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EMPIRICAL INSIGHTS INTO PORTFOLIO MANAGEMENT AND BANK PERFORMANCE IN KOSOVO: A GENERALIZED METHOD OF MOMENTS EXAMINATION

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ABSTRACT

The purpose of this study is to analyze certain banking factors, namely the managing of the investment portfolio in the banking business of Kosovo. The data used are time series on an annual basis for a total of the last 13 years, and these data were tested using the Generalized Method of Moments. The findings of the study on the return on assets show that investments in the production sector have a negative influence, whereas, investments in the trade sector, and investments in short-term securities have a statistically important positive influence on return on assets. With the same level of importance investment in the production sector negatively influences the return on equity, whereas investment in the trade sector and investment in short securities positively affect the return on equity. The surprising result has turned out to be in the rankings in the service sector since it has a non-significant statistical value. From the aspect of innovation and originality, during the investigation of the empirical literature, we did not notice that these independent indicators were included.

Keywords: bank profitability, investment in the production sector, investment in the trade sector, investment in the services sector, investment in the securities, time series, GMM

JEL Classification: G21, G11, G23, G24, C22, C29

INTRODUCTION

Nowadays, the banking system has played an irreplaceable role in the economic development of many countries, including Kosovo. Its importance is particularly evident in dealing with economic and financial challenges, as well as in supporting different categories of the economy, as well as the family economy as a whole. The study aims to analyze the explicit banking factors (specific investments of financial potential), respectively investments in the production sector (IPS), investments in the trade sector (ITR), investments in the services sector (ISS), and investments in securities (IShS) in the banking system of Kosovo, employing the GMM method to analyze time series data on an annual basis for a total of the last 13 years. The banking sector in Kosovo has gone through various encounters and stages since the end of the war in 1999, and then from the declaration of independence in 2008. According to the report of the Central Bank of the Republic of Kosovo (2023), the banking sector has shown support, consistency, and continuous performance improvement, thus reflecting stability and growth in its assets and capital. Based on the same report, it is underlined that at the end of 2023, the change in the growth of these investments in family economies was 17.7 per cent, investments in non-financial corporations 10.6 per cent, and for other financial corporations it was 85.1 per cent (Central Bank of the Republic of Kosovo, 2023). However, it is imperative to understand what are some of the factors from the perspective of ventures that affect banking performance (BP), to enable better supervision of the investment portfolio and to boost their operational efficiency.

To evaluate banking performance, financial evaluators are generally used that are within the group of profitability indicators, and they are Return on Assets (ROA) and Return on Equity (ROE). ROA assesses the efficiency of a bank's management's use of assets

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to generate profits, while ROE assesses the bank's ability to generate returns for its shareholders. These estimators, but in certain cases the net interest margin is also applied, which are considered to be critical for understanding the health and profitability of banking institutions (Bikker & Vervliet, 2017). Kosovo's banking industry has overcome numerous difficulties, ranging from changing regulations and delicate political environments to uncertain economic conditions. This is because this area has shown a high level of flexibility and adaptability, in the face of all these challenges. They have achieved a range of objectives over the years. For example, the field of industry has demonstrated an economy of capital and solvency (Central Bank of the Republic of Kosovo, 2023).

Despite all the aforementioned challenges, the banking system of Kosovo has continuously demonstrated positive performance during the observed period. The overall trend of Return on Assets (ROA) and Return on Equity (ROE) is illustrated in Figure 1.

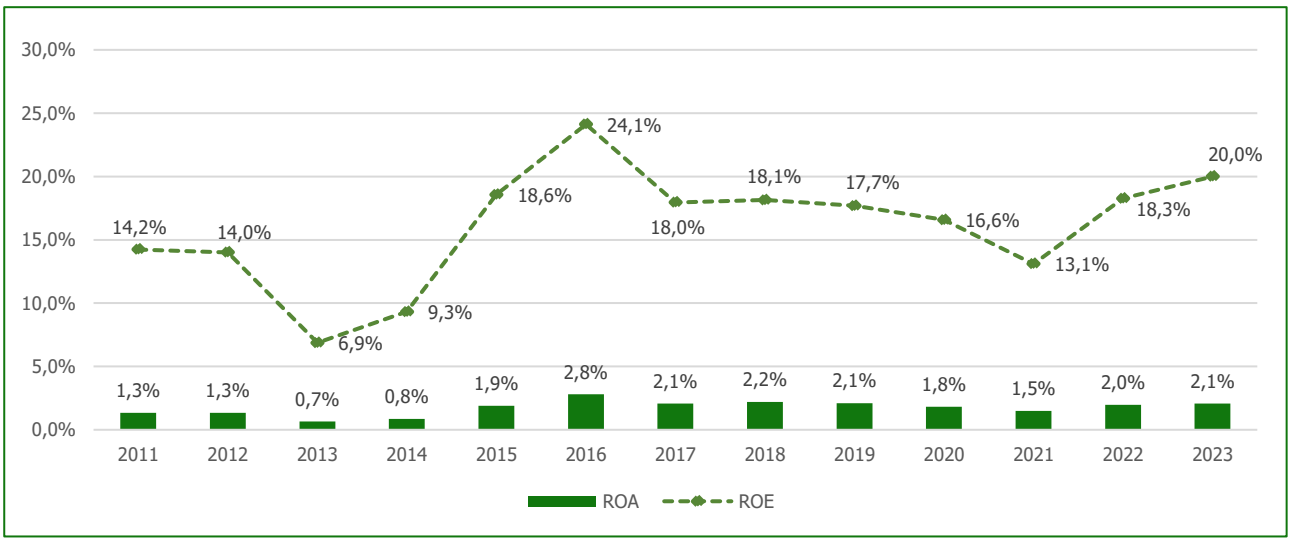

Figure1. The overall trend for ROA & ROE.

The lowest value achieved during the observed period was recorded in 2013, at only 0.7 per cent, while the highest value was recorded in 2016, with a return rate of 2.8 per cent. A similar trend is observed for ROE, with the lowest value recorded at only 6.9 per cent and the highest value at 24.1 per cent. Moreover, technological progress and e-banking services have opened new growth and thus it has become much better and stronger (European Investment Bank, 2024). For some time now, the banking performance literature has been focused on three macroeconomic variables such as GDP growth, inflation, and interest rates throughout time. On the other hand, the banking sector is currently catching on in terms of synchronized sector impact with specific developing countries where the structural factors show the nuances of operating in the banking industry which the mainstream discussion just ignores (Ahmed, Majeed, Thalassinos, and Thalassinos, 2021). Traditionally, bank credit in Kosovo has been concentrated in the manufacturing sector, which includes construction, manufacturing, and energy. Investments in this sector are essential for economic development and have been shown to yield significant returns (International Monetary Fund, 2022).

Therefore, the study, as outlined at the beginning, aspires to analyze the specific factors of the banking industry, in particular, those that are related to the investment process of the financial potential as well as their reflection on the banking performance. The study uses annual time series data for a total of the last 13 years to assess the impact of different sectors on banking performance in Kosovo. Sectors considered include manufacturing, trade, and services. More explicitly, the study based on these underlined premises poses the following research questions:

1. Do investments (production, trade, services, and securities) have a significant impact on the return on assets (ROA) in the banking sector in Kosovo?
2. How do investments affect the return on equity (ROE) of the banking sector in Kosovo?

Our study aims to clarify these mixed findings by providing empirical evidence from the Kosovo banking sector. One of the crucial novelties of this study is the use of the GMM for estimation. The GMM method offers several advantages, including the ability to handle the possibility of endogeneity of the explanatory variables, and the use of lagged variables.

LITERATURE REVIEW

Investment portfolio management (IPM) is a very interesting and thought-provoking discipline in the up-to-date concept of finance and the banking division, which has received and is receiving great attention from researchers and practitioners in recent years. This literature review aims to analyze recent research that has addressed the issue of IPM, particularly in investing in manufacturing, trade, services, and securities, to recognize their influence on bank performance. Therefore, grounded on many studies that evaluate the performance of banks, a considerable number of studies are oriented toward ROA and ROE estimators (Durguti, Arifi, Gashi, and Spahiu, 2023; Azzabi and Lahrichi, 2023; Durguti, Spahiu, and Gashi, 2023a; Wang, Huang, Wang, and Alidae, 2022). Drawing on high-powered studies, this review provides an up-to-date picture of the knowledge in this field. IPM in the banking division comprises the approach of distributing financial funds that are predictable to bring a higher rate of return and at the same time minimize risks. In essence, this route is quite multifaceted and needs advanced expertise in the functioning of the financial market, numerous economic areas, and macroeconomic issues.

According to Bikker and Vervliet (2017), portfolio diversification is a very imperative strategy which is reflected in improving the stability and profitability of banks. Investments in the production sector include activities that are fundamental to the economic development of an economy, such as industrial production, energy, and construction. Numerous revisions have revealed that investing in the manufacturing sector can have a significant positive influence on the performance of banks. For instance, a study by Ghosh (2022) points out that banks that finance in the manufacturing sector tend to have greater ROA and ROE. These results suggest that investments in production are effective in increasing banking effectiveness due to the stable nature and high returns of this sector. Moreover, the authors Zheng and Jean-Petit (2023), have analyzed 305 commercial banks for the Sub-African economy through the 2SLS approach including the period 2010-2019, and their results highlight two issues that there is a strong positive association between investments in the production division, in this specific case in the agriculture sector. The second issue underlines that this interaction significantly affects the creation of banking steadiness, influencing the intensification of returns through ROA and ROE. In the same arrangement, the authors Mohammed and Ghadhanfer (2022) investigated in what manner venture decisions affect the performance of the Iraqi banking sector, via a sample of 102 surveys, and then these data were processed according to the PSL-AMOS approach. The findings of this research show that these investments greatly affect the improvement of efficiency by taking advantage of the investment opportunity and reducing the level of risks. For banks, the other division that is considered very attractive is investments in trade, which includes a wide spread of commercial activities, including domestic and international trade, hotels, and restaurants.

Several studies have examined the impression of investing in the trade division on banking performance. Tmava et al. (2019) have found that investing in this division provides income diversification and helps reduce default risks, thus improving banks' ROA and ROE. Their findings suggest that the trade sector is important for a small and open economy like Kosovo, where trade plays a key role in facilitating economic transactions. From another and quite interesting perspective, authors Owuoro and Muganda (2022) have explored the impact of trade finance with a case study of Equity Bank Limited, through 66 supervisors from each branch, and their findings argue that the bank's product offering trade financing had a positive impact on the bank's performance. Similarly, investments in the service sector include a wide variety of financial services, such as real estate, leasing, and other services. Empirical evidence expresses mixed results on the influence of this sector on banking performance. OECD (2021) advocates those investments in this sector provide stable income, they are also sensitive to different economic periods, causing the impression of ROA and ROE not always positive. Mishkin (2021) suggests that the unpredictability of investments in the service sector is considered a factor that negatively affects the performance of banks, making investments in this division less preferred compared to production and trade.

At the end of this section, investments in securities, such as shares and bonds, constitute an imperative component of banks' portfolios. Empirical evidence provides evidence that these investments can significantly affect banking performance, depending on the category of securities and market circumstances. As underlined by Bikker and Vervliet (2017) it is argued that investments in securities can increase liquidity and ensure stable returns, thus improving ROA and ROE. However, these investments can also be sensitive to market changes and market risk, requiring careful portfolio supervision.

AIMS AND OBJECTIVES

This study aims to evaluate the impact of various banking factors on investment portfolio management within Kosovo's banking sector. Specifically, the objectives are to analyze how investments in different sectors—production, trade, and short-term securities—affect return on assets (ROA) and return on equity (ROE). The study seeks to determine the positive

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and negative influences of these investments and to explore the statistical significance of each sector's impact. Additionally, the study aims to identify gaps in existing empirical literature regarding these indicators, contributing new insights into banking investment strategies.

METHODS

Study sample

The research sample covers the period from 2011 to 2023, expressing a total of 13 observations in the context of investment portfolio management for the Kosovo banking system. The World Bank's online database is used for supplying data regarding investments, including financing in production, trade, services, and securities. The International Monetary Fund provided data on ROA and ROE. These sources incorporate comprehensive information on financing in production, trade, services, and securities investment. The data has been gathered and organized to summarize the capital allocation and investment strategies of banks in Kosovo throughout the study period. Data on ROA and ROE are obtained from the International Monetary Fund (IMF). The IMF is a well-known institution globally for the reliability and quality of its financial data, and its data have been widely used by many eminent authors and researchers in the field of economics and finance, for example, (Agarwal, Malik, and Gautam, 2024; Durguti, Arifi, Gashi and Spahiu, 2023; Almaskati, 2022). ROA and ROE metrics are considered the most important indicators to evaluate financial performance and are used to evaluate the efficiency and effectiveness of managing their resources. After the data were structured, the independent variables were transformed into natural logarithms. This step was taken to ensure a more accurate analysis and to harmonize the independent variables with the dependent variables, which are expressed in percentages. The use of the natural logarithm helps to reduce the variation and improve the stability of the statistical analysis, making possible a clearer and more accurate interpretation of the results (Gelman and Hill, 2007). The use of data by the World Bank and the International Monetary Fund is motivated by several main reasons such as reliability, their wide use, and compatibility.

Lastly, this section importantly states that the study could have quite a few limitations, mainly originating from the data, as the observed period accounts for only 13 observation periods. This limitation in the number of observations is associated with a lack of data that would cover previous years for the needs of the constructed study. In particular, these limitations may influence the efforts to appraise long-term influence or structural impacts on the banking system in Kosovo. Once more, however, it must be stressed that the mentioned shortcomings do not affect the general trends of the presented results. The research examines the features mainly associated with financial capacity, explicitly within investing across the production, trade, services, and securities sectors, and their consequences on ROA and ROE. The research takes an efficient and rigorous approach. The overarching goal of this study is to identify and examine the interaction between financial investments and banking performance, as assessed by the indicators of ROA and ROE. To accomplish the above objective, the research employed the dynamic approach designated as GMM. This approach was selected after careful analysis of its benefits in addressing the difficulties of endogeneity and heteroscedasticity, which commonly arise in models including financial interactions. Table 1 provides a detailed presentation of the variables included in the analysis, the abbreviations applied, and the expected effects on metrics that evaluate bank profitability.

Table 1. Definition of variables and source of data.

Description	Acronyms	Expected effects
Return on assets	ROA	
Return on equity	ROE	
Investment in the production sector	IPS	+
Investment in the services sector	ISS	+/-
Investment in the trade sector	ITR	+
Investment in short securities	IShS	+

The study incorporates four financial investment metrics as independent variables, specifically IPS, ITR, ISS, and IShS. The dependent variables, ROA and ROE, are measured annually and indicate the financial performance of the banking sector that is addressed in the study.

Data analysis approach

To evaluate the potential effects of independent variables (identified as those related to financial investment potential) on ROA and ROE in the context of Kosovo, this study applies the Arellano-Bond approach. This dynamic method is particularly recognized for its use in time series with short observation periods. Originally developed and modified by Arellano and Bond (1991) to address issues of endogeneity, the approach was further refined by Arellano and Bover (1995), as well as Blundell and Bond (1998), incorporating additional modifications such as the introduction of instruments, which enhance the accuracy of the results. Beyond this, the method also addresses various other issues, including the assessment of effects, correction of autocorrelation problems, evaluation efficiency, and improvement of the quality and reliability of estimates through the use of appropriate instruments. Therefore, based on these arguments, our study will apply the GMM approach, developed by the aforementioned authors, and the general formula for this approach is expressed in equation (1):

$$\Delta Y_{it} = \Delta \sum_{j=1}^{r} \varphi_j Y_i, t - j + X_{i,t}\beta_1 + w_{it}\beta_2 + \pi_i + \varepsilon_{i,t} \quad (1)$$

Hence, based on equation (1), we will formulate the equation in our specific case according to the applied lag (1) approach:

$$\Delta ROA_{i,t} = \varphi + \Delta\mu(ROA_{i,t})_{-1} + \beta_1(IPS_{i,t}) + \beta_2(ITR_{i,t}) + \beta_3(ISS_{i,t}) + \beta_4(IShS_{i,t}) + \pi_i + \varepsilon_{it} \quad (2)$$

$$\Delta ROE_{i,t} = \varphi + \Delta\mu(ROE_{i,t})_{-1} + \beta_1(IPS_{i,t}) + \beta_2(ITR_{i,t}) + \beta_3(ISS_{i,t}) + \beta_4(IShS_{i,t}) + \pi_i + \varepsilon_{it} \quad (3)$$

where: $ROA\ and\ ROE$,- in our specific case, represent the dependent variable, β_1 to β_4 - represents the explanatory variables included in the analysis, i - denotes the specific effects within the analysis, t - represents the period covered (2011-2023), π_i - represents unobserved effects within the estimation, and ε_{it} - represents the potential error in the simulated approach.

RESULTS

General statistics summary

The overall descriptive statistics are offered in Table 2 for the whole variables under observation. The study under observation includes a sample of 11 banks that operate in Kosovo, where the data used are aggregated, and a further characteristic is that all banks are owned by private capital.

Table 2. Descriptive statistics.

Variables	Observation	Mean	Standard. D.	Min	Max
ROA	13	1.738	0.586	0.657	2.797
ROE	13	16.064	4.552	6.871	24.115
IPS	13	5.994	0.423	5.596	6.876
ISS	13	5.442	0.369	4.909	5.965
ITR	13	6.738	0.237	6.362	7.187
IShS	13	3.473	0.101	1.061	4.863

The mean value reported for ROA is 1.738, with a standard deviation (SD) of 0.58 per cent. As a result, it is observed that the banking system in Kosovo has a positive return, also taking into account the minimum and maximum values. Beyond this, the ROE has revealed a mean value of 16.064 with an SD of 0.42 per cent. The minimum value reported during the analyzed period was recorded at 6.871, while the maximum recorded value was 24.115. Therefore, based on the results of these two key indicators, it can be easily concluded that the banking system in Kosovo is quite attractive and profitable. Meanwhile, from the context of independent variables, specifically investment in the production sector (IPS), it has a mean value of 5.994 with an SD of 0.42 per cent, a minimum value of 5.596, and a maximum value of 6.876. Investment in the services sector (ISS) recorded a mean value of 5.442 during the analyzed period, with an SD of 0.36 per cent. The minimum value reached 4.909, while the maximum was 5.965. The sector considered the most attractive for investment appears to

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be the trade sector (ITR), where the mean value is 6.738 with an SD of 0.23 per cent. Lastly, investments in securities (IShS) recorded a mean value of 6.473 with an SD of 0.1 per cent.

Correlation analysis

The study further sought to recognize the interrelationship within the variables included in the study by conducting correlation scrutiny for both the evaluators, ROA and ROE. The detailed outcomes are presented in Table 3, where it is explicitly observed that ROA has moderate positive correlations with all the variables contained within the analysis. Notably, the highest coefficient observed in this examination is within ISS and ITR, with a constant of 0.622.

Table 3. Correlation analysis.

Return on assets	**ROA**	**IPS**	**ISS**	**ITR**	**IShS**
ROA	1.000				
IPS	0.286	1.000			
ISS	0.493	0.566	1.000		
ITR	0.409	0.464	0.622	1.000	
IShS	0.369	0.503	0.269	0.364	1.000
Return on equity	**ROE**	**IPS**	**ISS**	**ITR**	**IShS**
ROA	1.000				
IPS	0.289	1.000			
ISS	0.430	0.466	1.000		
ITR	0.376	0.464	0.582	1.000	
IShS	0.335	0.493	0.303	0.461	1.000

The reported outcomes indicate that these variables exhibit positive correlations with profitability evaluators. Specifically, for the ROE evaluator, the reported results provide evidence of moderate positive correlations, with some minor differences compared to the previous evaluator. Besides, this kind of econometrics approach can work to evaluate if there are any possible problems regarding multicollinearity with the data applied. Data may have such concerns if any of the presented values exceed 0.80. According to Wang et al. (2022), in this situation, problems, such as $r \geq 0.8$, are more than likely to occur. However, concerning the coefficients of this study, the highest observed value was 0.622, which means multicollinearity is not an issue in the study.

Estimation results

Based on the overall premise established for this study, before reporting the empirical findings, it is necessary to first elaborate on some preliminary tests. Initially, the heteroskedasticity test was performed, which for the ROA metric showed a ρ-value ≥ 0.05, specifically $\rho = 0.071$, while for the ROE metric, the ρ-value was 0.066. These results indicate that in our case the p-values are greater than 0.05 and provide enough evidence so that the null hypothesis is not to be rejected; therefore, the data could be considered not to contain problems of heteroskedasticity. Regarding the first difference in model instruments for integration and adjustment, we used the Sargan J test, under which the results were: ρ-value of 0.699 for ROA and $\rho = 0.386$ relative to ROE. Based on the reported ρ-value, it is observed that they have insignificant relevance, and from this, we conclude that the instrument adjustments in the estimation are considered adequate.

To explore the dynamic nature of the data concerning autocorrelation, the study also performed the GMM estimation using the robust option, to perform AR1 and AR2 tests for autocorrelation. Based on the reported results for AR2, it is suggested that the null hypothesis should not be rejected since the ρ-value is 0.172 for ROA and 0.196 for ROE, equally higher than 0.05, which provides robust evidence that autocorrelation does not exist. Finally, to evaluate the adequacy and fit of the data within the GMM estimation, the Wald chi2 value of 15.25 with $\rho = 0.009$ for ROA, and Wald chi2 = 16.05 with $\rho = 0.006$, indicates that the applied approach is appropriate and offers reliable results.

Table 4. Regression results.

	GMM approach – ROA		GMM approach – ROE	
	β	**ρ ≥ [z]**	**β**	**ρ ≥ [z]**
IPS	-8.182	0.013	-58.160	0.014
ISS	1.224	0.270	7.737	0.347
ITR	16.254	0.020	117.242	0.022
IShS	5.146	0.001	9.212	0.017
Screening tests				
Observation	13	"-"	13	"-"
Wald chi2	15.25	0.009	16.05	0.006
χ^2-test	"-"	0.071	"-"	0.066
Sargan J test	3.834	0.699	2.829	0.386
AR_1	z = -1.929	0.019	z = -1.455	0.013
AR_2	z = -1.529	0.172	z = -1.137	0.196

Results in Table 4 show that of the four variables included in the exploration, three have significant effects on both estimators (ROA and ROE). More precisely, IPS has a significantly negative influence at 5% confidence, and ITR and IShS have a significantly positive influence on both estimators (ROA and ROE) at 5% and, respectively, 1% significance.

DISCUSSION

Table 4 detected that investment in the production sector (IPS), according to the estimations, reflects a significant negative statistical influence on profitability indicators, specifically ROA and ROE. Based on the coefficient and probability values, the findings indicate that for each unit increase in IPS, there is a corresponding decrease of 8.2 units in ROA and 58.2 units in ROE, holding other factors constant (ceteris paribus). These results are consistent with those of Nikolaos et al. (2016), as well as Dia and Menna (2016), who documented that IPS negatively influence bank profitability due to increased demand for funds, thereby limiting the financial potential of banks and potentially leading to banking crises and negative technological shocks. Similarly, Mishkin (2021) highlighted that the unpredictability of investments in the production and services sectors is considered a factor that negatively influences bank performance, making these investments more challenging for management structures. However, empirical evidence also presents divergent findings, arguing that IPS within micro, small, and medium enterprises positively influence bank profitability (Afdhal and Hamizar, 2023). In a similar vein, Sinamenye and Zheng (2022) provide evidence that IT investments positively influence bank performance, based on an analysis of Jordanian banks.

The surprising result was observed in ISS during the examined period, as the probability value turned out to be insignificant. However, it is worth noting that it still has a positive influence on ROA and ROE. This result is undoubtedly contrary to expectations, but it should also be highlighted that it opposes the findings of Singhal and Jain (2023), Sreekanth and Kiran (2022), and Mishkin (2021), who emphasized a statistically significant influence on ROA and ROE, particularly stressing that investments in digitalization services and other customer-oriented strategies reflect a positive influence. Financial support from banks for the trade sector, based on the results reported in Table 4, has exposed a statistically significant influence (ρ = 0.020 for ROA, and ρ = 0.022 for ROE) at the 1% probability level in both estimates during the observed period. The drawn conclusion is determinative, as every unit increase in funding for this sector is reflected in an increase in profitability by 16.25 units in return on assets, and 117.24 units in return on equity, assuming the ceteris paribus condition holds. Therefore, the research results are coherent with the experimental evidence provided by Owuoro and Muganda (2022), who highlighted that trade financing, when considering regulatory aspects on risk management also diversification, positively influences ROA as well as ROE. Identical conclusions were reached by Tmava et al. (2019), who emphasized that banks in the Western Balkans are crucial supporters of this sector and discovered a positive interplay between profitability and investments in the trade sector.

Finally, investments in securities (IShS) by the banking sector have shown a significant positive influence on bank profitability, with an ROA probability value of (ρ = 0.001) and an ROE probability value of (ρ = 0.017), with a slight variation between them. Specifically, the reported results provide decisive indications that this indicator is highly significant, as each unit increase in IShS leads to an increase of 5.14 units in ROA and 9.21 units in ROE. Beyond this, the result aligns with

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expectations and aligns with the conclusions of Liu (2022), who emphasized that investments in securities positively influence ROA and ROE, particularly in urban and agricultural banks, though their frequency has slightly declined in recent years. Explicitly, this issue was investigated by Rida (2021), revealing that investments in financial derivatives by banks have effects in two different dimensions: initially, they reduce risk, and while the influence of investments in short-term securities is not directly addressed, there is evidence that they significantly influence bank profitability.

CONCLUSIONS

The primary purpose of this study was to analyze certain banking factors, specifically those that are exclusively related to the management of the investment portfolio in the banking business of Kosovo. To achieve this goal, annual time series data covering 13 years, specifically from 2011 to 2023, were used and analyzed using the Generalized Method of Moments (GMM). The reported results of this research indicate that investments in the production sector (ISP) harm ROA and ROE, which suggests that investments in this sector may generate certain challenges for commercial banks by limiting financial potential and, consequently, reflecting a reduction in profits. The negative reflection on these two performance indicators may be linked to the high demand for funds and potential risks faced by the production sector. On the other hand, investments in the trade sector (ITR) showed opposite findings to those in the production sector, with a significant positive impact on ROA and ROE. Therefore, this result provides indications that this sector highlights the importance of trade in Kosovo, implying that an increase in participation in trade financing is directly related to profit growth and the improvement of operational efficiency by the banks operating in Kosovo.

The research also emphasizes that short-term securities investments (IShS) have shown a significant positive impact on ROA and ROE. This result suggests that investments in short-term securities contribute to a stable and secure return for banks by improving their liquidity position and reducing market-related risks. Meanwhile, the variable ISS has resulted in a surprising outcome that is contrary to the study's expectations and much of the evidence provided by various researchers. However, it should be noted that this sector may still have positive impacts that were not captured through the applied approach. Taken together, the reported results provide a solid foundation that can be utilized by other researchers or in future studies, including other variables related to risk management, loan loss provisioning, and longer periods under investigation. However, the exclusion of these variables does not imply that the presented results are questionable, but rather that the main goal was to explicitly observe these four channels of portfolio management applied by banks in Kosovo.

The findings of the research could significantly influence policymaking in Kosovo's banking sector. Firstly, the reported results indicate that investments in the production sector harm return on assets and equity. Therefore, policymakers should review the current supportive policies for this sector, focusing on revising or redesigning legislation that should be reflected in improving efficiency and managing financial risks to prevent adverse effects on bank profitability. Secondly, the positive influence of investments in the trade sector and short-term securities suggests that policymakers should further encourage investments in these sectors by creating fiscal and regulatory incentives that support the diversification of bank portfolios. These measures could help improve financial stability and increase profitability in the banking sector. Finally, policymakers should consider advancing policies that support innovation and digitalization in the services sector to enhance its positive impact on bank profitability.

ADDITIONAL INFORMATION

AUTHOR CONTRIBUTIONS

All authors have contributed equally.

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CONFLICT OF INTEREST

The Authors declare that there is no conflict of interest.

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ЕМПІРИЧНІ УЯВЛЕННЯ ПРО УПРАВЛІННЯ ПОРТФЕЛЕМ ТА ЕФЕКТИВНІСТЬ БАНКІВ У КОСОВІ: УЗАГАЛЬНЕНИЙ МЕТОД ДОСЛІДЖЕННЯ МОМЕНТІВ

Метою цього дослідження є аналіз певних банківських факторів, а саме управління інвестиційним портфелем у банківському бізнесі Косова. Використані дані є часовими рядами на річній основі за останні 13 років, і ці дані були протестовані за допомогою Генералізованого методу моментів. Результати дослідження щодо дохідності активів показують, що інвестиції у виробничий сектор мають негативний вплив, водночас інвестиції в торговий сектор та інвестиції в короткострокові цінні папери мають статистично значущий позитивний вплив на доходність активів. При такому ж рівні важливості інвестиції у виробничий сектор негативно впливають на доходність власного капіталу, тим часом інвестиції в торговий сектор та інвестиції в короткострокові цінні папери позитивно впливають на доходність власного капіталу. Несподіваним результатом виявилися рейтинги в галузі послуг, оскільки вони мають незначну статистичну цінність. З точки зору інноваційності та оригінальності, під час дослідження емпіричної літератури ми не помітили, що ці незалежні показники були включені.

Ключові слова: рентабельність банку, інвестиції у виробничий сектор, інвестиції в сектор торгівлі, інвестиції в сектор послуг, інвестиції в цінні папери, часові ряди, GMM

JEL Класифікація: G21, G11, G23, G24, C22, C29