Affects the reliability of the Bank and/or reduces the resulting performance of the business	[5–20]	Tactics	Minor changes in the activities of the Bank or adjustment of plans due to the deviations
Critical deviation	Significantly reduces the reliability of the credit institution, increasing the risk of default trust of external stakeholders	More than 20	Strategic	A significant change in strategy, adjustment of all major activities

Identified deviations, depending on their severity, involve the appropriate level of management and allow management to take corrective decisions. The calculation of variances is performed through a dedicated controlled indicators, which are in turn decomposed into the factors affecting them (Table 4).

Table 5. The hierarchy of bank reliability key indicators

Reliability indicators (strategic level)	Factors 1 level (tactical level)	Factors level 2 (operational level)
Return on equity (ROE)	Net profit	Interest and Commission income
		Administrative costs, operating expenditures and social expenditures, taxes
	Equity	Core capital (tier I capital: statutory and reserve capital, retained earnings, etc.)
		Additional capital (tier II capital: subordinated loan, retained earnings)
Market position	Geography activities	The number of regions
	The duration of work in the market	The number of years on the market
	The reputation of the owners and bank management	Publicity and positive characteristic
	Participation in the Deposit insurance system	Number and supporting documentation of participation
	Diversification of activities	The breadth of the product line, the list of additional services, support services
	Distribution channels of products and services	Distance Banking Services (DBS)
	Awards	Rating of independent professional associations, special agencies
	Bonus (loyalty) program	Participation in Bonus (loyalty) programs
	The accuracy of completeness of the financial statements, the relevance of the data	The availability, completeness and reliability of financial reporting, actual audit reports
	Loyalty	Loyalty

The results of applying the proposed method showed an average (close to the lowest) degree of reliability of one of the analyzed commercial banks in the southern Federal district (the value of the integral indicator of the degree of reliability was 0,66). Critical deviation noted in the following indicators: market position, profitability of own capital, the increase of the balance of the term loan receivables and borrowings. In this regard, considerable attention should be given to the development of measures to improve the reliability of the Bank, mainly to increase the quality of service - the Bank's

ability to meet the needs of clients in accordance with their expectations. A high level of service quality is achieved by: effective customer satisfaction in banking products and solutions to their business objectives; ensure high levels of speed and reliability of service that meet the needs of clients; create for clients of the atmosphere of openness, courtesy and interested participation in solving their issues.

To solve the transformation of attracted funds in the assets necessary to analyze the organization's business processes financial institution, work retail and corporate units, the revision of the development strategy of the credit institution (Anikina I.D., Tolstel M.S., Bondarenko, A.S. (2013)).

4. Conclusion

In the context of stakeholder theory, the authors concluded that diversity in the positions of different stakeholder groups (the Bank of Russia, Shareholders, Customers, Bank managers) about the nature of «the bank's reliability» due to their subjective perception of the credit institutions activity and unequal expected order of interaction in different economic conditions, which leads to the need to develop an appropriate system of indicators of bank's reliability, based on the different interests of stakeholders of the Bank.

The authors proved that in the period of economic recovery and growth in economic activity counterparties the most promising in assessing the bank's reliability is a Toolkit of expectations-based management on of future profitability, the economic actors in the external environment.

In addition, the authors propose a set of methodological recommendations for the assessment of the bank's reliability, providing multivariate analysis of parameters, the impact of which is an immediate and effective tool in achieving sustainable business development. The authors developed the template for the evaluation of the bank's reliability, aimed at an early stage to determinate problem areas in the management of the bank's reliability and the choice of management solutions for its improvement. Identified nine qualitatively different sectors, characterizing the degree of bank's reliability by comparing estimates of the reliability of the Bank's internal and external stakeholders that will allow the management company to diagnose the problem areas in the management of the bank's reliability and to take appropriate management decisions for its improvement.

Thus, a multi-level system of monitoring the bank's reliability allows you to track the changes of the factors having the greatest impact on reliability, to analyze them in detail, and to use for evaluation and selection of management alternatives aimed at changing the values of the reliability indicators of the changing conditions, the competent level of financial and investment management.

The advantage of the proposed system for monitoring the bank's reliability is that as a result of its use of financial services have a comprehensive assessment of reliability, taking into account the whole complex of factors influencing the degree in accordance with macroeconomic conditions, and linking the various functional areas, such as, for example, marketing management, Finance, personnel and others. Unilateral attempts to control the reliability of the credit institution only from the perspective of management of financial indicators, mandatory regulations of the Bank of Russia, without regard to changing circumstances macro functioning of the Bank of stakeholder interests, relationships of different functional areas in the development of the financial institution do not allow to achieve sustainable business development.

References

Anikina I. D., Tolstel M. S., Bondarenko A.S. (2013) Development of the Banking Sector SFD: Threats and Opportunities. Regional Economy. The South Of Russia. Vol. 1. P. 152-160.

Gogol D. A. (2012) Development of methods of assessment and regulation of the bank financial stability: author. dis. ...Candidate. Economy. Sciences: 08.00.10 Volgograd: Volgograd., p. 27

Godgaeva E. S., Anikina I. D. (2011) The problem of ensuring the reliability of Russian banks // Economy of Development: Problems, Searches, Prospects: an annual journal. - Volgograd: Publishing house of the Volga. - Vol. 12. - 627 S. - S. 88-92

Godgaeva E. S., Pronskaya N.S. (2012) Methodological approaches to the assessment of the bank's reliability actual level // Finance and Credit. - 2012. - No. 32. - S. 40-44

Gukova, A. V., Anikina I. D., Gogol D. A. (2012) The Regulation of the bank financial stability under expectations-based management. Financial Analytics: Problems and Solutions. No. 36. P. 14-20.

Gukova, A. V., Anikina I. D., Kirov, A. V. (2013) The Financial stability of the organization: model estimation and forecasting in Finance and Business. No. 3. P. 46-53.

Lavrushin O. I. (2003) Bank Management. Moscow: Yurist, 2003. 688 p

Rose, P. S. (1995) Bank management. M.: Delo LTD, 768 p

Sinky J. (2007) Financial management in commercial banks and financial services industry: translation from English. Moscow: Alpina Business books, 1018 S.

Wagner W. (2007) The liquidity of bank assets and banking stability //Journal of Banking and Finance. Volume 31, issue I. R. 121-139.