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THE IMPACT OF MARKET RISK IN CAPITAL ADEQUACY RATIO IN ALBANIA

Denada Bushi (Hafizi)
PhD Candidate, Faculty of Business, University "Aleksandër Moisiu", Durrës, Albania
Marketing Manager, Shkodra Branch, National Commercial Bank (BKT), Albania
dbushi@bkt.com.al

Abstract

As we know, all the countries have improved their banking regulation and there is a moving through agreements like Basel Accords. Albania is getting prepared to have the minimum required of Capital Adequacy Ratio (CAR) by 8% from 2013, but this model is very important because from 31 December 2014 the new regulation for CAR is 12% in order to be well is capitalized Albanian banking system. It is important to measure how the impact of market risk to CAR is, because the high level of management needs to have a quantity analyze. The aim of this research is give an overall view of market risk impact in capital adequacy rate for Albanian banking system for a period of 2004-2014. The data used are from secondary sources and are taken from statistical reports of Bank of Albania for a time series of 2004-2014. This study is an attempt to present scientific, quantitative impact of some macroeconomic factors in the CAR of Albania banking system for a period of 10 years (2004-2014). Through this study will be possible to prove the identification of the relationship between the macroeconomic factors taken in the study and CAR. The findings of the study indicate that the relationship between GDP and UR is statistically significant to Capital Adequacy Ratio, while the relationship between IR is not statistically significant to Capital Adequacy Ratio.

Keywords: GDP, CAR, Unemployment Rate, Inflation Rate, Basel, Market Risk

INTRODUCTION

A description of the meaning for the main variables taken in analyze according to the definition by Bank of Albania and by foreign literature for the variables used in this research.

Market risk or systematic risk implies the possibility for a client to experience losses due to factors that affect the overall performance of the financial markets. Market risk, cannot be eliminated through diversification, though it can be hedged against.

Gross Domestic Product (GDP or GDP) is an economic indicator that represents the market value of the prices of all the goods and services produced within a country in a given period (usually a year).While the Gross National Product (GNP) represents the market value of the prices of all the goods and services produced by labor and property resources of the inhabitants of a country inside or outside that country in a given period. GDP is one of the main macroeconomic indicators to measure economic growth. GDP-ja is real and nominal two types. Real GDP includes final goods and services measured by constant prices. Nominal GDP includes final goods and services measured at current prices (Anderton, 1995).

Inflation is a macroeconomic indicator that shows the growth of total money supply in a certain economy in a given period. One of the effects that may be associated inflation is to increase the prices of goods and services, while deflation has the opposite effect on inflation. According to the Austrian School economists Economy term "inflation" does not mean the overall price increase, but increasing the monetary mass in circulation in the market. According to them, the price increase is just one of the consequences of monetary inflation, which means that process created by an expansionary monetary policy (expansion) of the central bank, through which more money in circulation causes the currency to lose value, while inevitably create even a price increase. Starting from this basis the Austrian School of economics criticizes the current system of cash that is based on the currency law (fiat money), speaking also for fraud, given that delivers the right of inflation the currency as desired, in the hands of central banks, creating a loss of purchasing power, increased prices, and economic cycles. Opposed to the current system, economists of the Austrian school propose a return to a system of currency-commodity, for example, a system based on gold, or a system where each bank or entity financial be free to emit privately currency own in competition with other institutions or financial institutions, according to Friedrich Hayek, Nobel Prize winner in Economics.
A surge in inflation rate brings the reduction of real rates of return on assets of the bank and therefore causes the reduction of the loan. Consequently, high-inflation countries will have less lending activity (Boyd et al. 2001). According to Mishkin (1996) rapid deflation in an environment where inflation was high, will cause higher interest rates and will exert a real influence Contracting on the economy and thus increasing credit risk due to shrinking earnings borrowers.

The big problem of our economy is unemployment. We all know the problems arising from unemployment.

Unemployment is an economic indicator and the percentage of the unemployed constitutes the entire capacity of the workforce in a certain territory. It shows the level of unused labor force in economic processes in a geographic area. Also, the unemployment rate serves as an indicator of economic welfare in general. A low level indicates a strong economy where jobseekers can find it quickly, while a high level could indicate a weak economy (Wonnacot and Wonnacot, 1982). During the Great Depression, British economist, John Mynard Keynes created a new theory to unemployment arguing that: a) a market economy can find balance in a very high unemployment rate, b) cause the unemployment rate is aggregate demand insufficient, c) the best cure unemployment is to increase government spending.

He also argues that if the economy suffers from a high rate of unemployment, changes in total spending (demand) will cause changes in national product and employment. Prices and wages will turn to fall, but will not fall more. Components of aggregate demand are:

1. The personal consumption expenditure The (dependent on individual income available)
2. Demand for investment (an increase would boost its national product and income, and it is expressed as a multiplier of the (multiplier = 1 / (1-MPC)) (MPC = marginal consumed Cut). Since we have that the savings = income-consumption, then the marginal propensity to save is 1-MPC, consequently the multiplier = 1 / MPS.
3. Purchases of government, good and services
4. Net exports

Capital adequacy ratio is the result of the report of the bank's capital to its risk. Central Bank controls this rate from time to time to ensure that commercial banks can withstand potential losses and if the statutory requirements are in conformity with capital.

This rate serves to protect depositors and promote the stability and efficiency of financial systems in place.

To calculate this rate measured two types of capital : capital of the first group (Tier 1), which can absorb losses without stopping banking activity , and capital of the second group (Tier 2), which can absorb losses slowing down its activity and so provides a lesser degree of protection for depositors .

The formula for its calculation is:

$$\mathrm{CAR} = \frac{\text{Tier 1 capital} + \text{Tier 2 capital}}{\text{Risk weighted assets}}$$

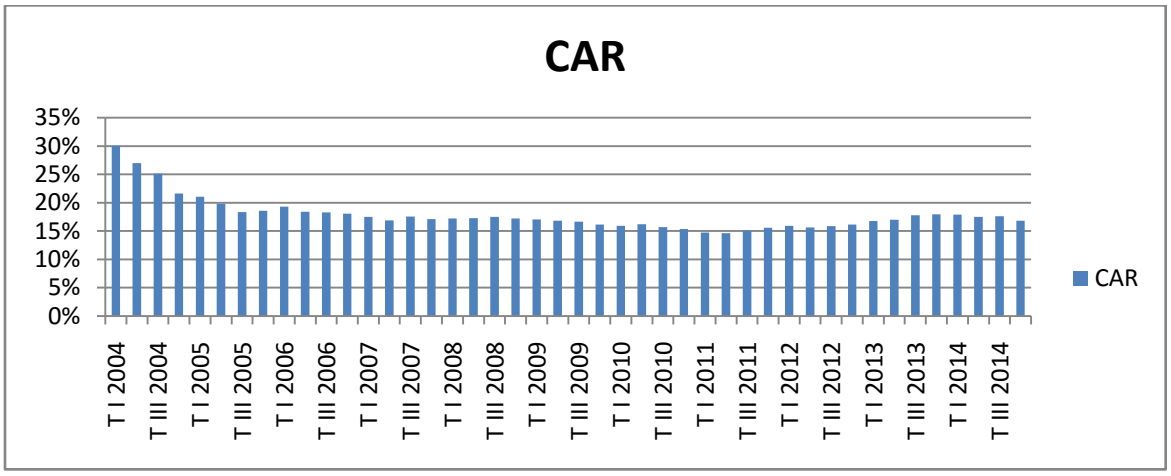
Risk weighted assets include the capital for credit risk, for market risk and operational risk.

METHODOLOGY

Albania makes regulatory changes introduced in late 2011, and this have helped to protect the economy against possible systemic risk or market risk. The banks cannot manage directly the market risk, but they can be protected from market risk through maintaining a certain level of capital reserve only for exposures to market risk.

According to Bank of Albania below there is a panorama for the main variables for a time series of 2004-2014.

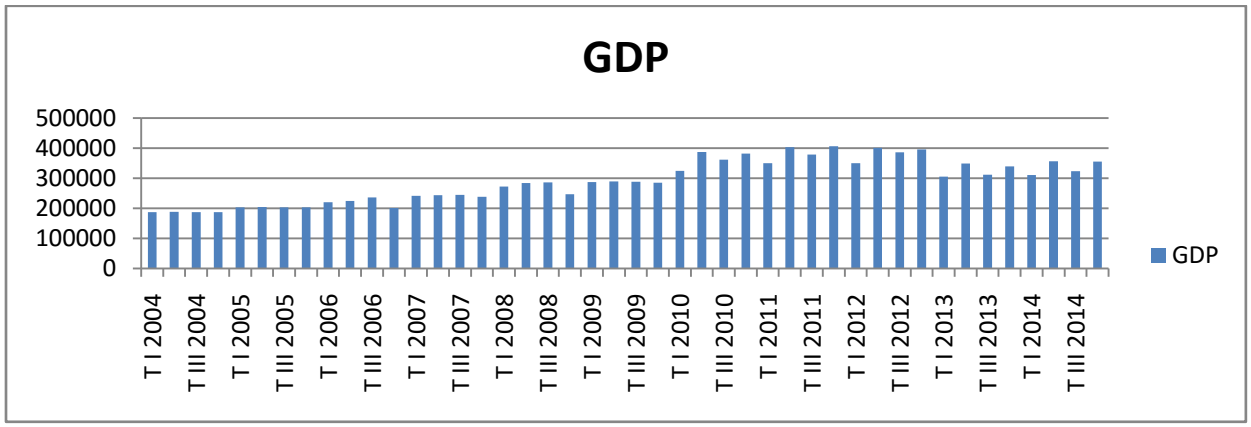
Figure 1: Capital Adequacy Ratios



Source: Bank of Albania

As we can see the CAR variable from 2004-2014 has fallen gradually. The smallest value is 15% in the third quarter of 2011, and the largest value is 30% in the first quarter of 2004. According to Basel II the minimum requirement is over 12%.

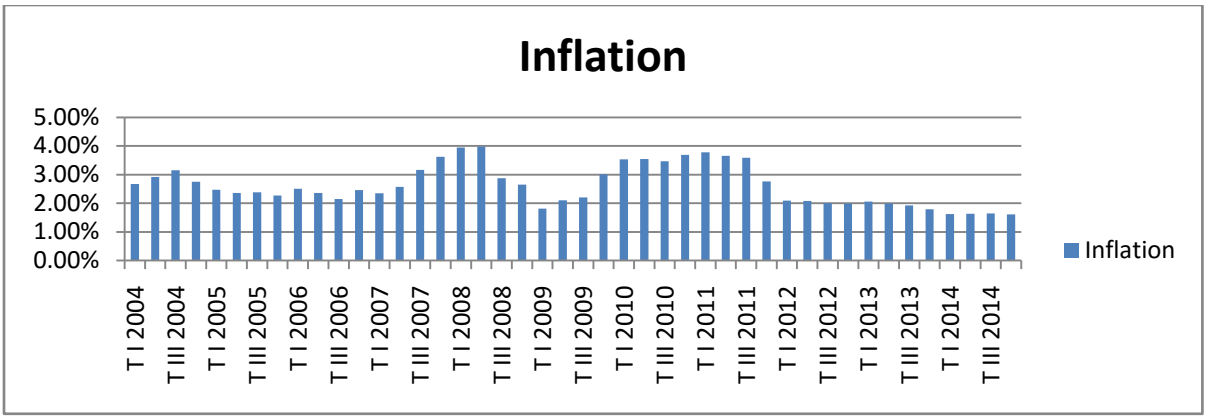
Figure 2: Gross Domestic Product Ratios



Source: Bank of Albania

As we can see the GDP variable from 2004-2014 has increased rapidly from 2004. The smallest value is 186754.8 All in the fourth quarter of 2004, and the largest value 406616.34 All is in the fourth quarter of 2011. For banking system this trend is good.

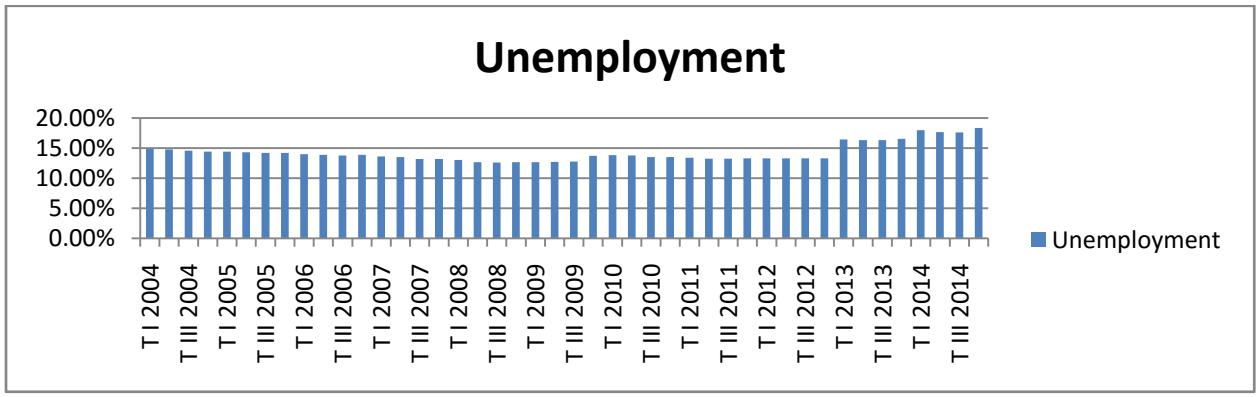
Figure 3: Inflation Ratios



Source: Bank of Albania

As we can see the Inflation rate from 2004-2014 has increased and decreased rapidly several time that shows instability in the market. The smallest value is 1.61% in the fourth quarter of 2011, and the largest value 3.98% is in the first quarter of 2008. These amplitudes are very bad for banking system.

Figure 4: Unemployment Ratios



Source: Bank of Albania

As we can see the Unemployment rate from 2004-2012 is relatively stable, but in 2013 has an increased trend. This time coincides with new local election, and it seem that the conduct aggressive policies in the country has led to increased unemployment, consequently lower solvent, highs NPL's rate and higher CAR.

The smallest value is 12.62% in the third quarter of 2008, and the largest value 18.34% is in the fourth quarter of 2014. This level is very bad for banking system, because it can be translated as political risk, a risk that is very difficult to get cover with capital.

The main aim of this paper is to determine the main market risk variables that have an impact on capital adequacy ratio of the banks in the Albanian Banking System. Data is taken for a period of 2004-2014, and are generated by SPSS17. To fulfill the aim of the paid in used panel data multi regression model where the dependent variable is the capital adequacy ratio while all other three variables are the dependent variables.

The three hypotheses that describe the main aim of the paper are as follow:

- Hypothesis 1: GDP is significant to Capital Adequacy Ratio for Albanian banking system
- Hypothesis 2: Inflation ratio is significant to Capital Adequacy Ratio for Albanian banking system
- Hypothesis 3: Unemployment ratio is significant to Capital Adequacy Ratio for Albanian banking system

EMPIRICAL FINDINGS

The estimated model is as following:

$$CAR = c + GDP,t + IR,t + UR,t + + \varepsilon,t$$

Where:

- CAR represents Capital Adequacy Ratio
- GDP represents Gross Domestic Product
- IR represents Inflation Ratio
- UR represents Unemployment Ratio

The Estimated regression results of the model are as below:

$$CAR = 17.093-3.029GDP,t +0.452IR,t +0.593UR,t + \varepsilon,t$$

Table 1: Coefficients from SPSS

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	17.093	4.655		3.672	.001
	GDP	-3.029E-5	.000	-.712	-6.661	.000
	IR	.452	.550	.105	.823	.415
	UR	.593	.253	.301	2.343	.024

a. Dependent Variable: CAR

The p-values of the GDP and UR are less than 0.05 therefore indicating that at significance level 0.05% there is enough evidence to reject the null hypothesis which predicts that these two independent variables are significant. The IR variable resulted to have a p-value greater than 0.05, and this variable is statistically insignificant to CAR.

Table 2: Model Summary from SPSS

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.739[a]	.546	.511	2.11564	.546	16.008	3	40	.000

a. Predictors: (Constant), GDP , IR , UR

b. Dependent Variable: CAR

Also, it results that the R-Square of the model is 0.546 indicating that 54.6% of the data is explained by the model, and the F Change is 16.008 with a p-value 0.000 less than 0.05 confirm that the model is statistically important.

According to the panel regression model GDP has resulted to have a positive impact on CAR. An increase of 1% GDP, it impact in a decrease of -3.029E CAR. One of reasons behind of this result may be explained by the fact that banks must maintain a certain amount of capital to cover GDP exposure, and a stable economy is associated with less risk, and consequently with a lower CAR.

According to the panel regression model the Inflation ratio and Unemployment ratio have logically a negative impact on CAR. An increase of 1% IR, it impact in an increase of 0.452CAR, and an increase of 1% UR it impact in a decrease of 0.593CAR. Higher inflation and higher unemployment is translated in a higher risk for bank, and consequently higher amount of capital to cover IR and UR exposure

CONCLUSIONS

The study examined the determinants of CAR taking in consideration only market risk in Albanian Banking system. The findings of the study indicate that the relationship between GDP and UR is statistically significant to Capital Adequacy Ratio. Therefore the first and the third alternative hypotheses are accepted. Also the findings of the study indicate that the relationship between IR is not statistically significant to Capital Adequacy Ratio. Therefore the second alternative hypothesis is refused accepted. The study contributes in a better understanding for bank managers of the impact of systemic risk in CAR.

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