

**MACROECONOMIC INDICATORS AFFECTING NON-
PERFORMING LOANS IN WESTERN BALKAN
COUNTRIES: A PANEL REGRESSION**

by

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ABSTRACT

The main objective of the thesis is to analyze the macroeconomic values affecting the non-performing loans as well as the relationship between them and to prove that the situation is similar in the Balkan Region. The data that are analyzed in the thesis are obtained from Albanian Association of Banks and the World Trade Economics. The independent variables consist of unemployment, economic growth, inflation, interest rate and the dependent variable is the non-performing loans. The time period of the data analyzed is from 2000-2014 so it is a 15 year range. The analysis is conducted through panel regression method and the data are obtained yearly. A comparative analysis between the states of Balkan region like Greece, Croatia Macedonia, Montenegro and Serbia proves a parallel situation in the region.. Non-performing loans often respond to indicators such as unemployment, economic growth, inflation and most importantly interest rates. The result of the study are that there is a negative impact on the 10 % significance level between the depended variable and the independent variable of interest rates. For the other independent variables the test results showed that there is no impact. This shows that all the Balkan Region countries have in common the fact that a change in interest rate has a direct effect on the non-performing loans..

Keywords: Non-performing loans, region, macroeconomic factors, economic growth, unemployment, inflation, interest rates, banks

ABSTRAKT

Objektivi kryesor i temës është analiza e faktorëve makroekonomikë që kanë një impakt mbi kreditë e këqija, lidhjen mes tyre dhe gjithashtu të provojë faktin që situata në rajonin e Ballkanit është e njejtë. Të dhënat që janë analizuar në temë janë marrë nga Shoqata e Bankave për Shqipërinë dhe nga World Trade Economics për rajonet e tjera të Ballkanit. Variablat e pavarura janë papunesia, rritja ekonomike, inflacioni, norma e interesit dhe si variabël e varur janë kreditë e këqija. Periudha kohore e analizuar është nga viti 2000-2014 pra një periudhë 15 vjeçare. Analiza është kryer përmes metodës panel të regresionit dhe të dhënat e analizuara janë vjetore. Analiza krahasuese ndërmjet shteteve të rajonit të Ballkanit si Greqia, Kroacia, Maqedonia, Mali i Zi dhe Serbia provon një situatë paralele në rajon. Kreditë e këqija janë shpesh një kundërpërgjigje e faktorëve si rritja ekonomike, inflacioni papunësia dhe me e rëndësishmja normat e interesit. Rezultati i analizës tregoi që ka një impakt negativ në një nivel 10 % të intervalit të konfidencës ndërmjet variables së varur kreditë e këqija dhe variablës së pavarur norma e interesit. Për variablat e pavarura të tjera rezultati i testit tregoi që nuk ka një efekt të mjaftueshëm për tu konsideruar. Kjo tregon që rajoni i Ballkanit ka të përbashket faktin që normat e interesit ndikojnë në kreditë e këqija.

Fjalë Kyce: Kredi të këqija, rajon, faktorë makroekonomikë, rritja ekonomike, papunësia, inflacioni, normat e interesit, bankat.

DEDICATION

I would like to dedicate this thesis to the most important people in my life, the ones who stood by me through my entire education. Without these people my life would not have the course that it has now and I would not be grateful every day for the luck that I have. Firstly this gratitude goes to my family, to my mother that chose my faculty and also convinced me that I could do it and helped me with her perseverance, to my father for getting up every day to send me to school, to my sister that stayed up all those nights that I needed to study to help me.

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DECLARATION STATEMENT

I hereby declare that this Master's Thesis titled "Macroeconomic Indicators affecting Non-Performing Loans in Western Balkan Countries: A Panel Regression" is based on my original work except quotations and citations which have been duly acknowledged. I also declare that this thesis has not been previously or concurrently submitted for the award of any degree, at Epoka University, any other University or Institution.

Anxhela Haxhihyseni

June 16, 2016

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LIST OF ABBREVIATIONS

| | |
|-------|--|
| NPL: | Non-Performing Loans |
| BKT: | Banka Kombetare Tregtare |
| ECB: | European Central Bank |
| ABI: | American Bank of Investments |
| BoA: | Bank of Albania |
| NBG: | National Bank of Greece |
| VAT: | Value Added Tax |
| EBRD: | European Bank for Reconstruction and Development |
| ALL: | Albanian Currency |
| GDP: | Gross Domestic Product |

CHAPTER 1

INTRODUCTION

1.1 Introduction

Non-performing loans are part of the most concerning economic issues in the 21 century. Like a domino effect non-performing loans of a country develop from a country basis into a regional and then as happened in 2008 a global issue. Balkan Region as an effective example is a region that has not only economic and political similarities but also ethnical and cultural ones. All these similarities make these countries codependent from each other and therefore the future of non-performing loans of the region is a matter that should be solved in a regional scale rather than a country scale. Albania is a country that aims to reach the so much wanted European Union. All the new reforms done in this period and the government trying to recover the financial situation are a factor showing how desirable development is for any country. The majority part of the requirements from the European Union consists with financial stability so that the case of another Greece that shocked an entire Europe will not repeat. Albania has a long road to do to reach to that financial stability part. One of the strongest points in Albanian economy regarding stability is the banks. These financial institutions are one of the most important pillars holding the economy together. For these banks to be stable one of the most important factors affecting is the risk management and the NPL reports. Non-Performing loans are the first and the most important indicator of the perspective a bank has, where the situation is going or if the future seems promising. It is observed that since 2008 the NPL have an increasing trend.

If the analysis would be done only in the Albanian region the problem would be the non-proper screening process of selecting the potential borrower from the banks. The fact is that the analysis conducted below compares the situation in Albania with the other countries in the Balkan Region that also have an increasing trend regarding the non-performing loans. The factors that brought the situation in this condition will be analyzed later in the thesis for the Albanian country and then compared with the Balkan region. There will be a special section dedicated to every country to describe the current financial situation, how the government is dealing with it and what the country's future prospects are. Regarding Albania the research goes deeper into the administrative procedures of bank, legislation that handles bank's regulation, how the government is dealing with the situation and what are the banks doing to recover their situation. The quality of lending is one of the most concerning problems in banks generally and the provisions regarding lending are one of the procedures that differentiate banks between each other. Also the problem does not rely only on banks but it is affected by external factors like the Financial Crisis of 2008 analyzed further which was the beginning of the positive trend in NPL and also internal factors that differentiate each country from another like the study conducts. Financial Crisis of 2008 was a misfortune for all the banks especially for the Balkan region's analyzed banks but despite this problem each bank in each country had its own positive and negative internal factors. Every country tries to deal with it in its own way because there is no perfect financial situation but the numbers of course differentiate countries from one another and these numbers are caused by the internal procedures and bank's administrative precautions. There are many factors that affect the NPL of a bank but for the regional comparison GDP, Unemployment and Inflation are taken in consideration. These indicators will show the situation in every country and if these factors do effect NPL or not. The analysis will be conducted specifically for each country and later through graphs the situation will be compared among every country. All the information for the country was available on the World Bank statistics and some of it especially the NPL values are taken from the page of the Central Bank that each country has. Regional comparison is made not only to show that every country has problems or the same factors that affect the current problem but also because in the end countries can gather experience from one another. The

domino effect if a bank fails in Greece will be felt in Albania, in Macedonia, in Montenegro and in other countries of Balkan. This effect would not be felt if the comparison would be done between Albania and France or Great Britain. The reason why the Balkan region is chosen is because these countries are dependent from one-another and the stability of one country is a positive indicator for another one. For example the situation in Greece in the 2015 where many banks shut down a put a limited amount withdrawal per costumer due to its liquidity problem created a banking panic. If this panic would continue for a long time this domino effect would affect the Greek banks operating in Albania like NBG, Tirana Bank and Alpha at therefore the Albanian Economy. Of course that there was nothing Albania could do to control the financial situation in Greece but by analyzing the situation the banking experts can minimize its effects in Albania so that this banking panic tornado does not suck into also other banks together with the Greek ones. A bank panic is the worst situation that can happen to a bank and its does not have any limits. If the bank panic is created from one bank it is a known fact that the others will suffer too. Government and online media can try to stop it and it may succeed in countries like Croatia or Serbia but Albania comes from a difficult financial situation from the pyramid schemes where until the last moment the government deceived the people so it is not that easy to convince the population anymore. There is no golden formula that will guarantee the NPL being stopped in the future but with the proper precautions they can be minimized or at least retained. This can be achieved with the help of the government, Bank of Albania and the second level banks themselves. This target cannot be one-sided. The solution of every problem comes with the efficient collaboration between institutions.

1.2 Study's Objectives

The objective of the thesis is to reach a conclusion regarding the factors that cause a development in non-performing loans and how to respond to this situation. In order for a domestic financial crisis not to emerge the problem should firstly be detected and prevented before it happens. Currently 16 banks operate in Albania but regardless of the numerous numbers of banks two banks which are BKT and Raiffeisen Bank possess almost 45 % of the market share. So if the number of NPL in one of these banks were to

increase and cause a deficit the effect in the economy would be unavoidable. Albanian economy in banking sector different from any other sector has emerged in a positive direction. Banks have increased their lending and if in the future the bubble bursts due to misadministration the burden will be on the citizens and the objective of the paper is how to prevent this from happening.

Firstly the reason of conducting the thesis was to highlight the mistakes that banks make regarding their risk management plan and then the administrative procedures that lead to a non-performing loan. Being and employee of the banking sector myself the objective was to show the financial situation of the banking sector in Albania and then later on to compare it with the countries of the Balkan Region like Croatia, Serbia, Macedonia, Montenegro and Greece. The financial study is based on the years 2004-2014. Despite the data not being available for 2015 and 2016 there is a brief explanation of the current situation.

NPL are the first concern of every bank and it is an objective, a goal and at the same time a duty of every employee to contribute with his knowledge to a solution or the at least the slightest information that can be helpful for the big decision makers. Developments in the economy of the entire world came from people that were firstly students. These people's critical thinking, innovation and most importantly courage lead to invention of tools that the human being uses every day and has improved their life. So it is a goal of this research paper to show the problems of banking sector based on studies, internet information and progress reports conducted by central banks and after that to show the solutions that some countries make and try to combine them so they can be implemented in Albanian economy.

This thesis was chosen because banking sector especially in Albania is a sector that despite its own problems is developing fast and is the only stable tool of the economy at the moment. If this sector were to go into chaos that the other fields where the economy is at its worst would have no hope. The solution for a problem that may not have aroused

yet should be found before it happens because, like the financial crisis of 2008 if it happens the broken pieces are difficult to reattach.

1.2 Structure of the thesis

This paper consists of five chapters that explain directly the problem of NPL, what the data shows and how it is evaluated firstly the financial situation should be explained and it is necessary to show the actual situation among banks.

In the first chapter there is an introduction into the subject and a general explanation of the matter to be discussed. In this chapter the objectives, questions and precise methodology of the project is explained. The first chapter is a leading way to what this study is conducted of and what the factors to be analyzed are. In the introduction section there is a brief explanation regarding what the thesis will analyze and how the analysis will be conducted.

The second chapter is literature review and it gathers all the information regarding the NPL in Albania, what is the current situation, what are some of the bank's policies and which banks dominates the current market. This information is gathered from second level banks and it has the intention to show a preview of the financial sector in Albania and how the taxes and unemployment are affecting the increase of NPL.

The third chapter is data and methodology where there is an explanation regarding the method of analysis conducted in the thesis and how this method helps to show the impact of different factors in the NPL.

The fourth chapter consists of the empirical results from the conducted analysis. Firstly in the chapter there is a comparative analysis regarding the data for the last 15 years for the states of the Balkan Region. Each state will be analyzed individually regarding their current situation and the effect of different factors in NPL. After the individual analysis a general analysis will compare these states with each other. At the end the panel data analysis will show the effect of these factors combined for all states to conclude if the situation is the same and the factors that affect the NPL are the same in these countries.

The final chapter is the conclusion of the entire thesis where the results of the empirical analysis will be analyzed if there is something that can be done to change the situation

and are some of the possible policies to be implemented so that the result will be the same. It consists of the critical thinking regarding the analysis and the possible solutions.

1.3 Statement of the Problem

NPL are one of the most concerning problem of banks and an important indicator of their future perspective. At the end of the year despite its profits and the future business plan the bank analyzes its NPL Progress Report. This report shows what has happened with the NPL, the reasons why it happened and what is the solution the bank can give. A healthy financial situation should consider the NPL of the country and the ones surrounding it that may cause later on a domino effect. There are 16 banks that operate every day in Albania and from these ones 3 are with Greek capital which shows the importance of Greece financial stability in Albania in the banking sector. Many companies that operate with banks are from Macedonia, Montenegro, Croatia, and Serbia. These companies are the investors that improve the Albanian economy but in case of failure especially the business loans that they have in Albanian banks they are the highest affecting factor for the NPL increase. Also if banks in these countries will have instability the operating transactions of everyday use of these companies will have an impact on Albanian banks and therefore in Albanian economy. Every economic catastrophe has started from a little problem that has duplicated and then expanded more and more and become a financial crisis. So nothing is to be neglected when it comes to regional cooperation and regional crisis.

1.4 Study's Question

The research questions in this project are:

- What is the current financial situation of Banks in Albania?
- What is the NPL situation in Albania, Greece, Croatia, Serbia, Macedonia and Montenegro and what are the factors affecting it ?
- What is the effect of GDP, Unemployment and Inflation in NPL?
- How can the solutions of different countries for NPL problems be combined to reach a financial stability?

1.5 Research Method

- First step- Study of the Literature

There is a huge amount of information regarding NPL for all the countries and many studies have been conducted before. This is very helpful but at the same time it is a little discouraging because it makes it more difficult to be unique. At the same time having a very huge amount of information, to stress updated information since no study has been conducted where the years 2014, 2015, and 2016 were included, helps to make a better study and to have all that is needed to explain the problem briefly

- Second step-Gathering the data

Gathering of data has been made firstly and mostly from the internet since the majority part of the statistical data regarding NPL, GDP, Unemployment and Inflation are available on the pages of central banks of each country. At the same being a bank employee is helpful to get precise information regarding the risk management policies, administrative policies of a bank so the problems, benefits can be shown on real data not in assumptions. It is to be stressed also that the data gathered regarding of how NPL is treated, progress reports, provisions, loan procedures, screening of the customer are all real data used every day in the bank.

- Third step- Analyzing the data

Analyzing the data is the final step and at the same times the most difficult one. The empirical analysis is conducted through regression analysis in the SPSS program. The effect of the three mentioned above factors with the NPL are conducted for each country differently and at the end results are compared so that the conclusion will show which country is at the best financial situation and what is the reason for this success. The analysis will later on show how these procedures can be used by other countries so a regional financial stability can be achieved.

1.6 Albanian Banking Performance at the end of 2015

Many bankers have been predicting each year since 2012 that the next year would be more positive and the worst has passed but none of these predictions have been

materialized. Even 2015 did show any results in the improvements of bank performance. The increase of assets was minimal and loans decreased with the highest intensity that has been for the last 25 years. According to the bankers the reason is that all these businesses that operate in Albania, potential lender and at the same time potential investors are drowning in debts because of the economic situation. The taxes for these businesses is doubled and in cases of pharmaceutical businesses tripled. Different from all the other years businessmen express little confidence in the upcoming year, 2016. The only positive aspect is the fact that many lost loans are deleted from the balance sheet of banks. Last year the French Credit Agricole Bank was bought by NCH Capital group which transformed it to American Bank of Investments (ABI). Also a lot of other second level banks are per sale at the moment and many foreign companies are expected to invest in banking sector and as concerned for Albanian banks they do not seem interested in expanding their market share. The total assets of the banking system reached 1.3 Trillion ALL at the end of 2015 by marking an increase of 1.9 % 24 Billion ALL comparing with December 2014 according to the statistics from Bank of Albania. The only type of investment that has been active lately has been putting the cash outside of the country in deposits credit institutions and other financial institutions. Despite the Euro interests being unfavorable banks prefer to make this type of investment rather than investing in the economy that keeps falling every day. In this way the system did not fulfill its main target of being a financial intermediary (passing the funds from the savers to the investors). Bank deposits are 15.5% of total assets at the end of 2015 from 7.4 % that was in 2010. Lending in the private sector has fallen by 1.5 % in yearly basis in 2015 or with 9 billion ALL. Loan index reported in the assets of banking system is on its net value, subtracting the non-performing loans. This performance is very weak. The gross loan fell by 2.4 % in 2015. Another factor that shows the falling of the performance were the operations with securities especially in the last trimester after the government issued the Eurobond of 450 million Euros from which 300 million Euros were put for refinancing of Eurobonds and 150 million Euros for replacing the internal debt. At the end of 2015 operations with securities fell by 6 % comparing with December 2014. In the last trimester was noticed another issue. Since the placement outside of the country was inconvenient due to the negative rates of interest decided by

the ECB (European Central Bank), government's demand for bonds decreased and the lending weakened. Banks put their cash in BoA (Bank of Albania) by doubling the value in the period October- December in comparison with the previous trimester (from 24 billion ALL to 54 billion ALL).

After putting their cash in BoA in the last trimester it decided to close this income source put putting the negative norm of Euro in -0.55 % as a pressure tool for banks to concentrate in lending of the economy. Confronting this situation and also in signals for a concessional monetary policy bankers accepted that this would not motivate them to lend as long as the economic environment is insecure. What the bankers did was that they discouraged the opening of new deposits by decreasing the interest rate. This happened especially in large banks that can afford this type of operation. Also another issue is that the banks increase their loan interest rates acquiring for higher returns. This is a trend that has started not only in Albania but in the entire Europe. In an article of Financial Times the central bankers of Europe warned that a new concessional monetary policy can oblige the financial institutions to increase their interest rates for higher profit margin and also increase international corporate lending.

The past year was very weak regarding the retail lending and corporate lending. In yearly basis lending for the economy has fallen by 2.4 %. Since the year 1998 this is the highest fall for the lending stock according to the data of BoA. After the very high intensity of increase until the year 2008 lending started to reduce directly offer the global crisis. The yearly negative increase has been in 2013 in a value of -1.2%. There are many factors that have caused this situation:

- The low demand from the business sector that has postponed the investment plans from the low consumption and the insecurity caused by the frequent change of legal provisions and the pressure against informality.
- Banks have been very careful because of the increase of the NPL especially for the business sector and have increased individual lending that has a lower profit but at the worst scenario a lower loss.

- Banking system has been in a restructuring process in 2015 in non-performing loans that have had an impact in the total stock. Lost loans have fallen from 66 billion ALL to 52 billion.

Even deposits have had a very low increase in the passing year. According to statistics the deposit value at the end of the year were in 987.2 billion ALL with a yearly basis increase of only 1 %. The most important effect in this negative development has been the decrease in time depositing for individuals that decreased with 30 billion ALL or with 8 %. After September these values are starting to have a falling trend. The decrease in time deposits which at the current moment is 1 % has discouraged the savers that try to find other alternatives by putting the cash in higher amount of maturities or buying bonds¹. During this year the phenomenon of usury money ²was present in many cases and also investment in stock exchange. Financial Supervisory Authority has drawn attention for the unlicensed schemes that offer investment in stock exchange and the risk that it has. From the other hand these money have increased consumption at least for the first 6 months. At the end of the 2015 saving accounts were one third of the total deposits. Different from the deposits in the domestic currency the foreign currency has shown an increase in 4.5 % in yearly basis. At the end of the year deposits in ALL were 33 % of the total deposits.

Data from BoA showed an increase of profits in the banking system in 2015 with 40 % or 15 billion ALL. On the other hand the data from Albanian Association of Banks show a fall of the profits in 4.8 billion ALL. These differences are explained by the way of conducting non-performing loan provisions. BKT, Raiffeisen and Intesa San Paolo Bank have the highest profits in 2015 where BKT is the first with 6 billion ALL, Intesa San Paolo with 2.2 billion ALL and Raiffeisen with 1.7 billion ALL. Other banks like Veneto, Tirana Bank and American Bank of Investments have had a high loss.

¹Government securities with maturities higher than 2 years.

² Money landed informally by individuals through verbal agreement without a guarantee.

1.8 Competition among Albanian Banks

Market concentration regarding the deposits is higher in comparison of assets and loans. Two banks currently hold more than 50 % of the market regarding the deposits. These banks are in a very profitable position if we compare them with the other banks. These banks as they are widely known are Raiffeisen Bank and Banka Kombetare Tregtare, both previously state owned banks that did not start from zero. To start from the very beginning in the Albanian market is very difficult considering that these banks should study the market, infiltrate in it and try to maximize their profit. The long term trend shows a lowering of the index HHI³ in all three products, suggesting the improvement of the market competition. The general status of the market is “modernized concentration”. The conclusions of the studies until now show that the competition among banks in Albania is monopolistic, that means that banks in Albania differ from each other focusing in different segments of the market and by offering products with different characteristics within the same product. If we see the current situation in the market concentration we can see that Greek banks or to be more concrete NBG and Alpha Bank have been losing market share. The reason of this change is the current situation that we know Greece is facing. These banks operate in Albania but still reputation is very important for the banks and at the moment in the news was shown the problems that many Greek banks were having in Greece despite them being stable in Albania. The situation did not go to panic where all the peoples will require withdrawing their deposits but still at the moment that there are 16 banks competing they will choose another one where it seems more trustful and convenient.

³ HHI is the sum of the squares of the individual part of the market and all the companies operating in the market and HHI gives a proportional division of the parts of the market a company withholds. The best is for all the companies to participate in its calculation but the lack of information for some companies does not have a great effect on in the index.

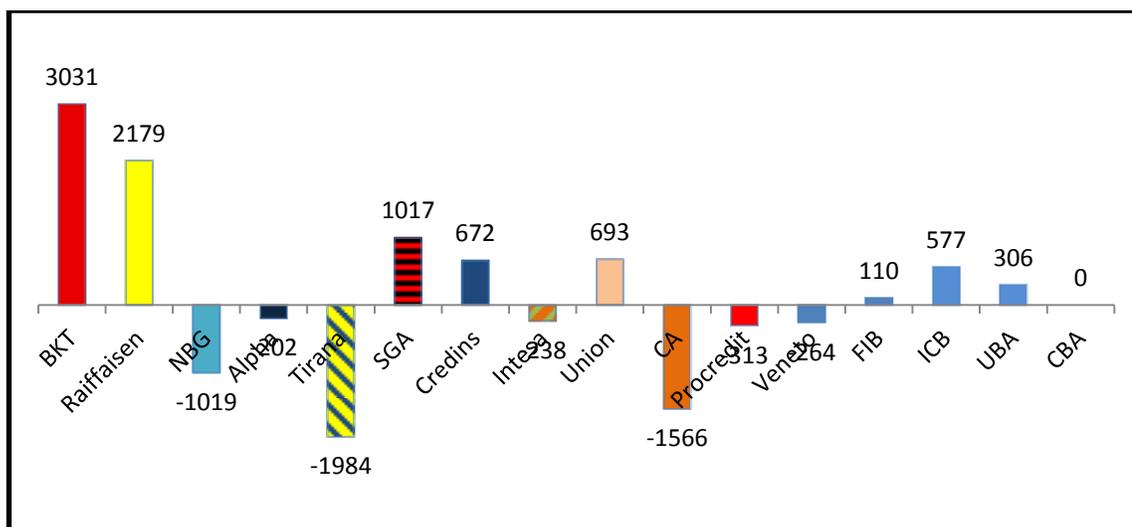


FIGURE 1.1 Retail Loans

Source: BoA

The above graph shows the current situation for the disbursement value of retail loans in all the banks operating in Albania. BKT and Raiffeisen continue to be close to each other in a very high competition in the second trimester of 2016. It can be seen that the performance of Greek Banks in Albania is getting lower and lower every day. According to Monitor Magazine starting from the second trimester of 2015 banks with Greek capital are feeling the pressure of the crisis that is actually in Greece. The pressure of Greece exiting Eurozone the deposits outflow in the country has increased in high amounts which has had an effect also in their banks operating in Albania. The domino effect⁴ was avoided still the withdrawal amount in NBG, Alpha and Tirana Bank was 223 million Euro at the end of the year. Their market share has dropped by 17 % at the beginning of 2015 and 14 % at the end of the year.

⁴ The domino effect in this case would happen if after the failure of one banks all the other ones would start to fail or after the outflow of deposits in one bank would create a panic that would have an effect in the other ones.

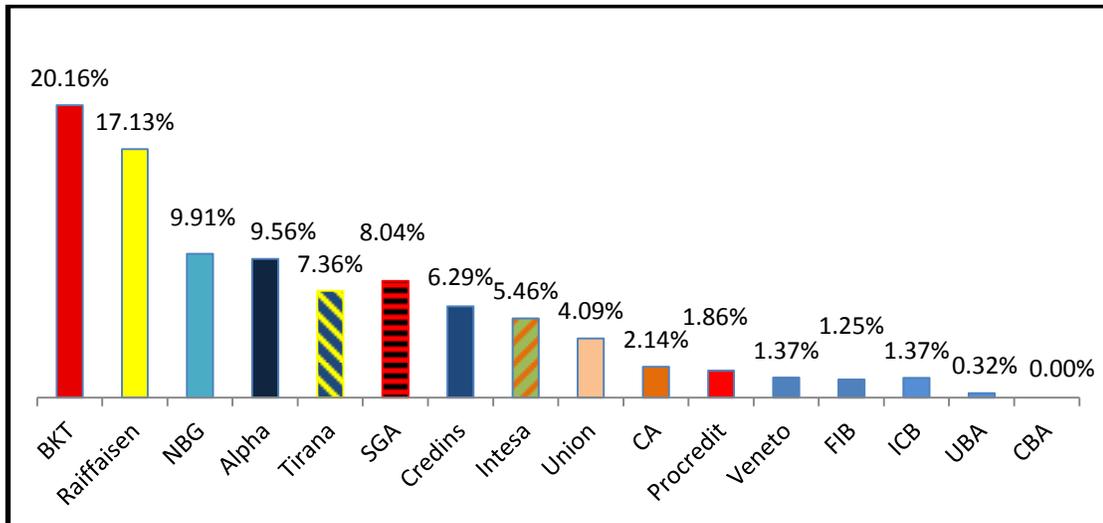


FIGURE 1.2 Market Share

Source: BoA

The values in the graph above are for the end of the year 2015 and they explain the market share of all the banks in Albania. Currently the market has a big difference in the concentration that makes it look like the higher concentrated banks are becoming higher and the lower ones are still lowering more. This is a phenomenon that happens also in companies. Some companies are too big to fail so the ones that end up in failure are the smaller ones.

Below are listed the performance among banks in Albania for the end of 2015 according to BoA:

BKT has managed to strengthen its first place in the total assets in the system and also as the highest lender in the country it has passed the Raiffeisen Bank (until 2014 it was the first).

Raiffeisen the second bank in the country has increased its assets and deposits but the lending stock has fallen from the whipping off NPL but also its passivity in investing in financing individuals and corporates.

Intesa San Paolo has had a decrease in assets loans and deposits but their performing loan has increased.

Credins bank has had another positive year with an increase in 10 % of assets deposits and loans.

Tirana Bank has had a high decrease of its performance in all assets, loans and deposits. Alpha bank has had a negative year decrease in assets and deposits while the lending sector has remained constant.

NBG despite decreasing assets and deposit has had a slight increase in lending.

Union Bank has continued its constant increase by passing Procredit Bank in assets for 105. American Bank of Investments that became the shareholder of Credit Agricole in May 2015 has increased its loan portfolio and its overall performance.

Procredit Bank has had a slight decrease in assets but their deposits have increased. Veneto Bank has slowed its activity while FIB Bank has had a slight increase.

ABI Bank and Tirana Bank have had the highest level of decrease in their lending stock while Raiffeisen has reached a high value of 11 billion ALL. These banks have been the most active ones in decreasing the NPL.

CHAPTER 2

LITERATURE REVIEW

Non-performing loans despite a domestic problem can be easily transformed into a global problem. NPL are a problem that if not taken seriously can cause the default of the major part of banks and may cause a macroeconomic shock in the economy of the country (Bank). Starting with NPL explanation in Albania and how it has changed over the years and then continuing with the NPL current situation in the Balkan region is the first step in the paper. Later the financial crisis of 2008 and its effect show a perfect example of how the default of a single financial institution can turn to be a problem of the entire globe. The housing bubble created in United States in 2007 by Lehman Brothers⁵ created a domino effect that was spread globally. According to the Economist Magazine the effect of a single bank collapsing almost had an irreversible effect. The collapse of Lehman Brothers, a sprawling global bank, in September 2008 almost brought down the world's financial system (Economist, Effects of Financial Crisis, 2013). This is what would happen in Albania or in any other country of the Balkan Region if the collapse happened in one of the major banks of one of the states. The bad financial situation in Greece almost had the same result in the banks with a Greek capital in Albania but the situation was taken under control at the proper moment.

NPL have a deep impact especially in developing or transition country. In a country like Albania stability is the most important goal of central bank and the lack of instability especially in the lending region has a deep impact. According to the Albanian Association of Banks the financial situation in the country is stable. There is no negative

⁵ Firm that provided financial services, one of the greatest in America

effect brought by foreign banks and the current financial system shows liquidity and sufficient capital (Mapo, 2015). The problem to be analyzed is the reason why these NPL develop and what are the causes that bring these situations. Every time the number of NPL increases in a country the first factor that is indicated by the government is the GDP growth or inflation rate. In the majority part these are the problems but sometimes there are other factors that bring this problem.

For many banks there are administrative procedures and for some other ones their internal policies have an impact in this arising problem. Like it happened in 2007 when the Lemman Brothers investment bank defaulted the problem was not only the housing prices bubble burst. Another problem was also the administration of the bank that within a year increased their lending more than had done in five previous years. Sup-prime lending ⁶was the administrative choice of the banks and is one of the factors that took the situation at that state.

Subprime Lending is not prohibited but in order for it not to turn into another global crisis it should be controlled by the state. In a recent interview for the Fortune Magazine a paper was discussed from Fernando Ferreira and Joseph Gyourko which claimed that subprime lending was not the reason for the bankruptcy. The non-performing loans and the bubble would have burst even without subprime lending since the majority part of the borrowers was prime (Gyourko, 2015). As the expectations of the analysis predict there are far more factors affecting the NPL rather than the subprime lending.

⁶ Lending to people that have difficulties in repaying

A macroeconomic shock when it is unpredicted will have an effect of the inflation and of course in the price range. But if this shock is continued by a misadministration problem the result is the default of the institution and later on a global recession that for many transition countries like Albania in the specific case has turned out in a great depression. A comparison analysis between countries in Balkan region is an indicator that for similar countries and countries dependent or collaborating with each other an economic shock may have the same effect in the price instability but the administrative procedures and policies of each country distinguish them from each other.

According to previous studies conducted it was determined that the non-performing loans are a consequence of business cycles that also if there was a great policy implement from the banks it was unavoidable (Quadriello, 2007). This concept could be easier to swallow by government so that it would not feel responsible for the consequences but it is not true for most of the times. There is actually a fact that does conflict with the previous determination. On 2013 non-performing loans was an increasing factor in Albania since it was going through a very difficult period of time but for BKT the numbers seemed to not change that much at the exact value was an increase by 3 % (Economist, Effects of Financial Crisis, 2013).

Non-performing loans are not to be neglected or justified by any time from the government since they can become the state's primary concern in the future (Magazine, 2016). According to many studies conducted the reason for bubble burst or for a change in the percentage of NPL like doubling for a short period has often come from the central banks not taking the numbers seriously. At the time when the NPL would increase by 2 % yearly no policy would be implemented. It needed for the percentage of NPL to become more than 18 % for it to be considered as a significant problem. And for it not to be a future menace and the first step in a collapsed financial system precautions and policies should be undertaken before there is a higher percentage in future years.

CHAPTER 3

DATA AND METHODOLOGY

As it is indicated in the title, this chapter includes the research methodology of the thesis. In more details, in this part it is outlined the research strategy, the research method, the research approach, the methods of data collection, the selection of the sample, the research process, the type of data analysis, the comparison method of the situation and the research limitations of the project.

3.1 Data

The data are gathered for conducting a panel regression analysis. The data regarding the interest rates, inflation, economic growth and unemployment for Albania are gathered from the Albanian Association of Banks and the Albanian Institute of Statistics. Regarding the other states of the Balkan Region the data are gathered from the respective central banks and in some cases from the World Bank.

The countries included in the study are Albania, Greece, Macedonia, Montenegro, Croatia and Serbia. These countries are all part of the Balkan Region which is to be analyzed.

The study is conducted on yearly basis and the data are from a time range of 2000-2014. The time range to be analyzed is 15 years. These values also include the years of the financial crisis where there are many movements in the data and which makes the study more significant regarding the result.

The factors analyzed in the empirical analysis or the independent variables are:

- Economic Growth: The economic growth is the percentage growth in the GDP of each country. The data are conducted yearly
- Interest Rates: Interest rates are in percentages and they correspond to the lending interest rates regarding each country. The data are conducted yearly
- Inflation: Inflation corresponds to the values of the inflation rates at the end of the year for each country. The data are conducted yearly
- Unemployment: Unemployment rate corresponds to the values of general unemployment in each country. The data are conducted yearly

The depended variable which is to be determined if it is affected by the other factors is:

- Non- Performing Loans: The values of the NPL show how the percentage of the loans which are not being repaid has changed. The data are conducted yearly and the values correspond to all the banks.

The hypotheses for the panel regression analysis are:

H₀₁: There is a real impact of economic growth in the growth of NPL

H₀₂: There is a real impact of inflation in the growth of NPL

H₀₃: There is a real impact of interest rates in the growth of NPL

H₀₄: There is a real impact of unemployment in the growth of NPL

The proof of only one of the hypotheses above shows that that there is a similarity in the Balkan Region's NPL and that the policy to change it should be implemented by all the it is states since at least one of the factors affecting common.

3.2 Methodology

The panel data analysis will be conducted to determine if the macroeconomics factors specified below have an effect on the growth on non-performing loans. There is a change over time in the factors that affect the NPL and the panel data analysis describes if this changes in one factor have an effect in the other one. At the moment that there are multiple data in the analysis the model can provide with the superior estimates from the cross-sectional analysis.

The data for all the countries are firstly described for each country in particular. Each country may show a similar trend in the changing of the data but there are different reasons for each country to reach in that conclusion.

Secondly the panel data analysis compares all the data of the countries with each other and from that the table showing the results is obtained. The result of the panel regression analysis show if the independent variables have an impact on the depended variable. Since all the countries are cross-sectioned together for each of the independent variables there is sufficient that one state does not have an impact for all the other ones to be shown no impact as well.

The panel regression analysis is conducted since it is the analysis that allows the data to be obtained yearly and to show a significant result.

Panel equation which in statistics estimates the equation regarding the independent variables of inflation, interest rates, unemployment and economic growth and the depended variable the non-performing loans are below:

$$GNPL = C + \beta_1 * GDP + \beta_2 * INF + \beta_3 * INT + \beta_4 * UNEM + E$$

GNPL: Growth in Non-Performing Loans

C: Significance level

B1: Regression Coefficient of GDP

GDP: Gross Domestic Product

B2: Regression Coefficient of INF

INF: Inflation

B3: Regression Coefficient of INT

INT: Interest Rate

B4: Regression Coefficient of UNEM

UNEM: Unemployment

E: Estimation of expected result

CHAPTER 4

A PANEL REGRESSION

Panel regression or cross-sectional time series data regression, is a regression where multiple cases were observed at two or more time periods. There are two kinds of information in cross-sectional time-series data regression: the cross-sectional information reflected in the differences between subjects, and the time-series or within-subject information reflected in the changes within subjects over time. A panel data regression technique allows taking advantage of these different types of information.

4.1. Comparison Between Balkan Countries

Balkan countries have similar financial situation but the factors that cause this situation are different. All the countries compared below are experiencing difficulties political ones but also economical. The situation of non-performing loans is not good in all the countries but there are different factors that cause it. The brief explanation and comparison below will describe each individual country the macroeconomic factors that cause the situation and the precautions that these countries are taking.

4.1.1 Albania

Non-performing loans has shown to be a very difficult mission when it comes to its decrease for second level banks and also for BoA, which are included in a restructuring process and whipping off of NPL. Non-performing loans increased with 18.4 % in January 2016 after they had decreased in 18.2 % in December 2015 according to the statistics for Albanian Association of Banks. Since the stock of lending has decreased

from 582 billion ALL to 580 billion automatically the ratio between NPL and total loans has increased being that the denominator has decreased. There has been an increase in the non-standard loans⁷ which is the first category where loans start to become problematic. Another signal for the increase of the NPL is from the standard loan category (good loan until 30 days in delay). Which has decreased from 434 to 430 billion ALL and the loans in pursuit⁸ but it is not yet calculated as a problematic debt that in January it increased from 42.7 to 44.3 billion ALL. Standard loan⁹ was 74 % of total loans and the loans in legal pursuit 7.6 % showing that good lenders are in difficulty. In December NPL were decreased about 18 % after two years being in values of 20 % mainly from restructuring of large corporate and whipping off of NPL. The NPL index¹⁰ was decreased with 100 million Euros in 2015 according to BoA.

Since two years now the plan for decreasing NPL was put into action and predicts 13 interventions in legislations and in concrete actions of operators included in this process. Until the end of September 2016 in the Parliament all the changes in Code of Civil Procedures will be presented and the Law on private Bailiffs which aims the increase of efficiency and forcibly gathering the obligations. For decreasing of NPL the government will present in parliament the changes for Law of Security charges and the Law for Registering the Immovable property to protect the financial collateral and increase of legal security. The insecure economic environment intends to hamper the decrease of NPL especially because of the increase of new loans that can turn to loans that are in delay. The difficult industry situation can make this lending sector non-performing. After the bankruptcy of the company Kurum, BoA warned the other banks that non-performing loans' value can increase by 1 %.

⁷Loans whose installments are delayed for 91-180 days in delay.

⁸Loans whose installments are delayed for 30-90 days.

⁹Loans whose installments are delayed for less or 30 days.

¹⁰One year delay in loan repayment

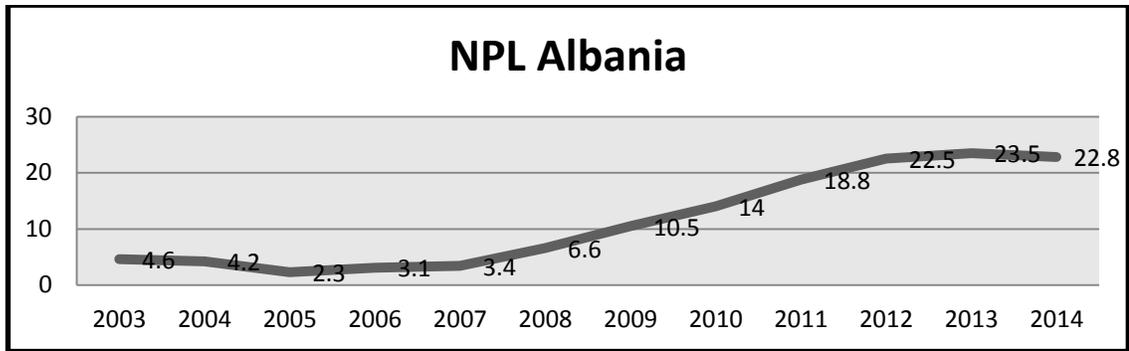


FIGURE 4.1.1.1 NPL Albania

Source: The global economy

As it can be observed in the graph above after 2008 the NPL started an upward sloping movement and it kept increasing until the beginning of 2014. The years from 2008 until 2012 have been the most difficult ones for the banking sector. It started with the financial crisis in America and it spread in the entire world. The foundations of Albanian economy that were already weak were shocked and it was very difficult for the banks to continue to keep the balance of their standard loans. The percentage was almost doubling until 2012. The reasons for this matter were many but the most important ones were the unemployment increasing every day and many businesses failing due to financial crisis. The purchase power was very low for the businesses to even try to resist. During these difficult times the government did not help. A strategy could have been to lower the taxes for businesses but this did not happen. The taxes anyway were not a profit for the government since large companies that bring the most of the resources for the government were making tax evasion policies and due to the lack of control and sometimes the passive corruption these operations were not discovered. A constant control was being forced on small business when at the most difficult situation state enforced the 20 % VAT Tax and that was the final shock for some businesses. What banks started to do is they lowered the interest rates. This action proved to be effective.

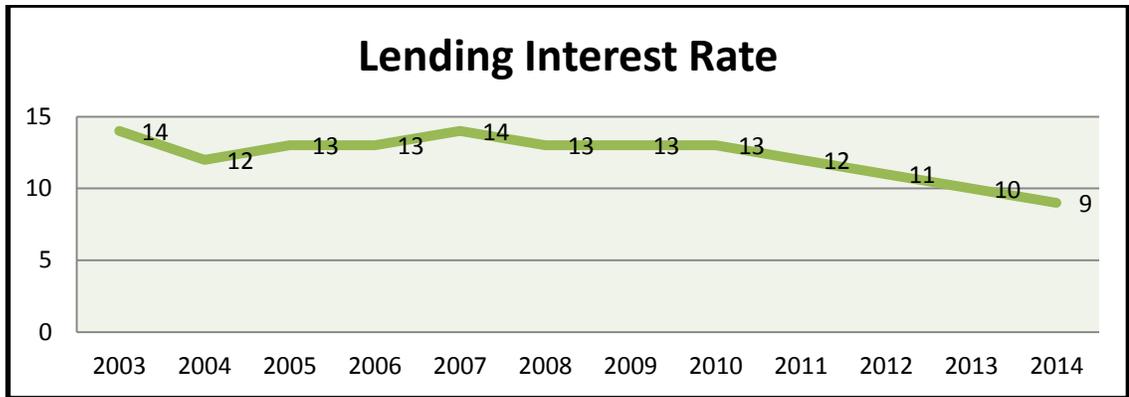


FIGURE 4.1.1.2 Lending Interest Rate in Albania

Source: *The global economy*

According to the graph above the lending rate until 2007 was 14 %. This value maybe would continue increasing if the economy would not experience a shock. Only after 2010 banks saw no other solutions rather than the decrease of the interest rates. Still the performance has had downturns until 2014 at the same time that the interest rate increased. These numbers could have been in larger values if no change would have been made. In another point of view if the bank has lower profits due to its lower interest rates their provided will be lower and therefore the numerator in the division between NPL/Profit will be lower. Anyway gaining in slow steps is better that loosing from the constant increase of NPL. After 2014 the banking sector started to improve in Albania. The NPL ratio is still increasing but it is increasing in slight very small steps that comparing with the previous situation are very low. The problem remains that usually the collateral for big companies is not liquid. For these buildings that bank wins ownership to be sold another huge company should try to buy it but at the current moment companies are trying with all the forces to keep their profit and to be able to pay their taxes not to expand. There is a lack of investment in the Albanian market in the past years and this is another cause that the profit development is lower considering the unpaid loans development.

According to Albanian Legislation Fiscal System all individuals that were part of small businesses had to make yearly payments based on their profit for 10 %. During this time in the legislation in Albania there was no value added tax in a specific product. Also

regarding individuals the payable tax for the monthly income was a flat tax of 10 %. It was later discussed that this tax was discriminating for the individuals who earned less regarding to the ones with higher salaries because the payment of taxes was the same. Actually flat tax does not specify an amount of tax that each individual should pay. It specifies 10 % which means that the percentage in a person with higher incomes and the lower income individual was the same but this percentage means higher payment of taxes for the one who earns more.

The government which is actually is in power won the majority part of their voters by this problem. They claimed that if you have a lower salary you should pay fewer taxes which were already implemented. For a simple example if an individual has an income of 30.000 ALL he pays a tax of 3000 ALL and an individual with the salary of 100.000 pays a tax of 10.000. So logically it is higher. The government in power now claimed that the people with lower than the average salaries should not pay taxes and these taxes should be covered by the people with high salaries which despite being helpful to a large part of population do not stay in the same line with fair politics. In 2011 the law for value added tax was implemented. This happened in the period when the economy was struggling with the financial crisis and it came as a shock. This law was not warned before by government and it started to be enforced within a month of its implementation. Every businessman who disobeyed would be fined immediately and even though the majority part of people working in shops did not know how to use the machine it was directly implemented without a probation period or a manual of usage. In 2014 Albania was ready for the new legislation since the new government was empowered. According to the Law 181 Section 11 the tax of income for the small business was changed from 10 % to 7.5 % and the tax for the small business with income lower than 2.000.000 was 25 000 LEK. This move showed that taxes were reduced in percentage but at the same time the income of this business was reduced in high numbers. Regarding the tax of 25000 LEK it was like a loan contract where the bank decides the loan interest according to the T-Bill but it puts a minimum so it can be safe in any case. This is what happened here. The incomes on these small businesses were very low do the taxes for these businesses were fixed because they would have been lower if it were based on the

incomes. After reducing these taxes the time came for the government to decide the personal income tax. This tax changed to 15 % according to the Law 177 Section 10. So if a tax was reduced by 2.5 % another one was increased by 5 %. It simple mathematics to calculate what does this taxation system mean.

Another change was the taxation on salary which was decided to become a progressive tax not a flat tax. This tax was supposed to be fair. Until 30.000 monthly incomes this tax remains 0 %. From 30.000 to 130.000 it becomes 13 % and above 130.000 it becomes 23 percent. It should be noted that the taxable income even in the salaries above 30.000 will be calculated only in the salary difference. What this tax does is that it leaves the poor people poor and starts to reduce the income from the people considered rich. This is the taxation system changes in general lines for these 8 years. The question is that does this fiscal policy have an impact on the NPL. The first effect of this system was seen in 2011 where all the small businesses that had taken loans started to delay their payments or to not pay them at all. The reason for this was that the financial crisis on one side and the tax which was 20 % of each product was taking too much of the incomes that the business had.

Another problem happened with individuals. Due to the economical downfall many firms had to fire their employees to try to reduce the costs and these people that were suddenly without a job position were forced not to pay the loan since they were jobless. From the bank's perspective it was the worst situation because even the collateral the banks took was illiquid due to the lack of purchasing power. After this situation the turn came for the large businesses in 2014 to become part of non-performing loans. A constant control and monitoring brought a huge number of businesses into court for their tax evasions and not paying the obligations they had against the state. Many assets of these businesses were confiscated. A lot of these businesses had started investment by taking business loans which are the most profitable for the bank but at the same time are part of the grater loss in case their loan becomes non-performing. Banks started to have a more confiscated screening process when accepting their applicants but the bank cannot always predict macroeconomic shock when they happen.

Inflation is the problem that always stays on top for the Central Bank. For just a short time inflation can take unpredicted values that need a lot of policies and time to be stabilized. Of course there is a safe zone for every inflation and usually at these conditions the measures taken by BoA are inflation targeting. The new Governor of BoA Mr. Gent Sejko decided and gave a public announcement regarding the inflation becoming 2 % and he also said that the target is to reach for next year an inflation of 3 %. These percentages are ideal for every country if the can remain stable.

Macroeconomic shocks cannot be predicted so it is never safe to say that inflation is controlled. For every yea Albania has remained loyal to the value of 1.8 % of inflation and this change raised many questions but according to the government this objective is due to the expectations of the progress of the economy. There is big hope for the Albanian Economy in the next two years to have an increase in production. The increase of inflation also indicates the decrease of the interest rates which means that people are able to borrow more and also to invest more so there will be an increase in circulation of money in the economy. Of course this is the target of BoA because it is impossible to predict what really is going to happen. If the interest rates in banks will in fact decrease the lending process will have a boost because the economy is at a place that people cannot buy an immovable property without the help of the bank.

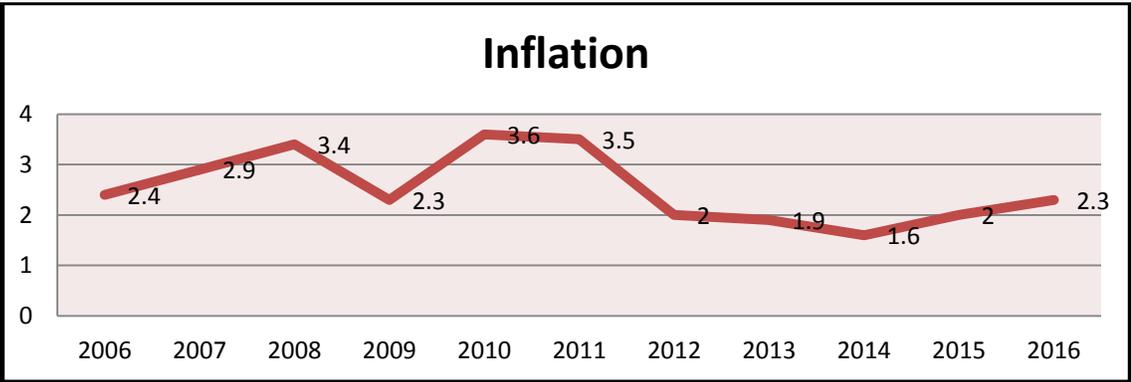


FIGURE 4.1.1.3 Inflation in Albania

Source: *The global economy*

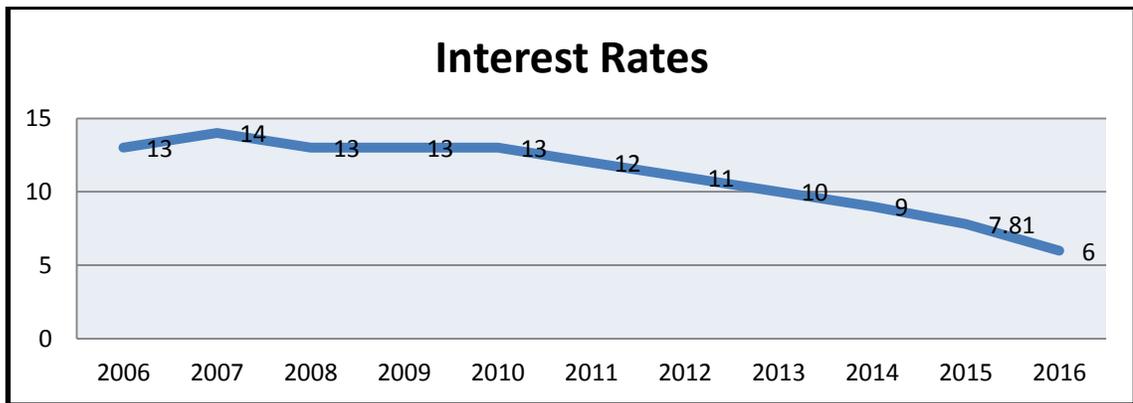


FIGURE 4.1.1.4 Interest Rates in Albania

Source: *The global economy*

As it can be seen in the graphs above interest rate is in inverse direction with inflation. Since 2010 the interest rates have been decreasing. A decrease in interest rates is a good indicator regarding the loan division. With these rates people tend to borrow more which is a positive indicator for the economy in general. For the banking sector to remain stable the economy as well should be stable because they are correlated together. A loan taken in 2010 has the double interest rate from a loan taken in 2016. This movement of the BoA will probably lead to NPL values being even lower the upcoming year. The year of 2014 was also the year where the economy had a deflation. If a high inflation like 2010 is very dangerous a deflation of 1.6 % in 2014 is even more concerning.

According to the graph interest rate for the last 10 years has not been stable so it is very concerning because it gives no guarantee that it will continue stable from now on. From 2008 to 2010 when the financial crisis was at its most concerning values loan interest rates have remain the same but inflation rate has had a decrease and then a sudden increase within the year. There are any factors that have caused this decrease and immediate increase of inflation within a year. The increase in prices can come due to a cost-push factor like the oil price in Albania or pharmaceutical product that there no other solution rather than to adjust at these prices. These situations are very difficult for every central bank to handle and sometimes they are uncontrollable

4.1.2 Greece

Greece is the country which is in the most disfavored situation regarding the economy. In a country where the debt increases every year and where the government does not find a solution to reduce their expenses there is not much to hope. In 2010 Greece entered the situation where on every aspect of the economy it was a downturn. According to the data taken from the NSSG (National Statistics Service of Greece) the unemployment rate is at a value of 24.4%. This value had a very small fall by 0.2% from the previous month of 2016 but still it does not seem promising. The real number of unemployed people in Greece was 3.5 million. This number is as much as the entire Albanian population. This means that even if NPL value in % in Greece was lower than Albania it still would have a much larger debt. The financial crisis of 2008 that continues until today did not help but on the contrary it has stressed it more. The debtors in Greece not for the fault of their own stopped paying their mortgages. The case of NPL in Greece was not a case of administrative problem from the banking side. In the loan's necessary documents the bank requires a stable job for the applicant and his guarantor and collateral whose value would justify the loan amount. All the NPL gathered today were cases where the applicant of the loan was employed but after 2010 much companies declared bankruptcy which meant that these employees would no longer pay.

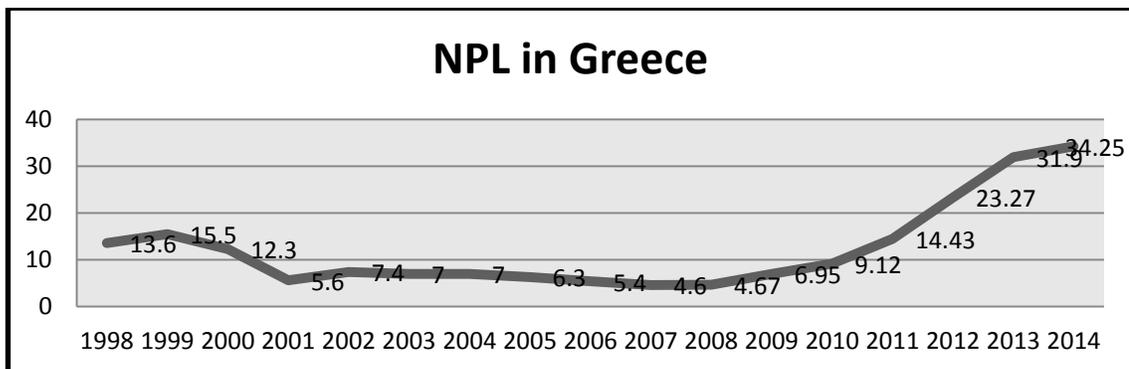


FIGURE 4.1.2.1 NPL in Greece

Source: *The global economy*

As it can be observed from the graph above 2007-2008 has noted a peak in the increase of NPL in Greece. The global financial crisis that also happened from a loan bubble

affected and at the same time highlighted the problems in the countries that were most vulnerable. Different from the NPL in Albania whose values after 2014 stopped going upwards in Greece they did not take a downward turn yet. The reason for this constant increase in NPL that can continue on even further is that the old loans that are part of the NPL already are very hard to be restructured or recovered. Also at the same time for the bank to give out new loans is very difficult because the probability is that these loans too will result to become non-performing.

Being in this situation the government of Greece has taken some precautions and has implemented a law regarding NPL:

- There will be created a public authority that will deal with the problems and will have a certificate for solving the problem. The new approach here is that the borrower will have a different evaluation. It will be seen how this borrower is in paying the debts and if shows a regular behavior.
- The government will create a council that will contain experts that will manage the debt. These experts will find a way to try to transfer the debt into agencies or another financial institution or it will try to control it.
- Until this year in Greece many borrowers would find strategic ways to save from paying the debt because of the missing clauses the court would give them the right. Now the government will support the court to refine the legislation so there will be no gap for the potential borrower with strategy of not paying the debt.
- State will create a company that will be managed by the government which will take these debts or these problematic cases and give them a solution. At the moment a borrower will become problematic the bank will have the right to transfer the loan to this agency.

These reforms are a start in the Greek government to improve the lending problems. Another problem in Greece is the economic growth which is not developing not with even the smallest steps. As it can be seen in the graph below it is in very bad conditions but it has started to improve since 2014 at least in is not in the negative part. The reason for such a downturn in the economic growth in Greece is because Greece is supposed to

be a place where expenditure is higher than the cost. This phenomenon starts from individuals that entertain more than they work and more than they can afford.

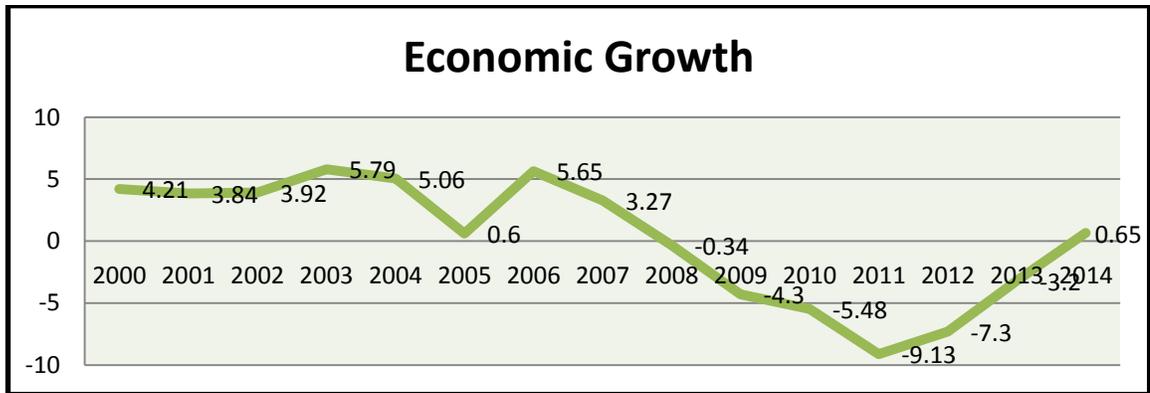


FIGURE 4.1.2.2 Economic Growth in Greece

Source: *The global economy*

Another factor that has a huge impact in the NPL of Greece that took the situation until the closing of banks for a period of time is the unemployment. Since 2008 the unemployment rate has been increasing in Greece. Unemployment rate directly affects NPL. It should be stated the unemployment rate of Greece is 10 % more than the one of Albania. Greece is a country that is part of the EU with a high development and international recognition. Only the summer season brings to Greece incomes that the Albanian state cannot have for the entire year. This increase in unemployment rate is also because of the unlicensed employment.

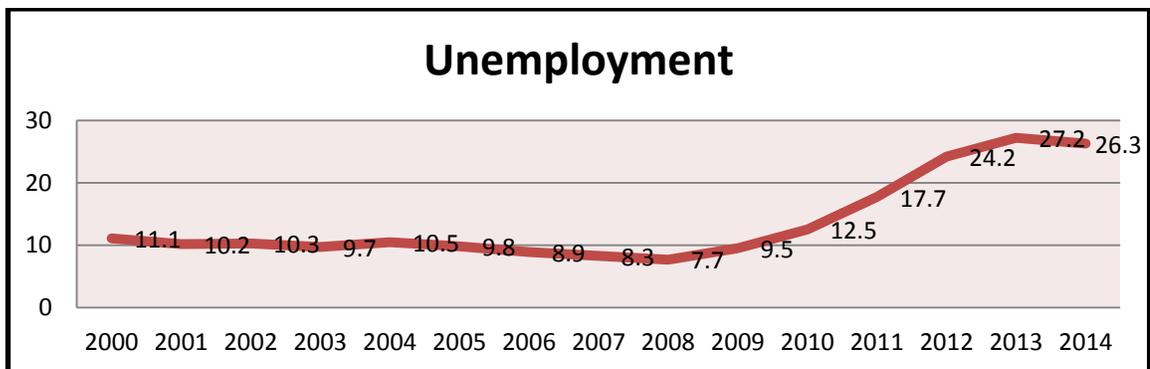


FIGURE 4.1.2.3 Unemployment in Greece

Source: *The global economy*

4.1.3 Croatia

Croatia is one of the countries that are closer to European standards than even Greece which is also a member of EU. Croatia became part of European Union not too long ago in 2013. But Croatia like all the other countries of Balkan or Europe as well did not escape from the financial crisis of 2008. Before the crisis the country had a positive economic growth every year that went into numbers like 4%. After the crisis Croatia as well entered the recession and it last for a long period of 6 years. Until the years of 2008-2013 it has been in struggles of up and down development.

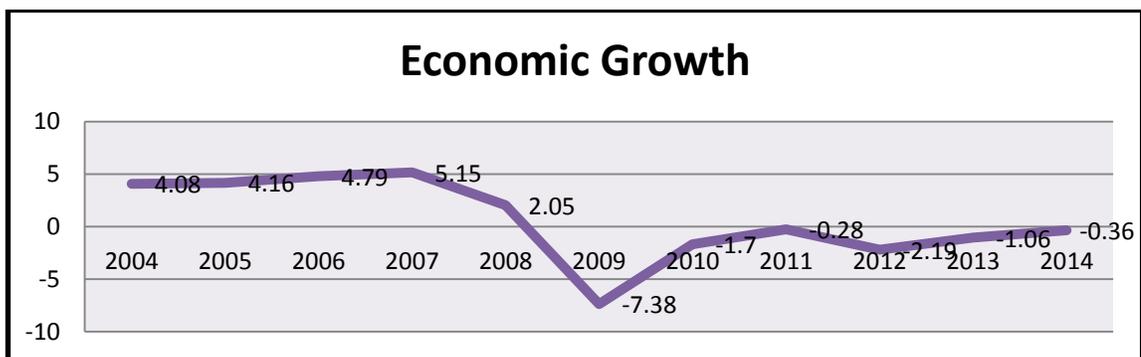


FIGURE 4.1.3.1 Economic Growth in Croatia

Source: *The global economy*

The hope for the recovery of the economy of Croatia came only in 2015 of 1%. This improvement was due to the increase in the number of exports of the goods that the country has. Also what Croatia did was that it decreased the prices of food and also oil. This is a step that needs to be taken especially in Albania in the current situation. Croatia was also helped by European Union with the increase of the investment. Investment is one of the main factors that help an economy which is in recession. Despite the downturns in the economy Croatia has managed to keep its growth stabilized for the last years so it would not become volatile again. After a peak as the one of the year 2009

Croatia managed to recover within a year and after entering the EU there were higher chances for the country to bloom. The other problem that has a direct effect on NPL of

the country is unemployment. It is surprising to see a country that is part of EU have the unemployment rate the same as Albania which is in transition. Croatia through the new investments that have been made could have had a better performance but the numbers are as listen below in the graph.

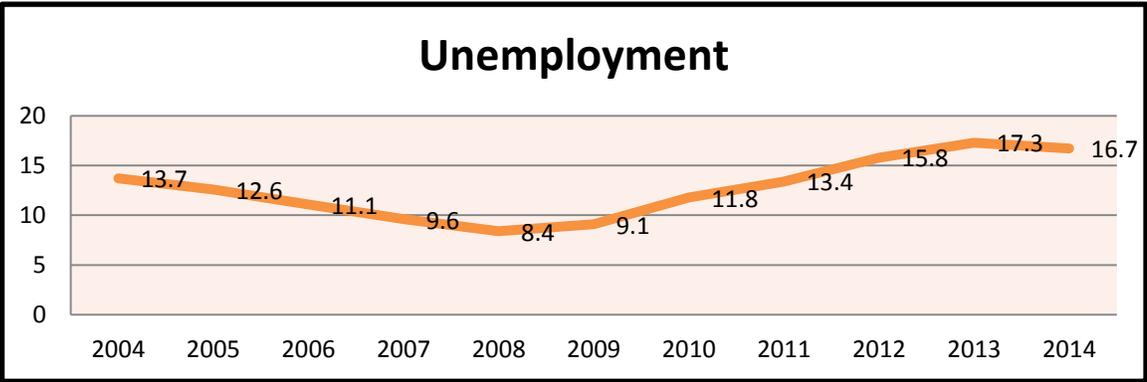


FIGURE 4.1.3.2 Unemployment in Croatia

Source: *The global economy*

The unemployment rate remains high and the people that currently are unemployed have been at this situation for more than a full year. Most of these unemployed people are young people and they make up 40 % of this rate. If economic growth is an indicator that shows that a country is not on its good performance and has an effect on NPL the unemployment is a direct effect because they are strongly correlated. The situation has not always been like this. Before the year of 2008 the poverty of Croatian was in the values of 10 % and it included employees that had low skills or people that hadn't been working for more than 3 years. At the current time the poverty despite being in the values of 18 % it includes people that are highly educated, youth and people that live in the centers of the cities. According to the central bank of Croatia the majority part of the loan portfolio is composed from retail loans and being coo depended from people the banking sector shakes every time there is a change in unemployment. From this portfolio almost half of it is composed of mortgage loans that usually take more than 20 years to repay. These long term loans are riskiest since it can never be predicted what the future will hold for the economy. Also the collateral put in for mortgage loans is usually the credit subject that can be the house that the borrowers are purchasing or rarely thee

house of their relatives. So in the case of these loans becoming non-performing the collateral taken from the banks creates a bubble and it is illiquid. NPL value is having an upward trend and its values are higher.

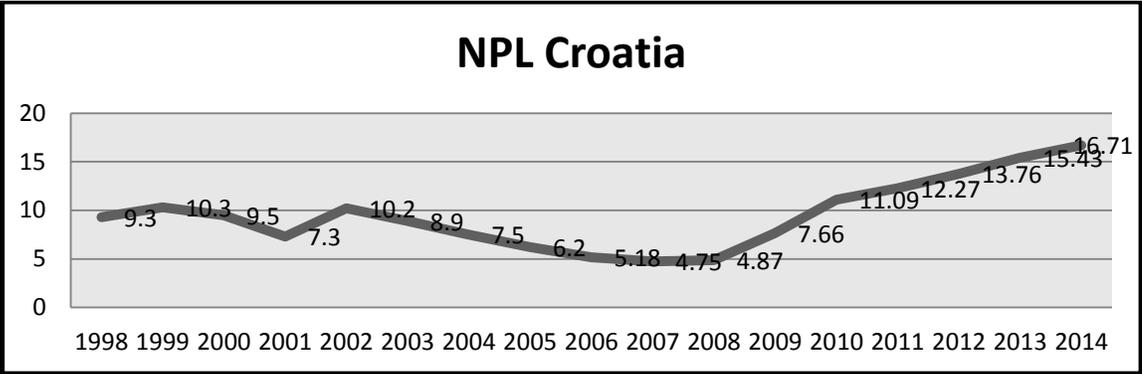


FIGURE 4.1.3.3 NPL in Croatia

Source: *The global economy*

The same trend as in the other states of Balkan is seen here. After the year of 2008 the NPL values started to increase and there has been no change in the trend. The risk of the banking sector shaking exist also in Croatia because different from Albania or Greece in this country there have been no signs of decrease. In other countries NPL value has doubled but in Croatia as it can be seen in the graph it is four times more. In March 2016 the value of NPL was 16 % which shows a slight decrease but still not promising. The GDP has had a slight decrease but it seems promising for the future of the country because the production has increased at it is the only hope for a development in the economy and therefore in the NPL percentage.

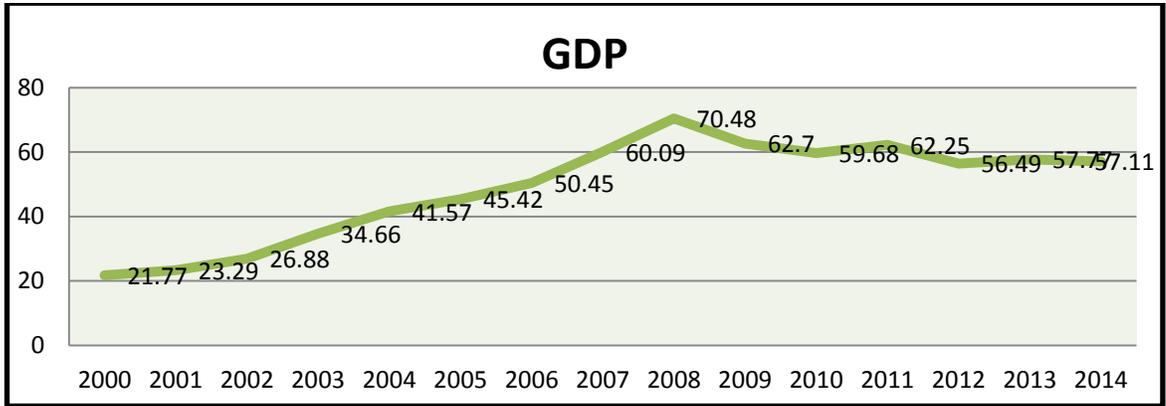


FIGURE 4.1.3.4 GDP in Croatia

Source: *The global economy*

4.1.4 Macedonia

Macedonia is a very small country very similar to Albania. The population in the country is nearly 2.2 million. Macedonia is a country that is not in a strategic position so it cannot exploit export crossroads between countries for its development. Despite this fact Macedonia has proven to be a country with a stable macro economy in years.

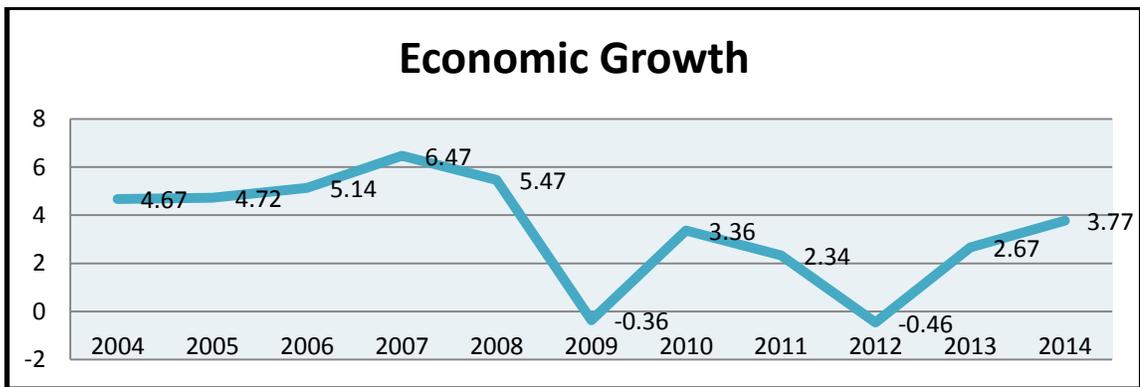


FIGURE 4.1.4.1 Economic Growth in Macedonia

Source: *The global economy*

Different from the other countries analyzed Macedonia's decline in the economy has started since 2007 before the crisis. It is interesting though that the change from 2007 until 2008 without the financial crisis the change was in exactly 1 %. After that there

was a double decline for Macedonia from internal factors and external ones as well. So it means that despite the economy being in a downfall and unstable the financial crisis gave it a final push. The economy despite making some good turns has not managed to grow at the situation it used to be. The period before 2008 was the golden time for Macedonia where better than all the countries in the region it had a growth of 4 % annually but after it there was the downfall. Still it managed to recover in 2013 where the European magazines ranking it the 22nd in the world relating with financial stability. Another positive change for Macedonia was on investments where it grew in 3 % and there was a 1.4 points increase in the private consumption. This economic growth is not a good indicator regarding the effect that it has on the NPL. The other factor that affects the NPL also in Macedonia is unemployment. The data as shown in the table below show a different trend.

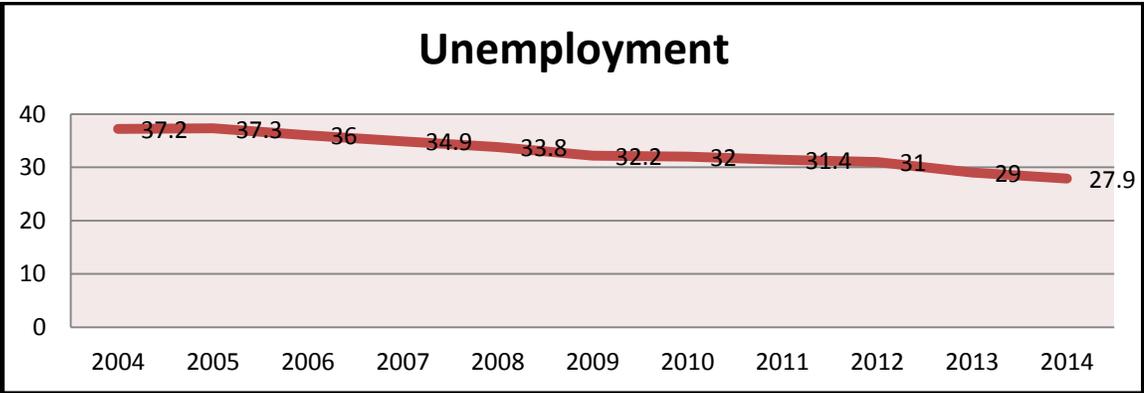


FIGURE 4.1.4.2 Unemployment in Macedonia

Source: *The global economy*

Despite the values of the unemployment are higher than the other countries the trend for Macedonia is negative. The unemployment rate has kept decreasing which shows a positive future prospect. Macedonia currently is facing a lot of challenges:

- The number of exports is higher in the products with prices that may change faster.
- The amount of investments for the large firms is not sufficient.
- Competition in the export market is very pale because of the firms that participate in this market being small.

- The sector that hires more employees or to be exact 20 % of the entire workforce is the agribusiness but at the current time it is not productive enough and it is being constrained.

Non-performing loans are a result of the factors mentioned above. The percentage of NPL though in Macedonia is lower than all the other states analyzed before. Different from the other ones as well the line of the graph is much smoother and the changes are not drastic ones. It changes with 3 % the entire period of time. This is mainly because the job positions in Macedonia are more stable and are not much dependent on the outside economy. Macedonia does not take enormous steps to improve the economy, steps that can be considered also dangerous so the result is the fact that there is no drastic downfall in the economy. Macedonia remains with the best performance so on regarding the banking sector, even better than countries that have more experience and are currently part of the European Union.

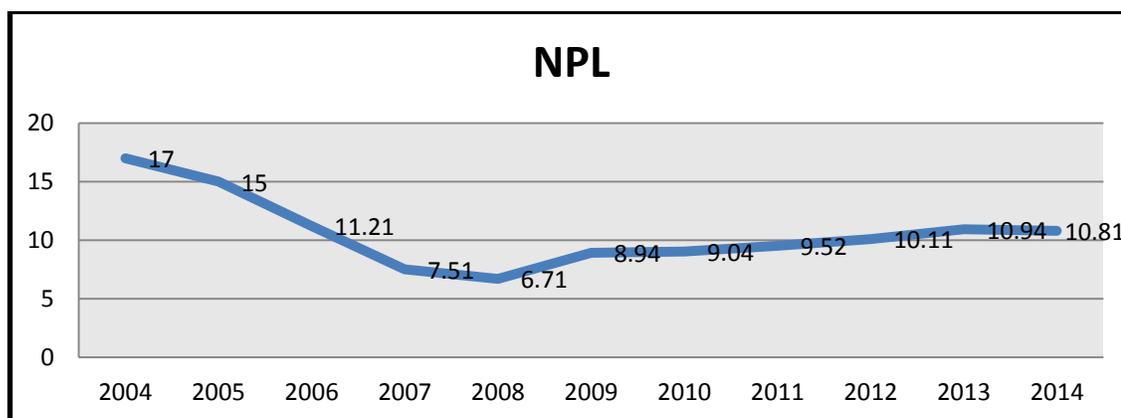


FIGURE 4.1.4.3 NPL in Macedonia

Source: The global economy

For a country that seeks future development Macedonia has all the possibilities to reach those targets. The NPL value is still controllable with only some risk management policies and administrative policies of banks. Macedonia is a country where not much unpredicted shocks have happened so the loan sector especially the retail loans are secured. Macedonia gained its independence on 1991 and was very weak at the time but

in a period of 10 years it managed to become one of the countries with the highest stabilization regarding the banking sector. The primary incomes for the individuals that make up the largest amount of incomes for Macedonia are the remittances that as can be seen in the graph different from Albania keep increasing every year or at least remaining stable which secures at least the loan repayment in the banking sector.

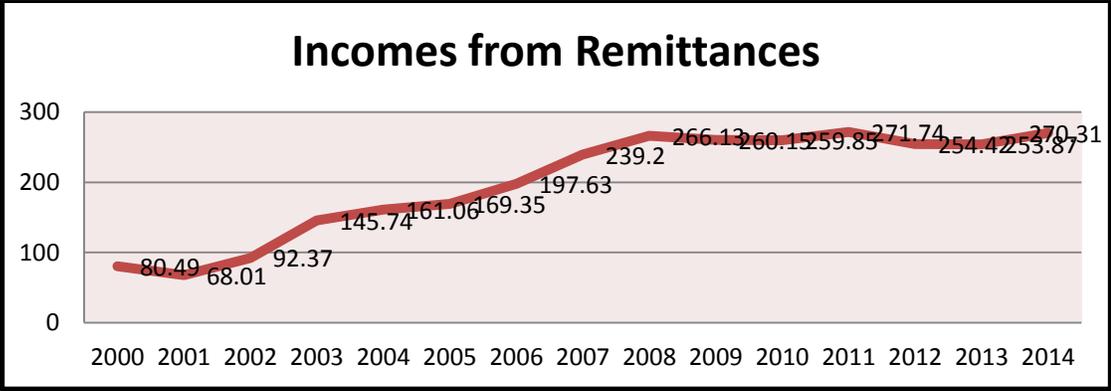


FIGURE 4.1.4.4 Income from Remittances in Macedonia

Source: *The global economy*

4.1.5 Montenegro

Montenegro is a small country very similar to Macedonia or Albania. Montenegro became independent only ten years ago. The currency used in Montenegro is Euro despite the fact that it is not a member of the EU. This choice of currency is very profitable for Montenegro regarding the fact that all the trades inflows in the country, loans deposits and all the other operations are done in Euro which at least reduces the exchange rate risk. Montenegro for a short period of independence time has been in arrangements to join the EU as a member state. Montenegro is a country that mostly depends on tourism and the only amount of exports that it has are for minerals for which it is not that rich of. The financial crisis hit Montenegro at the moment that it just became independent so there was not too much time to adjust to the situation or for the central bank to take the things on the control. From 2007 to 2010 the curve of the NPL kept going upwards by becoming seven times more than it was at the year of 2006.

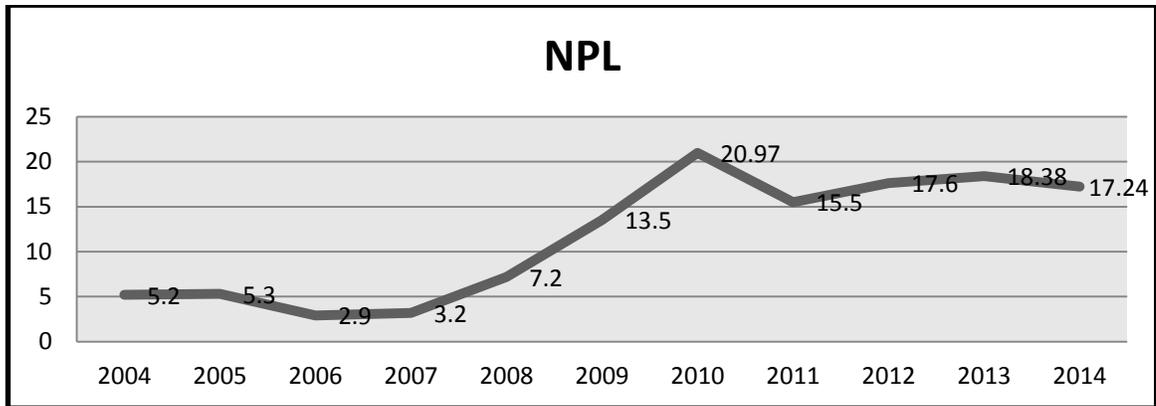


FIGURE 4.1.5.1 NPL in Montenegro

Source: *The global economy*

In 2011 after only one year from the peak of the value of NPL Montenegro managed to lower it in 5% which should take credit as one of the best policies implemented from the country. There were three key indicators that the country was focused in 2011:

- Avoiding keeping the country in recession and focus on the financial intermediaries.
- Improve competition in the private sector and focus on growth.
- There were developed buffers so that the economy would become more liquid.

The year of the beginning of the recession was also the year that unemployment increased with large numbers. The bad news is that until today Montenegro did not manage to recover the unemployment percentage leaving it to high. Only in six months unemployment number in Montenegro increased by 32 thousand people. From all these people 30 % have all university diplomas in various fields. The problem of unemployment in Montenegro also relies that since it is a country mostly based on tourism the highest job positions are in beach areas and these positions are periodical. Also the largest part of the population is graduated so the youth do not accept job positions with minimum wages. These positions especially in the three month period of summer are occupied by foreigners that settle even for the minimum amount of wage.

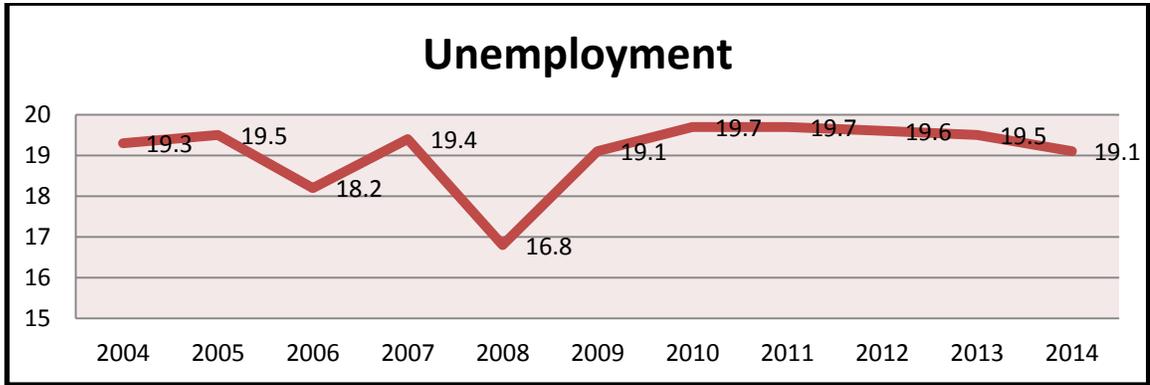


FIGURE 4.1.5.2 Unemployment in Montenegro

Source: *The global economy*

Economic growth experiences losses because it focuses on only tourism and not on other resources. The economy in Montenegro is very unstable since there are no fixed sectors that bring incomes the entire year.

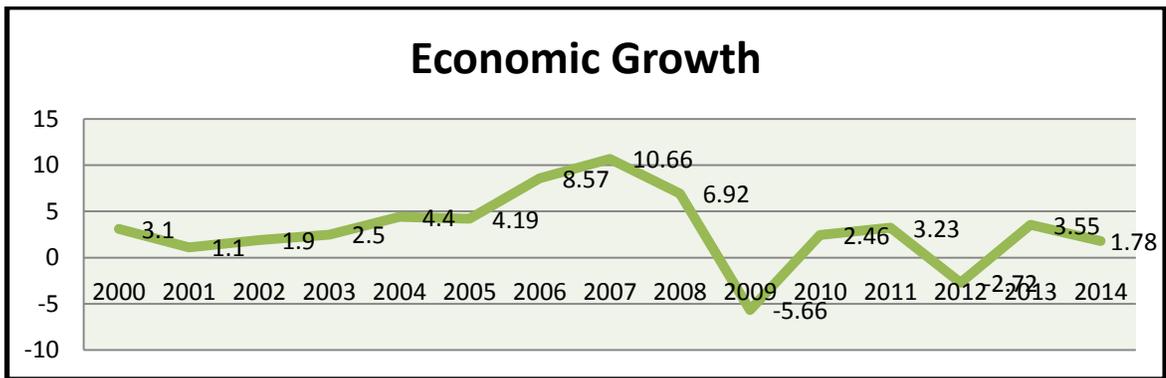


FIGURE 4.1.5.3 Economic Growth in Montenegro

Source: *The global economy*

4.1.6 Serbia

Serbia is a country that has undergone in a lot of changes in the 21st century. Despite the political issues that are still present in Serbia the economic growth has been positive for the country. Serbia of course could not be left out from the effects of the global financial crisis since it can be seen in the graph that within a year it dropped from 5.37 % to - 3.12 %. So instead of growth the economy had a deficit in 2009. At the same time Serbia

managed to recover within a year to at least be on the positive track. Anyway the situation has not been very positive for Serbia. The ups and downs indicate an unstable situation.

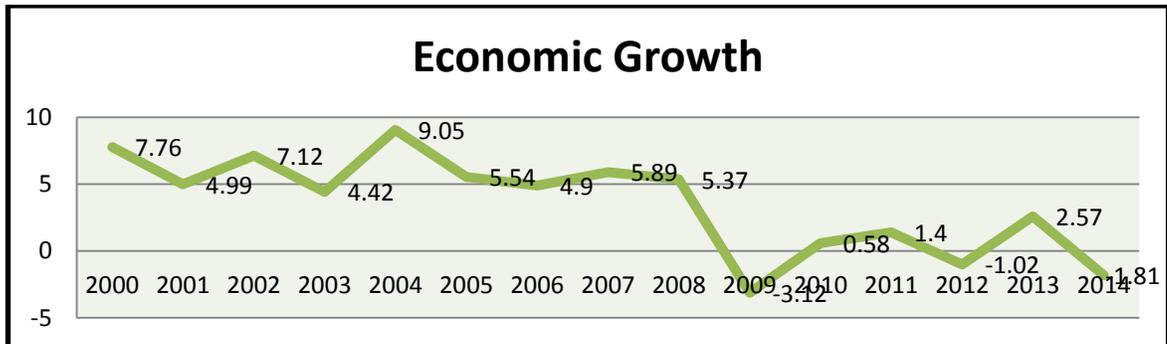


FIGURE 4.1.6.1 Economic Growth in Serbia

Source: *The global economy*

Serbia also has a plan for recovering the economy that contains six priorities:

- Financial Stability to be kept standard
- Reforms that will be implemented should have a direct impact on the economy and the experts will make sure of that.
- All the private enterprises that have problems will be taken by the state and become public so the public sector intends to become more successful and to control the companies that seem more risky by purchasing them and implementing new regulation and also recover from the previous problems.
- Opening new job positions and thus the effect will be felt on the economy so the private sector as well will experience growth. The new job positions will be opened by the private companies through a program where the government will subsidize the cost of hiring new staff and lower the taxes for companies that hire more workers.
- Another investment will be implemented on infrastructure to make it easier for the economy to develop to become more effective through the faster roads of communication and cooperation.
- For the people that are in the most concerning situation that are part of the poor side of the economy the government will create new job positions in the public

sectors with jobs that require less education but can provide sufficient incomes for their wealth to increase.

These reforms in the economy intend to give Serbia a boost in the economy despite that it will not be effective directly in the first year. For the first year the percentage is expected to be 0.5 % increase which will be reflected in unemployment and therefore in the NPL value. Serbia is mostly known for the export of the automobiles and that is the main industry where it relies on.

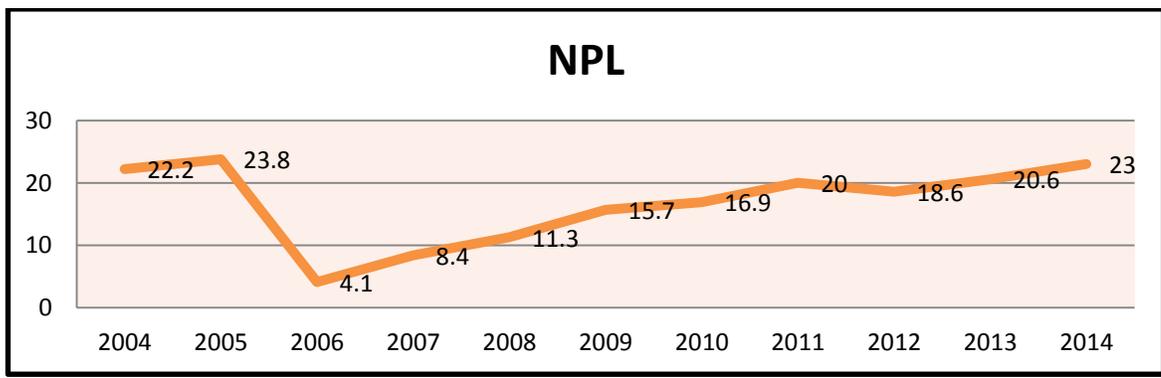


FIGURE 4.1.6.2 NPL in Serbia

Source: *The global economy*

Also as it is seen in the graph above the NPL value different from the other countries analyzed that started with the high trend curve and later got stable or sometimes a downward slopping in Serbia it continues the upward slopping in a value of 23 %. It is very interesting that the value of NPL is in a very close percentage with unemployment.

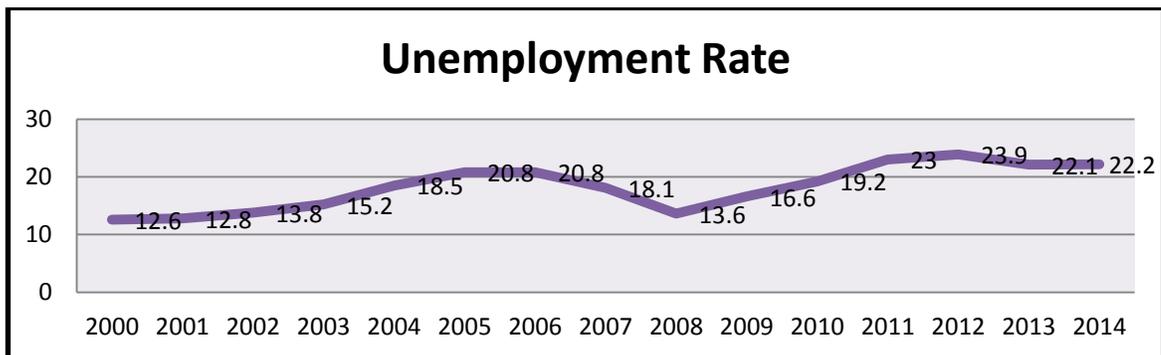


FIGURE 4.1.6.3 Unemployment Rate in Serbia

Source: The global economy

From the statistics the unemployment rate is the same for males and also for females. The values of unemployment though different from the ones in NPL and economic growth have decreased recently and also the government plan will support the higher employment of people. The six priorities plan is concerned with educated people and also with the workforce of people above 40 years old that do to have a high education but need a job to afford the living. The reforms that have started from the government will of course have also an effect on the NPL value.

4.2 Unit Root Test

A unit root test proves whether a time series variable is non-stationary and possesses a unit root. The null hypothesis is generally defined as the presence of a unit root and the alternative hypothesis is stationarity, trend stationarity or explosive root depending on the test used. The unit root test statistics is conducted to define if the study is stationary or it is not. For a study to be stationary the statistical properties such as variance or mean should be constant over time so not a subject to change. The values show that the study is in fact stationary.

TABLE 4.2 Unit Root Test Results

| Variables | Im, Pesaran and Shin W-stat | ADF - Fisher Chi- square | PP - Fisher Chi- square |
|-------------|--------------------------------|-----------------------------|----------------------------|
| GGDP | 0.0276 * | 0.0486 * | 0.0001 * |
| GNPL | 0.2755 | 0.3962 | 0.0022 * |
| INF | 0 | 0 * | 0.0001 * |
| INT | 0.0011 * | 0.0015 * | 0 * |
| UNEM | 0.0031* | 0.0037 * | 0.3606 |

Note: * Indicates that it is significant at 5 % significance level.

As it can be observed from the above table all the values that have the * are significant in a 5 % confidence level. For the values to be significant in statistics the variable should be less than 0.05 in a 5 % confidence level and less than 0.1 in a 10 % confidence level.

The interest rate shows to have the lowest values in the study of the unit root test. The values of interest rate are respectively 0.0011 and values very close to it. This shows that from all the other observations the interest rate has the highest stationarity.

Inflation shows also to be significant in a 5 % significance level that also proves that in this study inflation is stationary.

Unemployment rate has the highest values in the unit root test but still the values are significant in a 5 % significance level. These values show that unemployment has a higher risk to be subject of stationarity.

If a comparison would be made from the values the highest values from the independent variables are in the unemployment rate showing that it is not actually but may become subject to change so not to remain constant.

4.3 Panel Regression

Panel Regression analysis is used to show that the macroeconomic values have or have not an effect on the dependend variable which is the non-performing loans. The analysis is a cross-section analysis regarding six countries and the macroeconomic values of each country. The regression is conducted to show if there is a similar situation or a similar factors with an effect on non-performing loans so that the solution can be given in a regional scale.

TABLE 4.3 Panel Regression Results

| Dependent Variable: GNPL | | | |
|---------------------------------|--------------------|---------------------|----------------|
| Independent Variable | Coefficient | T-Statistics | P-Value |
| GGDP | -0.010417 | -0.62785 | 0.5321 |
| INF | 0.747967 | 1.23761 | 0.2198 |
| INT | -3.448759 | -1.871879 | 0.0652 * |
| UNEM | 0.591913 | 0.55614 | 0.5798 |
| C | 33.66509 | 1.359527 | 0.1782 |

Note: The * indicates that it is significant in a 10 % significance level.

The panel regression results proved to be different than expected. If the values would be analyzed in a 5 % confidence level none of the values fulfills the condition of being lower than 0.05 so there would not be enough evidence to reject the null hypothesis. These results are also due to the lack of data and the low number of observations.

In a comparison between the values Unemployment and the Growth in GDP have the highest p-value which indicates the lowest impact on the NPL of all the states combined. This is due to the fact than NPL can be high in all the states but the reasons for these values are not the same for all the states.

The analysis can be seen from a 10 % confidence level where the interest rate has a p-value of 0.0652 which shows that it has an impact on the NPL. According to the coefficient for each unit increase in the interest rate there is a 3.4 unit's decrease in NPL.

This seems illogical because with higher interest rates the NPL should be higher but indeed in the long run it is lower. It is lower because if the interest rates are higher people will tend to borrow less and thus the lending amount will be less. If there is less lending at the same time with the good loans decreasing the bad loans decrease as well.

Growth in GDP is slightly close but still does not show to have an effect on the non-performing loans. The reason is that in many countries growth in GDP is in low values but in Serbia it has positive values so it is excluded.

Inflation also does not show to have an impact regarding the regional scale of non-performing loans. It is because in some countries there is a high inflation and in some countries there is a deflation but the non-performing loans are almost the same.

Unemployment has an effect on most of the countries but in Macedonia it had good values and this is the reason why it also did not show to have an effect.

It should be stressed the fact that the study is about the growth of NPL meaning their change in the future not the solution of the current NPL. The current values of NPL cannot be changed. They can be restructured or written of but not fixed. What can be fixed is the future growth. In drastic measures if banks rise their interest rates there will be a greater interest margin and the incomes will increase. If these incomes increase the profit of the banks will be higher and at the end of the year when the NPL ratio will be calculated it will be lower since lending has decreased due to the interest rates but the actual lending brings higher profit so it covers the profit lost from the decrease in lending and also the growth of NPL would decrease.

Actually this scenario is being implemented by Raiffaisen Bank where they raised their lending interest rate and the lending decreased but the profit of the loans which are looked into detail before given covers the profit lost by the decrease in lending. The NPL value is lower and the general profit may be lower at the end of the year but it is in a secure situation regarding the NPL and the risk of their growth.

CHAPTER 5

CONCLUSION

5.1 Conclusion

There are many studies and analysis conducted regarding the NPL and at the same time the solutions or the problems that are stressed are different. Despite the numerous studies there is still no absolute solution to the NPL since it is phenomenon that will always exist as long as lending exist. The economic factors cannot be controlled all at once and the economic shocks will always be present. Anyway there are ways to lower these NPL values or at least put them in a limit where the damage they cause to the bank is lower than the profit that a bank has or aims to have in the future. There are descriptions regarding six countries in the Balkan region for the NPL and also there is a brief explanation of the banking sector principles, procedures and analysis conducted in this thesis. There were many similar situations and similar values of NPL percentages in these countries and the factors of these values are the same:

- The global financial crisis's effect in the overall economy
- The increase of unemployment due to the economic performance of the country, policies of reducing expenses and the increasing taxes of government.
- Harsh fiscal policies that directly harm investments and the overall performance of the business sector
- Low production force resulting in higher reliability in imports.
- Low economic growth due to the small number of exports despite the fact that all the countries in the Balkan Region have strategical positions and many unique

resources.

- Reliability on the European and World's situation indicating a low independence.
- Problematic administrative procedures of banks.
- Unstable government.
- High levels of corruption.
- Ineffective implementation of policies from the Central Banks.

All these factors are very common for all the countries in the Balkan region which causes their unemployment, economic growth and therefore their NPL values being the same and having the same trends. The fact that these countries are so similar is not only because of the regional position but also the cultural similarities, education similarities and the fact that governments of all these countries did not success in lowering the corruption or to increase the inter-regional agreements regarding the trades, education, employment positions and every other aspect that can have a positive effect in the entire region. Coming back to Albania the economic situation is not a great supporter of the NPL improvement. There are many aspects that should be changed in the Albanian economy for the banking sector to become more effective. Firstly the change should come from the bank's administrative procedures regarding the screening process of accepting a client. Later the change should come from the government fiscal policies. Even if a bank is successful in its policies if the general economy is in recession there is not much for the bank to do. A solution in reduction of the high percentage of NPL has started to implement especially in Greece or Serbia but also in Albania. Continuing the thesis's principles there are a few suggestions for the bank side and later for the government side so when they are combined together there will be a valid solution showing results in numbers.

Suggestions in changes in bank policies:

- In the loan application process especially for non-collateralized loans not only the client's income's sufficiency but also the job position's performance in the market should be analyzed.

- Even if the incomes are sufficient a client that is guarantor or borrower for more than two loans with a general sum of 10.000.000 ALL should not be granted a third loan.
- A client with bad credit history should not be granted a loan whatsoever even if after the non-payment period his performance is good.
- Banks should not accept land as valid collateral for the loans especially in the outer urban areas since in the case of a non-repayment of the loan there is no guarantee of the bank selling this asset since they are very illiquid.
- There should be no minimum in the interest rate based on T-Bill or the interest rate should be fixed since the beginning because when the economy's performance is good the bank gains more but when the performance is low it does not accept to gain less by leaving the installments high and therefore some clients will not be able to repay the loan.
- The policy of loans that at the beginning take less and at the end of the period take more should be changed. The installments of the client should be higher at the beginning that the bank knows the client can afford and starting to reduce at the end so that any future unpredicted situation will have a lower probability of putting the loan in the non-performing cases.

Suggestions in the changes in government policies:

- There should be a flat tax of 9 % in the personal income of the individual. In most cases the percentage of taxes, social securities and the loan installment take more than 50 % of the salary of a client.
- Government should conduct constant monitoring of investments so their incomes, procedures, balance sheets and most important the corruption and tax evasions should be controlled. Business loans make up the highest amount of the NPL in the country and mostly it is because the data in the balance sheet of businesses are false and there is no control from the state regarding the performance of these businesses.
- Government should implement facilitating policies for Albanian companies

that have a domestic capital because these companies are more codependents from the economic growth and therefore their performance is affected. A company with a foreign capital is more secure in cases of economic shocks.

- Taxes for small businesses are too high and they should immediately be reduced since most of these businesses are going bankrupt.
- All employees should be insured by the social securities and government must make sure that all the companies obey to the law since it is a known fact in Albania that the majority part of companies tend to hide the employees especially the ones with lower salaries due to fiscal evasion.
- Government should promote domestic products and support export by reducing the taxes of export and increasing the ones of import. Also the domestic product should have lower taxes especially in the agricultural business.

These policies are not a given fact that if implemented will give a positive result to the economy and to the banking sector but they still are suggestion based on logical facts and actual performance of the economy. The changes for the future economic performance of Albania should start from inside and then later should be adjusted with a modern country with successful economy. In a country where the banking sector is the only stable one a malpractice or negligence in a little detail may cause the collapse that will make it nearly impossible for the economy to recover again.

Regarding the panel regression analysis the result showed that regarding the Balkan Region all the countries have the same situation of the NPL but not for the same causes. From all the independent variables the only one which was in common for all the states was the interest rate which also showed to have a negative impact. It showed that if the interest rate would increase than the lending would decrease and therefore the non-performing loans would decrease. But this is not the objective required in the thesis. Of course if the profit reduces the loss would be reduced as well but the objective is the expansion of the banking system not the shrinkage.

5.2 Implications

The study shows the general situation of the Balkan Region and how for the same result of an increasing NPL there were different factors at each country. At the same time the result shows how a country implements policies for the well-being of the economy. For example Greece has the highest number in unemployment but Macedonia has the lowest one so Greece can study the policies of Macedonia and try to come close to the other state and implement them.

A comparison of each country can show to the economic experts a combination of the best policies of the countries that have shown results to be used in the other ones so that there would be a stabilisation in the Balkan Region.

For example if all the countries would improve trade like Serbia or implement policies to decrease the NPL like Greece the result can be the same profitable in all the countries and when the situation is stabilised these countries can cooperate to reduce their NPL and keep the same standard.

5.3 Limitations

In order to conduct a study regarding six states the highest problem is that the data to be gathered can not be taken at the same place and each country has its own policy in showing the data for the public.

To gather the data for Macedonia was nearly impossible and the research has been done year by year because they were not available for a time range.

The lack of transparency in nearly all the countries despite Greece puts the highest barriers for all the interested studies to be done in the subject. The first intention for the study was for the data to be monthly or at least quarterly because these are data that are gathered from the states. These data exist but the lack of transparency makes it nearly

impossible for a study to reach deep roots. Its like the states do not prefer to show their weaknesses

5.4 Further Studies

This topic is very interesting for every expert that tries to implement a policy in the changing of the financial situation in the countries. The study is only for the Balkan Region states because they have similar policies but it can also be conducted for the entire Europe.

Eventhough the policies werent the same when american banking system collapsed the whole world suffered and therefore if a policy is proved to be effective for the Balkan Region it can be also for the European countries.

Not all the countries in Europe are powerful like Germany or France. There are also other countries that if studied like the ones in this thesis can show the same weak points and therefore the suggestions can be effective.

Appendix 1

Panel unit root test: Summary

Series: GEG

Date: 06/16/16 Time: 09:08

Sample: 2000 2014

Exogenous variables: Individual effects

User specified lags at: 1

Newey-West bandwidth selection using Bartlett kernel

Balanced observations for each test

| Method | Statistic | Prob.** | Cross- sections | Obs |
|--|-----------|---------|--------------------|-----|
| Null: Unit root (assumes common unit root process) | | | | |
| | - | | | |
| Levin, Lin & Chu t* | 1.51329 | 0.0651 | 6 | 72 |
| Null: Unit root (assumes individual unit root process) | | | | |
| Im, Pesaran and Shin | - | | | |
| W-stat | 1.91729 | 0.0276 | 6 | 72 |
| ADF - Fisher Chi- | | | | |
| square | 21.127 | 0.0486 | 6 | 72 |
| PP - Fisher Chi-square | 38.4715 | 0.0001 | 6 | 78 |

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: GNPL

Date: 06/16/16 Time: 09:20

Sample: 2000 2014

Exogenous variables: Individual effects

User specified lags at: 1

Newey-West bandwidth selection using Bartlett kernel

Balanced observations for each test

| Method | Statistic | Prob.** | Cross- sections | Obs |
|--|-----------|---------|--------------------|-----|
| Null: Unit root (assumes common unit root process) | | | | |
| | - | | | |
| Levin, Lin & Chu t* | 0.55214 | 0.2904 | 6 | 72 |
| Null: Unit root (assumes individual unit root process) | | | | |

| | | | | | |
|-------------------------|---------|--------|---|----|--|
| Im, Pesaran and Shin W- | - | | | | |
| stat | 0.59616 | 0.2755 | 6 | 72 | |
| ADF - Fisher Chi-square | 12.6334 | 0.3962 | 6 | 72 | |
| PP - Fisher Chi-square | 30.7323 | 0.0022 | 6 | 78 | |

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: INF

Date: 06/16/16 Time: 09:20

Sample: 2000 2014

Exogenous variables: Individual effects

User specified lags at: 1

Newey-West bandwidth selection using Bartlett kernel

Balanced observations for each test

| Method | Statistic | Prob.** | Cross-sections | Obs |
|--|-----------|---------|----------------|-----|
| Null: Unit root (assumes common unit root process) | | | | |
| | - | | | |
| Levin, Lin & Chu t* | 19.5491 | 0 | 6 | 78 |
| Null: Unit root (assumes individual unit root process) | | | | |
| Im, Pesaran and Shin | - | | | |
| W-stat | 8.64355 | 0 | 6 | 78 |
| ADF - Fisher Chi-square | 44.8737 | 0 | 6 | 78 |
| PP - Fisher Chi-square | 39.8632 | 0.0001 | 6 | 84 |

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: INT

Date: 06/16/16 Time: 09:21

Sample: 2000 2014

Exogenous variables: Individual effects

User specified lags at: 1

Newey-West bandwidth selection using Bartlett kernel

| Method | Statistic | Prob.** | Cross-sections | Obs |
|--|-----------|---------|----------------|-----|
| Null: Unit root (assumes common unit root process) | | | | |
| Levin, Lin & Chu t* | -3.75632 | 0.0001 | 6 | 77 |
| Null: Unit root (assumes individual unit root process) | | | | |
| Im, Pesaran and Shin | | | | |
| W-stat | -3.05464 | 0.0011 | 6 | 77 |
| ADF - Fisher Chi-square | 31.835 | 0.0015 | 6 | 77 |
| PP - Fisher Chi-square | 52.5852 | 0 | 6 | 83 |

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: UNEM

Date: 06/16/16 Time: 09:21

Sample: 2000 2014

Exogenous variables: Individual effects

User specified lags at: 1

Newey-West bandwidth selection using Bartlett kernel

Balanced observations for each test

| Method | Statistic | Prob.** | Cross-sections | Obs |
|--|-----------|---------|----------------|-----|
| Null: Unit root (assumes common unit root process) | | | | |
| Levin, Lin & Chu t* | 3.81123 | 0.0001 | 6 | 78 |
| Null: Unit root (assumes individual unit root process) | | | | |
| Im, Pesaran and Shin | | | | |
| W-stat | 2.73788 | 0.0031 | 6 | 78 |
| ADF - Fisher Chi-square | 29.1452 | 0.0037 | 6 | 78 |
| PP - Fisher Chi-square | 13.1163 | 0.3606 | 6 | 84 |

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Appendix 2

Dependent Variable: GNPL
Method: Panel Least Squares
Date: 06/16/16 Time: 09:03
Sample (adjusted): 2001 2014
Periods included: 14
Cross-sections included: 6
Total panel (unbalanced) observations: 83

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|--------|
| GEG | -0.01042 | 0.016591 | -0.62785 | 0.5321 |
| INF | 0.747967 | 0.604364 | 1.23761 | 0.2198 |
| INT | -3.44876 | 1.842404 | -1.87188 | 0.0652 |
| UNEM | 0.591913 | 1.064325 | 0.55614 | 0.5798 |
| C | 33.66509 | 24.76237 | 1.359527 | 0.1782 |

Effects Specification

Cross-section fixed (dummy variables)

| | | | |
|--------------------|----------|-----------------------|----------|
| R-squared | 0.09911 | Mean dependent var | 9.140631 |
| Adjusted R-squared | -0.01196 | S.D. dependent var | 34.20121 |
| S.E. of regression | 34.40509 | Akaike info criterion | 10.02687 |
| Sum squared resid | 86410.87 | Schwarz criterion | 10.3183 |
| Log likelihood | -406.115 | Hannan-Quinn criter. | 10.14395 |
| F-statistic | 0.892335 | Durbin-Watson stat | 1.609708 |
| Prob(F-statistic) | 0.536471 | | |

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