

Investigation of Active Operations as a Threat to the Economic Security of Commercial Banks in Times of Crisis

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Abstract—At present there is an increasing interest in corporate governance in commercial banks - in general and in asset management - in particular. This suggests that corporate governance aimed at minimizing risks becomes the leading link in the system of effective management of a credit institution. The article examines the evolution of approaches to risk management processes, analyzes the notion of asset management, describes the main elements of credit policy from the point of view of managing the credit risk of assets, and compares it with market risk. Much attention is paid to market risk as a set of private risks, the methods of their calculation and the problems of their implementation are described. The article concludes the role of optimization of asset management and risks inherent in it, in the implementation of threats to the economic security of a commercial bank.

Keywords— *active operations, economic security of the bank, banking risks, methods of calculating risks*

I. INTRODUCTION

Increased interest in corporate governance in commercial banks and asset management occurs during the period of manifestation of crisis phenomena in the economy. Currently, the questions regarding the optimal structure of the assets of a commercial bank, as well as the ratio of individual elements of assets and liabilities among themselves, again become relevant.

Based on historical data, it can be noted that a sharp "surge" of interest in various aspects of corporate governance within a commercial bank in foreign practice begins to manifest itself since the early 1980s, which was associated with the expansion and emergence of new banking products. The change in the range of products offered by the bank also required the development of new methods for assessing and managing risk that had previously been immeasurable.

Revolutionary for its time period was the development in 1988 by the Bank for International Settlements (BIS) of the Basel Accord, which was designed to ensure minimum capital requirements for banks. By the early 1990s, a number of further problems in risk management arose, and this led to the emergence in 1993 of a specific G30 initiative. The report "Derivatives: Practice and Principles" recognized and raised questions about derivatives and their use, and formulated recommendations for their proper management. Although the report was devoted solely to derivatives, it covered key aspects of risk management practices in general - these principles became recognized as the best [13, p.3-4]. As the Basel Accord was implemented, it was recognized that there were numerous shortcomings within the framework of this mechanism, and in June 2004, following extensive consultations, the "Basel Accord" II was published. This version replaced the 1988 Agreement and was aimed at ensuring that the distribution of capital was much more sensitive to risks. In addition, he shares and quantifies risks in the components of credit, market and operational risks, creating a viable structure and measurement system for each of them [13, p.3-4]. The events that began in 2007 amid the crisis made the regulators and financial services organizations on a global scale again review the fundamentals and processes of risk management, risk analysis and ranking. The consequence of this was the release of Basel III, approved in 2010-2011.

II. RELEVANCE OF THE PROBLEM

In recent decades, researchers have tried to describe how banks address the issue of the structure of assets and liabilities in order to optimally meet the goals of shareholders and management. There are various reasons for understanding this decision-making process. From the banks' point of view, it is

critically important to analyze the structure of assets and liabilities in the algorithmic process, despite the fact that ultimately the applied strategy is the result of discussions at the board of directors level [14].

Given that the management of assets is to choose the optimal structure of their distribution, based on a comparison of profitability and risk, the key asset management is the competent management of the bank. Thus, the issue of the distribution of assets by groups of beneficiaries (including the internal ratio between net investments in securities and loan debt) and groups of non-returnable assets, allows us to judge the internal policy of the management and predict the long-term financial stability of the bank.

Numerous scientists have been involved in this field since the 1950s and 1960s. years. Thus, the fact that banks are engaged in investment activity, working in a balancing risk-reward regime, is described in a new article by M. Markowitz [12]. Gradually in the scientific community there is an opinion that for the description of management as assets, and liabilities, it is necessary to apply methods of mathematical and statistical programming [10]. At the same time, some researchers used deterministic mathematical models [6], while others used stochastic models [11]. A vast layer of scientific literature is also devoted to the study of the role of direct asset management for predicting bankruptcy of the bank and choosing the optimal balanced structure of assets and liabilities [3,4, 8, 9]. In this context, the initial investigation of the credit and market risk of a commercial bank, inherent to investments in loan debt and securities, is of the greatest interest from the point of view of managing the structure of assets.

III. STATEMENT OF THE THEORETICAL PROBLEM

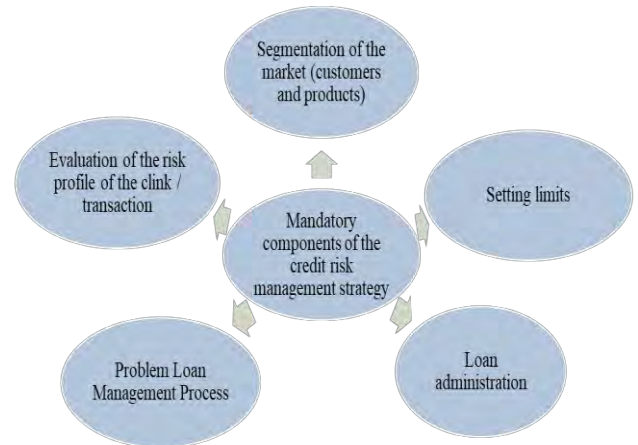
Considering the rather high "appetite" of banks in our country to increase the loan portfolio, including lending to individuals without adequate collateral, the credit risk, which requires more careful assessment and management, also increases. In the bank's portfolio, losses are caused by direct default due to the inability or unwillingness of the client (or counterparty) to fulfill obligations with respect to lending, settlements and other financial transactions. Alternatively, losses can be the result of a decrease in the value of the portfolio due to actual or perceived deterioration in the quality of the loan. The first objective of the bank's credit strategy is to determine the "appetite" for the risk of the bank. Once this is determined, the bank can develop a plan to optimize profits while maintaining credit risk within predetermined limits. Thus, the bank's credit risk strategy should necessarily include (Fig.1.).

So, in order to name the effective strategy of the bank's credit risk management, it is necessary, firstly, that the credit procedures are aimed at obtaining a deep understanding of the quality of the bank's clients with a view to an all-encompassing view of the borrowers of the bank. A necessary element in the aspect of segmentation is also the factor of cyclical changes in the economy of the country, which allows

to implement the policy continuously and monitor changes in the loan portfolio in proportion to the current shifts.

Secondly, an adequate assessment of the risk profile of a specific client and transaction should be conducted. It should include, inter alia:

- Credit assessment of the borrower (assessment of the industry when lending to a legal entity)
- purpose of the loan and source of repayment
- Credit history of the borrower
- an assessment of the repayment capacity of the borrower
- adequacy of pledges
- macroeconomic factors and in.



Source: compiled by the authors on the basis of [15].

Fig.1. Mandatory components of the credit risk management strategy

Thirdly, an important aspect of credit risk management is the establishment of limits for individual transactions and borrowers. The size of limits should be based on the creditworthiness of the debtor, economic conditions and the admissibility of the risk of a particular bank. A positive aspect would be for the bank to set limits for a particular industry, economic sector or geographic regions to avoid the risk of concentration.

Fourthly, there is a need for ongoing follow-up administration of the loan portfolio, which includes such items as:

- ensuring the completeness of the documentation
- Identification and control of the magnitude of the risk
- timely detection of deterioration in the loan portfolio and taking measures to remedy the situation.

The final, but one of the key moments in managing the credit risk of the bank is the bank's procedures for managing problem loans. Recommendations in this aspect are procedures aimed at enhancing interaction with the problem borrower in order to resolve the situation that has arisen. In some cases, a series of corrective actions, such as the restructuring of the loan, can achieve good results [15, P.15].

As can be judged from the above-described elements of credit risk management, the procedure of "containing" the risk within certain limits is quite complex and multistep. At the

same time, the effectiveness of the current credit policy depends largely on the top management of the bank and with the adequacy of the measures being implemented, the credit risk is manageable and minimized. Accordingly, it can be said that the structural problems associated with the credit risk of assets, for the most part, are mistakes made by the management of the bank, caused by an excessive desire to profit and the expansion of the loan portfolio at the expense of borrowers of questionable quality. At the same time, this "gap" in the state regulation of credit risk was noted at the level of the Central Bank, which led to the development and implementation of the "Regulation on the procedure for calculating the amount of credit risk based on internal ratings" (approved by the Bank of Russia on August 6, 2015 N 483-P), which is applied together with the Instruction of the Bank of Russia of 06.08.2015 No. 3752-U "On the procedure for obtaining permits for the application of banking techniques for managing credit risks and models for quantifying credit risks in order to calculate capital adequacy ratios bank, and also the order of an estimation of their quality ». Thus, the provision states that the introduction of rating systems and the assessment of components of credit risk should not be directed to use solely for the purposes of calculating standards of sufficiency капитала. Internal ratings and estimates of components of credit risk should be constantly used in internal decision-making and credit risk management processes:

- when considering applications for funding and approving the terms of its provision;
- when determining credit limits;
- in the framework of strategic capital planning and its distribution;
- preparation of internal reporting;
- to monitor the quality of the loan portfolio;
- to evaluate the results of the bank's business performance, its business units and profitability taking into account the accepted risk;
- in determining the amount of incentive payments (additional payments and incentive incentives, bonuses and other incentive payments) for managers and certain categories of employees accepting credit risks, the size of which is related to the results of accepting credit risks, including those with financial losses that have arisen.

Thus, to date, the Central Bank establishes the procedure for assessing the quality of banking techniques for managing credit risks and models for quantifying credit risks for the purpose of issuing a permit for the use of internal rating methods. This procedure describes the process of interaction between the Bank of Russia and the bank that applied for permission to apply internal rating methods, stages and directions of the assessment. The above set of methods and tools that can be used by the Bank of Russia within the framework of validating rating processes and validating models for quantifying the components of credit risk, including these quantitative tests, is not exhaustive. In the process of validation, the Bank of Russia employees' procedures can be adjusted taking into account the individual

characteristics of the internal credit processes and the rating systems of the bank.

Quite different in the issue of management seems inherent in a greater degree of investment in securities - market risk. Market risk is a potential loss as a result of adverse changes in market risk factors, such as interest rates, exchange rates, stock prices and commodities. Thus, the market risk of investing in securities can be represented as a set of private risks (Fig. 2):

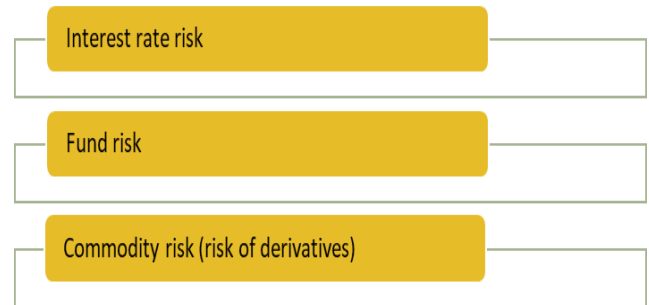


Fig. 2. Private internal components of the market risk of the bank

Source: compiled on the basis of [15] and Regulation of the Bank of Russia of December 3, 2015 No. 511-P "On the procedure for calculating the amount of market risk by credit institutions" [electronic resource] // Access mode: <http://base.garant.ru / 71283076> / (circulation date April 25, 2017).

In identifying interest rate risk, the Basel Committee recommends that four main forms of interest rate risk arise from the source of its occurrence [1]:

- the risk of changes in the value of positions due to the mismatch in the maturity (return) of balance sheet assets, liabilities and off-balance sheet claims and liabilities with a fixed interest rate or with the establishment of a new rate for financial instruments (floating interest rate);
- risk of the yield curve associated with a possible change in the slope angle and the shape of the curve reflecting the uniformity of income generation, due to mismatch in the maturity of financial instruments when interest rates on them change;
- The basic risk caused by the lack of correlation between interest rates on attracted and placed financial instruments having a similar maturity and characteristics of the interest rate revision;
- Option risk caused by a possible refusal to fulfill obligations of one of the parties to a transaction with autonomous options or financial instruments with embedded options (for example, deposits with the right of early withdrawal).

Under the stock market risk, in general terms, one can understand the risk "arising not only when the fair value of equity market instruments that make up the securities portfolio of the bank changes, but also when the financial condition of securities issuers entering the bank portfolio worsens, and the resulting provision for possible losses on these instruments, which may have extremely negative consequences for the bank "[2].

Stock risk arises in the following cases:

- with a negative revaluation of the stock market instruments included in the bank's portfolio;
- with an increase in reserves for possible losses on the instruments of the stock market included in the bank's portfolio.

Under the commodity risk in this case, we will understand the risk arising from the use of derivative financial instruments, the basic (core) asset of which are goods, contracts under which the relevant requirements and (or) liabilities are calculated on the basis of commodity prices.

In order to assess the complexity of corporate market risk management in a commercial bank, let us turn to Bank of Russia Regulation No. 511-P of 3 December 2015 on the procedure for calculating market risk by credit institutions. Thus, interest rate risk is calculated as the sum of the following values:

$$IR = SIR + TIR + GVR(PR), \quad (1)$$

where: IR - interest rate risk;

SIR - special interest rate risk, that is, the risk of adverse changes in the fair value of securities and derivative financial instruments under the influence of factors associated with the issuer of securities, as well as the terms remaining until maturity of securities, and the currency in which they are nominated and / or funded securities;

TIR is the total interest rate risk, that is, the risk of adverse changes in the fair value of securities and derivative financial instruments related to market fluctuations in interest rates;

GVR (PR) - the sum of gamma-risk and vega-risk for options included in the calculation of interest rate risk.

In order to calculate the special interest rate risk, all net positions refer to one of the following groups with corresponding risk factors (Table 1). At the same time, the Regulations give a very detailed explanation regarding the attribution of one or another type of security to the risk category, both with respect to government securities and issued by legal entities.

Concerning the calculation of stock risk, the risk level is calculated in a similar way, with net positions on derivative financial instruments with a basic (core) asset of the MICEX Index 50, RTS Index 50 or stock indices included in the calculation of special stock risk with a risk factor equal to 2 percent. Net positions on derivative financial instruments, the underlying asset of which are other stock indices, are included in the calculation of special stock risk with a risk factor equal to 8 percent.

Thus, we can conclude that from the point of view of market risk management in the bank, when making a decision on investing in certain securities, the management of the bank already has a structured methodology for calculating the total risk for each investment. Accordingly, management of the bank's market risk in this case consists in choosing the optimal structure of investment allocation, based on the ratio of profitability, liquidity and risk, based on the existing

methodology. Comparing the differences in the management of loan debts and investments in securities, it should be noted that debt management is more in the area of responsibility of the bank's management itself, which, despite the great freedom in choosing methods for evaluating borrowers, increases the risks of incorrect decisions. The regulator, in this case, regulates the final result and demands capital adequacy, liquidity level, adequacy of the created reserves, etc. Therefore, it can be assumed that it is the shift in the structure of the bank's assets towards increasing loan debts and the reduction of alternative investments in securities, requires more competent management by the bank's management and represents the greatest threat to the economic security of the bank. This conclusion agrees with the data obtained earlier [7,8,11].

Table 1. The coefficients for calculating the special interest rate risk

The magnitude of the risk	Risk ratio, %
Securities without risk	0
Low-risk securities:	
having a term remaining to maturity of less than 6 months	0,25
having a period remaining to maturity, from 6 to 24 months	1
having a term remaining to maturity, over 24 months	1,6
For low-risk securities	8
For high-risk securities	12
On securities, which are instruments of securitization:	
Low Risk	1,6
Below average risk	4
With an average risk	8
Higher than average risk	28
At high risk	100
For securities, which are instruments of re-securitization:	
Low Risk	3,2
Below average risk	8
With an average risk	18
Higher than average risk	52
At high risk	100

Source¹

Considering the above-described documents on risk management aimed at counteracting crisis phenomena in the economy, in general, and in the financial sector, in particular, it can be concluded that in most cases the developed recommendations concern one important component - corporate asset-liability management management). According to most researchers, asset and liability management defines a long-term position for investing assets and covering liabilities,

¹ Bank of Russia Regulation No. 511-P dated December 3, 2015 "On the procedure for calculating market risk by credit institutions" [electronic resource] // Access mode: <http://base.garant.ru/71283076/> (circulation date 25.04.2017).

whether at a time in the future or for several future periods. Therefore, it can be said that this department should be more strategic in nature at the level of a commercial bank than a tactical one [7].

It should be noted that despite the fact that it is the active operations of a commercial bank that pose a threat to its economic security, management at the level of one organization is impossible without an integrated assessment of the assets and liabilities of the organization. In presenting the problem in a different way, one can say from the strategic point of view it would be wrong to focus research only on active operations as such, but it would be correct to assess the risks from the allocation of financial resources in conjunction with the commitments made, which leads to the need to consider the risk of liquidity loss as one of the fundamental threats to the economic security of a commercial bank.

IV. PRACTICAL IMPORTANCE

Asset and liability management deals with the optimal investment of assets considering current objectives and future commitments. The key point in managing the bank's assets and liabilities is a joint assessment of risks and benefits, based on the ratio of assets and liabilities. Asset and liability management is an ongoing process of developing, implementing, monitoring and reviewing strategies to achieve the organization's financial goals, considering the organization's permissible risks and other constraints. The benefit of the competent management of assets and liabilities for the bank is obvious [13]:

- Understanding the company's overall position regarding its obligations;
- Integrated strategic management and investment, considering commitments;
- Ability to quantify risks and risk preferences;
- Better preparation for future uncertainty;
- Effectiveness and effectiveness of management.

Recognizing these advantages, banks implement their policies in the field of asset and liability management. First, each institution has its own specific objectives and adopted risk limits that determine the specificity of the distribution of the asset portfolio. Secondly, long-term strategic decisions depend on factors whose forecasts partially change when new information appears. Thirdly, the risk preferences and their changes over time should be translated into a mathematical language that is far from trivial.

Unsufficient or untimely management of assets and liabilities leads to a liquidity risk, which is considered the main risk for banks. It occurs when available liquid assets are insufficient to fulfill their obligations. However, the terms of financing through the market depend on the liquidity in the market and the liquidity of the bank itself. Accordingly, an institution without liquidity can come close to bankruptcy if it can not conduct a transaction even at current market prices. Liquidity risk can not be treated in isolation, since the financial risk is not mutually exclusive, and the liquidity risk arises from other financial risks, such as credit risk, market

risk, etc. According to some scientists, in each bank, you can consider a set of indicators that indicate the existence of problems in the field of liquidity management before it is manifested in calculating the liquidity ratios [15, P.27]:

Examples of such internal indicators are:

- A negative tendency to increase the concentration of the accepted risk in a separate area or line.
- deterioration in the quality of the loan portfolio.
- Decrease in profit or earnings forecasts
- Rapid growth of assets, financed by a volatile large deposit
- The deterioration of the third party's assessment of the bank.

In recommendations of the Basel Committee III of 2013, special attention is paid to the short-term stability of banks' liquidity [5]. The liquidity coverage ratio presented here is intended to ensure that banks have a sufficient supply of high quality liquid assets (HQLA) that can be easily converted immediately to private markets in cash to meet their liquidity needs within 30 calendar days. Monitoring of the liquidity coverage ratio is designed to improve the ability of the banking sector to withstand shocks caused by financial and economic stress, regardless of the source, thus reducing the risk of spreading from the financial crisis to the real economy.

During the early phase of the financial crisis, which began in 2007, many banks, despite sufficient capital, continued to experience difficulties, as they did not exercise due caution with respect to their liquidity. Before the crisis, asset markets were flexible, and financing was readily available at low prices. A quick turnaround in market conditions has shown how quickly liquidity can decrease, and that lack of liquidity can last for a long period of time. The banking system was under severe stress, which required actions in support of both the functioning of money markets and individual institutions. Difficulties faced by some banks are due to omissions in the basic principles of liquidity risk management.

Thus, the proposed liquidity calculation coefficient consists of two components: a) a stock of high quality liquid assets (HQLA) under stressful conditions; (b) the total net outflow of funds calculated for the next 30 calendar days [5]:

$$\text{Coefficient of coverage of liquidity} = \frac{\text{Stock (HQLA)}}{\frac{\text{net outflow of cash within the next 30 calendar days}}{100\%}} \geq \quad (2)$$

At the same time in order to ensure a smooth transition to the maximum liquidity ratio, a gradual increase in the standard is planned (Table 2):

Table 2. Liquidity adequacy ratio guidelines 2015-2019

January 1, 2015	January 1, 2016	January 1, 2017	January 1, 2018	January 1, 2019
60%	70%	80%	90%	100%

Source: [5].

At the same time, high quality liquid assets are recognized as (Table 3):

Table 3. Asset types and standards for their inclusion in high-quality liquid assets

Types of assets	The standard of inclusion in high-quality liquid assets
Level 1 assets: Coins and bank notes, government debt securities, securities of international development banks, reserves in the Central Bank	100%
Level 2 assets: Level 2A Government debt securities, securities of international development banks, recognized at a risk level of 20% in accordance with the Basel II methodology, corporate debt securities rated AA - and higher	A maximum of 40%
Level 2B Corporate debt securities with ratings from A + to BBB-;	Maximum of 15%

Source: compiled on data [5].

V. CONCLUSION

Consequently, the problem of managing the bank's assets as a threat to economic security can be defined not only as the choice of the optimal relationship between alternative investments in loans and securities, but also as a general optimal structure, considering high-quality liquid assets in order to meet the requirements for the liquidity ratio.

Summing up the conducted research, it can be concluded that active operations in a commercial bank pose a threat to economic security, taking into account the impact of the risks associated with them, especially credit and market risks, and as a result - the risk of losing liquidity. Corporate asset management is a complex multi-step task that consider both micro- and macroeconomic factors. Based on the analysis of elements of credit risk, we concluded that the management of the bank's loan portfolio largely depends directly on the bank's managers and their vision of the need to pursue the riskiness of the policy. The actions of the regulator in this case for a long time were directed more at monitoring the final result (for example, capital adequacy).

Giving greater freedom in choosing the structure of investments in loans by types of borrowers, sectors of activity, development of methods for assessing borrowers, etc. At the same time, this situation led to the detection of internal problems too late, which prevented the Central Bank from monitoring the riskiness of credit policy at all stages. This necessitated the development of number of documents that required requirements directly to the internal methods of rating risk assessment. Similarly, one can judge about investing in securities, while considering the Bank of Russia's methodology for estimating market risk is more standardized, and necessity to meet the liquidity adequacy requirements, for

the calculation of which certain high-quality liquid assets are included.

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