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THE IMPACT OF BANKS ON ECONOMIC GROWTH: CASE OF REPUBLIC OF NORTH MACEDONIA

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Abstract

Banks are the main part of the financial system in the Republic of North Macedonia. So the development and stability of the financial system depend on banks. The main objective of this study was to describe, compare, analyze, and measure the impact of banks on economic growth in the Republic of North Macedonia. For this study, secondary data was collected from the Central Bank of Republic of North Macedonia and State statistically office. The data was analyzed with quarterly data for a period from the first quarter of 2005 till the second quarter of 2020, taking into consideration in total 62 observations. The method for data processing was multiple regression analysis. The dependent variable was GDP as the main indicator for measuring economic growth. The independent variables were capital adequacy ratio, rate of return on average assets (ROAA), rate of return on average equity (ROAE), private loans, and impairment of loans. The study found that there is a positive relation between GDP with capital adequacy ratio, ROAE, and private loans. There is a negative relationship between GDP with impairment of loans and ROAA.

Keywords: Capital adequacy, loans, bank profitability, economic growth, multiple linear regression

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INTRODUCTION

Economic growth is the main aim of the economic system of every country. Several factors can improve economic growth. One of them is and financial development. Financial development can affect economic growth from its main participants as banks, non-bank financial institutions, and the capital market. Because RNM is a developing country that has a bank-based financial system, this paper is focused on analyzing the impact of banks on economic growth.

Banks are financial institutions that channel money from the people who have surplus to the people and companies who need that money for consumption, investment, etc. With this activity, banks help improve the level of consumption, investments, and with this, they improve the whole economy of the country. The existence of banks as financial institutions helps to finance the people, the businesses by minimizing the cost of information, moral hazard, and asymmetry of information.

The purpose of this paper is to measure the impact of banks on the economic growth of RNM for the period of the first quarter of 2005 till the second quarter of 2020. The purpose of this paper is to measure the impact of banks on the economic growth of RNM for the period of the first quarter of 2005 till the second quarter of 2020.

LITERATURE REVIEW

There are a lot of researches about the relation between the banking system and economic growth. This paper will analyze a few of them.

Lazarov. D (2015) in his research has focused on obstacles of the financial sector on economic growth in Macedonia. Regression analysis is calculated for the period 2000-2015 with the help of linear OLS, and it shows a positive and statistically significant (1% of significance) relation between domestic bank loans to the private sector (percentage of GDP) and the real level of GDP per capita (in American dollars) showed on logarithm form (pg.26).

Grbic. M (2015) has made her study for the Republic of Serbia for the period from 2003 till 2014. She found that there is a positive and statistically significant relationship between bank size, bank efficiency indicators, and economic growth.

According to Petkovski and Kjojevski (2013), the amount of credit to the private sector is negatively associated with economic growth. This might be a consequence of the large stock of non-performing loans and the banking crises experienced by these economies at the beginning of the transition period, and the 2008s and 2010s (Petkovski & Kjojevski, pg.64). They examined the impact of banks on economic growth on selected countries of Central and Southeast Europe.

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Awdeh. A (2012) has made his study for banking sector development and economic growth in Lebanon for the period 1999 till 2011. He concluded that banking concentration, bank size, credit to the private sector, and efficiency of the banking sector do not improve economic growth in Lebanon. The reason for this can stand on that the banks during lending could not target sufficiently the productive sectors.

Nikoloska. B (2009) in her study 'Analyze of the role of the banking system on economic growth. The case of Macedonia' has taken into consideration the impact of private loans, liquid liabilities, assets of banks, and net interest income to GDP. She concludes that there is a positive relationship between GDP and the variables mentioned above.

METHODOLOGY

In this paper are used several scientific methods as descriptive, comparative, analysis, and statistical methods of linear regression. For realizing the study there are used secondary data taken from the Central Bank of RNM for the independent variables as total assets of banks, loans, and financial results. For the dependent variable GDP, the data are taken from the State Statistical Office. Data are used for the period from Q1,Q2,Q3 to Q4 of 2005, from Q1, Q2,Q3 to Q4 of 2006, from Q1,Q2,Q3 to Q4 of 2007, from Q1,Q2,Q3 to Q4 of 2008, from Q1,Q2,Q3 to Q4 of 2009, from Q1,Q2,Q3 to Q4 of 2010, from Q1,Q2,Q3 to Q4 of 2011, from Q1,Q2,Q3 to Q4 of 2012, from Q1,Q2,Q3 to Q4 of 2013, from Q1,Q2,Q3 to Q4 of 2014, from Q1,Q2,Q3 to Q4 of 2015, from Q1,Q2,Q3 to Q4 of 2016, from Q1,Q2,Q3 to Q4 of 2017, from Q1,Q2,Q3 to Q4 of 2018, from Q1,Q2,Q3 to Q4 of 2019, and from Q1 to Q2 of 2020. From the information above we can see that there are a total of 62 observations.

For the realization of the statistical model, linear regression is used. Calculations are done with the help of statistical software SPSS 25. The dependent variable is GDP, while the independent variables are capital adequacy ratio (C.A), ROAA, ROAE, private loans (P.L), and Impairment of loans (I.L). Calculation of linear regression is done with the help of formula:

$Y_i = \beta_0 + \beta_1 X_i + \varepsilon_i$…….. (1)

Source: Newbold.P,pg.445

Where,

Y_i is the dependent variable. In this case GDP.

X_i are the independent variables in this case capital adequacy ratios, profitability ratios as ROAA and ROAE, private loans and impairment of loans.

β_0 is the coefficient which presents the intercept of the model

β_1 the regression coefficient for the independent variables

ε_i is the error term.

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Table 1: Description of the study variables

Variables	Desription	Calculation	Source
IL	Impairment of loans	(Accrued impairment for loans + special reserve) / Own funds	NBRNM
ROAE	Return on average equity	Net income/ Average equity	NBRNM
ROAA	Return on average assets	Net income/ Average total assets	NBRNM
PL	Private loans	Private loans/ GDP	NBRNM
CA	Capital adequacy	(Tier 1 Capital+Tier 2 Capital)/ Risk Weighted Assets	NBRNM
GDP	Gross Domestic Product	Natural Logarithm of GDP	SSO

ANALYSIS AND FINDINGS

The results from data processing are presented on the two tables below. The first presents the results from descriptive statistics and the second presents the results from the multiple regression analysis.

Table 2: Summary of descriptive statistics of the analyzed variables

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
I.L	62	28.7618	73.4092	51.3345	12.1331
ROAE	62	-10.0000	28.0259	9.2243	6.4124
ROAA	62	-1.0000	3.0965	1.1070	.7524
P.L	62	.7693	2.3317	1.6425	.3574
C.A	62	15.0000	23.1000	17.0737	1.7463
GDP	62	4.8047	5.2728	5.0803	.1087
Valid N (listwise)	62				

The table presented above shows the results from descriptive statistics for the dependent and the independent variables. From the table we can see that there are in total 62 observations for all the variables.

The first variable is sum of impairment of loans and total reserves in relation to total assets. It has its minimum on 31/12/2019 with the value of 28.76%. It has its maximum on 31/03/2016. And the average of the variable for the analyzed period is 51.33%. Return on equity (ROAE) for the analyzed period it's on average 9.22. With its minimum of 10% and its maximum of 28.03%. Another independent variable taken into consideration in this study is the rate of return on average assets which has its average value of 1.11%. It has its maximal value of

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3.09% on 31/03/2018. The value of private loans has its average value of 1.64%. Capital adequacy ratio is also known as the ratio of capital to risk assets. For the analyzed period it had its maximum of 23.01% and its minimum of 15%. The value of GDP is calculated as natural logarithm of its values and it has its average values of 5.

Table 3: Summary of the regression analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.878[a]	.771	.751	.05432

a. Predictors: (Constant), I.L, P.L, ROAE, C.A, ROAA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.632	.168		27.558	.000
	C.A	.013	.008	.213	1.608	.114
	ROAE	.046	.013	2.714	3.552	.001
	ROAA	-.363	.113	-2.511	-3.202	.002
	P.L	.146	.041	.479	3.532	.001
	I.L	-.001	.001	-.089	-1.208	.232

a. Dependent Variable: GDP

If we make substitution on this data on the formula we will have:

GDP = 4.632 +0.013X_1+ 0.046 X_2+ (-0.363)X_3+0.146X_4 + $(-0.001)X_5 + \varepsilon_i$

From the table presented above, we can see that the value of the R2 is a high value 77.1%. It means that there is a high positive correlation between the variables and the value of GDP. The change of GDP is explained for 77.1% with the change of the analyzed independent variables which are analyzed in the model and the other part of 22.9% is explained with variables that are not taken into consideration in this model.

The first independent variable which is the capital adequacy ratio has a positive relationship with the GDP. There is also a positive relationship between the return on equity ratio and private loans with GDP. There is a negative relation between the impairment of loans and the return on assets ratio. The higher the value of impairment loans variable it means that banks have a bad portfolio because they need to block more of their money for insuring the portfolio. So, they will have a lower possibility to give new loans. We can see that variables that have a higher statistically significant impact are ROAE and private loans.

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CONCLUSION

In developing countries, banks are the main part of the financial system. The development of its financial system depends on bank development. So, this paper has taken into consideration some of the main indicators of banks and their impact on economic growth for the period from the first quarter of 2005 till the second quarter of 2020.

This paper has used a multiple regression model to investigate empirically how the banking system affects economic growth. From the data analyzed in this study, we came to the conclusion that private loans have a positive relation with economic growth. The same case is and for the capital adequacy ratio, which takes into consideration the capital of the bank and the risk of assets. ROAE has also a positive coefficient.

There is negative relation between ROAA and the coefficient for impairment loans. Impairment of loans means that banks have to take away more money for reserves and for the loans that have more risk. So, if the bank blocks this money for reserves and it cant give them as loans and so it has negative impact on economic growth.

In the end, this study recommends for banks to increase the level of loans given to profitable businesses. Having high-quality portfolios and low levels of reserves enables banks to impact GDP growth. Bad loans mean a higher level of impairment. That can negatively affect the capacity of banks for giving new loans so it can slow down economic growth.

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