

Assessment of Efficiency Attracting Resources in Commercial Bank's Deposit Operations

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Abstract—The article presents the results of development of complex methodic of estimation of efficiency of attraction of resources in the deposit operations of commercial banks. The theoretical basis of deposit operations is presented. The methodological aspects of assessing the effectiveness of deposit operations are considered. The results of evaluation of the efficiency of deposit operations of Sberbank of Russia and B&N Bank (Public Joint-Stock Company) as typical participants of the deposit market are formulated, as well as the assessment of deposit resources of these banks on the basis of the methods used in the banking practice of Russia. The subject of the research is the deposit operations of a commercial Bank. The basis of the methodological tools of the study were the analysis (including the calculation of the coefficients), observation, comparison, generalization and processing of the studied material, graphical and tabular method of presenting information. As a result, the authors propose an algorithm for complex evaluation of the efficiency of deposit resources of a commercial bank.

Keywords—bank; deposit operations; method; efficiency; attracted funds

I. INTRODUCTION

The development of the Russian banking system is accompanied by an increase in the need for the development of such a segment of banking services as deposit operations, which are the resource base for commercial banks. The need of citizens for long-term investment of funds in bank deposits is increasing. Most Russian banks currently have in their arsenal a diverse range of deposit services, which is constantly changing, given the current trends of cyclical economy.

The growing popularity of such a banking product as a deposit among the population and commercial banks, causes increased competition in the deposit market. During the market reforms in Russia, commercial banks have learned to adapt foreign experience. This allowed implementing in practice well-established in international practice programs to attract money of the population. As a result, the competitiveness of Russian banks is growing. Currently,

Russian banks have their own experience of attracting funds to deposit operations.

II. LITERATURE REVIEW. MATERIALS AND METHODS

A. Deposits—the main type of passive operations of commercial banks

As a result of passive operations, money is transformed into capital that meets the needs of the Russian population for consumer credit. The significance of this assertion is confirmed in the works by O. V. Antonova [1], L. Ya. Avrashkov, A. I. Bazilevich, G. N. Beloglazova [2], E. V. Bulavina [3], L. M. Burmistrova, N. I. Didenko [4], G. G. Fetisov [5], V. A. Galanov [6], V. V. Glukhov, V. Ya. Gorfinkel, A. P. Gradov, Y. P. Grigoriev, L. P. Krolivetskaya, N. I. Krotov [7], L. F. Lakhina, I. V. Larionova, O. I. Lavrushin, M. D. Mednikov, N. V. Nikulina [8], G. S. Panova, S. A. Ramazanov [9], N. I. Valentseva, A. S. Vasileva.

B. The lack of a comprehensive method of calculating the efficiency of attracting resources to Deposit operations

The Central Bank of the Russian Federation (Bank of Russia) has approved mandatory standards for use, however, it has not proposed a standard method for calculating the effectiveness of attracting resources to deposit operations. In practice, there are diverse methodologies, the authors of which are employees of banks and certain representatives of science (e.g., N. I. Mazurina [10], L. A. Mochalova [11], E. S. Moskovets, M. O. Popov [12], S. V. Rykov [13], O. N. Shestack [14], E. G. Tolkacheva, N. I. Valentseva [15], A. F. Vinohodova, S. A. Vinokurova [16], O. D. Zhilan [17]).

The information and empirical base of the study was the civil code of the Russian Federation, the laws "On banks and banking activities," "On insurance of deposits of individuals in banks of the Russian Federation," "On combating legalization (laundering) of proceeds from crime and financing of terrorism." The financial and annual reports published on the official websites of Sberbank of Russia (hereinafter, the

“Sberbank”) and B&N Bank (Public Joint-Stock Company) (hereinafter, the “B&N Bank”) served as an empirical basis for the assessment of various methods of the efficiency of attracting resources to the deposit operations of commercial banks.

The authors of the study propose a comprehensive method of assessing the effectiveness of deposit resources use by commercial banks, based on the generalization and improvement of existing methods.

As objects of research are considered Sberbank, as a “major” player in the financial market and B&N Bank, as a representative of the “middle” level of the financial market. The subject of the research is the deposit operations of a commercial Bank. The purpose of the study is to develop a comprehensive method of assessing the effectiveness of deposit resources, based on the synthesis and improvement of the methods used in practice, in respect of Sberbank and B&N Bank.

Main objectives of the study:

- To study the concept and classification of deposit operations, as well as the features of their use by commercial banks.
- To systematize existing methods of evaluation of efficiency of use of deposit resources.
- To assess deposit resources on the example of Sberbank and B&N Bank, based on the methods used.
- To offer a comprehensive method of assessing the efficiency of deposit resources.

III. RESULTS AND DISCUSSIONS

In world practice, the main operations of commercial banks are deposit [18—20]. They disclose the content of the activities of commercial banks as intermediaries in the acquisition of resources in the consolidated financial market of credit resources [21]. As the batteries of funds, banks “cover” attracted by the resources of almost the entire cash requirement for the implementation of active operations.

A. Definition and classification of deposit operations of commercial banks

The concept of “deposit operations” is widely interpreted, as it refers to any banking activity, which is associated with the attraction of free cash in deposits. Based on the practice, the commercial bank has a weak control over the volume of such operations. The initiative in placing funds in deposits comes directly from depositors. This is the peculiarity of this group of passive operations. The depositor is interested not only in the interest paid by the bank, but also in the reliability of keeping the funds entrusted to the bank [2, p. 256].

1) Fundamental aspects of the organization of deposit operations, which must be observed by commercial banks:

a) deposit operations should be aimed at facilitating profit or creating conditions for its future;

b) deposit operations should be diverse, targeting different clients;

c) there should be consistency between deposit and credit transactions in the timing, amount and interest of deposits and credit investments, as well as their interrelation;

d) in the process of organization of deposit operations, special attention should be paid to term deposits as more controlled by banks;

e) by organizing credit and deposit operations, the bank should seek to minimize its free resources;

f) the bank should take measures to develop its banking services, which help to attract deposits [7, p. 310].

2) Deposit accounts are various: their classification may be based on different criteria:

a) sources of deposits;

b) their purpose;

c) rate of return;

d) category of the depositor and the form of withdrawal of deposit—the most often.

B. Methodological aspects of deposit operations efficiency assessment

Evaluation of the use of deposit resources can be made using a number of criteria that characterize the effectiveness of the deposit policy of the bank as a whole. Based on this technique, the following indicators are calculated: interest margin; net spread; the level of subsidence of funds in deposits; the average period of storage of funds; the average cost of attracted resources; yield per unit of costs incurred [11, p. 253].

Evaluation of the effectiveness of the deposit policy of a commercial bank can be based on the coefficient approach. This method provides for the calculation of the transformation coefficient; the indicator of the efficiency of the use of deposit resources (borrowed funds and liabilities) to finance credit investments; profitability of deposit resources, borrowed funds and issued promissory notes [17].

A number of methodologies provide for a step-by-step evaluation. At some stages, it is proposed to study the composition, structure and dynamics of the balance of funds in deposits, as well as their receipt and disposal. At other stages to assess the movement of funds in deposits, based on the calculation of the coefficient of subsidence of funds received on deposit accounts; the ratio of the inflow of funds in deposits; the average shelf life of the deposit ruble. At the final stage, the effectiveness of the use of funds in deposits is evaluated [14].

Commercial banks are actively using analytical systems to improve the efficiency of business process management. Analytical systems are based on the concept of building a consolidated source of reliable information and providing analysts of the bank with tools for information analysis.

The bank is a complex economic object, evaluation of its activities-this is a set of research methods and means of their

implementation, which operate in accordance with the rules and principles of their application. The need for evaluation is caused by objective reasons to have a clear idea of the development of the bank in terms of the existing resource constraints [22]. One of the tasks of commercial banks is to improve the quality of modern methods of evaluation, development and implementation of new approaches and procedures to determine the effectiveness of management of banks' resources, taking into account the positive domestic and foreign experience.

C. Characteristic of activity of Sberbank and B&N Bank as a representative of market participants for deposits

Sberbank is the largest commercial bank in Russia, fulfills the recommended values of mandatory standards, which characterizes the bank as a stable, reliable. In the structure of the bank's attracted resources, the largest share is made up of deposits of the population.

TABLE I. SBERBANK'S SHARE IN THE MAIN SEGMENTS OF THE RUSSIAN FINANCIAL MARKET, %

Balance sheet item ^a	2013	2014	2015	2016
assets	29.6	29.1	28.7	28.9
loans to corporate clients	33.3	35.0	32.2	31.7
loans to private clients	33.5	35.9	38.7	40.1
corporate client funds	25.1	21.9	25.0	22.1
private client funds	46.7	45.0	46.0	46.6
capital	28.4	28.7	29.7	33.5

^a. Source: compiled by the authors of the study according to the annual reports of Sberbank for 2013–2016

Unlike Sberbank, B&N Bank is quite young in the financial market and pursues an aggressive policy, which is expressed in increased rates on deposits. In the dynamics and structure of deposit accounts of B&N Bank for 2013—2016, as well as in Sberbank, in the volume of indicators, the largest value falls on deposits of individuals. However, if Sberbank has a ratio of funds of legal entities and individuals can be designated as 1:2, then B&N Bank—as 1:5 (approximately 4.5 times the volume of funds of individuals above the volume of deposits of legal entities). As Sberbank, B&N Bank is dominated by term deposits of individuals.

D. Evaluation of the effectiveness of resource attraction in deposit operations of Sberbank and B&N Bank, based on the method of calculation of coefficients and step-by-step method of evaluation

Evaluation of attraction of resources in the deposit operations of Sberbank and B&N Bank has shown adequate effectiveness, despite the difference in the characteristics of banks and behavior in the market of attraction of resources to deposits and deposits. The factors affecting the stability and maturity of the deposit base, the interdependence of different types of deposits in all their diversity and the main directions of active banking operations, the need to minimize the risks associated with attracting deposits were taken into account.

Almost the same result, given the difference in the size of banks and the results obtained by the values of indicators, can be explained by the strategy of attracting deposits and the speed of response to market changes. If Sberbank, as shown by calculations and analysis of indicators, is effective due to its significant share in the deposit market, the branching of the branch network, the introduction of remote technologies, the effectiveness of B&N Bank is explained by the aggressive policy of behavior in the market of attracting deposit resources and the speed of response to changes in the deposit market.

The authors of the study conducted gradation of attracting funds in deposit operations Sberbank and B&N Bank according to their degree of effectiveness (highly effective, effective, ineffective), and the nature of their trend (increase ↑, drop ↓). The final assessment of the efficiency of the use of attracted resources in deposit operations of banks is calculated taking into account the share of participation of each criterion.

TABLE II. OVERALL ASSESSMENT OF THE EFFECTIVENESS OF ATTRACTING FUNDS IN DEPOSIT OPERATIONS SBERBANK AND B&N BANK

Indicator	Sberbank	B&N Bank
interest margin	highly effective / ↓	effective / ↓
net spread	effective / ↑	highly effective / ↑
average cost of involved resources	↑	↓
efficiency of use of the involved resources (according to the maintenance of the personnel)	highly effective / ↑	ineffective / ↑
transformation ratio	effective / ↑	ineffective / ↓
the effectiveness of the use of deposit resources	effective / ↑	highly effective / ↑
efficiency of use of involved funds	effective / ↓	highly effective / ↑
effectiveness of the use of commitments	effective / ↓	highly effective / ↑
profitability of deposit resources	highly effective / ↓	effective / ↓
return on involved funds	highly effective / ↑	effective / ↓
factor model of interest expense estimation on deposit operations	↑	↑
extended factor model of interest expense estimation on deposit operations	↑	↑
efficiency of use of funds in deposits	effective / ↑	highly effective / ↑
assessment of the use of deposits as a whole	effective	effective

At the same time, there is a certain discrepancy between the degree of efficiency and the assessment of the nature of the trend. For example, the degree of efficiency is highly effective, and the trend is negative. Conversely, the degree of efficiency is ineffective, and the trend is positive.

In particular, the interest margin of Sberbank for the period was in the range from 4.3% to 6%, which is more than the generally accepted norm (from 1% to 3%). These figures can be explained by the fact that the bank occupies the main market share of deposits and loans. The reasons for the negative trend are the rise in the cost of resources, the bank's reduction in interest rates on loans, the reduction in the share

of income assets in their total volume. The value of the interest margin of B&N Bank (the interval from 1.4% to 2.1%) corresponded to the optimal rate; only in 2015 the negative value of the indicator was obtained. The reason for the negative trend—the value of interest expenses exceeded the value of interest income, justified by the need to join a number of banks to B&N Bank.

E. Advantages and disadvantages of the methods used in the study to assess the effectiveness of attracting resources to deposit operations

The advantage of the coefficient method is the simplicity and the ability to find data in the annual and financial reports of banks posted by them as a public report on their official websites. On the one hand, this method, based on the calculation of coefficients, is imperfect due to the lack of the ability to take into account the dynamics of the estimated system, as well as the behavior in the market, the size of the bank, marketing policy and business reputation of the bank.

The advantage of the step-by-step method is the volumetric nature of the assessment, which allows for a comprehensive analysis of the banks' use of the resources attracted to deposits, including factor models, composition, structure, dynamics of deposit balances, as well as their receipt and disposal. Allows for horizontal and vertical analysis of funds in deposits in the following categories: by types of depositors (individuals, legal entities); by terms of placement (term, demand); by types of deposits (cash, securities). The disadvantage of this technique is the lack of the ability to compare banks of different sizes (resource base).

F. Algorithm of complex estimation of efficiency of use of deposit resources of commercial bank

The authors of the study [23] propose a four-stage algorithm for comprehensive evaluation of the efficiency of deposit resources of a commercial bank.

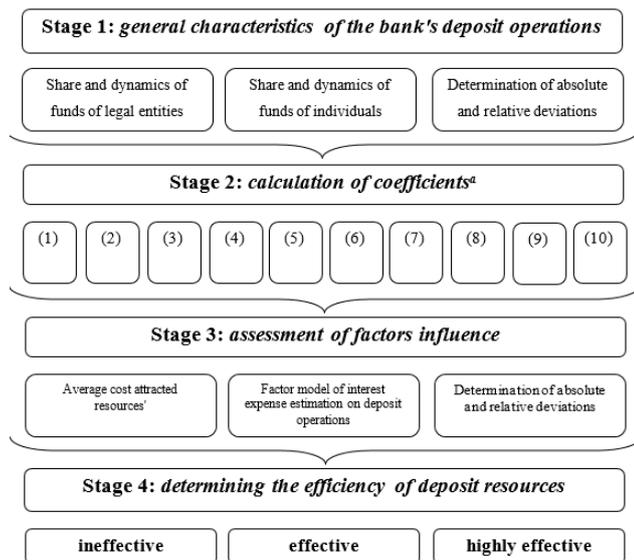


Fig. 1. The scheme of the algorithm for assessing the efficiency of deposit resources of a commercial bank

^a. The legend of the coefficients: (1) interest margin; (2) net spread; (3) efficiency of use of the involved resources; (4) transformation ratio; (5) efficiency of use of deposit resources (involved funds and liabilities) for financing credit investments; (6) effectiveness of the use of involved funds; (7) the effectiveness of the use of liabilities; (8) profitability of deposit resources; (9) return on borrowed funds; (10) the coefficient of efficient use of funds in deposits

1) The first step would be to conduct a general characterization of the deposit operations of the bank on the timing, the amounts and categories of investors. The analysis period is at least three years (long—term perspective), possibly several quarters or months, in order to adjust for the seasonal component, which is particularly evident in the accounts of individuals (for example, a decrease in account balances associated with the period of summer holidays or new year holidays). Determine the absolute and relative deviations of indicators.

2) At the second stage, it is proposed to apply the coefficient methods. To calculate such factors as interest margin, net spread, transformation ratio, efficiency of use of attracted resources, efficiency of use of deposit resources, efficiency of use of attracted funds, efficiency of use of liabilities, profitability of deposit resources, profitability of raising funds and efficiency of use of funds in deposits. In terms of the ratio of the degree of efficiency of the bank's deposit resources use on the basis of individual coefficients and the influence of factors (highly effective, effective, ineffective), as well as the assessment of the trend indicators (growth or decline), the total assessment of the bank's use of its deposit resources as a highly effective, effective and ineffective is given.

3) In the third stage, a factor assessment is proposed. To assess the impact of the following factors: the average cost of attracted resources and interest expenses on deposit operations (simple factor model and its extended version of interest expenses on deposit operations). Also, for a detailed assessment, it is proposed to determine the absolute and relative deviations of the calculated indicators on the effectiveness of the bank's deposit operations.

4) The fourth stage is the final one. In terms of the ratio of the degree of efficiency of the bank's deposit resources use on the basis of individual coefficients and the influence of factors (highly effective, effective, ineffective), as well as the assessment of the trend indicators (growth or decline), the total assessment of the bank's use of its deposit resources as a highly effective, effective and ineffective is given.

5) The author's technique is not “perfect,” but more complex in comparison with the existing ones. The disadvantages and, at the same time, the reasons are as follows: not included a preliminary stage of the bank's activity characteristics in general, its size and behavior in the deposit market (in the study such a stage was held to identify the cause-and-effect relationships in the analysis of coefficients and the influence of factors); the method was not tested on a large; the method can be supplemented with other analytical and evaluation methods (for example, economic and mathematical), coefficients and stages, which confirms the flexibility of its formation and application.

The proposed method of assessing the effectiveness of attracting resources to deposit operations can be used in the practice of commercial banks, as a mechanism for the analysis of potential investors, and can also be used in the preparation of students of higher education in the discipline "Money. Loan. Banks," "Organization of the commercial bank," "Economic theory," "Money circulation and credit," "Analysis of the commercial bank."

IV. CONCLUSIONS

The transformation of money into capital that meets the needs of the population in consumer credit is the result of banks deposit operations. Demand in the financial market of deposit operations causes "rigidity" of competition among commercial banks.

In practice, there are different methods of assessing the effectiveness of attracting resources to the deposit operations of a commercial bank. The study revealed the "pros" and "cons" of such methods.

Evaluation of the efficiency of the use of attracted resources in the deposit operations of Sberbank and B&N Bank, allowed us to draw a conclusion about their effectiveness, taking into account the difference in the volume of operations and the degree of activity in the market of attracted resources.

The final assessment of the efficiency of the use of attracted resources in the deposit operations of Sberbank and B&N Bank (taking into account the above shares for each of the estimated criteria) is formulated as effective for banks. Almost the same result, despite the difference in the size of banks and the results obtained by the values of indicators, is based on the strategy of attracting deposits and acute response to market changes.

The proposed algorithm for assessing the efficiency of deposit resources of commercial banks identifies four stages.

At the first stage, it is proposed to carry out a general description of the deposit operations of the bank under study on the terms, amounts and categories of depositors. At the second stage, it is proposed to evaluate the complex of coefficients. At the third stage, it is advisable to assess the impact of significant factors for deposit operations. At the fourth stage, the final assessment of the bank's use of its deposit resources is given.

Evaluation of the effectiveness of attracting resources to commercial deposit operations should be based on the full characteristics of the bank, its activities in the deposit market and take into account the structure of the deposit portfolio of the bank.

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