TRANSPARENCY OF FINANCIAL STATEMENTS AND COMPARATIVE ANALYSIS OF BANK LIQUIDITY, SOLVENCY AND PROFITABILITY INDICATORS IN THE REPUBLIC OF SERBIA AS AN INDICATOR OF BANK PERFORMANCE MEASUREMENT

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DOI: https://doi.org/10.31410/EMAN.2021.85

Abstract: *The banking sector is an important segment of the economic system. Strengthening the role of the non-banking sector, liberalization and deregulation on the financial market have encouraged faster development and transformation of the banking sector. The analytical significance of banks' balance sheet information was previously used primarily for statistical and monetary analysis. In modern conditions, the financial statements of banks are a significant information resource for many internal and external users. The paper aims to, through the analysis of liquidity, solvency and profitability indicators of the 5 largest banks in the Republic of Serbia, according to the criterion of balance sheet assets for the period from 2017 to 2019, point to their trend in the banking sector, bearing in mind that selected banks make half of the balance sheet assets of the sector.*

Keywords: *Financial statements, Indicators, Banks, Republic of Serbia.*

1. INTRODUCTION

Banks are characterized by complex business activities and need a well-established accounting information system to collect, classify, record and consolidate information. Such systematized information is disclosed in financial statements, the quality of which determines the interest of investors, shareholders, the state, the public and other interested users. Financial reporting on banks' operations provides us with accurate, timely and relevant information when making business decisions. In recent years, the role of financial reporting in banks has been very important for assessing business efficiency.

The subject of this paper is the analysis of the banking sector operations of the Republic of Serbia through insight into the performance indicators of the 5 largest banks according to the criterion of balance sheet assets. The paper structure includes three parts. The first part of the paper focuses on the transparency of financial statements in banks. The second part of the paper will present the theoretical and methodological assumptions of the analysis of liquidity, solvency and profitability indicators. The final part of the paper is dedicated to the comparative analysis of liquidity, solvency and profitability indicators of selected commercial banks in the Republic of Serbia.

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2. TRANSPARENCY OF FINANCIAL STATEMENTS IN BANKS

General-purpose financial statements provide information about the financial position of the reporting entity, i.e. information on the economic resources of entities and the requirements of other parties in relation to the reporting entity (Conceptual framework for financial reporting). They are compiled at the end of the year, but also semi-annually or quarterly. By linking the relevant information contained in the reports, the banks' return power, the efficiency of asset and resource management, as well as exposure to financial risks can be viewed. Also, financial statements are the starting point for assessing the development prospects of banks and their performance. According to the Law on Accounting (Article 2), the basic financial statements are: Balance sheet; Income statement (Profit and Loss Statement); Statement of net comprehensive income; Cash Flow Statement; Statement of Changes in Equity and Notes to the Financial Statements.

The global financial crisis has affected accounting and financial reporting. Therefore, the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) have disclosed the postulates in order to establish an adequate form of financial statements. Standards regarding the manner in which financial statements are prepared and the financial reporting function are recognized by the Securities and Exchange Commission and the American Institute of Certified Public Accountants. The financial crisis has highlighted the importance of the following principles of transparent financial reporting (Zajmi, 2013, p.63):

- *Effective financial reporting* – should provide relevant, transparent and reliable information on the economic performance of entities. Reporting depends on the quality of accounting standards and their application.
- *Limitations in financial reporting* – users of information should not only rely on financial statements, but should also recognize limitations. The financial statements provide only information for a certain period, they do not take into account other relevant qualitative and quantitative information.
- *Harmonization of accounting standards* – a set of quality harmonized financial reporting standards should be achieved, regardless of the geographical location of the reporting entity.
- *Independence and accountability of accounting standards makers* – makers must have a high degree of independence from commercial pressures, but also an appropriate degree of responsibility when adopting standards.

The Association of Accountants and Auditors of the Republic of Serbia has an important role in the process of harmonization of regulations in the field of accounting and transparency of financial reporting. Implementation of International Accounting Standards for financial reporting in national legislation is a necessary but not sufficient condition for harmonizing financial reporting. It is necessary to improve the segment of quality control of financial reporting. The benefits arising from the process of harmonization of financial reporting in the Republic of Serbia can be direct and indirect. The direct benefits are: the growth of national accounting regulations into supranational regulations, easier preparation of financial statements, continuous improvement of financial reporting. Indirect benefits, in turn, are reflected in stimulating the inflow of foreign investment, reducing investment risk, reducing the price of capital, increasing the efficiency of the financial market and the like.

3. THEORETICAL AND METHODOLOGICAL ASSUMPTIONS IN THE ANALYSIS OF BANK LIQUIDITY, SOLVENCY AND PROFITABILITY INDICATORS

A well-designed performance measurement system allows commercial banks to monitor, measure and control their performance in accordance with the defined strategy. As the operations of banks differ from the operations of entities in the non-financial sector, the financial statements must reflect the specifics of banking operations. What the financial statements have in common is that the balance sheet equation assets = liabilities must be met, while the structure of the report differs. As Savić (2016) points out, this is exactly the reason why, in recent years, special attention has been paid to the regulation of financial reporting and efforts have been initiated to standardize and harmonize this process. By researching the academic literature, we come across different approaches in measuring the financial performance of banks.

Bassei et al. (2016) point out that bank performance is a concept that should be used to achieve sustainable profitability. Khravish (2011) states that bank's financial performance can be measured by three different variables. First, the most important profitability ratio is the rate of return on assets (ROA), which shows a bank's ability to make a profit. The second variable is the rate of return on equity (ROE) which shows the return on invested capital of shareholders, while the last variable is the return on investment (ROI) which uses the invested capital to measure the efficiency of the bank. It was Etebari (2018) who used the previously mentioned variables and combined the analysis of financial indicators with a benchmark to measure performance in relation to the budget, while other authors used the net interest margin, return on equity, investment and the like.

Among the mentioned indicators, ROA is most often used, which has been confirmed by numerous authors in their studies. Hassan and Bashir (2003) point out that ROA not only shows the profit that results from investment but also reflects the ability and efficiency of management to use the invested resources in order to achieve a higher amount of profit. However, the European Central Bank (2010) announced that a good performance measurement structure should cover more aspects than just profitability indicators. According to Abubakar (2015), if we look only at the total amount of credit approved by the bank, we cannot determine whether the bank is over-indebted. A more useful indicator in this context is the leverage ratio, which represents the relationship between assets and capital in a bank. A higher level of leverage ratio shows that the bank uses a higher amount of debt to finance its assets compared to its own capital.

Baharuddin and Azmi (2015) point out that the deposit ratio in relation to the loan ratio has a more desirable impact on improving bank profitability, while Naceur (2003) emphasizes the positive impact of bank loans and interest rates on bank profitability. Tarawneh (2006) finds that banks that have high capital, deposits, loans, or total assets do not always record good performance. Operational efficiency and asset management, in addition to the size of the bank, have strongly and positively influenced the financial performance of banks.

For the purposes of this paper, we opt for the indicators presented by Lukić (2018). This author observes various aspects of banks' operations, namely: liquidity and portfolio management, loan portfolio, liability and capital-leverage management, efficiency and productivity and profitability.

The bank's liquidity represents the ability to unconditionally settle liabilities at any time during their maturity. Cash and other liquid assets are used to ensure liquidity, as well as money obtained in the form of short-term liabilities (Ibidem, p.245). For the needs of liquidity assessment, four liquidity ratios were developed, presented in the following table.

Table 1. Liquidity ratio

Liquidity ratio	Formula
First liquidity ratio	Average liquid assets/Average total assets
Second liquidity ratio	Average liquid assets/Average deposits
Third liquidity ratio	Average net deposits/Average deposits
Fourth liquidity ratio	Average short-term liabilities/Average total assets

Source: Authors based on Lukić, 2018, p. 245

In order to protect banks from risk, bank analysts attach great importance to the net value of the bank, which is the difference between the total assets and liabilities of the bank. The leverage ratio, expressed through four indicators, is used to assess the solvency of banks.

Table 2. Leverage ratio

Leverage ratio	Formula
First leverage ratio	Capital/Average total assets
Second leverage ratio	Capital/Average risk assets
Third leverage ratio	Capital/Average net loans granted
Fourth leverage ratio	Capital/Average given deposits

Source: Authors based on Lukić, 2018, p. 245

The profitability analysis was performed by applying the appropriate rates of return, namely: rates of return on total assets and rates of return on equity. The calculation formulas are given in the following table.

Table 3. Profitability ratio

Profitability ratio	Formula
Return on assets (ROA)	(Total revenue/Total average assets)* (Period profit/Total revenue)
Return on equity (ROE)	(Total revenue/Total average assets)* (Period profit/Total revenue)* (Total average assets/Equity)

Source: Authors based on Lukić, 2018, p. 245

4. COMPARATIVE ANALYSIS OF LIQUIDITY, SOLVENCY AND PROFITABILITY INDICATORS OF BANKS IN THE REPUBLIC OF SERBIA

At the end of December 2019, the banking sector of the Republic of Serbia consisted of 26 banks, and the organizational network consisted of 1598 business units and 23087 employees. Banks are majority owned by foreign entities. Banks originating from Italy, Hungary and Austria (a total of six banks) have a dominant share in the banking sector of Serbia, with a share in the total balance sheet total of 53.7%.

The paper performs a comparative analysis of commercial banks in the Republic of Serbia, which are ranked according to the criterion of total balance sheet assets for the IV quarter of 2019. The process of restructuring the financial system in the countries of Central and Eastern Europe is characterized by the dominance of banks with majority foreign ownership. It was noticed that the "domestic" owners did not adequately "take care" of their property, which resulted in a change in the ownership structure (Dimić & Barjaktarović, 2017, p. 90).

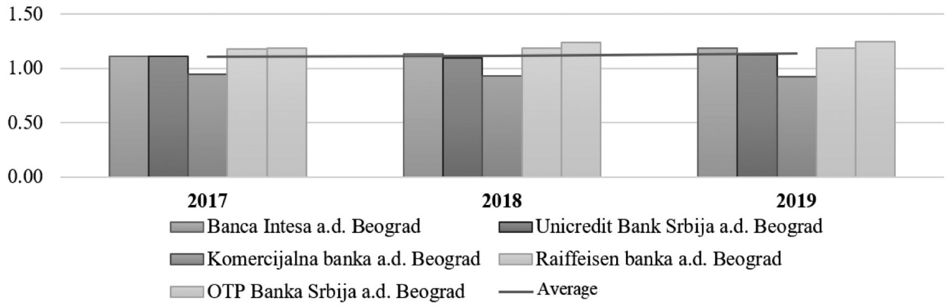
When defining the sample, based on the quarterly report for the fourth quarter of 2019 of the National Bank of Serbia, we considered the share of the 5 largest banks according to the criterion of the total balance sheet assets, which amounts to 53.4%. We were guided by the view that the share of these banks with over 50% in total balance sheet assets significantly determines the performance of the overall sector. According to this criterion, the largest bank in Serbia is Banca Intesa a.d. Belgrade, which has a market share of 16%, followed by: UniCredit Bank Srbija a.d. Belgrade, Komercijalna banka a.d. Belgrade, Raiffeisen Bank a.d. Belgrade and OTP Bank Srbija a.d. Belgrade. In order to assess the relative share of the mentioned banks in the total balance sheet assets, the period from 31 December to 30 September 2019 was observed. The following table shows their share in the observed period.

Table 4. Ranking of the 5 largest banks according to the criterion of balance sheet assets (in billion RSD, in %)

Bank	31.12.2018.			30.09.2019.			31.12.2019.			ΔG	ΔT
	Amount	Share	Rank-ing	Amount	Share	Rank-ing	Amount	Share	Rank-ing		
Banca Intesa a.d. Belgrade	571	15.1%	1	633	15.9%	1	653	16.0%	1	-	-
UniCredit Bank Srbija a.d. Belgrade	437	11.6%	2	458	11.5%	2	442	10.8%	2	-	-
Komercijalna banka a.d. Belgrade	401	10.6%	3	420	10.5%	3	432	10.6%	3	-	-
OTP Banka Srbija a.d. Belgrade	316	78.4%	4	331	8.3%	4	336	8.2%	4	-	-
Raiffeisen Banka a.d. Belgrade	292	7.7%	5	314	7.9%	5	319	7.8%	5	-	-

Source: IV quarter report, National Bank of Serbia, 2019.

Bearing in mind that the ranking of the observed banks did not change in the analyzed period, and given the defined subject and goal of the paper, the performance indicators of banks were analyzed in accordance with the previously selected methodology. The first, second and fourth liquidity ratios were determined, as well as their average values in the period from 2017 to 2019 (Graphs 1, 2 and 3).

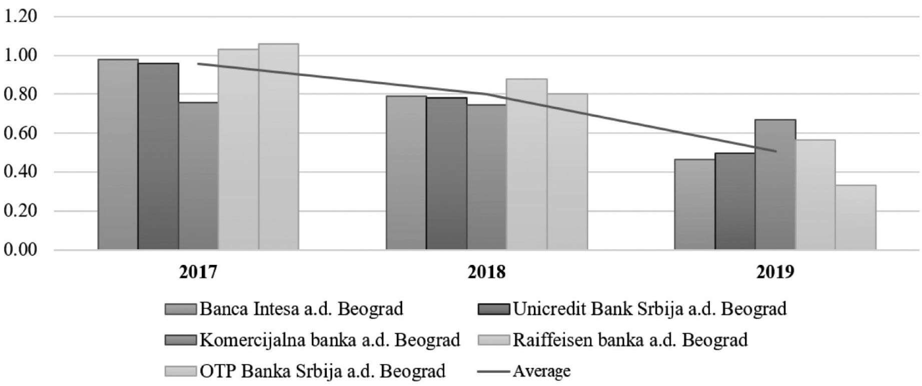


Graph 1. Indicator of the first liquidity ratio of banks

Source: Author's calculation

Graph 1 for the observed period shows the share of average liquid assets in the average total assets. Values range from 0.93 to 1.25, with all analyzed banks, except Komercijalna Banka, having values above the average. In the observed period, we can notice that the value of liquidity indicators is constant, with a small decline in 2017. This may be due to a smaller amount of deposits collected, or their withdrawal. Komercijalna banka has the lowest liquidity ratio during the observed period, while OTP Banka has the largest share of liquid assets in total assets.

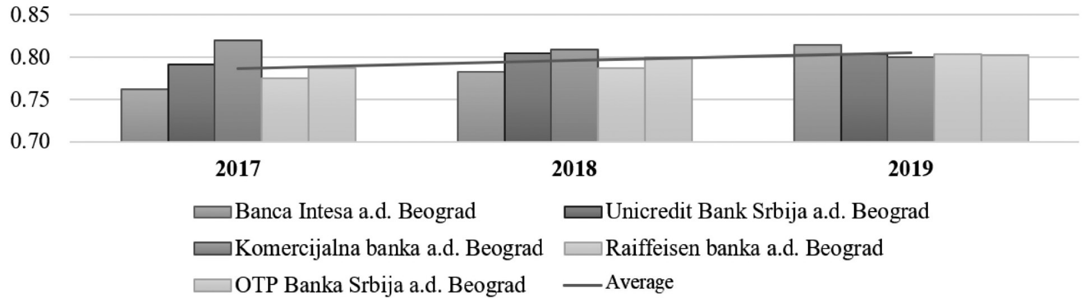
Observing the values of the second liquidity ratio in Graph 2, it can be seen that in 2017, Raiffeisen and OTP Bank had a value higher than one and above average value, which may be a consequence of higher lending activity of banks, rather than a decrease in their deposit potential. During 2019, a larger decline in this indicator is noticeable. Analyzing the movement of the reference interest rate, which gradually decreased during the period, we can conclude that as a result, the demand for loans increased. As banks followed the trend of decreasing the reference interest rate they could reduce the lending interest rate they charge their clients so they can become more attractive. The reason for the decrease in deposits is the low (close to zero) interest rate on deposits, due to the negative interest rate on deposits of European banks.



Graph 2. Indicator of the second liquidity ratio of banks

Source: Author's calculation

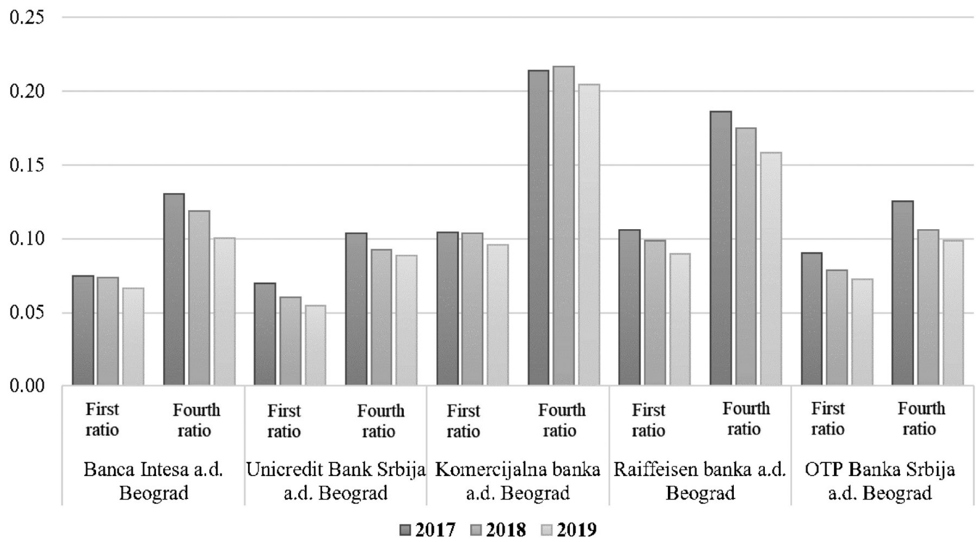
Banks have a small share of capital and a large share of liabilities in their sources of financing, because the largest part of the liabilities of the Bank's Balance Sheet consists of deposits. The fourth liquidity ratio shows us the relationship between short-term liabilities and total assets. The average values of this indicator show a slight increase in the period from 2017 to 2019. The share of banks' liabilities in total assets is about 80%. Intesa and Raiffeisen Bank have the lowest value in 2017, which tells us that they have a smaller share of liabilities in their sources of financing compared to other banks.



Graph 3. Indicator of the fourth liquidity ratio of banks

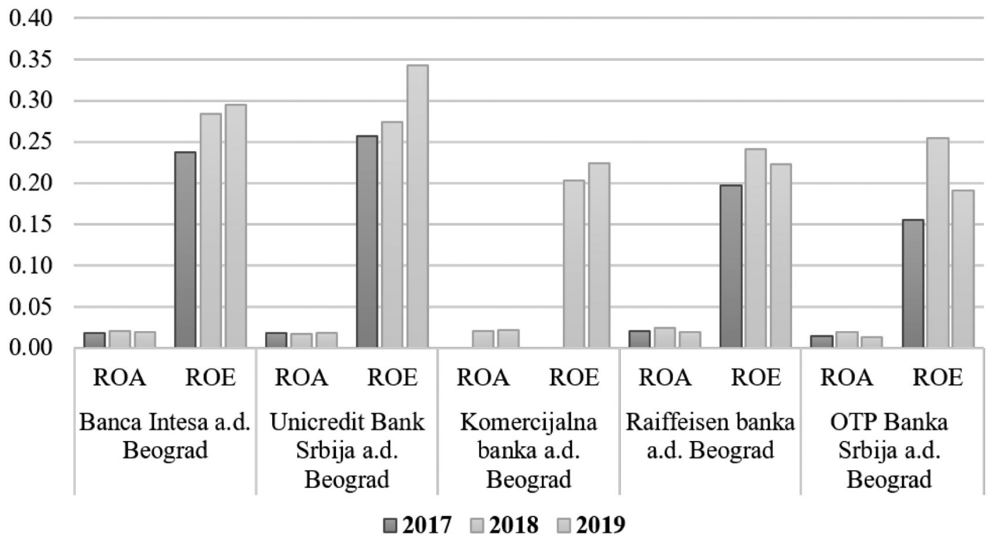
Source: Author's calculation

We analyzed the bank's solvency through the leverage indicator. Solvency analysis is important for both existing and potential investors. Within solvency, we observed two indicators.[4] The first measures the relationship between capital and total assets, i.e. shows the level of possible reduction of assets to the level of liabilities and is often called the stock multiplier. The second measures the ratio of capital to deposits, i.e. the coverage of capital by deposits. The increase in the value of these indicators indicates that the bank is more solvent from period to period. In the observed period, Komercijalna banka stood out, recording a high value of indicators in relation to other banks.



Graph 4. Leverage ratio

Source: Author's calculation



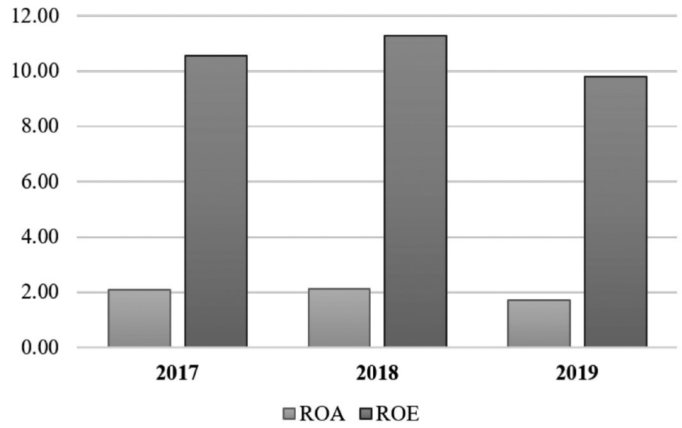
Graph 5. Banks' profitability indicator

Source: Author's calculation

To analyze the profitability of banks, we used well-known indicators – rate of return on assets (ROA) and rate of return on equity (ROE). ROA acknowledges the fact that profitability is the relationship between equity and borrowed capital. However, when calculating it, the sum of net

4 The second leverage ratio was not calculated due to the lack of information on the presence and amount of government securities in banks. The fourth leverage ratio was also not calculated due to the lack of information on the position of net loans.

profit and interest expenses should be used as a measure of return on all assets, because assets are financed from borrowed sources. Given the different structure of the entities, it is necessary to harmonize the effect of financial leverage by adjusting the total profit for the effect of tax savings, which was achieved thanks to financing from borrowed sources (Malinić, 2019, p.113). Thus, the numerator approximates the value of the net profit that would have been realized if the entity had financed its assets entirely with equity. On the other hand, ROE shows us return on invested capital that belongs only to the owners of the entities. In Graph 5 we can see that our banks are profitable [5], that they record a high value of ROE, so the profitability of equity grows in the analyzed period and that the rates of return on equity are above the industry average (Graph 6).



Graph 6. Profitability indicator of the banking sector
Source: National Bank of Serbia, 2019.

5. CONCLUSION

Banks are specially regulated institutions, which are obliged to report on their operations through annual financial reports. In compiling them, they must apply International Financial Reporting Standards. The data contained in the financial statements has its analytical use for many users. Among others, these are shareholders, employees, the state, tax authorities, but also the bank's clients themselves. Given that confidence in the banking and overall financial system is based on confidence in the sustainable and profitable operations of individual banks, the paper first presents the analysis of bank performance indicators that make up half of the balance sheet assets of the Serbian banking sector. In that sense, the liquidity, solvency and profitability of 5 banks in the system were analyzed, as follows: Banca Intesa a.d. Belgrade, UniCredit Bank Srbija a.d. Belgrade, Raiffeisen Bank a.d. Belgrade, and OTP Banka Srbija a.d. Belgrade and Komercijalna banka a.d. Belgrade.

When assessing the liquidity of banks, two indicators were calculated. Their values are for all analyzed banks, except Komercijalna banka a.d. Belgrade in the observed period, above average. A slight decline in the value of liquidity indicators was noticed in 2017, which may be a consequence of a smaller inflow of deposits into banks or their withdrawal from banks. Komercijalna banka has the lowest liquidity ratio during the observed period, while OTP Banka has the largest share of liquid assets in total assets. In interpreting the movement of the second ratio, we started from the movement of the reference interest rate and stated that, among other things,

5 In 2016 and 2017, Komercijalna banka recorded a zero value of ROA and ROE, which is why the bar on the chart is missing. During that period, the bank was operating at a loss and therefore it was not possible to calculate ROA and ROE.

due to its gradual decrease, the demand for loans increased. The cause of the reduction can also be sought in the low (close to zero) interest rate on deposits. The analysis of bank solvency in the observed period shows an increase in the value of the observed indicators, which confirms the satisfactory solvency of banks. Banks that make up the banking sector in the Republic of Serbia are profitable, because by determining the rate of return on assets and rates of return on equity, we noticed that they record a high value of these rates, as well as that the values of rates achieved are above the average in the banking sector in the analyzed period.

In the forthcoming period, it is necessary to maintain the values of the achieved indicators, which is possible through: increasing the number of bank branches and developing alternative (digital) distribution channels for banking services; encouraging the growth and development of small sectors in underdeveloped areas; continued use of advanced technology, such as electronic banking; developing new ways to collect deposits; providing greater value for service users, through improving the communication system between service users and employees and pointing out the importance of the achieved values of liquidity, solvency and profitability indicators through greater transparency of balance sheet information.

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