

ENGINEERING APPROACH TO FORMATION OF HIGH-QUALITY MANAGEMENT POLICY FOR FINANCIAL INSTITUTION

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ABSTRACT

The banking system as the main link of the financial and credit system is the most important element of the reproductive structure of the economy: credit institutions organize the movement and redistribution of monetary and capital resources of the economy. The process of forming the structure of the economy in accordance with the requirements of the time largely depends on the efficient operation of the banking system. And this is obvious, since it is the banking sphere of activity that is practically the only component of the financial market, which even in changing conditions in the economy maintains relative stability since the banking system is one of the few macroeconomic determinants of the economy, which until now has functioned without significant crisis manifestations; and commercial banks, on the one hand, are a financial sector that quickly and flexibly responds to any changes in the financial market, and on the other hand, a unique financial and economic entity in terms of "getting money", as a rule, as a result of some banking operation through financial intermediation. The credit and banking system at the current stage of its development is affected by structural changes in the country's economy. An integral part of the ongoing changes is the complication of the institutional structure of the banking system, which implies the emergence of highly developed credit institutions as objective prerequisites mature. But the development process will affect, in particular, credit institutions for small business entities and individual borrowers. In this situation, it is extremely important for banking institutions to develop new, modern approaches to the formation of deposit policy, since it is from the attracted funds that the resources are formed, which the bank directs to other operations in order to make a profit. In turn, the greater the amount of profit received by the bank, the more favorable this will be for the macroeconomic processes of the country.

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1. INTRODUCTION

Deposits of commercial banks play an important role in the formation of resource policy and, as a result, in the banking institution efficiency (Liu et al. 2020). Therefore, the engineering approach to the formation of commercial banks deposit policy in modern conditions is

of decisive importance (Babur et al. 2020). That is, the need for the development and implementation of new methods, formulas, algorithms developed on clear mathematical dependencies is increasing (Nechuiviter, 2021). It is advisable to define a deposit as funds that are transferred by their owner or another person on his behalf

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in cash or non-cash forms to the account of a commercial bank for storage under certain conditions.

2. MATERIALS, METHODS AND OBJECTS OF RESEARCH

The prerequisites for an effective deposit policy were already considered by Keynes (Eichengreen 2020). Leading economists and scientists of our time paid great attention to the costs of investment, savings, consumption, the formation of the discount rate, changes in the interest rate, and the size of national income (Li & Pizer 2021). Deposit policy depends on the level of savings and consumption, which in turn determines credit policy, which has a direct impact on production volumes, the level of national product and national income, and the welfare of the nation. In Keynes's economic model, aggregate demand or planned expenditure (E) is divided into consumption (C) and investment (I), and aggregate supply is determined by the level of national income (Y). The equilibrium condition is therefore characterized by the equation:

$$Y=E=C+I$$

According to Keynes's "fundamental psychological law", people tend to increase their consumption as income increases, but not to the same extent as income increases, i.e. $C=C(Y)$, with the marginal propensity to consume $C=c/Y$ greater than zero but less than one: $0 < c < 1$. For simplicity, in economic models the relationship between income and consumption is very often considered linear and is written as follows:

$$C=a+cY,$$

where a is the autonomous level of consumption, independent of the volume of national income; c is the marginal propensity to consume; Y is the national income. Graphically, the Keynesian consumption function is expressed by a straight line intersecting the ordinate axis in the positive quadrant. The tangent of its angle of inclination is equal to the marginal propensity to consume, and the distance between the origin and the point at which the line intersects the ordinate axis is equal to a , as shown in Figure 1.

Modern banks offer their clients a wide range of services, participating in financial transactions of various types.

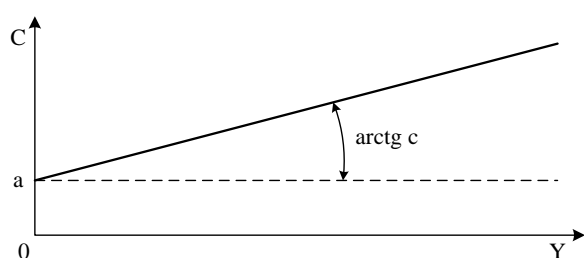


Figure 1. Keynesian consumption function

Thus, according to Keynes's teachings, a person's psychological inclination to save a certain part of income

restrains an increase in income due to a reduction in the volume of capital investments, including deposits, on which permanent income depends. A person's marginal propensity to consume is constant and can determine a stable relationship between an increase in investments and the level of income. All this indicates that Keynes's theory takes into account the significant influence of non-economic factors on economic growth: the state, stimulating consumer demand for means of production and new investments, and the psychology of people (predetermining the degree of conscious relationships between economic entities). The main points in Keynes's teaching that can be applied by the state in forming deposit and credit policy at present can be:

1. Increase, if necessary, the money supply in the country (as a means of making it cheaper and, accordingly, reducing interest rates and encouraging investment in production);
2. Approve price increases as a way of stimulating the expansion of trade and production);
3. Recognize that lack of money causes unemployment;
4. Understand the national nature of economic policy.
5. Increased investment and the resulting growth in national income and employment can be considered a beneficial economic effect. When the total amount of investment increases, income increases by an amount that is K times greater than the increase in investment. The reason for this situation is the "psychological law" according to which "as real income increases, society wants to consume an ever-decreasing portion of it."

The period of economic growth that Russia is experiencing must be reinforced by effective macroeconomic policy. The basis of such policy should be a policy of increasing investment in the real sector of the economy. And in this situation, it is necessary to turn to the concept of stimulating the investment process and use the elements that were used by D. Keynes.

According to the scientist, one of the components of increasing investment in the economy is stimulating an increase in the volume of the deposit market. The deposit market should become one of the most important goals of the monetary policy of the Central Bank. The growth of investment volume is the material basis for increasing the monetary income of the population and enterprises, which will lead to an increase in the amount of money in deposit accounts.

Today, new trends in the development of the banking sector are determined by increased competition between banking institutions. The banking institutions created in Russia fully meet the requirements of the time.

In the financial and credit sector, this was indicated by the emergence of a large number of financial companies and banking institutions that carry out operations in the financial and credit market, satisfying the needs of legal entities and individuals for financial services, and also exerting a positive influence on the formation of the revenue side of the country's budget.

Profits from these operations enable commercial banks to live in prosperity, developing those areas of activity that constitute the essence of the functioning of banking

institutions. The emphasis is on credit and deposit operations.

In the current conditions, the banking sector should focus on simple and traditional banking operations, namely, accepting deposits and issuing loans, since in the conditions of today's development with a high level of financial literacy of the population, the demand for basic banking operations is increasing. Now it has been possible to relatively stabilize the banking sector. The main reasons for the stabilization were:

- Access to financial and administrative sources of profit was limited;
- Due to tough competition, a significant portion of commercial banks went bankrupt (many commercial banks do not meet capital adequacy standards);
- The central bank managed to centralize the banking system and strengthen control over the activities of commercial banks;
- Stabilization of the banking sector allows commercial banks to formulate their policies in the credit and deposit markets, designating these areas as priorities in their activities.

The most important banking services in modern financial practice include the following:

- Providing various types of loans;
- Managing deposits and cash savings;
- Acting as an intermediary in making payments and other monetary settlements;
- Managing capital in the form of managing cash flows;
- Property and risk insurance services;
- Acting as an intermediary in issuing securities;
- Trust services, i.e. Guardianship or trust management of the client's capital for the benefit and in the interests of the owner of the capital;
- Agency services, including brokerage services on stock exchanges;
- Consulting, i.e. Providing consultations on a wide range of issues and problems of economic activity;
- Solving problems and tasks of investment analysis and planning;
- Audit services and monitoring with a guarantee of maintaining confidential information and accepting responsibility for the reliability of investments before the owner of the capital;
- Factoring, i.e. Purchase by a bank of the supplier's monetary claims against the buyer and their collection for a certain fee;
- Venture capital operations;
- Discounting of bills of exchange, i.e. Purchasing bills of exchange before the expiration of their circulation period;
- Safekeeping of valuables;
- Organization of check circulation;
- Financial support for production in the form of leasing agreements;
- Ensuring payments through a system of credit and debit cards and ensuring round-the-clock access to

deposit accounts through a system of cash and bank machines;

- Tracking the credit, investment and emission history of market entities, protecting the market from possible abuses, reducing investment risks, etc.

The resource basis for carrying out all these operations is, of course, deposit operations. In this regard, the formation of an engineering approach to deposit management plays an important role and is of great importance. Deposits are classified by depositors (legal entities and individuals) and by terms (on demand, fixed-term, conditional). It should be noted that the study defines conditional deposits, which explains their emergence by competition in the borrowed capital market, which forces commercial banks to look for new forms and ways of attracting deposits. A conditional deposit is opened for a client when he opens a current account. This deposit is mandatory, and its amount and the term for depositing funds into the account are determined by the bank. If the client does not fulfill the terms of this deposit, the bank may stop servicing it. This deposit is considered conditional because withdrawal of funds from it is possible only if the client closes the current account. It is perpetual, which allows the bank to use it as a long-term credit resource. By analogy with demand deposits, minimal interest is accrued on this deposit or is not accrued at all if the bank does not charge the client a fee for transactions on the current account. In the practice of commercial banks, conditional deposits are used extremely rarely (Manuylenko et al., 2022).

It can also be concluded that deposits are entries in bank accounts indicating the presence of certain customer requirements to the bank, or customer funds in banks in the form of deposits under agreements and contracts; deposits make up the bulk of the attracted resources of commercial banks and are divided into the following types: demand deposits, term deposits, savings deposits, and deposits in securities. It should be noted that some economists distinguish deposits in securities among the types of deposits. However, there is another point of view, according to which deposits in securities, for example, deposit certificates, are included in term deposits and are not classified as a separate component (Manuylenko et al., 2021a; Manuylenko et al., 2021b).

The meaning of the presented definitions of deposits is identical, but by generalizing, the following definition can be formed:

A deposit is money in cash or non-cash form, in national or foreign currency, transferred by its owner to the bank for storage in order to obtain profit for the depositor and carry out active credit operations for the bank.

Several stages of developing a bank's deposit policy can be distinguished, the main ones being:

1. Determining the bank's position in the deposit services market;
2. Forming the goals and objectives of the deposit policy;
3. Developing an appropriate model of behavior and positions of the bank in the deposit market;

4. Preparing a development program (implementation of organizational and technological measures).

The effectiveness of bank management is decisively determined by the effectiveness of developing a commercial bank's deposit policy. In this case, two main tasks are solved:

1. From what sources can the bank obtain funds with the least cost;
2. How can management guarantee a volume of deposits sufficient to provide the necessary volume of lending and other services for which there is demand.

For the successful operation of a commercial bank, an important element of forecasting the effectiveness of the bank's activities is monitoring passive operations. In the works of leading modern economists, attention is paid to the problems of ensuring the high-quality development of banks, but the authors do not consider the system of monitoring the deposit policy of commercial banks.

According to the interpretation of the Modern Economic Dictionary, "monitoring is a process of continuous observation of economic processes."

Monitoring of deposit policy in modern conditions is of great importance. The study of the banking services market in terms of raising funds can be considered from the point of view of:

1. Assessing a potential investor (based on the stability of the financial position and the possession of free monetary resources);
2. Assessing the cost of resources, since a significant factor influencing the result of the placed funds is the cost of the attracted funds;
3. Assessing the attractiveness of this bank in relation to similar services of other banking institutions in the region;
4. Assessing the state of the macroeconomic situation in the country and in the region.

Let us consider the proposed stages of monitoring using the example of deposit operations of individuals.

Deposits of individuals are the most reliable resource as a source of financing the long-term needs of the economy and the most significant regulated source of bank resources. It is no coincidence that in economically developed countries over 50% of the attracted funds are funds of the population.

Table 1. Dynamics of growth of term deposits and term deposits (billion rubles)

Period	Term deposits of legal entities, billion rubles	Growth compared to the previous period, times	Term deposits of individuals, billion rubles	Growth compared to the previous period, times
01.01.2021	9,0	1,9	4,5	2,6
01.01.2022	10,5	1,2	8,0	1,8
01.01.2023	13,9	1,3	14,2	1,8

In the Russian Federation, the situation in the predominant volume of funds attracted from individuals changed only by 2023. Table 1 provides an analysis of the outpacing growth of term deposits, that is, the

projected sources of individuals over term deposits of legal entities.

As of 01.01.23, term deposits of individuals exceed term deposits of legal entities by 2.2% or by 0.3 billion rubles. Such dynamic growth of term deposits of individuals became possible due to the economic recovery in Russia and, as a result, the stabilization of the banking system as a whole, in particular, due to the increase in equity capital.

When assessing a potential investor - an individual - the macroeconomic indicators of a particular region and the state as a whole are studied. The financial system of the Russian Federation turns to internal sources of investment. Banks fully utilize the population's readiness for savings (investment activity).

The growth of deposits of the population by year is characterized by the data in Table 2.

Over 4 years, the growth of deposits has increased by 2.5 times.

The growth of the volume of term deposits largely depends on macroeconomic indicators. The dynamics of growth of term deposits given below shows the growth of projected resources associated with the stabilization of the economy in Russia, despite the sanctions, and increased confidence in the banking system.

Table 2. Increase in population deposits in the Russian banking system, million rubles

Year	2020	2021	2022	2023
Growth of population deposits	2523	4556	8611	6273

Of course, the change in the volume of deposits of individuals is affected by the real income of the population, including the size of pension payments. Thus, the size of pension payments in 2022 in the Sevastopol region has increased by an average of 20%.

Let us consider the impact of the income level of the working-age population in the city of Sevastopol on the deposit portfolio of banks. The income level of individuals and the deposit portfolios of the Sevastopol branches of Bank "X" and Bank «Y» are presented in Tables 3–5.

Table 3. Average monthly wage level of the working population of Sevastopol

Period	Average monthly salary, rubles	Growth rate to the previous period, %
01.07.22	35330	–
01.10.22	37620	106,5
01.01.23	39130	104,1

The growth of the average monthly salary by 6.5% results in an increase in the volume of funds attracted by the Sevastopol branch of Bank "X" by 15.7% as of 01.10.02, and by 14.3% for Bank «Y». As of 01.01.03, the growth of the average monthly salary by 4.1% increases the volume of funds attracted by Bank "X" by 55.8%, and by

10.2% for Bank «Y». An error is allowed in determining the influence of the level of real income of the population on the dynamics of the deposit portfolio, associated with an increase in the number of depositors due to the influence of factors not associated with an increase in income of the population: the growth of the bank's image, the location of the bank and its territorial branches, the attractiveness of the price of attracted funds, etc. (Posnaya et al., 2020; Manuylenko et al., 2020; Gryzunova et al., 2019).

Table 4. Dynamics of the deposit portfolio of the Sevastopol branch of Bank "X"

Period	Volume of demand deposits of individuals, rubles	Growth rate, %	Volume of deposits of individuals on card accounts, rubles	Growth rate, %	Term deposits of individuals, rubles	Growth rate, %
01.07.22	207190	–	370750	–	119509	–
01.10.22	243990	117,8	404500	109,1	143547	120,1
01.01.23	339980	139,3	875630	216,4	163090	111,7

Table 5. Dynamics of the deposit portfolio of the Sevastopol branch of Bank "Y"

Period	Volume of fixed-term deposits of individuals, rubles	Growth rate, %
01.07.22	3692606	–
01.10.22	4220497	114,3
01.01.23	4651318	110,2

As is known, an excess of financial resources, that is, an increase in supply in the banking services market, leads to a decrease in the cost of resources, and vice versa. When monitoring, it is important to study the market capabilities by its elements: supply and demand, the cost of resources and the cost of their placement.

In a market economy, the cost of active operations is directly dependent on the cost of financing. This means that if market liquidity is artificially maintained, mainly due to the actions of the Central Bank regarding maintaining the planned level of inflation, then the deposit rate is set by commercial banks above the Central Bank's key rate and tends to grow. All this increases the bank's costs of attracting funds.

With the refinancing rate currently in effect at 18%, interest rates on deposits in Sevastopol range from 12 to 18% per annum, which cannot but affect the bank's performance.

The policy of tariff rates is formed by the bank taking into account the ratio of the total amount of the effect obtained from operations related to the placement of funds to the costs associated with attracting funds, which can be considered as the efficiency of the funds being placed (Koniagina et al., 2019a; Koniagina et al., 2019b).

3. RESULTS AND DISCUSSION

Taking into account the conducted research, it is possible to identify the problem of choosing a mechanism for forming costs on the bank's resource base, which would reflect an adequate economic situation.

The regulator, through economic standards for regulating the liquidity of the bank balance, directs the activities of banks to form a resource base taking into account the reliability factor. However, such influence remains indirect. Commercial banks independently create their resource potential in accordance with the development strategy.

Achieving optimization of the structure of liabilities in the context of economic transformation is possible if the bank fulfills a number of conditions. The following methodology for forming costs on the bank's resource base is proposed.

First, it is necessary to determine the priority aspects of individual types of resources. For this purpose, a structural analysis of the formation of the resource base is carried out: based on the performance indicators of commercial banks, the economic efficiency of resources is calculated, attention is paid to the costs of each type of resources, their share in the bank's interest expenses and the average cost of each type of resources, the bank's capabilities when placing each type of resources taking into account the term of attraction and obtaining the average margin based on the results of activities.

Secondly, a subjective analysis of the independence of individual elements of the resource base from a number of factors is carried out according to individual criteria. The bank manager can conduct this analysis independently or with the help of another organizational structure. A model for forming costs based on the bank's resource base is proposed, which is, in essence, universal (Figure 2).

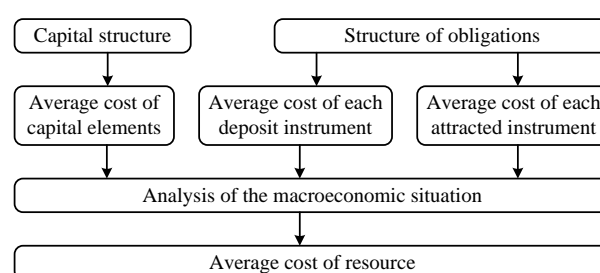


Figure 2. Model for predicting the bank state

The best option for forming bank resources from the majority of possible ones is proposed to be selected on the basis of a rating assessment of the independence of individual elements of the resource base from the influence of macroeconomic factors (Posnaya et al., 2018a, Posnaya et al., 2018b; Posnaya et al., 2020).

In order to ensure the financial stability of a commercial bank, it is necessary to optimize the ratio between the following components of the resource base:

- Authorized capital;

- Reserve capital;
- Conditionally permanent balance on current and other accounts of clients;
- Term deposits of enterprises and organizations;
- Deposits of citizens;
- Interbank credit.

Such types of resources as undistributed profit during the year, undistributed profit of previous years, loans from the Central Bank, and securities of own debt are absent here.

Considering that the reliability criterion means that the bank will be satisfied with the level of profitability that is actually obtained, it is economically inexpedient to optimize profit using a similar method. Loans from the Central Bank are a specific resource that is reflected in the bank's balance sheet as a loan of last resort in order to ensure current liquidity or to finance specific programs as a refinancing loan, which is the most expensive resource of a commercial bank. Therefore, the Central Bank loans are not included in the model of optimization of the bank's resource base. Due to the fact that the securities of own debt are actually absent from the

liabilities of the balance sheet of the banks under study, this resource is also not taken into account in the optimization model.

4. CONCLUSION

The proposed system for assessing elements of the resource base of a commercial bank is characterized by the following:

- The system is subjective;
- The manager's thoughts are the main factor in making decisions on optimization;
- Factors that influence elements of the resource base can be changed due to objective and subjective reasons. Therefore, the proposed methodology has the following advantages:
- The ability to change macroeconomic factors;
- Depending on the goals set, it is possible to analyze the influence of any number of factors.

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