PORTFOLIO MANAGEMENT OF ASSETS AND LIABILITIES IN COMMERCIAL BANKS OF UZBEKISTAN

Abdullaev Altinbek Yangibaevich*

*Professor, Doctor of Economics,
Head of the Department of Banking,
Samarkand Institute of Economics and Service,
Samarkand, UZBEKISTAN
Email id: oltinbek60@gmail.com

DOI: 10.5958/2319-1422.2022.00012.1

ABSTRACT

The purpose of the article is to develop the theoretical foundations, methodology and mechanisms of bank portfolio management, as well as to develop practical recommendations for improving the asset and liability portfolio management system in commercial banks.The article exploresa holistic concept of managing portfolios of assets and liabilities in a modern commercial bank based on the development of the theory and methodology of portfolio management and the development of mechanisms for its implementation within the overall system of banking management.The conducted research allows to significantly speed up the process of developing management decisions in the bank and increase their efficiency.

KEYWORDS: *Asset And Liability Management Of The Bank, The Mechanism Of Bank Portfolio Management, Banking Management,The Process Of Developing Managerial Decisions In The Bank,Development Of The Theory And Methodology Of Portfolio Management.*

INTRODUCTION

To date, it is impossible to give an unambiguous assessment of the current situation in the domestic banking sector. On the one hand, the banking system of Uzbekistan is showing a positive trend in many indicators, gradually recovering from the global pandemic. The published data show that the collapse of the banking system has already been averted and the anti-crisis support measures carried out by the state have had a positive effect. On the other hand, high risks remain in all areas of banking, and only banks with state participation can consider themselves to be somewhat insured against bankruptcy.

Many unresolved problems with lending and financing have accumulated in the banking industry, new threats have emerged related to the state of the world economy and government intervention in the banking sector: firstly, the banking sector is negatively affected by the continuing structural imbalances in the economy of Uzbekistan. The prevailing development of several industries does not allow banks to create a diversified resource base, and forms a limited circle of domestic reliable borrowers.

Secondly, the consequence of the global pandemic was an unprecedented portfolio of problem loans for the banking sector of Uzbekistan. At the same time, a significant part of the problems is hidden due to the fact that lending to non-financial organizations and individuals in the post-crisis years was largely associated with the refinancing and restructuring of previously issued loans. Thirdly, the desire of the state to save banks from the financial crisis, of course, prevented the collapse of the system, but led to a significant politicization of the banking sector and the strengthening of monopoly tendencies in it. As a result, the systemic risk has significantly increased, when the deterioration of the financial position of one of the banks can lead to the disorganization of the entire banking sector. Fourth, due to unrecovered profitability and the high debt burden of some industries, lack of public confidence in the sustainability of income growth in the near future, moderate dynamics of demand for credit is expected. Even in the event of a revival in consumer and investment demand, banks will not be able, as in the pre-crisis period, to quickly increase borrowing due to the significant accumulated debt burden and the downgraded credit rating of Uzbekistan.

Fifthly, under the influence of the global pandemic, there was a sharp drop in the growth rates of the banking systems of most developed countries, a number of eurozone states were on the verge of default, significant currency contradictions between the leading countries of the world were exposed, and the generally recognized world currencies became de facto dependent on the Chinese yuan. All this testifies to the turbulence in the world financial markets and the unstable state of the world economy.

In the conditions of modern instability of the economy, the issues of effective management in the banking sector are extremely acute. Given the limited access of banks to resources and the growing risks in the placement of assets, only those banks that are able to implement approaches that increase the scientific validity of decision-making will be able to successfully conduct their activities. However, the effectiveness of bank management remains low. The problems of insufficient diversification of banking activities, poor coordination of efficiency, risk and liquidity management, dependence on sources of resources that are sensitive to changes in market conditions and to factors of confidence in the banking system as a whole, indicate that the management of modern banks lacks a scientific base, strategic vision and an integrated approach to asset and liability management.

The role of the banking system in the economy dictates special attention to ensuring their sustainable development. Science has accumulated enough knowledge about the methodology, methods and techniques of banking management in conditions of increased risks. Obviously, it is necessary to deal with the growing risks of modern banking by all available means, including portfolio management tools, which have a strong potential and advantages over others, since it was developed specifically for risk management purposes.

The problem of asset and liability management in terms of its importance and relevance is one of the main ones in banking management. It is necessary to develop new evidence-based approaches that correspond to the goals of ensuring high profitability of banking activities in compliance with the requirements of financial stability. In this regard, the refinement of the theoretical foundations and the justification of specific practical recommendations for the development of methods and tools for managing the assets and liabilities of a commercial bank in modern conditions are important tasks of economic research. At the same time, like any process, they require constant improvement, since the problem of eliminating a certain gap between theoretical research and the main procedures for their practical application is extremely acute.

An urgent need is to develop the theory and practice of optimal management of commercial banking assets and liabilities, using the achievements of mathematical management theory, which will ensure the stability of banks through more efficient use of available resources. As a rule, the need to maintain sufficient liquidity and stability of the bank entails a "reinsurance" structure of assets and liabilities, characterized by low profitability, which significantly limits the bank's ability to develop. In this regard, the application and improvement of the portfolio management concept of a commercial bank becomes an objective necessity, and the development of adequate tools for managing a banking portfolio acquires not only theoretical, but also great practical importance.

The problems of forming a portfolio approach to managing various types of assets and liabilities of a commercial bank are devoted to the works of such scientists as E. Altman, T. Bowler, M. Bethe, N.I. Beloglazova, E. Gill, X. Grüning, E. Dolan, F Jorion, P. Cossey, R. Kotter, O.I. Lavrushin, I.V. Larionov, V.T. Sevruk, AM Sinki, R. Smith, P. Rose, M. Thomas, D. Horn, D. Shirreff, E.B. Shirinskaya and others.

Kolesnikov Yu.M. (2000)adapted the theory of diversification of the investment portfolio of Markowitz to the portfolio of banking assets in general and the loan portfolio in particular. At the same time, the necessary diversification of the portfolio is determined by the low degree of correlation between individual types of assets, types of loans, borrowers (issuers), etc.; it is proved that the Savings Bank, due to its special status, is both an economic entity and an economic management body; from this point of view, an assessment was made of the implementation of the theoretical provisions identified by the research in the practice of managing the assets of the Savings Bank; methods for assessing the risk of bankruptcy of enterprises were tested (Z - Altman model, Chesser loan supervision model, Irkutsk R - model and coefficient of loss (recovery) of solvency) and appropriate recommendations are given to improve the assessment of the creditworthiness of legal entities, banks, authorities of subjects and municipalities, individuals based on them; a new approach is given to assessing the financial position of the authorities of the subject, as one of the main borrowers of the Savings Bank, based on determining the consolidated credit rating of the borrower, taking into account the values of the borrower's credit ratings calculated according to the methods of Sberbank's own methodology and according to the methodology of the rating agency "EA - Rating", as well as the value of the indicator of economic development of the region.

Selimov T.R. (2011)clarified the methodological bases for determining the main directions for assessing the quality of asset management of commercial banks of the Republic of Dagestan, aimed at identifying the effectiveness of loans and other funds placed. The study proposes a system of methodological support for the analysis of the financial condition of commercial banks as part of an asset management strategy, which allows the use of certain indicators, methods and techniques of analysis to assess the effectiveness of bank management; the methodological provisions for analyzing the composition, structure and dynamics of loan assets are substantiated, the author's version of optimizing the structure of loan assets under the conditions of crisis phenomena is proposed; proposed measures to improve the methodology for analyzing factors affecting the quality of bank asset management:

Rybin S.V. (2007) gave the author's interpretation of the optimal composition of banking assets, based on achieving an acceptable ratio of risk and return, taking into account the specifics of their formation in modern Russian conditions. The work carried out a classification of external and internal factors that limit the process of profit maximization in the course of managing a portfolio of banking assets, from the standpoint of consistency, the relationship between them was clarified; the use of simulation modeling as a tool for optimizing the structure of a portfolio of assets of a commercial bank is proposed as the most effective method of multivariate analysis of the behavior of the object under study at relatively low costs; a mathematical model was built for choosing optimal solutions for balancing assets and liabilities of a commercial bank, taking into account the complex influence of factor criteria, which, in addition, allows solving forecast and strategic problems, and the algorithm for its implementation is substantiated; directions have been developed to improve the methods of managing the assets of commercial banks, contributing to timely decision-making on optimizing their structure with checking sensitivity to changes in the economic situation or errors in forecasts.

The first attempts to adapt the portfolio theory to banking were quite slender in the classical sense, but too limited and complex for practical use. Subsequently, the development of portfolio approaches was carried out in certain areas of banking activity and mainly in relation to such bank portfolios as loans and investments in securities. At the same time, a holistic theory of portfolio management of assets and liabilities in Russian banks has not been developed, and the number of independent publications on this topic is limited. In addition, the current situation in the country and the world calls for a revision of previously built economic models designed primarily for a growing rather than a falling market.

The insufficient development of portfolio management problems in banks and the importance of finding ways to improve banking management predetermined the choice of topic, as well as the goals, objectives and structure of this study.

The starting point of the study was the study of the evolution of portfolio theory from its inception to the present day. The study of the genesis of the views of the founders and followers of the portfolio theory showed how the approach, developed for the applied purposes of reducing the risk of investing in securities by combining them into portfolios, received a complete expression in a holistic theoretical concept. The portfolio theory developed at the same time gives an interpretation of the processes of investing in securities, offers its own methodology for analyzing and making investment decisions, and describes the fundamental methods for forming investment portfolios. At the applied level, all this is embodied in specific economic and mathematical models, allowing to formalize the process of determining the composition and structure of financial investment portfolios in accordance with the interests of the investor. The study also showed how the ideas of portfolio theory spread and began to be applied outside the securities market - the area for which portfolio theory was developed and intended.

The main result of the review of the evolution of portfolio approaches in the study was the conclusion that the portfolio theory is based on a special model for setting and solving problems, which implies the recognition that the risk associated with investing in securities is inevitable and can be managed mainly through diversification, i.e. . by combining and distributing risks among unrelated groups of assets formed as separate portfolios.

The next stage of the theoretical analysis of the fundamentals of portfolio management was the study of the applicability of the basic provisions of portfolio theory in banking. For these purposes, the paper gave a detailed description of the bank's activities as a financial intermediary and concluded that the allocation of attracted resources, which is the essence of this activity, extends the scope of risks minimized by portfolio theory, not only to active, but also to passive operations of the bank, makes such cumulative risks, prolongs their duration, and the consequences of these risks become even more unpredictable, while avoiding these risks without refusing to conduct banking operations themselves, i.e. without losing the status of a bank, it is impossible. Thus, it is revealed not only the possibility, but also the urgent need for

At the same time, the paper proves that the strategy of financial activity proposed by the portfolio theory is based on the need and possibility of a rapid change in the composition of portfolios, taking into account the changing market conditions and the interests of the investor. The essence of this strategy is defined by foreign authors as "create and resell". According to it, the goals set during the initial formation of portfolios can be achieved if possible undesirable changes are compensated by selling individual portfolios or their parts. Traditional banking is characterized by a different conservative model - "create and hold", according to which, by attracting resources and placing them in assets, the bank holds the latter until maturity,

The inapplicability of the financial strategy stemming from the portfolio theory in traditional banking requires a significant modification of theoretical postulates. Without claiming and without making claims to create such a theory, in order to characterize the developed concept of banking portfolio management, the concept of "portfolio approach" is proposed as one of the options for implementing financial management, which is based on a set of methods, tools and means that can be used in asset management and liabilities of banks developed in the framework of portfolio theory, a model for setting and solving problems related to risk management.

The key methodological problem of applying the portfolio approach in banking management is the adaptation of management techniques recommended by portfolio theory to non-tradable asset portfolios. Possible solutions to this problem, as proved in the paper, should be sought in the development of a system of long-term valuations that allow making more informed "irrevocable" decisions regarding non-tradable assets (it makes it possible to increase the degree of validity of the forecast when making decisions in order to avoid the need to sell the asset) , in the application of special methods that allow, in the absence of a real assessment by the market, to determine the value of non-tradable assets close to the market, as is done in the accounting assessment of "net" the value of the asset minus the reserves created for its depreciation (makes it possible to use economic and mathematical models developed within the portfolio theory) and in the use of various financial instruments and techniques designed to give non-tradable assets the qualities of quasi-tradable ones (assignment of claims, transfer of debt, compensation), or giving the opportunity to create tradable substitutes on the basis of non-tradable assets (securitization, credit derivatives). The foundations of these techniques have been successfully used in banking practice for a long time, and the task is to develop them further. or giving the opportunity to create tradable substitutes on the basis of non-tradable assets (securitization, credit derivatives). The foundations of these techniques have been successfully used in banking practice for a long time, and the task is to develop them further. or giving the opportunity to create tradable substitutes on the basis of non-tradable assets (securitization, credit derivatives). The foundations of these techniques have been successfully used in banking practice for a long time, and the task is to develop them further.

In order to identify the essence of the portfolio approach, a comparative analysis was carried out in the work with other well-known approaches to management: situational, systemic, individual, streaming. The analysis made it possible to identify a number of specific features of the portfolio approach, which distinguishes it from others. This approach assumes: formalization of the characteristics of the controlled process and the use of the selected characteristics as the basis for the criterion for identifying homogeneous groups of control objects; subsequent unification of management objects into groups (portfolios), which makes it possible to consider heterogeneous objects as one and influence the common thing that unites them; access to the objective function for the subsequent solution of the optimization problem; the admissibility of particular deviations in the characteristics of the state of the managed object for the sake of observing the general.

In terms of its content, the portfolio approach is usually opposed to the individual approach. The preferred area of individual approach is a specific procedure or stage of the lending process (tactical level); the scope of the portfolio - the adoption of a strategic decision regarding the composition of management objects (strategic level). In addition, the individual approach is characterized by the completeness of the management cycle: it begins with the issuance of a loan and ends with its repayment. For portfolios of loans, the management cycle is never completed, the result of the management action is a new portfolio that requires further management, etc.

Based on the author's understanding of the content of the portfolio approach in banking management, the paper proposes the interpretation of banking portfolios as specially allocated from the total set of assets or liabilities of the bank in order to optimize their structure of separate groups of claims or liabilities, subsequently managed as a single object with common for each group characteristics of risk, profitability and liquidity. The composition and structure of bank portfolios and its sub-portfolios were also disclosed, which include a deposit portfolio, a portfolio of interbank loans, a portfolio of equity and debt own obligations of a bank, a loan portfolio, a portfolio of participation, a portfolio of investments in chain securities, a portfolio of liquidity and portfolios of off-balance sheet liabilities and requirements.

When managing each of its portfolios, the bank pursues specific goals: the loan portfolio in the most explicit form pursues the goal of making a profit; the investment portfolio has strategic goals for generating income in the long term; the portfolio of controlling participation is designed to solve the problems of developing the bank's infrastructure; the liquidity portfolio aims to form a cash reserve, etc. Based on this variety of goals, the paper concluded that the problem of optimizing risk in banking, which is classical for portfolio theory, is of paramount importance only for a limited range of commercial bank portfolios. In general, the problem of portfolio management in a commercial bank is to find the optimum in solving the triad of financial management problems - ensuring the necessary risk ratio,

The first step of the research carried out in this direction was the study of the principles of bank portfolio management. Despite the variety of interpretations of the portfolio approach in management and banking management, in particular, the question of its principles has not been raised or raised either within the framework of management theory or within the framework of the practice of portfolio management. The authors dealing with these problems proceeded from the general principles of management. Without denying the importance of these principles, the paper proves that portfolio management has significant specifics, which made it possible to formulate the principles of portfolio management used in financial and banking management in particular. These principles included: 1) the optimality of the decisions made; 2) strategic direction of management; 3) the diversity of the composition of banking assets and liabilities and tools for managing them; 4) mutual compensation of goals; 5) focus on loss management.

The first among the principles was the principle of the optimality of decisions made. The content of this principle is revealed in the work based on the essence of the problem setting and solving model, according to which the optimality principle is based on the formalization of the characteristics of the controlled process and the search for the optimum in the ratio of various elements of the optimized set of assets and liabilities of the bank according to several criteria, which are risk , profitability and liquidity. Thus, this principle involves the choice of the optimal of several portfolio options so that the structure of each of the elements of the population (portfolios of assets and bank liabilities) provided an optimal structure as a whole.

Portfolio management in a commercial bank should also be subject to the principle of the strategic orientation of decisions made, that is, it should always be focused on fulfilling the global goal of commercial banks and solving specific problems. The impossibility without a clear target orientation to find the optimum and achieve the goals of the formed portfolios is a common feature of portfolio management both at the strategic and tactical levels and is equally characteristic of both investment and speculative portfolios. At the same time, the bank as a public institution, unlike other investors, is responsible for the invested capital to its customers and society as a whole. This was expressed in the well-known concept of the bank as a strategic partner of the state, enterprises and population.

The implementation of the principles of optimality and the strategic orientation of the decisions made presupposes the need to comply with other principles, the most important of which is the principle of diversity (variability). From the standpoint of portfolio theory, a monoportfolio consisting only of assets or liabilities of the same type is not subject to optimization: the risks associated with assets or liabilities in such a portfolio cannot be distributed and, accordingly, the goal of portfolio management cannot be achieved. In particular, liabilities cannot be only long-term, and the bank's assets - only short-term or consist only of loans or exclusively securities. At the same time, the objects of management and means should also be diverse, that is, the variability of not only the composition of bank assets and liabilities, but also the tools for managing them is important:

The content of the principle of mutual compensation of goals is that the inclusion in the portfolio of assets that reduce its potential should be adequately compensated by the improvement of other characteristics of the portfolio that are attractive to the bank. In the event that such compensation does not occur or it turns out to be insufficient, the portfolio cannot be considered balanced. The principle of preferential loss management can be considered a development of the principle of mutual compensation of goals. Recognizing losses at the portfolio level as inevitable, the bank's task is to cover these losses with other income and maintain losses at an acceptable level.

The next step in the study of methodology issues was the characteristics of the methods of banking portfolio management. In the work, an approach was chosen to interpret the method as a method that is applicable for solving more than one problem. The paper shows that the solution to the problem of optimizing the composition and structure can be achieved using known methods of diversification, consolidation, acquisition, segmentation, compensation, hedging, securitization, limiting and equity participation in risks. The composition of these methods is most fully disclosed in risk theory. At the same time, the paper proves that these methods are capable of solving not only the problem of risk management, but can also be considered as methods of banking portfolio management in general.

Having specified, systematized and concretized the above methods, the paper proposes to distinguish two of their groups. The first group consists of methods that are of a general nature and do not fully reflect the specifics of portfolio management, characterizing only its individual aspects - these are methods of equity participation in risks, segmentation, compensation, hedging, securitization and limiting. The second group consists of methods that originated and developed within the framework of portfolio theory, but at the same time are used in other approaches. Among the latter in the work were attributed methods that are basic for the portfolio approach - these are diversification, consolidation and absorption.

The strategic role of diversification is key in the concept of portfolio theory author Harry Markowitz, who was one of the first to draw attention to this method of minimizing risk, proving that investors can reduce the standard deviation of portfolio returns, including stocks, prices for which change in different ways. Modern banks operate in various sectors of the financial market and the economy as a whole, diversify operations to attract and place funds, expand the range of products and services provided to customers. Thus, diversification is the most important method of banks' activity. The diversification mechanism is used primarily to neutralize the negative consequences of non-systematic (internal) types of risks of asset loss, loss of income and loss of liquidity. The action of the diversification mechanism is based on the dispersion of these risks, preventing their concentration. However, diversification cannot reduce risk to zero. This is due to the fact that the activities of the bank are influenced by external factors that are not related to the choice of specific objects of investment or capital raising. In addition, there is a diversification limit beyond which its effectiveness falls.

Complements the system of methods of the portfolio approach, the method of combining,

aimed at reducing the possibility of losing an asset or reducing profitability by turning incidental losses into relatively small fixed costs. "Linking" risks with each other, it is also possible to cover them with one reserve. In particular, this method is the basis of insurance and, unlike other methods, does not involve the rejection of risk or its limitation. At the same time, additional costs are associated with the use of the pooling method, which means the rejection of part of the income that is possible as a result of a risky operation.

The third method that has been developed within the framework of portfolio theory is absorption. The method is used when, having the opportunity to immunize itself from most risks, the economic entity nevertheless takes them upon itself. It is aimed at neutralizing the consequences of possible damage in the event of a risk event. The inability to avoid losses when taking risks means that certain actions must be taken so that the consequences of damage are minimal, and the main form here is the creation of reserves against losses that can cover losses and absorb them. At the same time, it is important to keep in mind that the creation of reserves makes it possible not so much to absorb and cover losses that will take place one way or another in any case, but to distribute them over time and stock up in advance with the necessary sources of financing losses.

In addition to the general characterization of the place and role of general and specific methods of portfolio management, the paper characterizes the features of the use of the latter in the activities of commercial banks.

The next stage of work was the study of the system of external regulation

banking activity in the aspect of implementation of portfolio approaches in the management of this activity. At the same time, the presentation of this system as a two-level one was justified, within which, at the mesolevel, the object of regulation is the total banking portfolio (composition and structure of the total banking system), and the conditions for entering the banking industry and types of banking activities are regulated (requirements for the size of equity capital, rules of the state registration, types of licenses, conditions of compulsory deposit insurance, etc.); at the micro level, the object of regulation is private portfolios of individual commercial banks, and regulation is carried out through a system of requirements for portfolio management in banks.

The result of consideration in the work of the place of portfolio approaches in the system of external banking regulation was the formulation of a number of methodological provisions that reveal the possibilities and directions for their improvement. For these purposes, the work summarized and presented in a complex the requirements of the Central Bank for the implementation of portfolio management in commercial banks, which included regulatory requirements for the structure and quality of bank portfolios and the requirements for organizing the management of individual portfolios in banks.

The paper shows that the requirements for the structure and quality of bank portfolios, set by the Central Bank, are the maximum restrictions on the portfolios of commercial banks from the standpoint of the "risk-profitability-liquidity" parameters, allowing banks, within the given parameters, to choose their own decisions regarding the volume and structure of portfolios of their assets and liabilities, using various methods and techniques of portfolio modeling and validation of the applied models. These included such requirements as mandatory economic standards for the bank's activities, the rules for the formation of the bank's reserves for risky assets, the procedure for calculating the limit

open currency position, a system of restrictions on the composition and structure of bank portfolios from the standpoint of assessing the possibility of allowing a bank to participate in the deposit insurance system, etc. These requirements are established as part of prudential banking supervision and act as mandatory norms for banking activities, ignoring which can lead to negative consequences for jar.

External requirements for the organization of management of individual portfolios in banks (credit, deposit, etc.) are more advisory in nature and are methods developed by the Central Bank in order to analyze and assess the state of bank portfolios for compliance with prudential standards, and also act as a component part of the requirements for the organization of internal control in banks and risk management of banking activities. Thus, in general, evaluating the system of external regulation of banking activities from the standpoint of the implementation of portfolio approaches in it, we can conclude that this system encourages banks to use portfolio management methods in their activities,

The conducted research proceeds from the fact that portfolio approaches were developed solely for the purposes of asset management. However, the classical task of portfolio theory - structure optimization - is also applicable to bank liabilities. The sphere of its implementation should be the structure of liabilities, in which equity and borrowed capital, equity and deposits, funds of the interbank market, etc. are balanced (are in a certain ratio). The validity of this approach is also confirmed by the presence of regulatory requirements for the structure of bank liabilities, which are applied in one form or another in banks in different countries.

The paper proves that the basic algorithm for the implementation of procedures

Portfolio management, which consists in finding the optimum ratio of "risk-profitability-liquidity" by distributing portfolios of assets in relation to the management of liabilities, needs to be modified, taking into account the specifics of liabilities as an object of management. Thus, the state of portfolios of liabilities cannot be directly characterized by the profitability parameter, since their formation is associated with the implementation of expenses. Not applicable to liabilities and such characteristics as liquidity, which have only the bank's assets. Of the triad of portfolio management goals, only the risk parameter is directly related to liabilities, but the content of this risk is not associated with incurring losses, as in active operations, but with the loss of liabilities as a source of activity.

Taking the above arguments as a basis, the paper concluded that when applying portfolio approaches to liability management, the search for the optimum in the ratio of profitability, risk and liquidity is transformed into the search for the optimal ratio of the characteristics of the term, cost and risk structure of liabilities by varying the composition of their portfolios.

No less fundamental characteristic of the management of banking liabilities based on portfolio approaches is the subordinate nature of such management - the search for the optimum here is not carried out independently, but in connection with the goals - financing of active operations. If this were not the case, then it would be optimal for the bank to form liabilities at the expense of its own capital, when all indicators of risk, costs and terms of repayment of funds would be at their minimum level.

Based on these basic provisions, the paper assessed the practice of portfolio management of liabilities in commercial banks. The study carried out in this direction led to the conclusion that the current state of banks' liability portfolios is characterized by disproportions, which are expressed in the following features:

- a new round of "bank capital race" is unfolding, which is determined by the decisions of the Basel Committee on tightening capital requirements for commercial banks and the plans of the Central Bank and the Government of the Republic of Uzbekistan to increase the minimum amount of own funds of banks. While the equity capital of the country's banks remains largely underutilized;

- Banks are still focused on household deposits as the main source of funds raised. The consequence of this is a high level of risk of concentration of portfolios of liabilities, when the share of customer funds in the structure of the total volume of the portfolio of liabilities accounts for more than 50%, half of which is formed at the expense of deposits of the population;

- the low level of bank borrowings in the domestic interbank market remains (the share of loans, deposits and other funds received from other commercial banks in the total liabilities of the banking system fluctuates within 11-13%). These processes take place against the backdrop of growing loans abroad, while reducing the share of funds received by banks in the form of state support and refinancing. All this also leads to the concentration of portfolio risks in bank liabilities;

- despite the efforts actively made by the Central Bank and the Government of the Republic of Uzbekistan to create conditions in the country for the development of bank borrowing instruments on the open market, their particular result was only a slight increase in subordinated loans. The share of bonds and promissory notes in the liabilities of banks remained insignificant, while the volume of funds raised by issuing certificates had a negative trend. The underdevelopment of bank borrowing instruments on the open market and, above all, in the form of debt securities and their derivatives increases the disproportion in the liability portfolios of commercial banks.

Giving an assessment of the reasons for the negative phenomena in the state of the liability portfolios of commercial banks, the paper noted that the post-crisis stagnation of economic growth and the ensuing increase in problems in the financial sector and the downgrade of the credit rating of Uzbekistan significantly limited the ability of most banks to diversify their portfolio of liabilities through raising funds in international markets. The resulting deficit of resources was partly filled by allocating state support to banks in the form of subordinated loans on self-financing terms, reducing the standards for deductions to the mandatory reserve fund, expanding the practice of placing budget and pension funds on bank deposits, and reviewing the conditions for refinancing commercial banks.

Under these conditions, the role of monetary regulation is growing. Until recently, the needs of the economy in cash were largely covered by interventions of the Central Bank in the domestic foreign exchange market. Such a mechanism, due to its limited scope, cannot be considered rational and, within the framework of the recent transition to new methods of monetary regulation based on the concept of inflation targeting, should give way to normal market mechanisms. The main tool for meeting the needs of the banking system in financial resources should be the mechanism for refinancing commercial banks by the Central Bank, and the refinancing rate - the main instrument of monetary regulation.

The imperfection of the state policy in the field of bank support is not the only reason for the poor condition of their portfolios of liabilities. This is no less due to the weakness of the domestic policy pursued by the commercial banks themselves. Such a policy, as it is proved in the work, as a rule, is reflexive in nature, focused on compliance with external norms and rules and does not aim to solve the problems of increasing the efficiency of liability management.

In order to improve the quality of banks' liability management, the work identifies, systematizes and generalizes particular areas of application of the portfolio approach in liability management. Such particular areas include management procedures that contain elements of the portfolio approach and are associated with the formation of reserves of reserve liquid funds and reserve capital, with the pricing mechanism for bank deposits using the general fund method, with the establishment of restrictions on their size at the level of portfolios of liabilities. and structure and with the implementation of a differentiated pricing policy in relation to various groups of liabilities.

When forming liquidity reserves (which are funds deposited in mandatory reserves with the Central Bank, insurance coverage of bank deposits within the framework of the mandatory deposit insurance system, as well as reserve assets held at the bank’s cash desk and on its correspondent account), the portfolio approach manifests itself in averaging the composition and structure of sources of funds attracted by banks when calculating the reserve base (total amount of funds raised, the amount of deposits attracted, the amount of funds attracted to demand accounts, etc.) and the application of a single reserve rate.

The reserve capital, created at the expense of the bank's profit, makes it possible to compensate for systemic risks that cannot be minimized through portfolio diversification and the formation of reserves of liquid reserve assets. The formation of reserve capital is carried out in order to ensure an appropriate capital position of the bank, which allows it to borrow in the interbank markets in crisis situations and thereby ensure the proper condition of its portfolios of obligations. Methodological approaches to assessing the size and sufficiency of a bank's reserve capital to cover liquidity risks are the subject of discussion, but their unifying point is an integrated risk assessment of a commercial bank's liability portfolios.

The portfolio approach in the management of liabilities is also manifested in the implementation by banks of the requirements of external regulatory restrictions on the composition and structure of portfolios of liabilities - the share of net interbank borrowings in the total volume of attracted funds, the volume of promissory notes issued by the bank in relation to the value of the bank's own capital, etc. These restrictions are of an administrative nature and are related to the need for commercial banks to comply with the norms of general civil legislation and the requirements of the Central Bank in the field of monetary regulation; At the same time, banks in their activities to raise funds have to rely heavily on existing restrictions and constantly structure their portfolios of liabilities according to the established requirements.

The most striking manifestation of portfolio approaches in the management of liabilities is the pricing policy pursued by banks in the field of raising funds. The general fund-of-funds pricing mechanism for bank deposits is based on the assumption that there is no value of a single deposit and non-deposit source per se, but a weighted average of all financial sources held by a bank. Such averaging enables the bank to determine the maximum minimum rate of return on investing funds and predict the degree of impact of changes in financial costs or interest rates on funds raised on the results of the bank's activities. With regard to various types of bank deposits, banks, on the contrary, it is necessary to pursue a policy of rate differentiation in order to ensure the structure of deposits they need. In addition, credit institutions have to focus on the limits set by the Central Bank on the interest rate on attracted deposits, etc.

A general description of the directions for implementing the portfolio approach in managing the bank's liabilities shows their particular nature. The paper proves the need for a system of measures for the development of portfolio approaches and the elimination of imbalances in the structure of portfolios of liabilities of commercial banks. In particular, the paper proposes a concept for reorganizing the resource provision of banks, which provides for the saturation of the economy with additional sources of funds and is designed to create conditions for diversifying bank liabilities and applying advanced portfolio approaches.

In order to implement the developed concept, it is necessary to:

- ensure equal conditions for receiving state support for all operating commercial banks. The paper notes that by supporting only large banks, the state thereby contributes to the formation of monopolies in the banking sector. At the same time, large banks with easier access to resources demonstrate a less responsible approach to risk management, take into account the specifics of their client base worse than their regional competitors, and are not interested in working in depressed regions and low-income market segments. Based on this, the paper concludes that it is necessary to support regional banks, which will contribute to the implementation of a portfolio approach to managing the banking system;

- to stimulate the implementation of measures aimed at increasing the capitalization of environments and small banks, for which: to create a mechanism for reliable enforcement of property rights; reconsider the confiscatory nature of taxation; create effective tax incentives to increase the capital of banks; introduce a differentiated approach to tightening the requirements for the size of the minimum capital of commercial banks;

- expand the boundaries of the deposit insurance system by increasing the amount of deposit insurance coverage and extending state guarantees to legal entities and funds held in trust;

- to create conditions and promote the development of new deposit products - combined deposits - analogues of American-type certificates of deposit, which will contribute to solving the problem of formation of long liabilities.

To identify the distinctive features of the structure of banks' asset portfolios, a comparative analysis of the assets of the domestic and American banking systems was carried out in the work. Despite the large differentiation in the scale of active operations in Uzbekistan and the United States, in recent years, the prevalence of loans in the structure of assets, high riskiness of investments and the growth of problem assets have been common in the field of asset allocation by banks of the compared countries.

In general, based on the results of the analysis, the following general trends were formulated and disclosed in the work that determine the current state of the asset portfolios of commercial banks: volatility of the composition of portfolios (variability in the ratio of the share of various assets and absolute and relative indicators of their growth); the aggressive nature of portfolios of banking assets (which are not supported by available resources and are supported mainly by external borrowings); extensive growth of portfolios (the predominance of loans in the composition of newly issued loans related to the restructuring of previously existing debt); a sharp differentiation in the composition of portfolios of banks of various types; concentration of assets in credit investments to the detriment of other types of investments; low quality of assets (outpacing growth in the structure of assets, the share of problem and bad assets);

The listed features of the structure of banks' assets indicate an insufficient balance in the structure of their assets and a high concentration of risks within portfolios.

The assessment of the level of portfolio management carried out in the work in commercial banks led to the conclusion that the lack of balance the flatness of the structure of assets and the high concentration of risks within portfolios are largely the result of the poor quality of portfolio management in commercial banks, which is characterized by: the fragmented nature of management of various portfolios; lack of advanced risk assessment techniques based on own loss statistics and internal credit ratings; orientation in the application of risk-covering tools to the detriment of tools for its prevention and distribution; orientation in management to compliance with external regulatory norms to the detriment of the search for effective strategies.

The next stage of the study was the development of a methodological approach to determining an acceptable level of diversification of the portfolio of banking assets, which has found its practical application in substantiating the quantitative parameters of the bank's limit policy based on VAR methods. The paper proves that an acceptable level of diversification is a subjective characteristic of the structure of the portfolio of banking assets, in which, in a certain ratio, there are sub-portfolios of assets with individual parameters of risk, profitability and liquidity. At the same time, the subjectivity of indicators of an acceptable level of diversification not only does not exclude, but also suggests that the minimum requirements for its provision are set by the regulator through a system of mandatory economic standards. For example, having determined the methodology for calculating the capital adequacy ratio (H1) and its minimum value at the level of 10%, the Central Bank diversified the bank's assets by risk, distributing them into 5 sub-portfolios. In an effort to unconditionally fulfill the H1 standard, each bank makes its own decision about which portfolios of assets and in what amount to form. As a result, the level of asset diversification acceptable from the point of view of the Central Bank is transformed into the level of diversification acceptable for the bank.

Outside the scope of regulation by the H1 standard is a portfolio without risky highly liquid assets (they belong to the 1st group of assets with a risk coefficient of 0%). At the same time, its minimum value can be determined on the basis of the instant liquidity ratio (H2), the value of which allows us to assert that, regardless of the degree of fulfillment of the capital adequacy ratio and the specifics of the bank's approaches to structuring (diversifying) the asset portfolio, the subportfolio of highly liquid assets should be as at least 15% of the amount of bank liabilities on demand. Continuing the chain of reasoning, the paper defined quantitative requirements for portfolios of liquid assets, large loans, investments in securities, etc., and

also set minimum requirements for the structure of the portfolio of earning assets.

The way to ensure an acceptable level of diversification in each bank is the limit policy, which is presented as a map of limits and restrictions, distributed by types of portfolios and structural divisions of the bank. The development of the limit map is based on the risk value analysis (VAR) methodology, which is recommended by the Basel Committee on Supervision as the most promising concept for risk assessment, designed to replace standardized regulatory methods that do not take into account the specifics of a particular bank, with more individualized methods.

The need to improve the management of asset portfolios of commercial banks in modern conditions is primarily due to the growth in the share of problem assets. In this regard, the paper substantiates the need to use a portfolio approach in managing distressed assets and highlights the main technologies used in the process of managing them. It is noted that, in general, a portfolio of problem loans can be represented as a set of individual problem loans combined into one portfolio according to some attribute. At the same time, the portfolio of problem loans can be managed both in terms of preventive limitation of the risks contained in it, and in the process of settling the losses realized in the portfolio. In the first case, the portfolio of problem loans is managed at the level of managing the loan portfolio as a whole,

Here, the portfolio of problem loans can be considered in two ways: firstly, as a single set of all loans with increased risk, classified by the bank as "problem"; secondly, as a set of private portfolios of problem loans of different quality. The common features that make it possible to combine individual loans with increased risk into portfolios of problem loans are the average statistical losses on problem loans of various quality, adjusted for the bank's expectations regarding the projected size of these losses in the future. In this regard, all targets and restrictions on the amount of losses set at the level of the bank's loan portfolio as a whole apply both to the total portfolio of problem loans and to individual components of this portfolio. In particular,

In the second case, settlement instruments can be applied to the portfolio, the main purpose of which is to minimize the losses contained in it. The main features for combining loans into portfolios here are the presence of common problems among all portfolio borrowers, which allow applying uniform settlement tools to all loans combined in a portfolio.

Exploring the issues of problem debt settlement at the level of individual portfolios (portfolios that combine problem loans depending on the category of its quality, type of loan, industry affiliation of the borrower, etc.), the paper concludes that the bank's capabilities in this area are limited. The meaning of the bank's work on the settlement of problem loan debt is reduced to the most complete identification of the borrower's problems with repayment of loans and the choice of the most adequate debt settlement tools to solve these problems. Different causes of problems for borrowers included in a single portfolio necessitate the use of a different set of settlement tools

(whether to grant a delay in repayment of the loan or not, apply penalties or not, take the case to court or not, etc.). Selling the portfolio to external buyers can be considered as the only possible universal way to settle problem debts on a portfolio of problem loans. In this case, the characteristics of the homogeneity of portfolios of problem loans held for sale will be agreed directly with the buyer or directly determined by him. As signs of such homogeneity, the duration of overdue debt on a loan, the presence or absence of collateral, the size of the loan, the type of borrower (legal or natural persons) and other conditions can be selected. The system of these classification features should be sufficient for so that the buyer of debts can fully assess the risk of the acquired portfolio and set an adequate price for it. The price at which the portfolio is acquired acts as a form of reflection of the losses inherent in it, based on the buyer's estimates.

Other areas for improving portfolio approaches to banking asset management included:

- development of banking infrastructure: credit bureaus, bad debt banks, distressed asset management agencies, collection agencies;

- improvement of banking risk management: development of methods for assessing risks and forecasting bankruptcies, using techniques for stress testing the state and development of banking portfolios;

- diversification of banking activities through the introduction of new

banking technologies and banking products: credit derivatives, trust management, syndicated lending.

In order to implement these areas, the study summarized existing proposals for their implementation and developed a set of measures to create a modern banking infrastructure, improve banking risk management and introduce new banking technologies and products.

The study proceeds from the fact that the model of a balanced portfolio management of assets and liabilities of a bank should be built into the corporate development strategy of the bank, which the author interprets as a system of long-term goals for the activities of commercial banks, as well as methods, means, organizational mechanisms and tools for achieving them in conditions of instability. external environment and limited resources. The choice of development strategy is influenced by a number of factors, among which the priority place is occupied by: the mission and goals of the bank, environmental factors and the type of bank. From these positions, the balanced portfolio management of the bank's assets and liabilities is considered as a complex multilateral process, which is an element of the strategic management of the bank,

Since the strategy is based on a system of goals, the main of which is to increase the value of the bank in the long term, the key component of the bank's development strategy is its financial strategy. One of the tools for the practical implementation of the financial strategy is the coordinated management of the bank's assets and liabilities, which involves the distribution of liabilities by volume, timing and cost in order to ensure a sufficient degree of profitability, liquidity and risk of commercial banks' assets.

At the strategy level, the goal of balanced asset and liability management is to determine the directions, priorities and prospects for attracting and allocating resources by the bank and general approaches to achieving the set goals, the achievement indicator of which is integral financial indicators of growth and efficiency. At the level of tactics, the hallmarks of which are certainty, concreteness and adaptability, the composition of management tasks is expanding: long-term strategic goals formulated for the future are transformed into short-term ones, which involves the development of a phased program to achieve them; the strategic guidelines of the bank as a whole are adapted to the level of structural units; criteria for making decisions on the choice of the composition of portfolio elements are developed; a system of restrictions and limits is introduced;

The paper proposes a model for managing a diversified port

the bank's asset portfolio based on the analysis of portfolio migration and the determination of targets in terms of ROA. The developed model assumes that at the planning stage, the total portfolio of bank assets will include different sub-portfolios that provide both maximum current profitability (their ROA should be higher than the given ROA for the bank), security (ROA - at the bank level) and liquidity (their ROA, possibly less than the average ROA for the bank). Thus, each individual portfolio, being part of the total portfolio of assets and performing different functions in terms of ensuring profitability, liquidity and security, will make a different contribution to the provision of ROA for the bank, but at the same time their totality should ensure its specified target value.

Migration analysis allows assessing the current state and probability of risks based on the approaches recommended by the Basel Accords based on general and individual loss statistics. At this stage, the causes of fluctuations in profits are identified and the maximum allowable amount of losses is determined; the break-even point is the level of profitability beyond which the maintenance of an asset becomes impractical. If the ROA, net of losses, for any of the portfolios in the aggregate is less than the bank's target, the portfolio is liquidated.

As a result of the liquidation of one of the portfolios, additional costs will inevitably arise associated with its restructuring (asset sale), the volume of the bank's total asset portfolio will decrease and the concentration risk will increase, which necessitates the formation of a new portfolio as part of the planned ROA characteristics.

In liability portfolio management, an algorithm similar to asset management can be used, but as a target, instead of ROA, there will be a marginal cost of raising funds.

The paper assesses the possibilities and gives suggestions for the implementation of the developed model in a large commercial bank using budgeting and transfer pricing techniques. It is noted that the entire system of financial settlements should be embodied in the system of financial plans developed for each unit operating a specific portfolio, that is, implemented by means of budgeting. In order to ensure effective interaction between departments, it is advisable to introduce transfer pricing, which allows solving the problem of measuring performance by taking into account the cost of financing and the cost of services provided; eliminate interest and currency risks;

In order to implement the proposed model of balanced asset and liability management of the bank, the paper assessed the possibilities of using well-known theory and practice of liquidity management methods in portfolio management. It was proved that the task of liquidity management from the point of view of portfolio management is to ensure the specified parameters of the bank's profitability in the face of an imbalance in the term structure of assets and liabilities, uncertainty in the dynamics of future income and the risk of loss of confidence in the bank on the part of market participants.

The diversity of sources of liquidity risk, on the one hand, makes it difficult to formalize, and on the other hand, it determines the variety of methods for managing it. A generalization of the available points of view showed that the most commonly used liquidity management methods in practice are the coefficient method, the method of the structure of funds, and the method based on the concept of cash flows. A detailed consideration of the possibilities of these methods made it possible to prove that each of them has its own scope and should be used in combination. At the same time, for the purposes of balanced management of portfolios of assets and liabilities of the bank, from the standpoint of liquidity, the method of coefficients has significant advantages, which establishes a correspondence between certain categories of assets and liabilities of the bank, which allows you to balance the term structure of assets and liabilities. The main drawback of this method - the limiting value of the liquidity indicator - has now been partially eliminated. For example, assessing the economic situation of banks. The Central Bank operates with an integral result, which is a weighted average of 8 liquidity ratios; the calculation of liquidity ratios includes data on assets classified only by risk groups 1 and 2, that is, with a high probability of receiving income; the fact of non-compliance with liquidity standards is a signal of a decrease in confidence in the bank; allows you to create liquidity reserves in the minimum amount set by the regulator, which allows you to maximize the amount of income-generating assets;

The coordinated management of the bank's assets and liabilities is associated with risk management. Therefore, the final stage of the study carried out in the work was the development of a multi-level system for identifying, measuring, monitoring and controlling portfolio risks, which helps to ensure that commercial banks make balanced decisions in the field of asset and liability portfolio management in the course of their activities.

The paper shows that banking portfolio risk management is specific and has horizontal, diagonal and vertical integration. The horizontal integration of risk management consists in generalizing various types of risks (credit, market, liquidity, etc.) - banks must take into account the existing risk landscape when taking on new risk positions, continuously monitor them and, if necessary, use active management methods. Currently, there are many well-established and fairly effective approaches to managing certain types of risks; the problem is to take into account the interconnections and mutual influence of risks within the banking portfolio as a whole. The requirements of risk-based approaches should be taken into account in the activities of various structural units that are not directly connected by relations of power and subordination, which can be summarized by the notion of diagonal integration of risk management. Vertical integration of risk management is associated with the consolidation of risk data, which guarantees the free exchange of information necessary for analysis and decision-making at each executive level in the bank.

Promising in the aspect of implementing portfolio approaches in balanced asset and liability management is also the development of methods for stress testing risks and their assessment based on indicators of the mass of risk, value at risk, etc. For this purpose, a set of approaches unified for all segments of the bank was developed to implementation of risk management in the management of various portfolios of assets and liabilities.

CONCLUSIONS

The study covers a number of issues, the solution of which, in the author's opinion, should contribute to improving the efficiency of commercial bank management. Summarizing the results of the study, the following conclusions can be drawn:

The paper proposes a model for managing a diversified portfolio of bank assets based on the analysis of portfolio migration and the determination of targets in terms of ROA. The developed model assumes that at the planning stage, the total portfolio of bank assets will include different sub-portfolios that provide both maximum current profitability (their ROA should be higher than the given ROA for the bank), security (ROA - at the bank level) and liquidity (their ROA, possibly less than the average ROA for the bank). Thus, each individual portfolio, being part of the total portfolio of assets and performing different functions in terms of ensuring profitability, liquidity and security, will make a different contribution to the provision of ROA for the bank, but at the same time their totality should ensure its specified target value.

Migration analysis allows assessing the current state and probability of risks based on the approaches recommended by the Basel Accords based on general and individual loss statistics. At this stage, the causes of fluctuations in profits are identified and the maximum allowable amount of losses is determined; the break-even point is the level of profitability beyond which the maintenance of an asset becomes impractical. If the ROA, net of losses, for any of the portfolios in the aggregate is less than the bank's target, the portfolio is liquidated.

As a result of the liquidation of one of the portfolios, additional costs will inevitably arise associated with its restructuring (asset sale), the volume of the bank's total asset portfolio will decrease and the concentration risk will increase, which necessitates the formation of a new portfolio as part of the planned ROA characteristics.

Liability portfolio management can use a similar algorithm to asset management, but instead of ROÁ, the target will be the marginal cost of raising funds.

The paper assesses the possibilities and gives suggestions for the implementation of the developed model in a large commercial bank using budgeting and transfer pricing techniques. It is noted that the entire system of financial settlements should be embodied in the system of financial plans developed for each unit operating a specific portfolio, that is, implemented by means of budgeting. In order to ensure effective interaction between departments, it is advisable to introduce transfer pricing, which allows solving the problem of measuring performance by taking into account the cost of financing and the cost of services provided; eliminate interest and currency risks;

In order to implement the proposed model of balanced asset and liability management of the bank, the paper assessed the possibilities of using known theory and practice of liquidity management in portfolio management. It was proved that the task of liquidity management from the point of view of portfolio management is to ensure the specified parameters of the bank's profitability in the face of an imbalance in the term structure of assets and liabilities, uncertainty in the dynamics of future income and the risk of loss of confidence in the bank on the part of market participants.

The diversity of sources of liquidity risk, on the one hand, makes it difficult to formalize, and on the other hand, it determines the variety of methods for managing it. A generalization of the available points of view showed that the most commonly used liquidity management methods in practice are the coefficient method, the method of the structure of funds, and the method based on the concept of cash flows. A detailed consideration of the possibilities of these methods made it possible to prove that each of them has its own scope and should be used in combination.

At the same time, for the purposes of balanced portfolio management of the bank's assets and liabilities from the standpoint of liquidity, the coefficient method has significant advantages, which establishes a correspondence between certain categories of assets and liabilities of the bank, which makes it possible to balance the term structure of assets and liabilities. The main drawback of this method - the limiting value of the liquidity indicator - has now been partially eliminated.

The coordinated management of the bank's assets and liabilities is associated with risk management. Therefore, the final stage of the study carried out in the work was the development of a multi-level system for identifying, measuring, monitoring and controlling portfolio risks, which helps to ensure that commercial banks make balanced decisions in the field of asset and liability portfolio management in the course of their activities.

The paper shows that banking portfolio risk management is specific and has horizontal, diagonal and vertical integration. The horizontal integration of risk management consists in generalizing various types of risks (credit, market, liquidity, etc.). Banks must take into account the existing risk landscape when taking on new risk positions, continuously monitor them and, if necessary, use active management methods. Currently, there are many well-established and fairly effective approaches to managing certain types of risks; the problem is to take into account the interconnections and mutual influence of risks within the banking portfolio as a whole.

The requirements of risk - oriented approaches should be taken into account in the activities of various structural units that are not directly connected by relations of power and subordination, which can be generalized by the concept of diagonal integration of risk management. Vertical integration of risk management is associated with the consolidation of risk data, which guarantees the free exchange of information necessary for analysis and decision-making at each executive level in the bank.

Promising in the aspect of implementing portfolio approaches in balanced asset and liability management is also the development of methods for stress-testing risks and their assessment based on risk mass indicators. For these purposes, a set of approaches unified for all segments of the bank to implement risk management in the management of various portfolios of assets and liabilities was developed in the work.

The conducted research allows to significantly speed up the process of developing management decisions in the bank and increase their efficiency.

LITERATURE

Abdullaev, A. (2014). Development of a methodology for determining the rating assessment of the liquidity of commercial banks in Uzbekistan. Russian scientific journal Financial management, 61, 83 – 90.

Abdullaev, A. (2015). The development of methods of analysis and forecasting of the liquidity of commercial banks in Uzbekistan.*SAARJ Journal on Banking & Insurance Research*, 4(6), 73-87.

Abdullaev, A. (2015). Working out under methods of the construction of a rating of liquidity while functioning commercial banks of Uzbekistan. International Journal of Economics, Commerce and Management, 3(11), 241–249.

Abdullaev, A. (2016). Conceptual bases of the study of the crisis and liquidity of commercial banks. Journal of Management Value & Ethics, India, 6, 31 – 51.

Abdullaev, A. (2019). Forecasting of processes the turnover and structure of the financial resources of the banking sector.*SAARJ Journal on Banking & Insurance Research*,8(5), 28–44.

Abdullaev, A. (2021). Empirical study of the economic security rating of the bank of Uzbekistan. Indian Journal of Economics and Business, 20(4), 393–408.

Dokukin A.V. Mathematical foundations of building a decision support system for active operations // Mathematical and instrumental methods of economic analysis: quality management: Sat. scientific tr. Tambov, 2003. Vsh. 6.

Dokukin A.V. Application of the generalized method of concessions in multidimensional space in solving problems of asset management // Mathematical and instrumental methods of economic analysis: quality management: Sat. scientific papers Tambov, 2003. Issue. 6.

Dokukin A.V. Asset quality in the theories of bank liquidity management // Mathematical and instrumental methods of economic analysis: quality management: Sat. scientific papers Tambov, 2003. Issue. 6.

Inyushin SV. The problem of finding the real profitability of commercial bank assets in a changing income tax base // Accounting and banks. - 2002. - No. 4. - S. 37 - 39.

Inyushin S.V. Matrix model for optimizing the structure of assets and liabilities of a commercial bank // Financial resources of the region: current state and development prospects. Publishing House of BSUEP, 2002. - S. 114 -118.

Rybin S.V. Economic efficiency of functioning of a modern asset management system for a commercial bank // Economic Bulletin of the Rostov State University. No. 4. Part 2. 2006.

Rybin S.V. Methods of managing the assets of a commercial bank // Proceedings of the 50th anniversary scientific and methodological conference "University science - the region" - Stavropol SSU Publishing House, 2005.

Rybin S.V. Types of Bank Optimization Models // Proceedings of the 51st Anniversary Scientific and Methodological Conference "University Science for the Region" - Stavropol SSU Publishing House, 2006.

Selimov T.R. Methodological bases of the organization of the asset management system of a commercial bank. Regional problems of economic transformation. -№4(21), 2009

Ilyasov S.M., Gadzhiev A.A., Selimov T.R. Analysis of assets of commercial banks. // Analytical banking journal. - 10(173), 2009.

Selimov T.R. The Russian stock market as a mechanism for attracting foreign investment // Proceedings of the annual scientific and theoretical conference of the teaching staff, graduate students and students, Makhachkala, IPTSDGU, 2006.

Trifonov D.A. To the assessment of the current state of asset portfolios of Russian banks // Economic Sciences. 2010. No. 12.

Trifonov D.A. On the question of the essence and methods of managing the risks of the banking portfolio // Business. Education. Right. Bulletin of the Volgograd Institute of Business. 2011. No. 1.

Trifonov D.A. Portfolio management tools for banking assets // Bulletin of the Tambov State University. Series "Humanities". 2011. No. 4.

Chichulenkov D.A. Portfolio management of banking assets in modern Russian conditions // Finance and credit - M., 2009. - No. 9 (345). - S. 36 - 42.

Chichulenkov D.A. Features of managing a portfolio of banking assets // Finance and credit - M., 2009. - No. 12 (348). - S. 41 - 46.