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BANK PROFITABILITY DETERMINANTS: EVIDENCE FROM KOSOVO AND ALBANIA

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Abstract: *This research aims to examine the factors that impact the profitability of commercial banks in Kosovo and Albania. Profitability is crucial in the financial sector as it directly affects policymakers, regulators, and bank management. The study focuses on several determinants of bank profitability, including the number of employees, loan interest rate, non-performing loans, and total loans. The study employed quarterly secondary data spanning from 2010 to 2020, resulting in 400 observations. The analysis used multiple linear regression, influenced by the huge number of observations and the applicability of ordinary least squares (OLS) for such studies. This method allowed for a thorough examination of the interactions between the dependent and independent variables, providing a more in-depth understanding of the factors driving bank profitability. The statistical significance was determined using software such as STATA and SPSS. The dependent variables in the analysis are return on assets (ROA) and return on equity (ROE). The findings reveal that the loan interest rate, total loans, and non-performing loans significantly influence the profitability of the analyzed banks in Albania and Kosovo. Furthermore, the total number of loans and employees are statistically significant determinants of ROE. These findings provide valuable insights for bank management and policymakers in enhancing bank profitability and stability.*

Keywords: Bank Profitability; ROE; ROA; Non-Performing Loans

INTRODUCTION

It is broadly accepted that a country's financial system significantly impacts its economic growth and development (Claessens and Horen 2021). Its principal duty is to enable the movement of assets from savers to investors and guarantee that these funds are directed into the most productive areas of the economy, promoting future development (Danso and Adomako 2014).

Foreign banks account for 85.0% of total assets in the Kosovo banking system (Central Bank of the Republic of Kosovo, 2023). Twelve banks currently operate in Kosovo, nine of which are foreign-owned. The banking sector has shown strong growth in the past few years, with several new banks entering the market and lending increasing significantly (Shabani, Morina, and Misiri 2019; Nuhiu, Hoti, and Bektashi 2017; Durguti, Krasniqi, and Krasniqi 2020). The performance of Kosovo's banking sector has been positive, with a decline in non-performing loans (NPLs) and an increase in profitability. However, the sector remains relatively small and underdeveloped compared to other countries in the region, and potential risks could impact its future development. Kosovo's bank number expanded from 5 to 11 between 2010 and 2018, with lending more than doubling.

According to the statistics for Kosovo, the average return on equity (ROE) for banks operating in the nation was 12.5% in 2017, which is somewhat higher than the region's average ROE (11.4%) (World Bank 2018b). The average return on assets (ROA) for Kosovo's banks was 1.6% in 2017, which is lower than the regional average of 1.8%. In summary, while Kosovo's banks are slightly more profitable than those in the region, they are less efficient regarding asset utilization.

Strong monopolization characterizes Albania's banking industry, with just three Banks controlling over 60% of all assets. Banka Kombetare Tregtare (BKT) is the largest Bank, followed by Raiffeisen Bank Albania and Intesa Sanpaolo Albania (Nure 2019; Hallunovi 2017; Cekrezi 2015). In addition to these bigger banks, the nation has many smaller indigenous and foreign-owned banks. Banking services are extensively available in Albania, with over 90% of the population having access to one. During the last decade, the industry has grown significantly, with consistently high-performance metrics such as ROE and ROA averaging approximately 20% and 2.5%, respectively.

Albania's rapid development in the banking industry may be attributed to several factors. One cause is the country's high economic development, which averaged 5% per year between 2007 and 2017 (World Bank 2018a). As a result, more individuals and businesses are now using financial services. Additionally, the Albanian government has implemented various reforms to improve the business environment and attract foreign investment, making it easier for banks to operate in the country and contributing to the sector's growth.

The primary goal of this research is to evaluate which factors will have the most significant influence on bank profitability in Kosovo and Albania between now and 2020. This study will examine the impact of various variables on bank profitability, such as bank size, non-performing loans, the number of loans, the interest rate on loans, and the number of bank employees. It will also determine which independent factors directly affect bank profitability.

After an introduction, the study continues to examine the literature on the factors influencing bank profitability. The third part describes the technique in-depth, including the econometric models and data sources utilized. The empirical results are reported in the fourth part, and the last portion includes closing comments and ideas for further study.

LITERATURE REVIEW

Several studies have been conducted to identify the factors influencing bank profitability. These factors can be complex and interrelated, depending on the Bank's specific context and market (Uralov 2020; Devinaga Rasiah and Rasiah 2010; Dietrich and Wanzenried 2014; Saona 2016; Jara-Bertin, Arias Moya, and Rodríguez Perales 2014).

First, considerable research on the drivers of bank profitability has concentrated on macroeconomic factors such as economic growth, inflation rate, interest rate, money supply, and exchange rate (Joaqui-Barandica, Manotas-Duque, and Uribe 2022; Adelopo, Lloydking, and Tauringana 2018; Alper, Anbar, and Alper 2011; Qehaja, Gashi, and Hoti 2022). However, some research suggests that a rise in the economy's growth rate does not affect bank profitability (Sharma, Gounder, and Xiang 2013) or even have a negative effect (Tan and Floros 2012). Other research suggests it may raise demand for banks' financial services, improving bank profits

(Athanasoglou, Delis, and Staikouras 2022; Beck, Demirgüç-Kunt, and Levine 1999; Dietrich and Wanzenried 2014). Inflation (INF) may also impact bank profitability, according to (Pervana, Pelivan, and Arnerić 2015), as it plays a key role in the structure of interest rates. A higher inflation rate may lead to higher loan interest rates, resulting in greater bank profitability. Alternatively, higher interest rates may increase the risk of loan repayment since increasing inflation may affect borrowers' budgets, jeopardizing their liquidity and ability to service loans.

Second, bank-specific factors such as capital adequacy ratios, loan portfolios, and operational efficiency may substantially impact a bank's financial performance and stability. Capital adequacy ratios, for example, gauge a bank's capacity to absorb losses, influencing bank stability and the financial system (Adelopo, Lloydking, and Tauringana 2018).

Regarding loan portfolios, the composition and quality of a bank's loans can affect its profitability and risk profile (Ercegovac, Klinac, and Zdrilić 2020). Operating efficiency, which refers to a bank's ability to produce goods or services at the lowest cost, can also impact a bank's profitability and competitiveness in the market (Hirindu and Kushani 2017). Additionally, non-financial determinants, such as legal and regulatory frameworks, can significantly impact bank performance. Studies have shown that regulations can either facilitate or hinder bank performance, depending on their design and implementation (Swamy 2018; Mashamba 2018; Drake, Hall, and Simper 2006; Pasiouras and Kosmidou 2007). For example, regulations that promote transparency and risk management can enhance the stability and efficiency of the banking sector. However, excessively burdensome regulations can create compliance costs and hinder banks' ability to serve their customers effectively.

Thirdly, literature has explored how different ownership structures, such as the public or private sector, can affect bank profitability. Ownership structures can significantly impact the Bank's profitability. Political interference is one of the main reasons for public sector banks' lower profitability. Governments often use public sector banks to achieve policy goals, which may not necessarily align with the Bank's financial interests (Kořak and Āok 2008; Ana and Roberto 2011). This may result in misallocating resources and a lack of emphasis on economic viability, resulting in decreased profitability. Due to a lack of competition and incentives for innovation, public-sector banks have lesser efficiency than private-sector banks (Liu and Wilson 2010).

On the other hand, private sector banks are constantly under pressure to enhance their efficiency and customer service to stay competitive and recruit consumers. Additionally, public sector banks tend to have higher levels of NPA because of the influence of political interests and ineffective credit risk management (Ozili and Uadiale 2017). This can significantly impact the Bank's profitability as it has to set aside funds to cover the non-performing asset (NPA), leading to lower net income. Alternatively, private sector banks have higher profitability because they focus on maximizing shareholder value and efficient management (Stančić, Āupić, and Obradović 2014). They have a clear profit motive and are incentivized to optimize their operations and minimize costs. They also have strict credit risk management policies, which leads to reduced NPA numbers and increased profitability.

Finally, the literature has also explored how external factors such as technological changes and customer preferences influence bank profitability. For example, studies have shown that increased adoption of digital banking services can lead to higher operational efficiency and

bank cost savings (Nawafleh 2015; Le and Ngo 2020; Uralov 2020). External factors, including technological changes and customer preferences, can influence a bank's profitability. One way in which technological changes can impact bank profitability is through the adoption of digital banking services. As more and more customers shift towards using online and mobile banking platforms, banks may be able to achieve higher operational efficiency and cost savings. For example, a study (Nawafleh 2015) found that adopting digital banking services was associated with lower operating costs and higher bank profitability.

Similarly, (Le and Ngo 2020; Uralov 2020) found that banks that effectively implemented digital banking services achieved significant cost savings and improved profitability. The adoption of emerging technologies, such as machine learning and artificial intelligence, may also have an impact on bank profitability. These technologies can help banks improve decision-making, automate processes, and manage risk, increasing profitability. In addition to technological changes, customer preferences can also influence bank profitability. For example, if customers begin to prefer banks that offer a wider range of products and services, such as investment and wealth management services, banks that can meet these preferences may be more successful in attracting and retaining customers. On the other hand, if customers begin to prefer banks that offer lower fees or more convenient services, such as extended hours or more locations, banks that cannot meet these preferences may experience a decline in profitability.

Patria, 2015 investigated the primary factors determining bank profitability in EU27 during 2004-2011 (Petria, Capraru, and Ilnatov 2015). Their studies suggested that several factors influenced bank profitability. These included operational efficiency, diversification of business operations, market concentration and competition, credit and liquidity risk management, economic growth, and performance metrics like return on average assets (ROAA) and return on average equity (ROAE). In their work (Kohlscheen, Murcia Pabón, and Contreras 2018), the authors analyze the balance sheets of 534 banks from 19 different countries to investigate the factors that affect bank profitability in developing economies. According to the research, although short-term interest rates increase earnings by raising financing costs, long-term interest rates favor profitability.

Sufuan and Mohamed (2012) investigated the internal and external elements that contributed to Indian banks' performance between 2000 and 2008. Based on the data collected for this study, it is evident that a range of factors, including credit risk, network engagement, operating expenses, liquidity, and bank size, significantly impact bank profitability (Sufian and Noor Mohamad 2012).

When investigating what factors led to successful banking in China between 1999 and 2006, (Heffernan and Fu 2011) focused on three main areas. They looked at financial ratios, macroeconomic indicators, the type of Bank, the level of foreign ownership, and the Bank's listing status as independent variables in their assessment of four performance measures. Economic value added, and net interest margin were the best performance indicators, with other macroeconomic factors and financial ratios showing significance with predicted outcomes. However, the size of the Bank was not found to be influential, and foreign ownership and bank listings did not significantly affect performance.

Researchers (Jara-Bertin, Arias Moya, and Rodríguez Perales 2014) examined how macroeconomic and institution-specific factors affected 78 commercial banks in Latin America.

Individual criteria such as service diversity, size, capital ratio, and degree of specialization were shown to be positively related to bank performance. Bank performance is also tied to macroeconomic and industrial factors, including inflation, economic growth, and bank concentration. On the other hand, bank performance is adversely associated with operational inefficiencies and credit and liquidity issues.

Before, during, and after the financial crisis, the authors (Adelopo, Lloydking, and Tauringana 2018) investigate the relationship between bank-specific and macroeconomic variables and bank profitability. The results show a link between pre-crisis, crisis-era, and post-crisis bank profitability (ROA) and bank-specific factors, including size, cost management, and liquidity. However, the period of investigation and the profitability metric employed significantly impact the correlations between other bank-specific and macroeconomic drivers.

The influence of non-interest revenue on bank profitability and risk during the COVID-19 epidemic is investigated (Li et al. 2021). According to their findings, the economic effects of the pandemic led to a reduction in demand for various types of loans and a subsequent tightening of credit conditions. By diversifying into non-interest revenue sources, banks might mitigate the negative impacts of the pandemic on their performance since these sources have shown a positive correlation with bank performance and an inverse correlation with risk. The authors argue that their research suggests that bank diversification during a pandemic is desirable.

METHODOLOGY

This study utilized quarterly secondary data from banks' annual reports to examine ten different banks in the two countries over ten years. For the analysis, the multiple linear regression method was employed. Considering the substantial number of observations and the suitability of OLS for multiple linear regression analysis, the decision to employ this statistical method is justified. It enables a rigorous examination of the relationships between the independent and dependent variables, facilitating a deeper understanding of the determinants of bank profitability.

Statistical significance was assessed using software programs like STATA and SPSS. Two econometric models were employed, with one model considering the return on assets (ROA) as the dependent variable and the other model focusing on the return on equity (ROE) as the dependent variable. The independent variables considered in both models were the number of loans issued, the number of bank employees, non-performing loans, and interest rates. The following are the details of the two econometric models utilized:

Model 1:

$$ROA = a + \beta_1(\text{No. of Loans}) + \beta_2(\text{No. of Employees}) + \beta_3(\text{NPL}) + \beta_4(\text{Interest rate}) + \mu$$

Model 2:

$$ROE = a + \beta_1(\text{No. of Loans}) + \beta_2(\text{No. of Employees}) + \beta_3(\text{NPL}) + \beta_4(\text{Interest rate}) + \mu$$

Table 1: Description of Study Variables (Source: Authors' calculations 2023)

Variable	Type	Definition	Source	Measurement Unit
ROA	Dependent	It measures a company's profitability in relation to its total assets.	Annual Reports of Banks	Numerical
ROE	Dependent	It calculates financial performance by dividing net income by shareholder equity.	Annual Reports of Banks	Percentage
NUMBER OF LOANS	Independent	Total number of annual loans issued by the Bank	Central Banks	Numerical
NUMBER OF EMPLOYEES	Independent	The number of employees working in the Bank	Annual Reports of Banks	Numerical
NPL	Independent	Number of non-performing loans	World Bank	Numerical
INTEREST RATE	Independent	It is the percentage of the principle that a lender charges a borrower.	World Bank	Percentage

EMPIRICAL RESULTS

Table 2 shows the preliminary descriptive statistics of the research variables, revealing that the average profitability of the study's ten commercial banks is 13 million. In contrast, the average ROE is 19.52%. The average number of workers in all branches is 714.67, with non-performing loans around 2542, while the average real interest rate on loans is 5.75%.

Table 2: Descriptive Statistics of Study Variables (Source: Authors' calculations 2023)

	Number of Observations	Minimum	Maximum	Average	Standard Deviation
ROA	400	16.70	13207.43	10642.60	2427.77
ROE	400	14.6	29.92	19.52	4.02
NUMBER OF EMPLOYEES	400	194	920	714.67	155.32
NPL	400	1121	21423	2542	4221.231
INTEREST RATE	400	2.12	12.60	5.75	1.63

The correlation coefficient between the profitability variable and the interest rate is positive, with a value of $r=0.641$, which is significant at the 5% level, based on the correlation coefficient shown in Table 3. Meanwhile, the profitability ratio with non-performing loans is strongly negative with a coefficient $r=-0.412$, where the coefficient is significant at the 1% level. Profitability positively correlates with return on investment (ROE) with a coefficient of $r=0.166$. At the same time, return on investment (ROE) is positively related to the number of bank employees ($r=0.704$) and the interest rate on loans ($r=0.255$).

Table 3: The Relationship Between the Variables Presented Using the Correlation Coefficient
(Source: Authors' calculations 2023)

		ROA	ROE	# Employees	# NPL	Interest Rate
ROA	Pearson correlation	1	.166	-.514**	-.412**	.641*
	Sig. (2-tailed)		.976	.009	.003	.036
ROE	Pearson correlation	.166	1	.704**	-.542**	.255
	Sig. (2-tailed)	.976		.001	.005	.795

Figure 1 depicts the cumulative loan trend and income earned by the five Kosovo banks. The number of loans has increased, and this tendency is expected to continue. Banks' profitability has improved in tandem with the growth in loan volume.

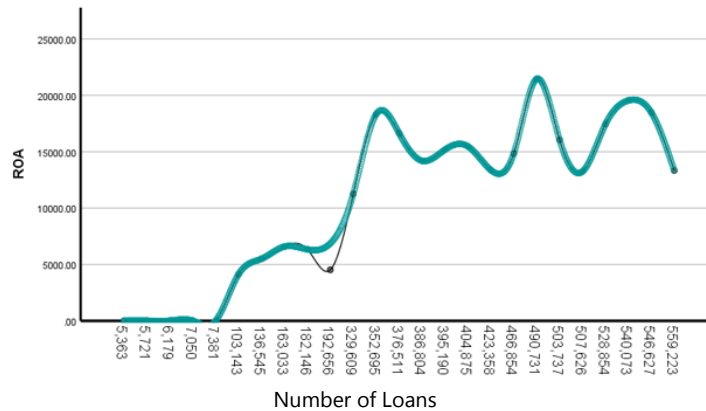


Figure 1: The Trend of the Number of Loans Concerning Bank Profits in Kosovo
(Source: Authors' calculations 2023)

REGRESSION RESULTS

In Tables 4, 5, 6, and 7, the regression results for ROA and ROE as dependent variables for Kosovo and Albania are presented.

Table 4: Summary results of the ROA Model - Kosovo (Authors' calculations 2023)

R	R Square	Adjusted R Square	Std. error of the estimate regression			
.952 ^a	.912	.906	4129.19			
Sum of Squares		df	Mean Square	F	Sig.	
Regression	124581219587.43	4	112423152458.63	44.926	.000 ^b	
Residual	450924456.242	26	624776575.21			
Total	2064152104.27	25				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
(Constant)		-3659.486	6067.746		-.503	.401
Number of loans		.034	.004	.882	12.18	.000
Number of employees		1.526	5.429	.401	1.08	.688
NPL		-.077	.055	-.089	-8.21	.000
Interest rate		802.291	275.773	.124	7.66	.004

The model that uses bank profitability (ROA) as an independent variable has achieved an exploitability rate of 91.2%, indicating a very high level of accuracy. That is, the selected independent variables determine the profitability of banks in Kosovo at 91.2%. Out of the four variables, the number of loans, non-performing loans, and the interest rate on loans significantly impact banks' profitability. However, the number of bank employees did not demonstrate any explanatory power. All three significant variables were significant at a 1% level.

Table 5: Summary Results of the ROE Model - Kosovo (Authors' calculations 2023)

R	R Square	Adjusted R Square	Std. error of the estimate regression			
.758 ^a	.802	.745	3.55			
Sum of Squares		df	Mean Square	F	Sig.	
Regression	236.06	5	31.12	9.983	.002 ^b	
Residual	198.66	25	7.42			
Total	412.31	27				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
(Constant)		9.272	5.484		1.23	.169
Number of loans		7.430E-6	.000	.270	2.34	.032
Number of employees		.011	.005	.512	2.56	.026
NPL		.000	.000	-.477	-1.08	.344
Interest rate		-.049	1.153	.160	.053	.822

The regression model, which includes bank return on equity (ROE) as an independent variable, has an explainability of 80.2%, which is very high, implying that the selected independent variables determine the return on equity of banks in Kosovo of 80.2%. We find statistical significance for two of four variables. Banks' profitability may be explained by the

number of loans and employees made. Comparatively, neither the interest rate nor the number of non-performing loans has attained statistical significance. Both variables are shown to be significant when examined at the 5% level of significance.

Table 6: Summary Results of the ROA Model - Albania (Authors' calculations 2023)

R	R Square	Adjusted R Square	Std. error of the estimate regression		
.852 ^a	.813	.806	3542.19		
Sum of Squares		df	Mean Square	F	Sig.
Regression	2341	5	21234	542	.000 ^b
Residual	12342	32	42132		
Total	12323	23			
Unstandardized Coefficients		Standardized Coefficients			
B	Std. Error	Beta	t	Sig.	
(Constant)	2312	3242.8	-.503	.401	
Number of loans	.056	.003	.664	11.85	
Number of employees	2.212	6.988	.314	0.08	
NPL	-.425	.088	-.421	.006	
Interest rate	-.643	122.7	.124	5.66	

The model that utilizes bank profitability (ROA) as an independent variable has reached an explainability of 81.3%, which is very high. This suggests that 81.3% of Albania's bank profitability variance can be attributed to the chosen independent factors. Three of the four variables of this study are statistically significant. That is, the variable of the number of loans, non-performing loans, and the interest rate on loans have explanatory power for the profitability of banks, while the number of bank employees have not reached the ability explanatory. All three variables are significant at the 1% significance level.

Table 7: Summary Results of the ROE Model - Albania (Authors' calculations 2023)

R	R Square	Adjusted R Square	Std. error of the estimate regression		
.741 ^a	.792	.698	2.66		
Sum of Squares		df	Mean Square	F	Sig.
Regression	123.4	7	66.4	10.8	.000 ^b
Residual	124.8	42	9.2		
Total	514.2	54			
Unstandardized Coefficients		Standardized Coefficients			
B	Std. Error	Beta	t	Sig.	
(Constant)	6.42	3.12	1.23	.169	
Number of loans	1.4	.004	.550	7.34	
Number of employees	.084	.024	.642	7.56	
NPL	-.002	.004	-.341	-0.08	
Interest rate	.057	1.41	.213	.052	

The regression model, which has banks' return on equity (ROE) as an independent variable, has reached an explainability of 79.2%, which is very high, so the selected independent

variables determine banks' return on equity in Albania of 79.2. There is a statistically significant difference between two of the four factors. That is, the variable of the number of loans and the number of workers have explanatory power for banks' profitability. In contrast, the interest rate and non-performing loans have not reached explanatory power. Both variables are significant at the 5% significance level.

Our empirical results align with the existing literature. Similar to our findings, Uralov (2020), Devinaga Rasiah and Rasiah (2010), and Dietrich and Wanzenried (2014) identified that the number of loans issued and the number of employees could significantly impact a bank's profitability. Qehaja, Gashi, and Hoti (2022) also noted the relationship between the volume of loans and profitability, adding further credibility to our research. Our investigation of the impact of non-performing loans (NPLs) on bank profitability resonates with the findings of Ercegovac, Klinac, and Zdrilić (2020), who highlighted that the quality of a bank's loan portfolio could notably affect its profitability and risk profile. Ozili and Uadiale (2017) also found a similar relationship, indicating that higher levels of NPLs can reduce net income, thus aligning with our results. Moreover, our exploration of the impact of interest rates on profitability agrees with Pervana, Pelivan, and Arnerić (2015), who also underscored the crucial role of interest rates in banks' profitability. They posited that a higher inflation rate could lead to higher loan interest rates, subsequently resulting in increased bank profitability. As for the dependent variables, our analysis focused on the ROA and ROE, both widely recognized as significant indicators of bank profitability. This is in line with Petria, Capraru, and Ilnatov (2015), who found that return on assets (ROAA) and return on equity (ROAE) are key factors impacting banks' profitability.

CONCLUSION

According to the study's empirical findings, four factors significantly affect bank profitability, the number of workers, the interest rate on loans, the percentage of loans that are in default, and the total quantity of loans. The number of loans, the percentage of non-performing loans, and the interest rate on loans were all statistically significant, whereas the number of bank employees was not. According to the research, non-performing loans were shown to reduce bank profits by the same amount. Therefore, to improve profitability, banks in Kosovo and Albania should focus on increasing their capital adequacy, reducing non-performing loans, and maintaining a favorable loan-to-deposit ratio. Additionally, the study showed that Kosovo banks performed better than Albania, indicating differences in the management of the two countries banking sectors.

Banks' provision of financial services to households and businesses is crucial to the economy. Thus, it is essential for a country's economic growth and development that banks remain stable and profitable. The study's findings offer valuable insights for policymakers, regulators, and bank managers in Kosovo and Albania to make informed decisions about managing and regulating the banking sector. With the Covid-19 pandemic increasing risks to financial stability, policymakers and regulators should develop and implement effective crisis management measures to mitigate any future crises' impact on the banking sector and the economy. Additionally, this study can serve as a benchmark for future research on bank profitability and its determinants in other developing countries.

Future research could broaden the scope of macroeconomic variables impacting bank profitability, including money supply and exchange rates. Furthermore, other potential factors influencing bank profitability, such as competition, technological advancements, and regulatory changes, could be explored as possible extensions. As this study concentrates only on Kosovo and Albania, additional research could incorporate more developing countries within the region.

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This article does not contain any studies with human participants performed by any authors.

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