ANALYSIS AND PROBLEMS OF THE RISK MONITORING SYSTEM IN THE BANKING SYSTEM OF UZBEKISTAN

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Abstract

This article analyzes the current state of the risk monitoring system in the banking system of the Republic of Uzbekistan. The institutional foundations of the monitoring system, prudential control mechanisms, indicators used in bank monitoring, and existing problems are scientifically studied. During the study, the static nature of the monitoring system, insufficient real-time monitoring, technological limitations, and problems with information integration were identified as the main shortcomings. Also, scientific and practical recommendations were developed on the basis of international experience to improve the monitoring system. The article considers capital adequacy, liquidity ratio, NPL level, and profitability as the main indicators of bank monitoring. The institutional foundations of monitoring are covered in connection with the prudential regulations of the Central Bank, the activities of internal audit, compliance, and risk management departments in commercial banks. The international experience section compares the use of real-time monitoring and anti-fraud platforms in the United States, Basel III monitoring in the European Union, RegTech in Singapore, and AI monitoring systems in South Korea. The role of Big Data, AI platforms, Cloud technologies and Predictive Analytics in increasing the effectiveness of monitoring within the framework of digital transformation is highlighted. According to the results of the study, it is necessary to develop real-time monitoring in the banking system of Uzbekistan, enrich prudential indicators with dynamic indicators, strengthen data integration and expand the use of modern analytical platforms.

Keywords: banking system, monitoring, risk, prudential supervision, Basel III, financial stability, real-time monitoring, risk management, Big Data, Predictive Analytics.

Introduction

Today, effective risk monitoring in the banking system is one of the most important factors in ensuring financial stability. Economic globalization, the development of digital technologies, and instability in financial markets are increasing the demand for monitoring systems in the banking system.[6],[7] The banking system of the Republic of Uzbekistan has been undergoing large-scale reforms in recent years. The increase in the volume of banking services, the expansion of the loan portfolio, and the development of digital banking services create the need to improve the risk monitoring system.[1],[2] The effectiveness of the monitoring system is directly related to maintaining the financial stability, liquidity and capital adequacy of banks. Therefore, identifying and eliminating existing problems in the monitoring system is of urgent scientific and practical importance.[2],[3],[4],[5]

The purpose of the research is to analyze the current state of risk monitoring in the banking system of Uzbekistan, identify existing problems, and systematize areas for its improvement based on international experience and digital technologies. The object of the research was the process of monitoring risks in the banking system of Uzbekistan, and the subjects of the study were prudential indicators, institutional mechanisms, real-time monitoring, data integration, and digital monitoring tools.

The scientific and practical novelty of the article is determined by the interrelation of the problems of staticity, retrospectivity, technological limitations, and data integration in the monitoring system, as well as the expression of improvement directions based on real-time monitoring, Big Data, AI, Predictive Analytics, RegTech, and SupTech in a single system.

Literature review

The article uses as a theoretical and methodological basis F. Mishkin's work on the banking and financial system, the Basel III Framework developed by the Basel Committee, the World Bank's reports on the banking sector, IMF Financial Stability Reports, materials from the Central Bank of the Republic of Uzbekistan, and OECD materials on digital transformation in the banking sector. [6],[7],[9],[16],[17]. In developed countries, bank monitoring systems are based on modern technologies. The US banking system widely uses real-time monitoring, predictive analytics, and anti-fraud platforms. [9],[11],[14],[15]

In the European Union, monitoring systems have been improved based on Basel III standards, which serve to ensure the financial stability of banks. [13]

The use of RegTech and SupTech technologies in the banking systems of Singapore and South Korea has significantly increased the effectiveness of monitoring systems. [14],[15]

Summarizing the international experience presented, it can be seen that the main areas of development of monitoring in the article are connected with real-time operation, harmonization of prudential supervision with international standards, and the introduction of technologies such as RegTech, SupTech, and AI into the monitoring process. At the same time, the need to jointly assess the current state of these areas in the banking system of Uzbekistan from the point of view of institutional, technological, and information integration is revealed as a research gap.

Methodology

Based on the content of the article, the research used methods to analyze monitoring indicators in the banking system of Uzbekistan, describe the institutional foundations of monitoring, group existing prob-

lems by causes and consequences, compare international monitoring models, and systematize the advantages of digital monitoring technologies.

The analysis began with the identification of the main areas of monitoring based on capital adequacy, liquidity ratio, NPL level and profitability indicators. The next stage examined the institutional framework of the monitoring system, existing problems and their consequences. Then, the monitoring models of the USA, the European Union, Singapore and South Korea were compared and the scope and advantages of Big Data, AI platforms, Cloud technologies and Predictive Analytics were systematized.

The tables and conceptual chains in the article were used to present the research results: "Bank data, Monitoring center, Analysis, Risk assessment, Decision-making" and "Bank operations, Big Data, Analytical platform, Monitoring, Risk signal and Decision".

Analysis and results

Risk monitoring in the banking system of Uzbekistan is carried out on the basis of prudential standards established by the Central Bank. The monitoring system regularly monitors indicators such as capital adequacy, liquidity, credit portfolio quality, and currency risk. [2],[3],[4],[5]

The monitoring system in commercial banks is implemented through internal audit, compliance, and risk management departments. Although these systems are aimed at reducing financial risks in banking activities, some institutional problems remain in practice. [2]

Table 1.

Key indicators used in bank monitoring

Indicator	Content	Role in monitoring
Capital adequacy	Bank capital stability	Financial security assessment
Liquidity ratio	Covering short-term liabilities	Liquidity monitoring
NPL level	Share of problem loans	Determining credit risk
Profitability	Profitability indicators	Bank performance assessment

Source: Systematized by the author based on the prudential requirements of the Central Bank of the Republic of Uzbekistan.[2],[3],[4],[5]

In recent years, the size of the loan portfolio in the Uzbek banking system has significantly increased. At the same time, the share of problem loans is also creating an additional burden on the monitoring system. The dominance of banks with a high state share is to some extent affecting the effectiveness of the monitoring system. In particular, the lack of automation and retrospective nature of monitoring systems in some banks limits the ability to identify risks early. Also, the lack of interbank data integration and the insufficient implementation of modern analytical platforms are among the factors reducing the effectiveness of monitoring.

Analysis shows that the monitoring system in the Uzbek banking system has a number of problems.

Firstly, the indicators used in the monitoring system are often static in nature and cannot fully reflect the dynamic changes in risks.

Secondly, the monitoring system is based more on retrospective data and lacks the ability to operate in real time.

Third, the level of use of artificial intelligence and Big Data technologies in banks remains low.

Fourth, the lack of integration of databases in the monitoring system limits the possibilities for rapid analysis.

Table 2.

Main problems in the banking monitoring system of Uzbekistan

Problem	Reason	Consequence
Static monitoring	Old methods	Late identification of risks
Technological limitations	Lack of AI systems	Monitoring efficiency decreases
Data integration problem	Bases not connected	Rapid analysis becomes difficult
Weakness of real-time monitoring	Low automation	Decision-making slows down

Source: Author's analysis; based on risk management and digital monitoring sources.[2],[9],[16]

Digital transformation is fundamentally changing the mechanisms for monitoring risks in the banking system. Modern banks are increasing the efficiency of risk management by processing large volumes of data, implementing real-time monitoring, and implementing automated analysis systems. [9],[12],[14],[16]

Table 3.

Comparison of international monitoring systems

State	Monitoring model	Advantage
USA	Real-time monitoring	Quick detection
European Union	Basel III monitoring	Stable control
Singapore	RegTech platforms	Automation
South Korea	AI monitoring system	High forecast accuracy

Source: Based on open materials from the Federal Reserve, EBA, MAS, and Korea FSC.[11],[13],[14],[15]

The growing volume of digital banking services in the Uzbek banking system is also increasing the demands placed on monitoring systems. In particular, the expansion of remote banking services, mobile banking, and electronic payment systems is creating new types of operational risks. [1],[2]

Table 4.

Advantages of digital monitoring systems

Technology	Scope	Advantage
Big Data	Big data analytics	Instant monitoring
AI platforms	Risk assessment	High accuracy
Cloud technologies	Data storage	Flexibility
Predictive Analytics	Forecasting	Early warning

Source: Based on BIS, MAS and academic literature on bank risk management.[9],[14],[16],[17]

Therefore, the use of digital technologies, cloud platforms, and automated analytical systems in monitoring systems is of great importance. [9],[14],[16]

Discussion

The results of the analysis show that although the Uzbek banking system has an institutional framework for monitoring, its effectiveness is negatively affected by static indicators, reliance on retrospective data, insufficient development of real-time monitoring, technological limitations, and lack of integration of databases.

Prudential supervision is one of the important instruments for ensuring the stability of the banking system. The norms and requirements established by the Central Bank form the methodological basis of the monitoring system.

Monitoring capital adequacy, liquidity indicators and credit risk are key areas of prudential supervision. The effectiveness of the monitoring system depends on the accurate and timely assessment of these indicators.

In international practice, the prudential supervision system has been developed based on Basel standards, which allow for a comprehensive assessment of risks in the banking system.

International experience in real-time monitoring, Basel III monitoring, RegTech and AI monitoring models serve as a comparative basis for overcoming the problems identified in the article. From this point of view, in the conditions of Uzbekistan, enriching monitoring indicators with dynamic indicators, strengthening data integration and expanding the use of automated analytical platforms are logically connected with the results presented in the article.

- implementation of real-time monitoring systems;
- enriching prudential indicators with dynamic indicators;
- Use of Big Data and AI platforms;
- development of predictive analytics mechanisms;
- Strengthening interbank data integration.

These approaches serve to identify risks early and reduce financial risks.

The main limitation of the study is that the analysis in the article is presented in an aggregate and conceptual form, and no numerical panel or time series data are presented for individual commercial banks. Therefore, the proposed directions can be deepened in future studies with empirical data for banks.

Conclusion

The results of the study showed that the risk monitoring system in the Uzbek banking system needs modernization. The static nature of monitoring systems, insufficient development of real-time monitoring, and slow implementation of modern technologies are the main factors reducing the effectiveness of monitoring.

Digital transformation processes are creating new opportunities for improving monitoring systems. The introduction of Big Data, artificial intelligence, and predictive analytics technologies will help to identify and forecast risks early and reduce financial risks.

In the future, developing the monitoring system based on international standards, using RegTech and SupTech technologies, and strengthening interbank information integration will serve as important factors in ensuring the stability of the banking system of Uzbekistan.

Overall, the results of the article indicate the need for a gradual transition of the monitoring system from retrospective and static control to a near-real-time, integrated and forecast-oriented model.

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