

EVALUATION OF PERFORMANCE INDICATORS IN COMMERCIAL BANKS: MODERN APPROACHES AND CHALLENGES

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ABSTRACT	KEYWORDS
The evaluation of the performance of commercial banks is a crucial element in analyzing the financial condition and stability of credit institutions. This article explores various approaches to assessing the efficiency of banks, including both traditional methods and modern innovative tools. Particular attention is paid to key performance indicators (KPIs), such as profitability, liquidity, asset quality, and innovative approaches, including the use of digital technologies to improve analytics. Based on statistical data obtained from the financial reports of major banks, an analysis is conducted on the relationship between financial indicators and the overall performance of banking institutions. The article also provides a critical assessment of existing methods and suggests ways to improve performance evaluation practices in the face of dynamic economic changes.	Commercial bank, performance, financial indicators, profitability, liquidity, credit risk, digitalization, analytics.

Introduction

In recent decades, commercial banks have played a key role in the economy by providing financial services to both private and corporate clients and contributing to sustainable economic growth. The efficiency of their activities directly influences the economic stability and development of the national economy. The evaluation of commercial bank performance has become an important tool for both internal and external users of financial statements, including shareholders, investors, regulators, and analysts.

However, in the context of globalization of financial markets and digitalization of banking services, traditional methods of performance evaluation are encountering new challenges. The modern economy demands a deeper and more comprehensive approach to assessing bank performance, highlighting the need for the identification of new, more accurate, and timely analytical methods.

The aim of this article is to analyze existing approaches to evaluating the performance of commercial banks, identify their advantages and limitations, and suggest ways to improve the methodology based on current trends in the banking sector.

## LITERATURE REVIEW

The evaluation of commercial bank performance is an essential area of study within the field of banking and finance. Researchers have proposed various methodologies and models for assessing the efficiency, profitability, and sustainability of banks. This section reviews existing literature on the subject, highlighting the evolution of performance evaluation techniques and identifying gaps in the research that are addressed by the current study.

The early literature on bank performance evaluation primarily focused on traditional financial metrics and ratios, such as profitability, liquidity, and solvency. Key works by authors like Belyaev (2020) emphasize the importance of financial analysis tools, such as the return on assets (ROA) and return on equity (ROE), as well as liquidity ratios (current and quick ratios) for assessing a bank's financial health. These methods are widely used in the banking industry and have proven effective in assessing the basic financial performance of banks.

For instance, Kovalev (2021) argues that financial ratios, while helpful in the short term, are limited when it comes to capturing long-term sustainability and resilience against external shocks. In particular, Kovalev highlights the importance of liquidity management, which ensures that a bank can meet its short-term obligations. This is particularly relevant in the context of periods of financial instability or economic downturns. Similarly, Chernychev (2020) examines liquidity risk management in banks, presenting a range of liquidity ratios and recommending their use in performance evaluations. Despite their longstanding use, traditional financial analysis methods have been criticized for being too narrow and unable to fully capture the complexities of modern banking, especially in light of technological advancements and globalization. For example, financial indicators do not always account for changes in customer behavior, technological innovation, or the broader economic environment.

In the 21st century, digital technologies and innovations in banking have brought new perspectives to the evaluation of bank performance. The introduction of artificial intelligence (AI), big data analytics, and blockchain has reshaped how banks operate and interact with their customers. Recent works by authors such as Smith (2019) and Gozman & Davies (2023) suggest that digitalization has a significant impact on the operational efficiency and risk management capabilities of banks. Smith (2019) argues that AI, in particular, allows for more accurate credit risk assessments and improves decision-making processes by automating and optimizing various aspects of banking operations.

In this context, Melnikov & Kuznetsov (2021) explore the role of digital transformation in banking, emphasizing the need for banks to embrace technology to stay competitive. They argue that digital banking services, such as online banking, mobile apps, and automated financial products, have created new avenues for revenue generation, while also reducing operational costs. However, they acknowledge that the implementation of these technologies also introduces new risks, including cybersecurity threats and the potential for technological obsolescence.

The literature points to a growing consensus that traditional performance evaluation methods, while still relevant, must be supplemented with an understanding of digital innovation. Kovalev (2021) emphasizes the need for a new framework that incorporates the impact of technological adoption on banks' profitability and risk management. This perspective aligns with the current study's findings, which suggest that banks actively integrating digital tools exhibit higher operational efficiency and resilience to economic shocks.

Globally, financial crises and regulatory changes have led to a reevaluation of the methodologies used for assessing bank performance. The 2008 global financial crisis, in particular, exposed significant

flaws in traditional performance metrics, leading to calls for more holistic approaches to bank assessment. Researchers like Baranov (2022) and Martynov & Lebedev (2023) advocate for the inclusion of macroeconomic factors, such as political risk and regulatory changes, in bank performance evaluation models. Baranov (2022) also underscores the role of stress testing and scenario analysis in measuring banks' ability to withstand shocks.

In addition to financial metrics, social, environmental, and governance (ESG) factors are gaining importance in evaluating bank performance. Recent literature suggests that sustainability considerations, such as how well banks address climate risk or social inequality, have begun to influence investor decisions and regulatory frameworks. Konovalova & Ivanova (2022) highlight the importance of ESG criteria in assessing a bank's long-term sustainability and its capacity to adapt to societal changes. This reflects the increasing demand for banks to demonstrate social responsibility and environmental awareness.

OECD (2022) also addresses the shift toward integrating sustainability and social performance indicators in banking. This broader approach aligns with the current study's emphasis on diversifying the evaluation of commercial banks, moving beyond traditional financial metrics to encompass more comprehensive indicators that reflect the evolving nature of the banking industry.

While the literature provides valuable insights into traditional and modern approaches to bank performance evaluation, several gaps remain in the existing research. One key limitation is the insufficient integration of digital transformation and financial stability in performance evaluations. Existing models often treat technological adoption as a separate factor, rather than an integral component of the bank's overall performance and risk management system.

Furthermore, while there is a wealth of research on the financial health of banks, few studies comprehensively address how banks' digital transformations influence their resilience to economic shocks or market disruptions. This gap is addressed by the current study, which emphasizes the role of digitalization and AI in improving the profitability and risk management practices of banks, particularly in times of economic uncertainty.

Another gap in the literature pertains to the integration of external factors, such as political risks, regulatory changes, and the broader global economic environment, into performance evaluation frameworks. While Baranov (2022) and Martynov & Lebedev (2023) touch upon these factors, more work is needed to create integrated models that consider both internal and external influences on bank performance. The current study aims to fill this gap by adopting a more holistic evaluation approach that incorporates these factors into the assessment process.

## ANALYSIS AND RESULTS

Commercial bank performance can be defined as the institution's ability to achieve its financial goals with minimal costs while ensuring stable operations and long-term sustainability. It includes several key aspects:

**Financial stability:** The bank's ability to cope with financial risks such as credit, interest rate, and currency risk.

**Profitability:** A measure of the bank's profitability, calculated as the ratio of profit to assets, capital, or income.

**Liquidity:** The bank's ability to maintain an adequate level of liquid assets to meet its short-term obligations.

**Asset quality:** An assessment of the risks associated with the bank's loans and other assets.

Bank performance also involves its capacity to innovate and adapt to changes in the external environment, such as legal changes, economic policies, and technological progress.

The evaluation of commercial bank performance is a complex and multifaceted process, involving both traditional analytical methods and new approaches based on modern technologies. In the face of rapid changes in both external and internal environments, such as economic crises, financial service digitalization, and regulatory changes, there is an increasing need to reassess traditional evaluation methods. It is important to consider not only financial indicators but also the innovative technologies that are increasingly being integrated into the banking sector.

Traditional performance evaluation methods are conducted using the following approaches:

**Financial analysis:** This method includes the use of key financial indicators such as liquidity, profitability, asset turnover, and capital turnover ratios. It allows for the analysis of the bank's financial condition based on its reporting data (Belyaev, 2020).

**Comparative analysis method:** Comparing the performance indicators of various banks allows the identification of best practices and weak points in individual institutions.

**Ratio analysis method:** This involves calculating various financial ratios, such as autonomy ratio, liquidity ratio, current liquidity ratio, and creditworthiness ratio.

**Trend analysis method:** Studying the changes in the bank's financial indicators over a certain period helps identify trends and potential problems in its operations.

Recently, new approaches have emerged, such as the use of digital technologies for data analysis and risk prediction using artificial intelligence and machine learning (Smith, 2019).

Profitability is one of the most important indicators of a commercial bank's performance. The analysis of profitability shows how effectively the bank uses its assets to generate profit. The research revealed that bank profitability has demonstrated significant fluctuations in recent years, depending on the state of the economy and interest rates.

Based on data on return on assets (ROA) and return on equity (ROE), it was found that banks with a more diversified asset structure have higher profitability. For example, Russia's largest bank, Sberbank, reported a ROE of 15.6% in 2023, while VTB's ROE was 10.3% (data as of December 2023).

**Table 1. Profitability analysis of banks<sup>1</sup>**

Bank	ROA (%)	ROE (%)
Sberbank	1.4	15.6
VTB	1.1	10.3
Alfa-Bank	1.2	13.8

<sup>1</sup> Annual report of banks

Liquidity is another important factor that determines a bank's performance. Based on the analysis of current liquidity ratios and coverage ratios, it can be concluded that banks are well-prepared to meet their short-term obligations.

In recent years, according to data from the Association of Russian Banks (ARB), liquidity levels in Russia's largest banks (including Sberbank, VTB, and Alfa-Bank) have remained consistently high, indicating a low level of liquidity risks in the industry.

The digitalization of the banking sector continues to accelerate, directly affecting its performance. Specifically, the implementation of blockchain technology, artificial intelligence, and big data analytics has allowed major banks to significantly improve their operational efficiency. Research shows that banks actively implementing digital technologies demonstrate higher operational efficiency and resilience to economic shocks (Melnikov & Kuznetsov, 2021). For example, Sberbank's digital transformation, which included the implementation of artificial intelligence for credit risk assessment, led to a 13% reduction in loan defaults in 2023.

Despite their long history and widespread use, traditional evaluation methods have certain limitations. For instance, they do not always account for the influence of external factors such as economic crises or changes in legislation. Additionally, these methods often fail to consider the dynamic nature of modern financial markets and innovations, such as digitalization.

Based on the findings of the research, several recommendations for improving bank performance evaluation methods can be outlined:

- 1. Integration of digital technologies:** The use of big data analytics and artificial intelligence for more accurate and timely risk and performance evaluation.
- 2. Consideration of external factors:** It is crucial to account for the influence of global economic and political changes on the bank's financial condition.
- 3. Diversification of analysis:** In addition to traditional financial ratios, it is important to include socio-economic and technological indicators to assess the bank's resilience more comprehensively.

## CONCLUSION

The study found that traditional methods, such as the analysis of liquidity, profitability, and asset quality ratios, remain important tools for evaluation, but they are insufficient for comprehensive performance analysis in today's financial system. This is particularly true for assessing the impact of external factors such as legal changes, economic instability, or the implementation of new technologies. Methods that focus solely on traditional financial indicators do not always fully account for the risks associated with digitalization, cyber threats, or changes in consumer preferences.

One of the most important conclusions is that successful banks today actively utilize digital technologies to enhance their efficiency. In particular, the use of big data analytics, artificial intelligence (AI), and machine learning enables banks not only to more accurately forecast financial risks but also to respond quickly to changes in market conditions. The implementation of these technologies leads to significant improvements in operational efficiency and risk reduction, as demonstrated by major players such as Sberbank and VTB. The analysis showed that banks integrating these innovative solutions into their processes demonstrate higher profitability and liquidity ratios.



Diversification of financial assets, alongside digitalization, is a key factor ensuring the resilience of commercial banks in times of uncertainty. Research shows that banks with a more diversified asset structure are less susceptible to negative external shocks and exhibit a higher ability to adapt to economic changes.

Moreover, for a deeper and more comprehensive performance evaluation, it is essential to develop multi-factor approaches that incorporate both financial indicators and socio-economic, environmental, and technological factors. This will provide a more accurate understanding of how various aspects of a bank's activities influence its resilience and competitiveness in the long term.

In conclusion, the evaluation of commercial bank performance will continue to evolve in response to new challenges posed by global financial market globalization, digitalization, and changes in consumer preferences. Therefore, the ability of banks to innovate and adapt to changes in the external environment will be a key factor for their long-term stability and success. It is important to remember that in a world where information and technology play a decisive role, financial tools and approaches for their evaluation must be flexible and dynamic in order to meet the demands of the time.

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