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Determinants of Non-Performing Loans in Albania

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Abstract

Nonperforming loans were one of the most serious obstacles that banks in the transition countries faced. They are still present in many transitional places. If in the first period of transition the causes of nonperforming loans were mainly in the inefficiency of state owned banks and enterprises, now the attention is more focused on the micro and macroeconomic environmental factors where banks operate. This study tends to assess determinants of nonperforming loans in Albania. The purpose of this paper is to analyze the nonperforming loans in the Albanian banking system and in the same time the relation that exists between macroeconomic situation and nonperforming loans. Our main objective of this paper is to give our recommendations of what actions should banks take to reduce the non performing loans. Some of other objectives are: to analyze the present situation, to define the factors that influence in the performance of loans, to determine how affect the macroeconomic situation in nonperforming loans.

Keywords: non-performing loans, GDP, inflation, interest rate

1. Introduction

The last decade the Albanian banking system has made an extraordinary progress and now days are operating 16 private owned universal banks. The global financial crises of the 2008 that affected almost all the countries over the world did not save even the Albanian financial system. Given that the Albanian financial system is represented in its greater part from the banking system (85%) the analysis and the identification of the problematic of the banking system that came as a result of global financial crises will take a great importance. In these conditions it is to stress that a very important indicator of the financial risks of the banks is credit risk which a lot of researchers connect directly with the level of non- performing loans. In the Albanian banking system the NPL level appears in concerning levels and according the data of May 2014 the level of NPL reaches 23.9% of the total loans. It is understood that such a high level has been due to a gradual increase which has started since the last quarter of 2007 and continues now days to persist. The high level of NPL has forced the banks to reduce the number of new loans and it is normal that in these circumstances the ratio of NPL and total loans will increase. It is also to mention that the growth of this ratio comes not only as a result of the reduction of loan portfolio growth but also comes by the rapid pace of NPL's growth. In the last years despite the problems that the real economy is going through which continue to translate into a deterioration in the quality of the loan portfolio it is to mention that the Albanian banking system is well capitalized and highly liquid. As the banking system and businesses currently are facing a difficult period the last months the Bank of Albania has proposed a new anti-crisis package which is supposed to provide solutions to some of the most important problems facing the commercial banks and businesses in general. The anti-crises package will consist of three basic columns which are thought to give a positive impetus to the development and recovery of lending to the economy of our country. The package will focus on: legal column, monetary policy column and prudential column.

2. Analysis of NPL in Albanian Banking System

The period considered in this paper goes from the first quarter of 2005 till fourth quarter of 2012, a period long enough to catch the negative effects of the global financial crises of 2008. Analyzing the data the period is divided in two sub– periods: Q1 2005 – Q4 2008 and Q1 2008 – Q2 2014. This division is made to evidence the effects of the financial crises on NPLs. The average NPLs ratio in the first period (pre crises) has been 3, 45% with a standard deviation of only 1, 02% showing a "natural" NPLs level for the banking system as a whole. In the second period (during crises) the average NPLs ratio is 15, 46% while the standard deviation is 5, 36%. If we compare the average data of the two periods we can conclude that the NPLs ratio is fivefold greater in the second period than in the first period and the same thing for the standard deviation. Actually the NPLs ratio in the Albanian banking system is almost 24% showing an increased tendency and a higher credit risk over all.
"It is clear that Albania is affected by a high level of problem loans," said Michael Edwards responsible for operations in the financial sector of the World Bank.

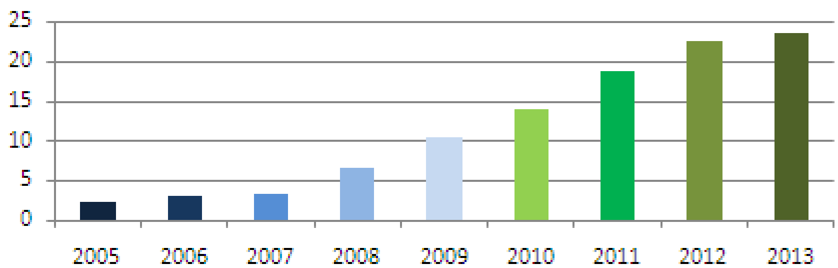
The level of non-performing loans in total loans in the banking system is concerning because it shows that individuals and businesses have difficulties in payment, thus increasing the risk of the entire economic system of our country. Based on the report of the Bank of Albania during 2009 non- performing loans increased. Loans have been growing fast and the quality of the loan portfolio deteriorated significantly. According to the report, non-performing loans at the end of December 2009 had a value of 86.7 million ALL, which according to experts it is really very concerning.

The values of 2010 were also problematic. The loan portfolio should be closely monitored at all times. The quality of the loan portfolio declined as a result of internal factors as well as factors that came from developments in the Greek economy, that affected remittances firsthand.

Non-Performing Loans in 2011 reached approximately 18.8%. This indicates an increase in the number of loans. However the Governor of the Bank of Albania declares that a significant portion of non-performing loans are covered by collateral which reaches about 85%.

At the end NPLs of 2012 amounted to 22.5% while in 2013 amounted to 23.5%. According to the Bank of Albania in March 2014 non-performing loans amounted to 24%. In Graph 1 clearly shows the upward trend of this ratio, which is very concerning for the banking system.

Graph 1. Performance of non-performing loans ratio in years



Source: World Bank

In order to analysis performance of non-performing loans ratio, by classifying categories, we compare the fourth quarter of 2008 to the fourth quarter of 2013 and March of 2014. Table 1 show that lending standards were reduced by 24.4% for the 5 year period showing a negative situation of total credit portfolio of our banking system. Meanwhile up in March 2014 resulting in a 6.23% reduction. The second category of loans has increased by 70% which shows that loans that exhibit problems before their failure are increasing. The third category, substandard loans, increased by 100% indicating that the loans are already at a disturbing level of 8% of total loans. This category until March of 2014 there was an increase of 105%.

The fourth category, doubtful loans, increased by 350% indicating a current level of 3.5% of total loans showing significant delays in repaying loans despite the bank still hopes to collect them. The last category, loans loss are the worst signal classification of loans in the banking system showing an increase of 1,150% in just five years. The high growth of loans to lost translate into higher provisioning by banks as loan loss provisioned 100%, thus negatively affecting their performance.

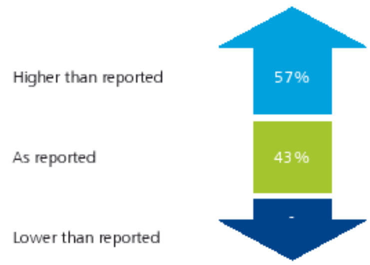
Table 1. Loans classified by categories in Albanian banking system

Period	QIV 2008	QIV 2013	March 2014	Difference %
Classification of loans	100%	100%	100%	-
Standard Loans	88	66.5	67.7	-24.4%
Monitored Loans	5	8.5	8.6	+70%
Substandard Loans	4	8	8.2	100%
Doubtful Loans	1	4.5	3.5	+350%
Loan Loss	1	12.5	12	+1150%

Source: Albanian Association of Banks

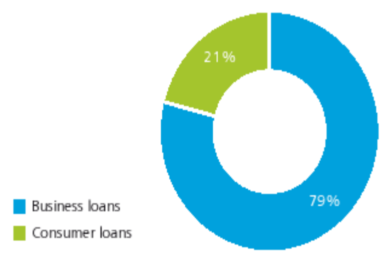
According to a study by Deloitte and Albanian Association of Banks in March 2013, show that one than half of the banks believe that the level of loans that do not perform well in the banking system is higher than what is reported. This may indicate an expectation that the level of non-performing loans will not decrease organically in the short term.

Graph 2. Level of agreement with % NPL as reported from the Bank of Albania



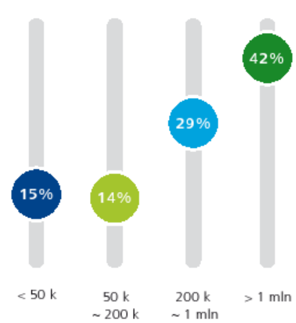
The NPL seems to have affected more business loans. As such, about 79% of banks reported that their portfolio of loans is concentrated in business and corporate loans than on consumer loans or individuals. Also more than 70% of total lending in Albania consists of business loans.

Graph 3. Concentration of NPL



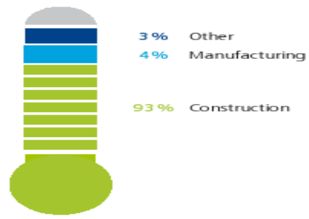
The study indicates that larger loans are most exposed to performance problems. Banks report their NPL portfolio to be more present in loans disbursed at amounts of over Euro 200 thousand.

Graph 4. NPL % distributed over the loan size of disbursement (in Euro)



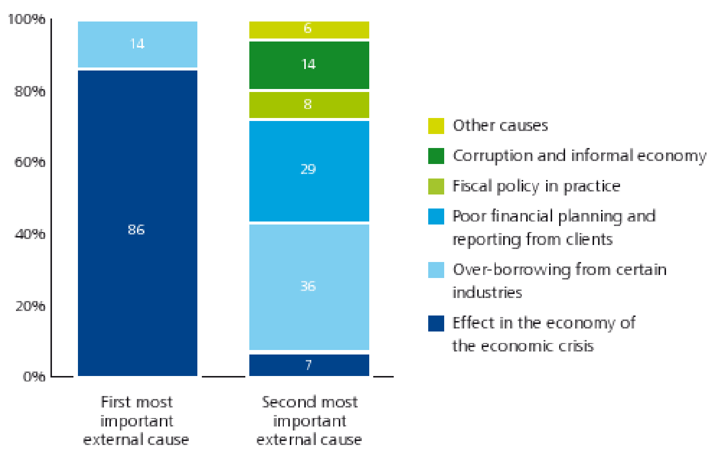
From the group of businesses loans, banks highlighted as problematic construction industry. In fact, the construction industry, as reported in some reports, is significantly affected by the economic downturn of recent years and is currently experiencing a period with sales and liquidity problems directly affecting repayment capacity.

Graph 5. Distribution of NPL over industries



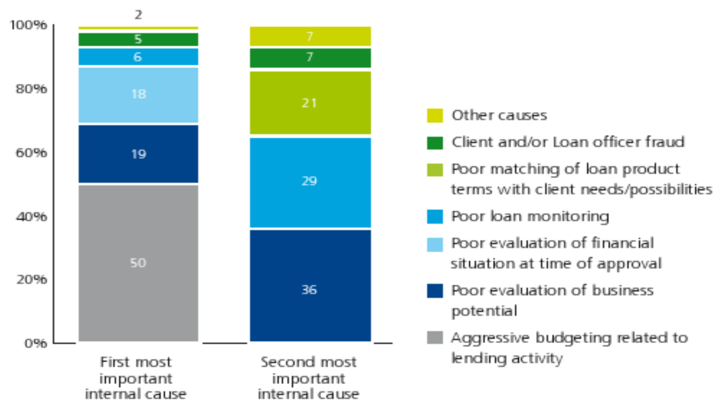
According to the study, most of the banks attribute the increase of loans to external factors. 86% of banks when talking about external factors laid the first economic crisis. The effect of the economic crisis was the dominant external factors. Other important secondary factors are borrowing from certain industries (ex. construction) and poor financial planning and reporting from customers.

Graph 6. Internal vs. External causes that have contributed in the increase of NPL



Among the internal causes, one can be clearly distinguished from the rest. Looking back at fast credit growth over the last years and the more recent increase in NPL, banks believe they could have been less aggressive with their growth targets. Given poor financial reporting and planning by clients (which can also be identified due to external), banks are often put in the position of making decisions in conditions of low-quality data. This in turn results in poor assessment of the potential of the business or financial situation at the time of adoption as well as other secondary factors caused by domestic banks.

Graph 7. Important internal causes that have contributed in the increase of NPL



3. Literature Review

Non- performing loans

Loans constitute the primary source of income of banks. As any business establishment a bank also seek to maximize its profit. Since loans are more profitable than any other assets, a bank is willing to lend as much of its funds as possible. But banks have to be careful about the safety of such advances (Radha .M, et al, 1980). Bankers naturally try to balance the issue of maximizing profit by lending and at the same time manage risk of loan default as it would impair profit and thereby the very capital. Thus a bank needs to be cautious in advancing loans as there is a greater risk which follows it in a situation where the loan is defaulted. In other words loan loss or defaulted loans puts a bank in a difficult situation especially when they are in greatest amount. Despite the fact that banks hold security for the loans they grant they cannot be fully be certain as to whether they are paid or not. It is when such risks materialize that loans turn to be non- performing. The concept of non-performing loans has been defined in different literatures. According to Patersson and Wadman (2004), non- performing loans are defined as defaulted loans which banks are unable to profit from. They are loans which cannot be recovered within stipulated time that is governed by the laws of a country. According to the International Monetary Fund (IMF, 2009), a non- performing loan is any loan in which interest and principal payments are more than 90 days overdue; or more than 90 days worth of interest has been refinanced. Non-performing loans generally refer to loans which for a relatively long period of time do not generate income; that is the principal and/or interest on these loans has been left unpaid for at least 90 days (Fofac, 2009). Non- performing loans are further defined as loans whose cash flows stream is so uncertain that the bank does not recognize income until cash is received, and loans those whose interest rate has been lowered on the maturity increase because of problem with the borrower (Machiraju, Undated). HR Machiraju expresses non-performing loans as a leading indicator of credit quality. Generally, in developing and underdeveloped countries, the reasons for default have a multidimensional aspect. Various researchers have concluded various reasons for loan default. Literature categorizes determinants of NPL to macroeconomic and bank specific factors. The paragraphs that follow discuss macroeconomic determinants of nonperforming loans.

Macroeconomic determinants of NPL

The macroeconomic determinants of the quality of banks' loans have been area of various researchers during the past two decades. The literature on the major economies has confirmed that macroeconomic conditions matter for credit risk. These literatures among others have investigated the linkage between macroeconomic factors like GDP, inflation, real interest rates, unemployment etc. and loan performance. The paragraphs that follow critically review the existing literature on the major macroeconomic factors that have bearing on Nonperforming loans (NPL).

Phases of business cycle

George G (2004) states the fact that large number of the literatures indicates the linkage between the phases of the business cycle with banking stability. Macroeconomic stability and banking soundness are inexorably linked. Both economic theory and empirical evidence strongly indicate that instability in the macroeconomic is associated with instability in banking and financial markets and vice versa. The researches indicates that the expansion phase of the economy is characterized by a relatively low number of NPLs, as both consumers and firms face a sufficient stream of income and revenues to service their debts. However as the booming period continues, credit is extended to lower-quality debtors and subsequently, when the recession phase sets in, NPLs increase. (Fisher 1933, Minsky 1986, Kiyotaki and Moore 1997, Geanakoplos 2009).

Growth in Gross Domestic Product (GDP)

There is a significant empirical evidence of negative association between growth in gross domestic product and non-performing loans (Louzis, Vouldis and Metaxas 2011, Khemraj and Pasha (2009), Salas and Suarina, 2002; Rajan & Dhal, 2003; Fofack, 2005; and Jimenez and Saurina, 2005). If we look into the explanation of this negative relationship provided by the literature we find that growth in the gross domestic product usually increases the income which ultimately enhances the loan payment capacity of the borrower which in turn contributes to lower bad loan and vice versa (Khemraj and Pasha, 2009).

Inflation

There is an empirical evidence of positive relationship between the inflation in the economy and non-performing loans (Khemraj and Pasha, 2009, Fofack 2005). While Nkusu, (2011) has explained that this relationship can be positive or negative according to the author inflation affects loan payment capacity of borrowers positively or negatively, higher inflation can enhance the loan payment capacity of borrower by reducing the real value of outstanding debt; moreover increased inflation can also weaken the loan payment capacity of the borrowers by reducing the real income when salaries/wages are sticky, moreover by highlighting the role of inflation in the presence of variable interest rate Nkusu further explains that in this scenario inflation reduces the debt servicing capacity of the loan holders as lenders adjust the lending interest rates to adjust their real return. So according to literature relationship between inflation and non-performing loans can be positive or negative depending on the economy of operations.

Unemployment

There is an empirical evidence of positive relationship between unemployment in the economy and non-performing loans (Nkusu, 2011, Vogiazas & Nikolaidou , 2011;

Bofondi and Ropele, 2011; Berge and Boye, 2007; Rinaldi and Sanchis-Arellano, 2006; Gambera, 2000). As far as theoretical explanation of this relationship is concerned an increase in the unemployment in the country negatively affects the incomes of the individuals which increases their debt burden, it is obvious when a person losses his source of income how he can return his loan, similarly an increased unemployment in the economy also negatively affects the demand of the products of firms which ultimately affects the production/sales of the firms, this ultimately leads to decline in revenues of the firms and a fragile debt conditions (Louzis, Vouldis and Metaxas, 2010).

Exchange Rate
As far as relationship of the exchange rate is concerned literature provides mixed reviews. According to Khemraj and Pasha (2009) there is a positive relationship between real effective exchange rate and non-performing loans. An appreciation in exchange rates may have different implications i.e. it can adversely affect the loan payment capacity of export oriented firms (Fofack, 2005) on the other hand it can positively affect the loan payment capacity of those borrowers who borrow in foreign currency, the relationship between nominal effective exchange rate (includes inflation) and non-performing loans is indeterminate. Macro and banking stability are closely linked, so that what happens in one affects the other. The evidence for most countries suggests that, except where the banks are state owned or heavily state controlled, instability generally starts in the macro economy and spills over into the banking sector. The resulting banking instability, in turn, feeds back and amplifies the macro instability. Thus, to enhance overall stability in the economy, it is necessary both to pursue successful contra cyclical macroeconomic policy and to reduce the fragility of banking relative to the magnitude of macro shocks that may be expected in the particular economy (Tandon Committee, 1998). Summing up, the existing empirical evidence shows, quite convincingly, that favorable macroeconomic conditions, such as sustained economic growth, low unemployment and interest rates, tend to be associated with a better quality of bank loans; under favorable economic circumstances, borrowers receive sufficient streams of income and meet their debt obligations more easily. Furthermore, these results are robust to different empirical methodologies and hold across countries.

4. Methodology and Empirical Data

Research is an academic activity and as such the term should be used in a technical sense. This paper is based on secondary data, information from World Bank, Bank of Albania, IFM, from different papers or reports, also from conference papers. These data are very important because they had help us to see how affect macroeconomic variables in non-performing loans.

To understand the reasons of the ongoing growth of the nonperforming loans in this paper will be use a regression model. In the model will be taken into consideration some macroeconomic and banking factors that have contributed to increase the nonperforming loans level and is used an econometric program Eviews7, and data from 2000 to 2013. In order to better understand the connection which exists between these variables is used a simple regression model. The hypothesis that is supported during the treatment of this subject is: the portfolio quality of nonperforming loans has increased as a result of macroeconomic and banking factors. The factors thought to be involved in model are: lending interest rate, unemployment, inflation rate, real exchange rate and growth in GDP. The dependent variable is non-performing loans and the independent variables are lending interest rate %, inflation rate %, real exchange rate, unemployment and growth in GDP. Bad loans are defined on a customer basis and therefore include all the outstanding credit extended by a bank to a borrower considered insolvent. All banks in Albania classify the borrowers by their obligations. This information administrated by the Bank of Albania and collects data on borrowers from their lending banks. In the case of a single bank relationship this definition coincides with that of bad loans, covering all the loans extended to the insolvent borrowers. Loans to borrowers with multiple bank relationships are all classified as ("adjusted") bad loans when: (i) the borrower is reported as insolvent by a bank that accounts for 70 per cent or more of the borrower's exposure to the banking system; (ii) the borrower is reported as insolvent by two or more banks that account for at least 10 per cent of its total exposure to the banking system. As indicators of the general state of the economy we will use the annual growth rate of real gross domestic product (GDP). The dynamic of GDP is related to households and firms capacity to meet their debt obligations. An increase in GDP generally reflects larger flows of income for households and higher profitability for firms. The connection between macroeconomic conditions and banks loan quality can also be justified on theoretical grounds. The stability of price is generally considered a prerequisite for sound economic growth. Also, high inflation passes through to nominal interest rates, making debt servicing more onerous. On the other hand, high inflation may help borrowers, whose debt is denominated in nominal terms, as it erodes the real value of debt. Rinaldi and Sanchis-Arellano (2006) find a positive relation between the inflation rate and non-performing loans, while Shu (2002) reports a negative relation. In this paper we take into account only some macroeconomic factors which have to explain the dependent variable of NPLs ratio. We use the Least Squares regression model to test the hypothesis and to realize the relations between the dependent variable and independent variables.

The following hypothesis will be tested:
H1. The GDP has a negative relationship with NPLs ratio;
H2. The inflation rate has a negative relationship with NPLs ratio;
H3. Lending Interest Rate has a positive relationship with NPLs ratio;
H4. Foreign exchange rate between Euro and ALL has a positive relationship with NPLs ratio;
H5. Unemployment has a positive relationship with NPLs ratio;
The dependent variable will be the NPLs ratio while as independent variables will be Inflation rate, GDP growth, unemployment, lending interest rate and exchange rate Euro/All. The general regression equation will be:
$LN\_NPLt = ß0 + ß1NPLt\text{-}4 + ß2LN\_GDPt + ß3LN\_INFt + ß4BIRt\text{-}4 + ß5FXCt + ß6UNt$
LN_NPLt the natural logarithm of the ratio between non performing loans to total loans
NPLt-4 non performing loans to total loans in time t-4;
LN_GDPt natural logarithm of GDP growth in % in time t;
LN_INFt natural logarithm of inflation rate in time t;
BIRt-4 base interest rate in time t-4;
FXCt foreign exchange rate between Euro and Albanian Lek in time t;

UNt unemployment in time t.

5. Data analysis and interpretation

According to the data analysis of the least squares estimation the results are presented in the table below.

Table 2. Regression results

Dependent Variable: LOG(NPL)
Method: Least Squares
Date: 07/30/14 Time: 23:36
Sample (adjusted): 2005 2013
Included observations: 9 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	16.53165	7.936400	2.083016	0.1286
NPL(-4)	-0.260581	0.065568	-3.974234	0.0285
LOG(GDP)	-3.031277	0.992864	-3.053063	0.0453
LOG(INFLATION)	-3.060680	1.220255	2.508231	0.0871
EURALL	0.207518	0.058087	3.573462	0.0217
INTEREST(-5)	0.147612	0.038465	3.837683	0.0467
UN	10.53071	5.897435	1.785643	0.9878

R-squared	0.964232	Mean dependent var	1.989413
Adjusted R-squared	0.904617	S.D. dependent var	0.822957
S.E. of regression	0.254163	Akaike info criterion	0.333036
Sum squared resid	0.193796	Schwarz criterion	0.464519
Log likelihood	4.501338	Hannan-Quinn criter.	0.049296
F-statistic	16.17454	Durbin-Watson stat	1.583788
Prob(F-statistic)	0.022234		

The regression analysis confirms that the coefficient of determination R-squared is equal to 96.42% and shows that the independent variables explain 96.42% of the variation of the NPLs in the Albanian banking system. The DW – statistic is equal to 1.5837 indicating that the residuals are not correlated. The model is significantly because F-statistic is 16.17 higher than 3.4. In the regression model NPL(-4) used as an independent variable is statistically significant at lag 4 under 95% level. According the results is noticed that NPLs ratio is negatively related to previous year result. The hypothesis number 1 is confirmed showing a negative relationship between the GDP growth and the NPLs ratio. This is uniform to international evidence of *Fernández de Lis, Martínez Pagés and Saurina (2000), Fofack (2005), Hess, Grimes and J. Holmes (2008)*. According the regression results beta is -3.0312 and is significant (0.045) at 95% percent. This means that an increase of the GDP will translate in a decrease of the NPLs ratio. The hypothesis number 2 is confirmed demonstrating a negative relationship between inflation and NPLs ratio. The beta coefficient is -3.0606 and is significant (0.087) at 90% level. An increase by 1% of inflation rate will determine a reduction of 3.0606% of the NPLs ratio In fact the finding supports the previous study conducted by *Khemraj and Pasha (2009) and Fofack (2005)*.

The hypothesis number 3 is not confirmed even if shows a positive relationship between the base interest rate of four quarters lag and NPLs ratio in time t. The beta coefficient 0.1476 and it is significant because the probability is lower than 5%. The positive relationship of the coefficient demonstrates that the growth of base interest rate will determine an increase NPLs ratio in the Albanian banking system. In fact the base interest rate serves as the main indicator of inter banking lending in Albania and this rate influences the other entire rate in economy.

The hypothesis number 4 is confirmed showing a positive relationship between foreign exchange rate Euro/ALL and the NPLs ratio. The results of the regression show a beta of 0.20752 and are highly significant (0.021) at 95% level. This result is very interesting taking into account that more than 50% of the granted loans in the Albanian banking system are in Euro currency. In this way the banks should be aware of this fact and take the right measures to reduce as much as they can the negative effects of an increase of EURALL of Euro/ALL.

The hypothesis number 5 is confirmed showing a positive relationship between unemployment and the NPLs ratio. The beta coefficient 10.5307 but it is not significant because the probability is higher than 5%. In fact the finding support the previous study conducted by Louzis, Vouldis and Metaxas, 2010.

6. Conclusions

Albanian Banking System has been a great progress from 1991 to 2013. In the last 9 years, total assets of the banking system has been a rate average annual increase of about 13.3%, indicating an expansion of activity. Despite the noises that the banking system has reduced the issuance of loans reality it has increased loans with an annual average rate of 25%. In the categories of loans higher weight busy with loan loss a current level of 12% of total loans. The macroeconomic situation in Albania is one of the main factors of accumulation new credit problems. Among the key factors determining the high level of non-performing loans in Albania were identified consequences of the economic crisis, slowdown in the sector construction, expansion of businesses unexplored overloaded with loans, the decline of remittances and the high level of unemployment. Measures to be taken to manage this critical situation of portfolio quality loans in the banking system are:
1. Reform is needed in the banking system. Should be managed structures responsible for approving loans.
2. Bank of Albania should provide training for loan officers.
3. Banks should be cautious in providing new loans.
Worldwide evidence shows that the determinants of loans that do not perform well divided into three main groups: macroeconomic factors, bank-specific factors and socio-economic factors. This paper analyses the relationship between the NPLs ratio and some

macroeconomic variable. From the regression analysis is noticed a positive relationship between the GDP growth and the NPLs ratio that is contrary to international evidence. In fact is expected that a GDP growth will lead to a reduction of the NPLs ratio because all subjects in one economy when getting higher incomes will be more capable to repay their debts and this will be translated into lower NPLs ratios. According to international evidence the inflation rate is negatively related with NPLs ratio even in the Albanian banking system. From the results we find a positive relationship between the lending interest rate of fifth lag and NPLs ratio in time t. The supervisory authorities should take into account this fact when determining their monetary policies to avoid the negative effects of NPLs ratio when they decide to increase the lending interest rate. An important finding of this paper consists in the positive relationship between foreign exchange rate Euro/ALL and the NPLs ratio. This is an essential fact taking into account that more than 50% of the granted loans in the Albanian banking system are in Euro currency. For this the borrowers will be almost always exposed to the foreign exchange rate of Euro/ALL and will lead to a higher NPLs ratio.

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