

DETERMINANTS OF PROFITABILITY (ROA) IN ALBANIAN BANKING SYSTEM

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Abstract: *Banks are the most crucial financial intermediaries in the economy and the economies that have profitable banking industry are better able to withstand negative shock and contribute to the stability of the whole economy. The purpose of this study is to investigate determinants of profitability in commercial banks in Albania by using panel data of sixteen commercial banks from the year 2009 to 2014. The study has used a mixed research approach and the secondary financial data are analyzed by using multiple linear regression model for the bank profitability measure (Return on Asset). Fixed effect regression model was applied to investigate the impact of bank size, asset management, credit risk, asset liquidity, operational efficiency, equity ratio, financing cost, concentration, economic activity, inflation and exchange rate on Return on Asset (ROA).*

The findings of the study show a positive relationship of capital adequacy and profitability with strong statistical importance. While, resulted a negative relation between operational efficiency and profitability. Natural logarithm of total assets had a positive impact on profitability but with low level of importance for the model. Also, it was found a negative and irrelevant relationship between assets liquidity and profitability.

Key words: *Albania, Commercial Banks, External Factors, Internal Factors, Profitability, Return on Assets.*

Introduction

The international financial system is changing rapidly, while the economies and financial systems are undergoing traumatic years. Globalization and technology are developing rapidly continuously, and the financial arenas is becoming more open for new products and services (Sandeep, Patel and Lilicare, 2002; Guntz, 2011). A wave of international mergers and acquisitions has involved the banking industry, and this made the borders between financial sectors and products to be dramatically unclear (Aminu, 2013). Therefore, there is a need to have sound banking systems, which can strengthen and improve institutions to survive in such a complex environment (Bhuyan and Williams, 2006). Factors affecting the profitability of the banks are important to many stakeholders as central banks, governments, associations of bankers, other financial authorities and managers of banks (Zainol and Kassim, 2010). It's a known fact that banks are the main factor that contributes in the economic development in each country, as they stand in the center of the economy because of their role as financial intermediaries (Rime and Stiroh, 2003). The banking sector can be regarded as a derivative for future progress and development of domestic and international economies (Kyj and Isik, 2008). During the past two decades, the banking sector has undergone major transformations worldwide in its operating environment. Both the

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external and internal factors had affected the structure and performance (Fries and Taci, 2005). Determinants of profitability are empirically studied, although the definition of profitability varies between studies. No matter there are different ways of measuring profitability, in most studies is observed that the bank's capital ratio, loan loss provision and operational efficiency are the most important indicators for a high profitability (Lee and Hsieh, 2013). In this study, the factors to be considered are divided into two categories ie endogenous and exogenous factors or factors of profitability.

There are many aspects of banks that can be analyzed, but this study will focus specifically on the profitability of banks. Profitability is a reflection of the banks approach, given the environment in which they operate. More specifically, it reflects the quality of bank management and conduct of shareholders, the bank's competitive strategies, efficiency and risk management skills (Allen, Shaik, Myles and Yeboah, 2011). Profits in banks affect the cost of raising capital in two ways, as a direct contributor to the financing of capital and as an indicator for foreign investors evaluating the financial strength of the bank. Low profitability weakens the capacity of the bank to absorb negative shocks, which will eventually affect solvency. In summary, in the literature review was observed that most of the foreign studies on the determinants of profitability are concentrated in developed countries, while very few studies have been conducted in developing countries to examine the profitability of banks. While the topic of bank profitability for Albania is little discussed, in a time where Albania's banking sector has changed radically after the reforms. Therefore this study, in a modest way is intended to analyze the bank profitability and its determinants in the Albanian context, by seeing in a wider perspective the situation. For this reason, it is hoped that the empirical results of this paper can contribute to some actors. In the context of the above discussion, the aim of this study is to evaluate the factors affecting financial performance (profitability) of banks in Albania.



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Literature review

Short (1979) and Bourke (1989) undertook the first study to analyze the bank's profitability. Following their early work, further several studies have tried to identify some of the main determinants of bank profitability. Relevant empirical studies have focused their analysis on specific countries and/or between countries. Many studies have focused on the banking sector to identify the most important factors of bank profitability eg Demirguc-Kunt and Huizinga

(1999); Mamatzakis and Remoundos (2003); Micco et al., (2007); Pasiouras and Kosmidou (2007); Naceur and Goaid (2001, 2008); Athanasoglou et al., (2008); Garcia-Herrero et al., (2009); Fadzlan (2010); Alper and Anbar, (2011); Suminto and Yasushi (2011); Dietrich and Wanzenried, (2011); Kanas et al., (2012); Ani, Ugwunta, Ezeudu and Ugwuanyi (2012); Bolt et al., (2012).

Dietrich and Wanzenried (2009) to analyze the profitability of commercial banks in Switzerland took a sample of 453 banks with 1919 observations for period 1996 - 2006. The aim of the authors was to determine the relationship between the profitability of commercial banks and some macroeconomic variables and bank specific variables. ROAA and ROAE were used as dependent variables, while as bank specific variables were used equity to total assets, cost income ratio, provisions to total loans, the annual growth of deposits, bank size, ownership of the bank, nationality, region, category banking and as macroeconomic variables such as tax rates, real GDP growth, the market capitalization of the stock, concentration were used as independent variables. Finally, it was observed that the banks were profitable and well capitalized. Foreign banks were less profitable than Swiss banks and private banks were more profitable than state-owned banks. GDP growth was positively associated with ROAA and ROAE while the effective tax rate and degree of market concentration had a negative impact on the profitability of banks.

Graham and Bordeleau (2010) examined the impact of liquidity on 55 American banks and 10 Canadian banks from 1997 to 2009. For the study are use the panel data and the linear regression model with SPSS software. The regression results showed that the profitability of some banks that had liquid assets improved. However, this came until a certain point, because there was a point in which the holding of liquid assets can reduce the banks profitability.

Deger and Adem (2011) reviewed the bank specific determinants and macroeconomic determinants of profitability in Turkey during the period 2002-2010. The profitability of banks was measured by return on assets (ROA) and return on equity (ROE), as a function of bank specific and macroeconomic determinants. It uses a balanced panel data, the results showed that the size of the bank had a significant positive impact on the profitability of banks. However, the size of the loan portfolio had a significant negative impact on the profitability of banks. Regarding macroeconomic variables, the interest rate impact positively on the performance of banks.

Hasan et al., (2013) have studied the impact of macroeconomic and bank specific components in the return on equity (ROE), for ten Malaysian banks for the period 2004-2012. The



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evaluation results showed that the operational efficiency ratio, liquidity ratio, index of consumer prices and the financial crisis were related inversely with profitability of banks in Malaysia.

Methodology

This study examines the determinants of profitability of commercial banks in Albania. These determinants are categorized into two groups, internal factors that are the bank specific factors and external factors that are further divided into macroeconomic factors and industry specific factors. A panel data with 16 commercial banks in Albania is analyzed for the period 2009-2014. ROA is used as a measurement of profitability. Banking specific factors that are used in this study include variables such as bank size, asset management, credit risk, liquidity of assets, capital adequacy, operational efficiency and cost of financing, concentration as a industry specific factor and macroeconomic factors such as GDP, inflation and exchange rate. To meet the main object of the research, the study is based mainly on quantitative research method, which is supplemented by a qualitative method. Quantitative data were obtained mainly from the financial statements of commercial banks, by INSTAT, Bank of Albania and World Bank, in order to make empirical analysis needed to identify and measure the determinants of bank profitability. In particular, multiple regression analysis was used to measure the impact of the determinants of bank profitability. To realize empirical analysis is used the software Eviews 7.

Empirical results

Before proceeding further with econometric analysis of the data, the first step to be taken is testing the validity of the model (ROA), verifying between the respective tests if they are fulfilling the assumptions of the classical model of linear regression (CLRM) . In the table below are presents the results of tests for the validity of the model.

Table 1. Tests for the validity of the model.

Tests	Type of test	Statistics	Hypothesis
Test for normality	Jarque - Bera	JB=2.36 Prob 0.306790	The distribution of error terms is normal.
Testi i heteroskedasticitetit	White Test	Obs*R-squared=0.2713	The variance of the errors is constant.
Test for Autocorrelation	Durbin Watson	d>dU 2.039>1.930	The errors are uncorrelated with one another.
The test for functional form	Ramsey RESET	Prob 0.0861	The functional form is linear.

Source: Author.

The results of the regression analysis model with panel data used are shown in Table 2. From the results to generated by the Eviews software we can see that R2 and R2 adjusted statistics are 56.6% and 50.9% respectively. The result shows that changes in the independent variables explain 50.9% of changes in the dependent variable (ROA). Take in consideration that the independent variables used in the analysis are bank size, asset management, credit risk, asset liquidity, operational efficiency, equity ratio, financing cost, concentration, economic activity, inflation rate and exchange rate which explain 56.6 % of changes in the profitability of banks as measured by return on assets. The remaining 49.1% of the variance is explained by other

factors not included in the model. So these variables together, seems to be the best explanatory variables of profitability of commercial banks in Albania.

Table 2. Regression analysis.

Dependent variable: ROA

Method: Panel Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.026813	0.025354	-1.057544	0.2933
MADH	0.001949	0.001068	1.825340	0.0715
MAK	0.058057	0.021729	2.671866	0.0091
RKR	-0.013100	0.005839	-2.243605	0.0275
LIK	-0.009329	0.006910	-1.350195	0.1806
EOP	-0.005847	0.010994	-0.531782	0.5963
KAP	1.064200	0.381358	2.790557	0.0065
KFN	-0.216281	0.191121	-1.131645	0.2610
PRQ	-0.055812	0.044213	-1.262357	0.2103
AEK	0.081546	0.020542	3.969718	0.0002
INF	0.011908	0.007973	1.493613	0.1390
NKK	0.001398	0.001232	1.134442	0.2598
R-squared	0.566116	Mean dependent var	0.023710	
Adjusted R-squared	0.509298	S.D. dependent var	0.009657	
S.E. of regression	0.006765	Akaike info criterion	-7.037617	
Sum squared resid	0.003844	Schwarz criterion	-6.717073	
Log likelihood	349.8056	Hannan-Quinn criter.	-6.908048	
F-statistic	9.963662	Durbin-Watson stat	1.975234	
Prob(F-statistic)	0.000000			

Source: Author.

Regarding the statistical significance of Fisher value it is (0.000), indicating strong statistical importance of the estimated model, which extends the reliability and validity of the model. Based in the results presented in Table 2, in the group of independent variables, asset management and equity ratio have a statistically significant impact on bank profitability, respectively with 1% level of significance. Independent variable, asset management has a positive impact on profitability, supported also by studies of other authors like Miller and Noulas (1997); Chirwa (2003); Sufian and Habibullah (2009); (Indranarain, 2009).

On the other hand, the equity ratio and profitability have a positive relationship, as expected also from studies of other authors as Spathis, (2002), Athanasoglou, Brissimis, and Delis (2002); Naceur (2003); Kosmidou, (2008); Wanzenried (2010); Karkrah and Ameyaw, (2010); Syafri, (2012); Obamuy, (2013); Ongore and Kusa (2013). It is expected that the higher is the equity ratio to total assets, the most capitalized the bank is, therefore banks face lower costs to bankruptcy, since there is less risk, and the lower is the need for foreign funds and therefore the higher is the benefit of the bank.

Credit risk (0.0275) is important in the study with the significance level 5% and there is a negative relationship between it and the bank profitability. Credit risk, is the most important risk that face the banks and their business success depends on accurate measurement and its efficient management, in a greater extent than any other risk (Giesecke, 2004). Growth of

credit risk will increase the marginal cost of debt and equity, which in turn increases the cost of funds for the bank (Agoraki, Delis and Pasiouras, 2011).

The results of empirical analysis show that between bank size and profitability (ROA) has a significant correlation (0.0715) at 10%, and they are positively correlated between them. A positive correlation indicates that the bank enjoys economies of scale, which reduces the cost of collecting and processing information. This conclusion also is according with studies of other authors as Hanweck and Humphrey (1987); Boyd and Runkle (1993); Miller and Noulas, (1997); Athanasoglou, Brissimis and Delis (2008); Sufian et al., (2008), Srairi, (2008); Andreas and Gabrielle (2011).

Economic activity (0.0002) as a macroeconomic factor in the study is statistically significant at 1% level of significance and was positively associated with profitability (ROA) as evidenced by empirical evidence of other authors like Alexiou and Sofoklis (2009); Zainol and Kassim (2010).

Based on the regression analysis of the model, the asset liquidity is insignificant and is negatively correlated with profitability. Keeping assets in a highly liquid form tends to lower revenues, as liquid assets are linked to lower rates of return. Also according to research literature from Heffernan and Fu (2008) and Syafri (2012) is expected an inverse relationship between asset liquidity and profitability.

Empirical data analysis for cost-income ratio (0.5986) indicates that this variable is insignificant, but that is negatively related to profitability. This factor is used as an indicator of the ability of management to control costs and as expected it has a negative relationship with the profit, because the improved management of these expenditures will increase efficiency and therefore will increase profits in the bank. And according to other studies Agusma, Monroe, Gasbarr and Zumwalt (2008); Davcev and Hourvouliades (2009) and Ponce (2012), is expected a negative relationship between the variables.

Concentration (0.2103) as the only industry-specific variable is not statistically significant with the profit in the commercial banks and has a negative relationship with it, similar conclusion with the study of Berger (1995). In the literature is not a clear conclusion about this relationship. As for macroeconomic factors, inflation (0.1390) and exchange rate (0.2598) are not statistically significant and there is a positive relationship between them and profitability.

Econometric model (ROA):

$$ROA_{it} = -0.026813 + 0.001949 (MADH)_{it} + 0.058057 (MAK)_{it} - 0.013100 (RKR)_{it} - 0.009329 (LIK)_{it} - 0.005847 (EOP)_{it} + 1.064200 (KAP)_{it} - 0.216281 (KFN)_{it} - 0.055812 (PRQ)_{it} + 0.081546 (AEK)_t + 0.011908 (INF)_t + 0.001398 (NKK)_t + \varepsilon_{it}$$

where,

ROA_{it} – the dependent variable (return on assets) of a bank i in a given year t ;

c – intercept;

X_{it} - represents bank specific, industry specific and macroeconomic factors of the bank i during the year t ;

β - coefficients of the function, respectively, bank specific, industry specific and macroeconomic factors;

ε_{it} - represents the error term.

Conclusions/recommendations

The empirical findings for determining factors that affect profitability suggest the following conclusions.

First, as expected, The result showed a positive relationship of capital adequacy and profitability for the model, with strong statistical significance. The capital ratio is relatively high compared with other variables, indicating that an increase of this variable will result in increased profitability. This is in the line with the expectations, since a bank with a strong capital position is able to pursue business opportunities more efficiently and have more time and flexibility to deal with problems arising from unexpected losses .

Secondly, the results showed a negative correlation between operational efficiency and profitability (ROA), but not with strong statistical significance. This shows that the minimize of the operational costs in the commercial banks certainly improves the performance of banks. Operational efficiency is used to show how the cost changes compared with the changes in income, to show how quickly increase or decrease the expenses, when changes in income incurred.

Thirdly, the natural logarithm of total assets has a positive impact on profitability (ROA), with low level of importance for the model. This direct relationship between bank size and profitability shows that large commercial banks outperform better than small commercial banks because big banks can benefit from economies of scale and also with the increased of the size they can reduced the costs. Otherwise, it said that big banks have the advantages of their size to generate more returns.

Finally, credit risk has an inverse relation with profitability and is statistically important by 5% level of significance. The relationship between credit risk and profitability (ROA) was expected to be negative by interpreting the concept that the bad loans of the banks reduce its profitability.

Below are listed some recommendations based on the research and findings of the study:

The power of bank-specific explanatory variables is very important to explain the variability in the ROA model for commercial banks in the Albania than external factors. But among the external factors involved in this study, the economic activity is a key gauge of profitability Albanian banks. This is a clear signal to all Albanian commercial banks that they can not ignore the macroeconomic indicators when develop strategies to improve their profits or performance. Thus, banks in the Albania do not have to worry only about internal structures and policies, but they must take into account the macroeconomic environment in developing strategies to improve their performance or earnings in the particular.

The economies of scale derived from the size of the bank that plays a crucial role in the profitability of banks. The benefit from the size is reflected in the ability to reach wider markets. Therefore, banks should be encouraged to look beyond the local market and expand their operations in the other geographical markets and other sectors of the economy. Location of bank branches is strategically priority if banks aim to maximize return on investment. The agricultural sector is still a potential market for banks. In connection with the expansion of branches, banks should consider diversifying the portfolio with products. In this way banks can use their assets to provide other ancillary services and to maximize the return.

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