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Importance of GAP Analysis of Asset and Liability Operations in Banks

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A B S T R A C T
In this article, the importance of ensuring the stability of resources, prevention of transformation risk, implementation of GAP analysis is mentioned in this article.

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Introduction

The country's economic stability is related to the effective functioning of the banking system, and timely assessment, management and prevention of existing problems in it increases the confidence of bank customers.

Today, the expectations of customers from the bank are increasing. Therefore, we can see that the banking services are customer-oriented and continuous development of performance is being carried out.

The formality and complexity of the liquidity management process for each commercial bank depends on the size of the banking organization and the nature of its assets. However, the effective management of liquidity in any bank and any set of operations requires advanced information systems, asset analysis systems, and the analysis of conditions for attracting and placing funds, alternative plans for market development, and contingency planning. In this regard, a deep and comprehensive assessment of the state of liquidity of a commercial bank is carried out by the supervisory body not only on the basis of information on the structure and quality of the portfolio of bank assets and liabilities, but also by studying its internal liquidity.

Literature Review

Turning to the opinion of economists, E. V. Velik "... the main goal of asset and liability management is to obtain the maximum benefit from the invested capital in the short and long term in order to ensure the solvency and liquidity of the credit institution"[1].

This definition describes asset and liability management as the main source of profit for banks.

In particular, the economist S.M. Ilyasov gives the following definition: "The process of asset and liability management is aimed at attracting the maximum allowed amount of resources (own and debt funds) and placing them in the most profitable assets with a level of liquidity and a limited level of risk"[2]. In the definition of S.M. Ilyasov, attention is also paid to the level of liquidity and risk, we can certainly increase the bank's income by managing these factors.

For successful operation, the bank must ensure the coordination of passive and active operations: on the

one hand, avoid a significant mismatch in liabilities and assets, for example, not to issue long-term loans at the expense of short-term resources in the amount of money that significantly exceeds the stable balance of funds sufficient for the next payments in bank accounts should not be placed [3].

Research methodology.

This article uses methods such as analysis of scientific works, scientific monographs, textbooks and articles of foreign and domestic scientists, statistical analysis of commercial banks, analytical comparison of tables, grouping, calculation of quantity and quality indicators, comparing them with each other.

Analysis and discussion of results.

GAP is an analysis that uses a quantitative assessment of the impact of interest rate changes on net interest income (interest margin) as its goal, and is used by banks in two ways to manage interest rate risk, both for hedging and for speculative purposes.

In this case, despite the bank's resource limitations, banks should pay attention to whether the customer's requirements are correct or not. Also, performing a GAP analysis in customer service helps identify problems.

GAP analysis is a comprehensive analytical study that examines the inconsistencies, gaps between the current state of the bank and the desired state. This analysis also makes it possible to identify problem areas that hinder development and assess the level of readiness of the bank to move from the current state to the desired state.

These spaces may include:

- the gap between the bank's market offer and the current level of demand in the market;
- the gap between the current activity or banking operations and their characteristics and what it should be from an ideal or management point of view;
- the gap between the real goals and objectives of the bank as a whole and, in particular, the employees, and on the other hand, theoretically necessary goals and objectives.
- the difference between current performance and industry best performance.

The rule of GAP analysis allows to draw conclusions about the inconsistency of the internal marketing environment with the external environment or internal inconsistencies. This can be, for example, a discrepancy between the management plans and the understanding of the executives, as well as the inconsistency between the banking services and the competition environment, and the perception of the products.

The purpose of GAP analysis is to identify financial market opportunities and banking opportunities that can be turned into effective financial market advantages for the bank.

In other words, GAP analysis makes it possible to maximize the bank's internal capabilities and make the most of external capabilities. In addition, gap analysis allows you to eliminate problematic situations within the bank, to resolve the conflicting demands of departments, processes, programs and marketers.

Also, GAP analysis can be used both in daily practice to increase the efficiency of the work of individual branches of the bank, and in the process of strategic planning. In the second case, the use of GAP analysis is the most effective, because it allows a realistic assessment of the feasibility and effectiveness of their implementation before agreeing, approving and financing the planned goals and objectives.

GAP analysis process in commercial banks allows to compare the current situation in the organizational structure of the bank with the expected situation in the future. Based on the collected data, it means that it is possible to assess the possibility of using the bank's methods to achieve the tasks. First of all, the scheme of improvement is determined, and then the desired state is developed. At the next stage, a detailed program for the development of the company in the desired direction will be developed. In simple cases, it is enough to develop a sequence of actions, in more complex cases, it is necessary to develop more complex organizational forms - project groups, test solutions, various options, schemes.

First, a forecast will be developed regarding the future demand for bank products and services and customer preferences, as well as bank interest rates. If the forecasts are uncertain and provide many scenarios for the development of events, a separate scenario should be developed for each scenario.

At first glance, there are not so many concepts of service marketing as it seems to an inexperienced marketer or researcher. Among the most popular is the so-called "GAP-analysis" or "incompatibility model".

This information then helps the manager identify cost-effective ways to address service quality deficiencies. In the GAP analysis, it is necessary to make an important decision taking into account scarce resources in the first place.

At the same time, the process of managing assets and liabilities is considered important for commercial banks. In this process, the structure of the bank balance is changed in order to achieve a certain result. Objectives vary depending on bank constraints, policies, market conditions and regulation. These objectives can be achieved by managing interest rate risk and liquidity risk. In this case, it is appropriate to use GAP analysis. GAP for commercial banks is the simplest and most common method of measuring interest rate risk for the traditional static model of analysis.

The analysis involves estimating the expected net interest income and then determining a strategy to stabilize or increase it. This is important in the process of managing active and passive operations.

In percentage risk management, balance and off-balance positions are determined by calculating GAP over a period of time based on accounting data. In this case, without a change in the composition of the balance sheet, only the change in interest rates affects the bank's income. Examining GAP values gives us a summary of the level of changes in the network, that is, changes in interest rates affect changes in net interest income.

Let's consider the main stages of statistical GAP analysis:

- development of forecast of changes in market interest rates;
- selection of time interval processes;
- grouping of assets and liabilities according to interest rates by time interval
- calculation of GAP value;
- predicting expected net interest income through interest rate changes and revaluation parameters of financial instruments.

This method analyzes prospective liquidity, which is characterized by the prediction of the movement of funds in the period depending on the plan in terms of compliance or non-compliance according to the size and specific duration of the resources. The analysis provides for the calculation of the size and duration of contracts and deals, which are grouped by the type of currency and the date of execution. Liquidity disruption is also defined as the difference between assets and liabilities, the repayment and return of which coincides with the same period. As a result of the analysis, a breakdown diagram of the main currency, the collected data and its growing dynamics will appear. To manage short-term liquidity, a bank typically uses a break-even profile that shows the current position as passive or asset growth. Importantly, dynamic changes in the structure and volume of assets and liabilities of a real bank in its activity always lead to the appearance of positive or negative interruptions in liquidity. Ignoring the recurrence of liquidity disruptions may lead the bank to misjudge its current liquidity position in the future.

Historical data on outage dynamics is collected to prepare for analysis. As with existing contracts and deals, their execution will continue in the future, as well as a database of statistical predictions on an unknown volume - customer receipts, new contracts and deals.

Disruptions related to the transfer of customers and bank transactions are analyzed separately. Liquidity disruptions related to the provision of banking services to clients are usually relatively random in nature, because in most cases the size and duration of these operations are not clear. As a result of the bank's active and passive transactions, liquidity interruptions are usually deterministic, as the size and duration of these transactions are determined by the management decision. The bank, acting as a financial

intermediary, strives to satisfy the needs of its customers more fully. The bank can refuse in favor of the client relatively painlessly when carrying out banking operations. Therefore, it is possible to change the dynamics of interruptions for the bank, which shows the establishment of the laws of random occurrence of new interruptions, which are more interesting in connection with the carrying out of term transactions with customers. Time-dependent imbalance risk is examined separately against foreign currency, with an additional assessment of its correlation to liquidity and currency risk. Liquidity management can be significantly complicated if foreign currency is not freely tradable. An additional advantage may be a well-developed market for spot and forward contracts. Also, the risk of calculation errors and the risk of non-fulfillment of obligations by the counterparty are assessed.

A suitable statistical model is selected after the study of the legality of the liquidity interruption dynamics. Different models can be used to predict the worst-case, most-likely and best-case outages. Such forecasts allow to assess the limit of interruptions against the time period, as well as to optimize the size and duration of the bank's personal operations.

Then the limit is set for this period in the amount of the interruption relationship to the sum of liabilities of this period. Choosing the optimal coefficient of transformation for different periods is an important task of financial management, which is supervised by the committee on the management of assets and liabilities. If there is a significant imbalance, the restructuring of assets or liabilities in time, or the attraction of new liabilities (bets on new assets) is ordered.

The essence of the method is that the bank's assets and liabilities, which are sensitive to changes in interest rates, are grouped by time intervals, maturity or revaluation. For each period, the gap is defined as the difference between such assets and liabilities:

where SFA is net interest-bearing assets;

SFM is net interest-bearing liabilities.

A negative value of the indicator indicates that the bank has more liabilities than assets that are sensitive to the interest rate in the period under review. If all interest rates rise by the same amount at the same time, interest expense will increase by more than interest income. As a result, net interest income will decrease. If interest rates fall, the reduction in interest expense will outweigh the reduction in interest income, leading to an increase in net interest income.

If the indicator is positive, the bank will have more sensitive assets than liabilities. In this case, net interest income increases when interest rates rise, and decreases when interest rates fall.

The following formula is used to estimate the change in net interest income (SFD):

SFD= GAP□ Di[4]

Here, SFD is the expected change in net interest income;

Di is the expected change in interest rates.

The expected change in income is realized if the rates are at the expected level during the period under consideration.

Interest margin is used to comprehensively assess interest rate risk. Interest margin is the difference between interest earned and interest paid. The interest margin ratio shows its actual level and is calculated as follows:

There are different ways to assess liquidity risk:

- determination of the bank's liquidity status;
- asset management,
- joint obligations (structural liquidity);
- method of liquidity indicators.

Banks usually use a combination of different methods in their liquidity risk management activities. The

liquidity risk assessment system has three main aspects: management of specific refinancing requirements, market access and contingency planning.

Analysis of net refinancing requirements involves creating a map of terms and determining the surplus or shortage of funds on certain dates. Banks should not only pay attention to the contractual terms of expected cash inflows and outflows, but also regularly evaluate expected cash flows.

Conclusions and suggestions.

In conclusion, in crisis situations, the bank considers liquidity, if a significant part of the bank's obligations cannot be extended or replaced, as a result of which the bank's balance sheet is reduced.

Thus, gap analysis is one of the most common methods of measuring interest rate risk. GAP is the difference between the sum of long and short positions in financial instruments that are sensitive to changes in fixed interest rates in each time period. GAP can be calculated in absolute and relative terms. From a relative point of view, the ratio of the amount of assets calculated according to the calculation method in each time period to the amount of liabilities calculated according to the calculation method in each time interval is determined. The value of GAP, which can be positive and negative, allows to analyze the possible change in the net interest income of the credit organization as a result of changes in interest rates.

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