Bad credit and their impact on the lending economy

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A DISSERTATION

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in fulfillment of the requirements
for the degree of Doctor of Philosophy
in Finance

DECLARATION

I declare that this research report is my own, unaided work. It is being submitted in partial fulfilment of the requirements for the awarding of Doctor of Philosophy Degree in Finance at Selinus University, and no knowledge of similar paper been submitted before in any other academic institution.

GAZMEND NURE

Berlin, Germany 20-th July 2023

CERTIFICATE OF APPROVAL

We declare that this dissertation is from the student`s own work effort. Where he has used the other sources of information, it has been acknowledged. This dissertation is submitted with our approval.

Supervisor: ………………………………………………………………………….

Signature: …………………………………………………………………………

Date: ……………………………………………………………………………

DEDICATION

I dedicate my dissertation work to my family and many friends. And a special feeling of gratitude to my loving Kids , Anairda and Gedian whose words of encouragement were always ringing in my ears whenever I was doing my professional studies work. May I also dedicate this dissertation to my many friends and church family who have supported me throughout the school process and special mention Johannes John Müller and Bob Müller for moral encouragement. I also dedicate this work and give special thanks to my best friend Jakob Milku who was always by my side whenever I was doing school work at home.

Gazmend Nure

Bad credit and their impact on the lending economy !

Abstract

Lending to the Albanian economy provided other negative signs during the first three months of this year when bankers reported tightening credit conditions for both businesses and individuals. Meanwhile, the demand for credit has become noticeable. The main contributors to the tightening of credit standards for businesses are specific problems of the sector where the business operates, problem loans and some factors overall macroeconomic. Second-tier banks after 2007 were faced with the rise in the level of non-performing loans which experienced a progressive increase from 2007 to 2014. This paper analyzes the reasons for the increase in the level of non-performing loans in the Albanian banking system, especially after in 2007. In this paper, particular attention is paid to the correlation of the level of non-performing loans and to some macroeconomic and banking factors through the multiple linear regression, where non-performing loans are taken as a dependent variable and macroeconomic and banking factors as variables independent.

Keywords: The banking system, non-performing loans, credit risk, macroeconomic factors, banking factors.

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I. **Introduction**

Lending to the Albanian economy provided other negative signs during the first three months of this year, when bankers reported tightening credit conditions for both businesses and individuals. Meanwhile, the demand for credit has fallen sharply. Factors of major contribution to constraint of credit standards for businesses are the specific problems of the sector where the business operates, problem-solving situations and some general macroeconomic factors. Second-tier banks after 2007 saw a rise in the level of non-performing loans, which experienced a progressive increase from 2007 to 2014. This paper analyzes the reasons for the increase in the level of non-performing loans in the Albanian banking system, after 2007. In this paper special attention is paid to the relationship between the level of non-performing loans and some macroeconomic factors and bankers through a linear multiple regression, where problem loans are taken as dependent variables and macroeconomic and banking factors as independent variables. In these circumstances, a very important indicator of the financial risks of banks is the credit risk that many field researchers directly associate with the level of non-performing loans. In the Albanian banking system the level of problematic loans is at disturbing levels

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and according to December 2014 data, they reach   23.86% of the total credit balance. This high level has come as a result of a gradual increase, which has begun the last quarter of 2007 and continues to this day with these levels up. The high level of non-performing loans has made banks lower the number of new loans making the ratio between loans with problems and the total outstanding credit to grow. And they are reflecting a good reduction of lending to the country. It should also be said that the growth of this report comes not only as a consequence of the reduction in the loan portfolio growth but is also caused by the rapid growth rate of loans with problems.

II. **Purpose and objectives of the study**

The purpose of the study is to study the main reasons for increasing the level of credits with problems in the Albanian banking system. The study of the relationship between non-performing loans and some macroeconomic and banking factors enables the discovery of the mode and extent of the impact of them in determining the level of non-performing loans. On this basis, the paper aims at analyzing the effectiveness of the measures taken by the Albanian banking system and contributing to the determination of further steps to reduce the level of non-performing loans to this end, the econometric model analyzes the relationship between the level of

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non-performing loans and the main macroeconomic and banking factors in the Albanian banking system. By the econometric model is aimed verifying the links between the dependent variable that is the level of non-performing loans and variables which we will divide into two categories: macroeconomic variables and banking variables.

The objectives of this paper will be divided into two main directions:

> *1. Analysis of the literature related to the field of research on non-performing loans and credit risk assessment methods;*
>
> *2. Analysis of the current situation of the Albanian banking system in relation to lending and non-performing loans;*

Literature treatment has the following main objectives:

Literature analysis in the field of problem loans and factors influencing their definition: external (macroeconomic) factors and internal factors (banking) affecting the level of non-performing loans. Regarding the analysis of the current situation of the Albanian banking system and specifically the lending and non-performing loans, the objectives of the work are:

1. Analysis of the lending situation of the Albanian banking system by making a comparison between the two different periods (2007

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and 2014) and by identifying and analyzing: credit by currency, credit by subject and purpose as well as credit activity by branches of economy;

2. Analysis of non-performing loans in the Albanian banking system. Here will be analyzed the non-performing loans for a period of 10 years (2004 - 2014) by making a subdivision of the study period by 2004 - 2008 and 2009 - 2014. In this issue are also analyzed the main factors that have affected the level of loans with problems in detail.

3. Analysis of the relationship between non-performing loans and some variables and bankers with one side econometric models. Econometric results interpreted and compared with the results of other studies in this field in order to clarify the common and different elements of the Albanian banking system with the systems and other banking.

III. **Hypotheses of study**

This study is based on raising some of the hypotheses expected to be confirmed by the regression model to be used. In the study, the indicator of non-performing loans is a dependent variables, and as some independent variables are taken some macroeconomic factors

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and some banking factors. The macroeconomic factors that are being considered are: GDP growth rate, inflation rate, unemployment rate, credit interest rate and euro / lek exchange rate.The banking factors under consideration are: the level of banking capitalization, the level of credit growth, the ROE indicator, the credit / asset ratio and the intermediation margin.The zero hypothesis of our study will be: none of the macroeconomic and banking variables does affect the level of problem loans. The alternative hypothesis of our study will be: at least one of the macroeconomic and banking variables has an impact on the level of non-performing loans. Under the hypothesis of the study will focus on the relationship between non-performing loans and independent variables as follows:

H0,1. The growth of GDP does not affect the level of non-performing loans;
Ha, 1. GDP growth has an impact on the level of non-performing loans;

H0,2. The inflation rate does not affect the level of non-performing loans;
Ha, 2. The inflation rate has an impact on the level of non-performing loans;

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H0,3. The level of unemployment does not affect the level of non-performing loans;

Ha, 3. The level of unemployment has an impact on the level of non-performing loans;

H0,4. The interest rate does not affect the level of non-performing loans;

Ha, 4. The interest rate has an impact on the level of non-performing loans;

H0,5. The euro / lek exchange rate does not affect the level of non-performing loans;

Ha, 5. The euro / lek exchange rate has an impact on the level of non-performing loans;

H0,6. The level of banking capitalization does not affect the level of non-performing loans;

Ha, 6. The level of banking capitalization has an impact on the level of non-performing loans;

H0,7. The increase in the level of credit does not affect the level of non-performing loans;

Ha, 7. The increase in the level of credit has an impact on the level

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of non-performing loans;

H0,8. The ROE indicator does not affect the level of non-performing loans;
Ha, 8. The ROE indicator has an impact on the level of non-performing loans;

H0,9. Credit / assets ratio does not affect the level of non-performing loans;
 Ha, 9. Credit / assets reports have an impact on the level of non-performing loans;

H0,10. Mediation margin does not affect the level of non-performing loans.
H0,10. Mediation margin has an impact on the level of non-performing loans.

All of these hypotheses will be tested by the econometric model either for the sign of the connection expected to have the independent variable or their statistical significance.

IV. Methodology of study.

The methodology of work is the interweaving between quantitative

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methods and qualitative research methods. The paper is based on describing the various facts related to the problem of non-performing loans, by analyzing theoretically all the elements that affect them. In the paper, a special importance gets and data analysis which is being compared in different periods give a picture more clear of the phenomena that strive to explain. An overwhelming volume of work captures the information processed from international and national literature on the banking field, the annual reports of various banks and the annual reports of the Bank of Albania. In this paper, information is also obtained from the electronic libraries of various universities as well as international financial institutions. The data used to construct the econometric model in this study are for a period of 11 years and with a quarterly frequency. In total, we have 11 variables from which 1 variable is dependent while 10 others are considered as independent or explanatory variables.

V. Study Limitations

The main limitations noted in this paper are:

Difficulty finding information about non-performing loans and methods of measuring and assessing credit risk from second-tier banks. These relate mainly to the fact that they are confidential information and banks do not want to make them public.

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Chapter 1. ANALYSIS OF ECONOMIC CREDIT.

1.1 *Short overview*

The Albanian banking system is the most important sector of the financial system in Albania, accounting for about 85% of the financial system and implying the weak role of the capital market.

In 1992, only three state-owned banks operated in Albania, while in 2014 there were 16 private-owned banks operating in the Albanian banking system.In December 2014, banking system assets amounted to 87.9% of GDP, and from the banking market's viewpoint it is noted that the 5 largest banks have 67.8% of the loan portfolio and 74.4% of deposits. It should also be said that the sources of financing of the Albanian banking system come mainly from the deposit activity (82.3% of total banking sector liabilities). Within the totality of deposits, only 12% are of different businesses while household deposits have the overwhelming weight of the system (88%). The net financial result of the banking system has a positive performance in 2014 compared to 2013. This was due to the improvement in the price of securities held by banks in their portfolios, as well as a less positive impact of the banking system had extraordinary income mainly from the execution of collateral left by banks to guarantee the loans received. Regarding the capital

adequacy ratio second-tier banks appear to be at a good level with 16.2% at the end of 2014 compared to the regulatory minimum of 12%. The capital adequacy ratio of 16.2% means that the banking system in Albania is stable in relation to the level of capitalization.

1.2 *Banking lending system in Albania*

Developments in the global economy and especially the global economic crisis are exerting a negative impact on the Albanian market and are causing the credit market to shrink. In recent years, the credit growth in the Albanian banking system has slowed progressively from the fourth quarter of 2008 from + 5.02% to - 1.86% in the third quarter of 2014. According to the surveys conducted by the Bank of Albania, that at the tier-sized banks there are several reasons that have forced them to tighten the credit standards especially in these three years and especially in the small and medium-sized sector, but even in the sector of large enterprises.

a. This trend is related to the problems that characterize the sector where the enterprise develops. Currently, there are some sectors that are facing financial difficulties in recent years, such as the construction sector, processing industry and trade, vehicle repair and household items. These sectors represent the largest share of

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credit distribution by branches of the economy and necessarily have negatively impacted the growth of non-performing loans in the Albanian banking system.

b. The situation of non-performing loans throughout the banking system, which has begun to deteriorate, starting from the fourth quarter of 2008 and to the present day, at a level of 24.3%.

c. The overall macroeconomic situation, which in recent years despite a positive growth, could not support the upward trend in the level of loans.

1.2.1 *Lending activity by subjects 2007 - 2014*

The lending activity of the Albanian banking system in December 2014, depending on the type of credit subject in the majority (69.48%), relies on the private sector while the rest (26.15%) is related to household loans and only 4.36% of the loan was given to the public sector. According to the data presented in Table 3.1, the increase of 50.593% of public sector lending is compared with the same period of 2007. Credit for small business. and the secondary business has grown at 15.30% and 44.64% respectively. If we compare the credit structure by entities from 2007 to 2014, we see an increase in the share of the private sector from 62.83% to 69.48%, while at the same time we have a fall in the individual

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sector from 35.81% to 25.16% .According to the data obtained by the Albanian Association of banks and processed by the author, the average credit growth in our country's banking system from 2007 to 2014 was 14.18% yearly. During this period, the largest annual growth rate has been the public sector loan with 66.43%, while in relation to the private sector the largest average growth has had a big business with 27.55%, middle business with 8.48% and small business with 3.72 %. With respect to individual sector credit, an average growth of 7.24% was observed. Comparing 2013 to 2014, there is a decline in credit to medium-sized businesses, while lending to big business has increased. In fact, this is also related to lending policies of second tier banks, which in 2014 according to lending activity again result in tightened standards especially for lending of the small and medium business sector. Banks have tightened lending standards mainly in two respects: (a) increasing collateral demand relative to loan amount, and (b) expanding the average margin and risk-weighted loans. According to table 1.1, credit to large business has increased by 224.42% compared to the same period of 2007, pointing out that banks, despite the tightening standards used in recent years, still have confidence in the positive performance great business.

Table 1.1. Comparison of credit by subjects 2007 versus 2012 (ALL '000)

Subject	December 2007	In% to total	December 2014	In% to total	The difference in % 2007 – 2014
Public sector	3,915,3 30	1,36	23,724,319	4.36%	50,60%
Small business	56,768,313	19.75	65,454,847	12.03%	15.30%
Secondary business	49,645,634	17.27	71,808,067	13.20%	44.64%
Huge business	74,196,683	25.81	240,711,847	44.25%	22.42%
Individuals	102,929,856	35.81	142,270,815	26.15%	38.22%
Total	102,929,856	100.	543,969,896	100.00%	89.19%

Source: Albanian Banking Association, Monthly Bulletin December 2007, December 2012, adapted by the author.

Individuals received 26.15% of total banking system loan and change since 2007 in year 2012 is an increase of 38.22% at a time, according to the Bank of Albania, standards applied to lending to individuals have been tightened over the years last as for the loan purchase as well as for consumer credit as a consequence of the financial situation individuals, problem loans and the real estate market. An important fact of the credit sector in the Albanian

banking system related to the currency in which the loan is granted. According to data published by the Bank of Albania evidenced that 55.3% of loans are in foreign currency and from 97.6% to Euro while the remaining 2.4% is in USD. This fact is disturbing because many businesses but also individuals "forced" to be credited to the Euro foreign currency are also facing the risk of exchange rate.

1.2.2 *Lending activity by subject and purpose of use 2007 - 2014*

The analysis of the lending activity by subject and purpose of use shows that in the lending to businesses, the largest part belongs to the overdraft, which accounts for 22.04% of the total loan. The overdraft allocated to businesses during 2014 has increased by 14.781% compared to the same period of 2007.It is also noted that, in some cases, businesses as a result of financial difficulties find the fastest solution to the growth of overdraft limits, which are often used for financing medium-term or even worse-long-term investments. This testifies to businesses' difficulty in matching deadlines of funding funds with the timing of investment projects. In the second place in the business sector we find real estate investments that account for 21.03% of total credit and at the same time have increased by 20.145% compared to the end of 2007. This increase shows that businesses have seen more reasonable to invest in real estate considering the difficult economic situation that our

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country is going through. In the third and fourth place we find the loan for investments in equipment purchase and the working capital loan with respectively 16.33% and 14.44%. If we look at the change from 2007 to 2014 we note that the working capital loan has increased by 10.653%, while the loan for investments in equipment purchase has increased by 47.97%. According to these data, we can understand that businesses have been more in need of investment in working capital and are reluctant to make investments in equipment purchases. In the analysis of lending activity accorded to households, the largest share of real estate loans is 18.54% of the total loan, while the change from 2007 to 2014 is 53.08%. This increase points to once again that banks are interested in these types of loans, as they are fully collateralized and the risk of default is thought to be relatively low. Then in the second and third place we find the consumer credit for non-durable goods and the consumer credit for durable goods respectively 3.18% and 1.60% respectively. Consumer credit for non-durable goods has increased steadily from 2007 to 2014 with 720.30%, while consumer credit for durable goods declined by -55.68%. Individuals in recent years have lowered the demand for consumer durable goods loans, also due to the difficult economic situation of Albanian households. In the fourth and fifth place in the category of individual loans, we find overdraft and credit for exercise activity with 1.58% and 1.25%

respectively on the total credit. Interestingly, on the one hand there is an increase of 87.88% of the credit in the form of overdraft while on the other hand there is a decrease of -37.53% of the credit for the exercise activity. From here we can understand that individuals have increased the need for short-term funds while having a reluctance to take credit for exercise activity as a result of the difficult economic situation and the pessimistic situation that is created even by the economic crisis that is passing our countries neighbors like Greece and Italy.

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Table 1.2. Comparison of loans by sector and purpose of use 2007 vs 2014 (000 ALL)

Subject	December 2007	Weight in%	December 2014	Weight in%
Credit in total	**287,455,81**	**100.00%**	**543,969,895**	**100.00%**
Business loans	**184,408,894**	**64.15%**	**401,699,080**	**73.85%**
Overdraft	48,381,967	16.83%	119,893,522	22.04%
Working capital	38,027,711	13.23%	78,537,296	14.44%
Investment in purchase Equipment	60,042,548	20.89%	88,847,309	16.33%
investment for wealth Real	37,956,668	13.20%	114,420,954	21.03%
Individuals credits	**103,046,923**	**35.85%**	**142,270,815**	**26.15%**
Overdraft	4,577,598	1.59%	8,600,508	1.58%
Consumption of goods not to Sustainable	2,111,980	0.73%	17,324,604	3.18%
Consumption of goods Sustainable	19,587,668	6.81%	8,681,877	1.60%
For real estate	65,890,459	22.92%	100,867,687	18.54%
For development Activity	10,879,218	3.78%	6,796,139	1.25%

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1.2.3 *Credit activity by branches of economy.*

The structure of loans by sectors of the economy at the end of 2014 shows a lot of changes compared to 2008. In the first row from Table 1.3 we see that there is a 13.19% increase in the share of credit to the business, and at the same time we have one a decrease in the share of credit extended to individuals by -27%. Credit by economic sectors at the end of 2014 has a high concentration in some sectors, such as processing, construction and trade, repair of vehicles and household items, which together have a weight equal to 47.7% of total credit economy in the Albanian banking system. This means that even the risk of banks' concentration in these sectors is very high compared to other sectors of the economy, all of which together account for 25.8% of the total credit accorded to the economy. From Table 1.3 we note that four sectors of the economy have experienced a decrease in the share of credit from 2008 to 2014 and are: extractive industry, processing industry, construction, hotels and restaurants, while other economic sectors have increased where for Of importance is the production, distribution of electricity, gas and water (115%), trade, vehicle and household goods (21%). It is also noteworthy that as a result of the crisis in the construction sector there is a decrease of -13% of the weight of credit granted to this sector, which until several years had significantly increased. Among the non-performing sectors in loan

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repayment from table 1.3, it has been noted that the business sector grew by 25.6% from 2008 to 2014. This increase was due to the combination of loan portfolio quality by sectors of economy with the weight of each sector at the system level, where within the business sector, the highest level of non-performing loans has the sector "Trade, repair of vehicles and household goods", followed by "Processing industry" and "Construction".If we analyze these three sectors, we note that they have a higher loan level (29.55%) than all businesses taken together (17.99%) and the rise in the level of non-performing loans during 2014 shows the financial afflictions facing these vital sectors of our country's economy. Another phenomenon is the fact that non-performing loans to credit surplus are higher in the business sector (25.3%) than in individual loans (17.7%), pointing to another major difficulties that are going on business in our country the last few years. According to table 1.3 of the analysis of non-performing loans in the private sector, we see a 21% increase from 2008 to 2014. Understandably this increase was not immediate, but has gradually come to show that the individual sector is in great financial difficulties, which was also dictated by the negative effects of the global financial crisis of recent years.

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Table 1.3 Comparison of loans by economic sectors 2008 versus 2014

Description	December 2008	December 2014	Change weight in%	Loans outstanding // Loan outstanding December 2008	Loans outstanding // Loan outstanding December 2014	Change weight in%
Businesses	65.2	73.8	13.19%	7,1	25,3	256,00%
Agriculture, hunting	0,7	1	43%	5	24,5	365%
Fishing	0,1	0,2	100%	11,6	7,8	-40%
Extracting industry	1,8	1,5	-23%	4,5	13,8	215%
Manufacturing industry	12	11,8	-5%	7,4	26,5	290%
Production, distribution of electricity, gas and water	5	8,6	115%	2,3	13,4	414%
Building	11	10,8	-5%	7,2	27,6	285%
Business, repair vehicles and i household items	4	8,6	115%	2,2	11,3	414
Hotels and restaurants	13,5	11,5	-13%	7,6	32,3	423%
Transportation, storage and storage telecommunications	2,1	25,4	21%	9,6	32,4	189%
Monetary and financial intermediation financial	3,4	3,2	-6%	6,5	45,5	574%
Assets of estate, renting	1,5	2,3	40%	7,5	22,3	199%
Public administration	3,2	4,5	35%	11,2	12,3	201%
Education	6,7	5,4	54%	15,3	4,7	179%
Health and Fitness social activities	2,1	2,3	33%	17,3	9,8	234%
Services collective, social and individual	4,5	2,3	23%	7,5	2,3	201%
Others	2,6	4	12%	3,9	1,1	130%
Individuals	1,6	7	34%	3,3	2,9	324%

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1.2.4 *Classification of loans and reserve funds for lost credits in the Albanian banking system*

Based on the Regulation "On Credit Risk Management" and Law No. 8269, dated 23.12.1997 "On the Bank of Albania", as amended, and Articles 57, 58, 61 and 68 of Law no. 9662, dated 18.12.2006 "On Banks in the Republic of Albania", the credit rating for banks and branches of foreign banks, licensed by the Bank of Albania to carry out banking and / or financial activity in the Republic of Albania, will become at least once every 3 months, in one of the following categories based on the daily repayment of the loan and the borrower's financial status:

1. *Standard loans;*
2. *pursuit credit;*
3. *Substandard credit;*
4. *doubtful loans;*
5. *Missed credits*.

Loans are "standard" when the principal or interest has not been paid for a period of 1 to 30 days from the date of installment payment. Loans are valued in the "pursuit" category when the principal or interest has not been paid for a period of 31 to 90 days from the date of payment of the installment. Substantives are those

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loans for which the principal or interest has not been paid for a period of 91 to 180 days from the date of payment of the installment. Doubtful when the principal or interest has not been paid for a period of 181 to 365 days from the date of installment payment. Lost when the principal or interest has not been paid for a period of more than 365 days from the date of payment of the installment. The ongoing process of credit review and classification allows banks to monitor the quality of loan portfolios and, where necessary, take corrective actions to counteract the deteriorating credit quality of their portfolios. In the Albanian banking system, banks evaluate and classify borrowers on the basis of their financial situation. This assessment is carried out in accordance with the internal criteria set by the banks, and by making a breakdown of borrowers according to the risk categories they represent. In assessing the financial situation of borrowers, banks are based on both qualitative and quantitative factors. In the qualitative factors used to estimate the borrower's financial condition we can mention:

The status of the borrower, his personal and economic characteristics;
Quality management, especially when dealing with legal entities.

The quantitative factors used to estimate borrower financial status are:

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1. The quality of shareholders, plans and programs supported by the bank;

2. The level of capital and reserves of the borrower;

3. The quality of the borrower's assets;

4. The size of the debt and the ability to serve as well as the history of confrontation with the bank;

5. Liquidity and profitability;

6. Cash flows from the previous periods and expected cash flows compared with the borrower's obligations;

7. Business conditions and future forecasts for the borrower as well as the position of the borrower in the market and in the industry where he performs the activity;

8. Exposure of the borrower to exchange rate risk.

To assess the borrower's financial situation, banks rely mainly on this documentation:

a. Balance sheet (statement of assets and liabilities and off-balance sheet items);

b. Profit-loss account;

c. Verification of the salary for individuals, as well as their statement of income and expenses, documented on material incomes and expenditures;

d. Statement of liabilities for loans and interest payable;

e. Statement of Changes in Equity;

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f. Cash flow statement;

g. Accountant's report on the financial situation of the borrower;

h. Evaluation agency reports.

Banks are obliged, depending on the credit rating categories, to create appropriate funds to cover possible loan losses.Current rates for the calculation of provisions are:

For standard loans 1%;

For Loans in pursuit 5%;

For sub-standard loans not less than 20%;
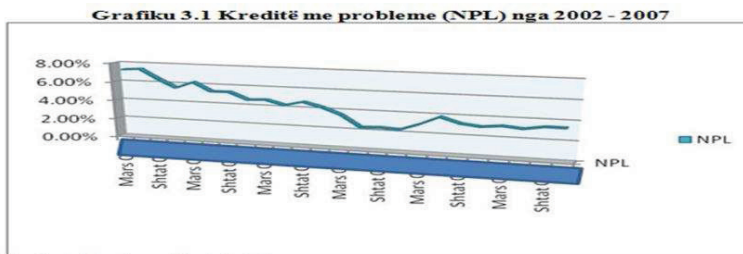
For doubtful loans not less than 50%;

For lost 100% loans.

The standard for the calculation of provisions for covering the losses from standard loans and for the credits pursued applies equally to both principal and interest rate, while for non-performing loans the applied rate on interest and principal will be 100% for each category.On the other hand, banks are given the option to use credit risk mitigation techniques to calculate loan loss coverage provisions. Credit risk mitigation in order to calculate reserve funds to cover loan losses can be made through guarantees and financial collateral.

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1.3 *Non-performing loans in the Albanian banking system*
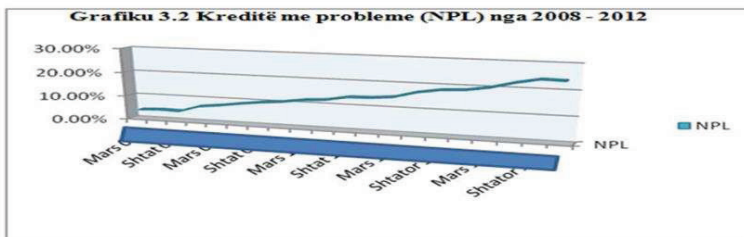
The definition of non-performing loans varies widely in different countries and a comparison of them needs to be done very carefully. However, according to the most used definition in literature and practice, a loan is assessed as a non-performing loan when the borrower is unable to settle the obligations to the bank or when it delays the loan repayment delay for more than 90 days from the deadlineAlso, according to the International Finance Institute for the approximation of non-performing loans between different countries for reporting purposes to central banks, five categories of credits are used: standard, pursuit, sub-standard, suspicious and lost. In most countries, as in our country, non-performing loans are rated only in the last 3 categories. The transition from the centralized economy to the market economy was unprepared as the fragile Albanian economy and the Albanian financial system in the early 1990s. In particular, the Albanian banking system experienced major difficulties in managing non-performing loans, which increased dramatically from 12.5% in 1993 to 58.9% in 1998. It is now known that the main reasons for increasing the level of non-performing loans related to the lack of skills in credit assessment and the profitable management of state banks' loans.In 1999 about 82% of the National Commercial Bank's loan and 85% of Savings

Bank loans were unpaid. Even banks with joint venture capital or private equity had problems in repaying timely loans from their customers. However, although banks with joint venture capital and private equity better manage lending risks compared to state-owned banks, we can say that, in most cases, non-performing loans came as a result of obtaining a higher risk from banks with joint venture capital and private equity. A key factor contributing to the increase of non-performing loans during this period was the lack of necessary banking staff experience, who sometimes intentionally or unintentionally negatively affected the accumulation of non-performing loans in the Albanian banking system.

Grafiku 3.1

Grafiku 3.1 Kreditë me probleme (NPL) nga 2002 - 2007

Burimi: Banka e Shqipërisë

Grafiku 3.2 Kreditë me probleme (NPL) nga 2008 - 2012

Burimi: Banka e Shqipërisë,

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As a consequence of an administrative decision taken in 2001 to pass the problematic loans of the Savings Bank to the Credit Treatment Agency, their very high fall from 45.7% at the end of 2000 to 6.9% % at the end of 2001. As a consequence of this decision, the difficult situation with regard to non-performing loans changed immediately, reducing them to controllable levels of the banking system. According to data published by the Bank of Albania, non-performing loans at the end of 2002 accounted for only 5.6% of the total outstanding credit. If we analyze the level of non-performing loans in the Albanian banking system and divide the study period from 2002 to 2012 in two subperiods, specifically 2002-2007 and 2008 - 2014, there are some interesting facts. First, by analyzing quarterly data for the first sub-period, it can be seen that the average non-performing loan rate in the Albanian banking system was 4.29%. While for the second subperiod (the first quarter of 2008 to the fourth quarter of 2014), the average non-performing loans ratio was 13.13%. Graph 3.1 shows that non-performing loans represent an almost constant trend over the period 2002-2007, with the highest point reached in the second quarter of 2002 with 7.42% and the minimum point reached in the fourth quarter of 2005 with 2.33%. This period was accompanied by favorable macroeconomic conditions for the Albanian banking system, considering that during this period GDP has an average quarterly

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growth of 4.35%. Whereas the Albanian banking system has had the highest average credit growth rate, which marks a quarterly rate of 10.50%. The low level of non-performing loans in this period is also related to the fact that the banking system's total credit grew at very rapid rates. Consequently, new loans enabled the concealment of credit problems. According to Graph 3.2 we see that the level of non-performing loans in the Albanian banking system was an immediate jump from 3.33%, which was the previous quarter to 3.92% in the first quarter of 2008 to continue with a progressive increase, leading to December 2014 (fourth quarter) to the highest level of 23.86%. This trend certainly has had its impact on the relationship between the level of non-performing loans and the growth rates of credit. It is noteworthy that during 2008 - 2014, the pace of non-performing loans has been higher than the rate of increase of credit balance of the banking system, and non-performing loans to the total outstanding credit of the banking system reach the value of their highest in the fourth quarter of 2012 with 23.89%. This has been the case that in the Albanian banking system, almost every one of the four loans has been problematic and with delays in repayment of principal and interest of more than 90 days.Another part of the loan is related to its classification categories set by the Bank of Albania, which is presented in the table below (table 3.4). Compared to standard loans from the fourth

quarter of 2012 to the fourth quarter of 2014, the decline of the specific weight of quality loans is observed with 12.40%. So, in 2014, only 69.2% of loans represent delays of up to 30 days, while the remaining 30.8% of the loans have greater delays in their repayment.

Table 3.4 Different classes versus total loan surplus (in%)

Credit Rating	2012				2013				2014			
	T 1	T 2	T 3	T 4	T 1	T 2	T 3	T 4	T 1	T 2	T 3	T 4
Standard	80.8	81.2	78.7	79.0	73.8	73.1	73.2	73.8	72.0	71.2	69.4	69.2
In pursuit	7.6	6.6	7.5	7.0	11.5	9.9	8.5	7.4	7.9	7.7	7.9	8.3
Substandard	5.4	5.4	5.9	6.2	5.9	8.0	8.9	9.3	10.1	9.6	10.3	9.7
Suspicious	3.0	3.2	3.9	3.7	4.2	4.0	4.2	3.9	4.1	4.9	5.4	5.2
Lost	3.3	3.7	4.0	4.1	4.6	5.0	5.2	5.6	6.0	6.6	7.1	7.6

Source: Bank of Albania,

The second category of qualitative loans has increased by 18.57% from the fourth quarter of 2012 to the fourth quarter of 2014, indicating that overdue 31-90 days maturity loans weigh more, with settlement problems such as for businesses and for individuals. At the same time, if we compare the fourth quarter of 2012 with the fourth quarter of 2014 according to Table 3.4, the problem of the

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non-performing loans portfolio is evidenced by the increase in the weight for the three classes, but the largest increase is evidenced by the weight of classified loans substandard and lost respectively by 56.45% and 85.36%. If we analyze the problem loans broken down by entity type from the 3 months of 2005 to the third quarter of 2014 we see a progressive increase in non-performing loans for both businesses and individuals.

However, it should be noted that non-performing loans to businesses have increased at faster rates than non-performing loans by individuals, showing that businesses have faced greater difficulties in repaying loans than individuals. At the end of 2014, the non-performing business loans ratio is at 25.3%, while for individuals this indicator reaches the level of 17.7%.

Chapter 2. LITERATURE REVIEW ON CREDIT WITH PROBLEMS

2.1 Theoretical treatment of factors affecting the level of non-performing loans

In the last decade, non-performing loans have had a great deal of attention almost all over the world as their large and uncontrolled growth would lead to the bankruptcy of the banking system as a whole. It should also be noted that many scholars show that the bankruptcy of banks is the asset quality, which is an important predictor of banks' insolvency as well as financial institutions. Banks that are on the verge of bankruptcy have very high levels of bad loans just before the bankruptcy announcement.According to studies conducted on non-performing loans, various analysts have tried to correlate the level of non-performing loans directly to two categories of factors: (1) macroeconomic factors and (2) banking or banking specific factors. There is much discussion of whether non-performing loans are one of the main causes of economic stagnation problems and that any non-performing loans are seen as a reflection of failed entrepreneurship. Keeton and Morris (1987) have conducted a study on 2,470 banks in the US to understand the reason for changing the level of loan losses from one bank to another. According to them, some banks have high losses as a result of coincidence, some of which is poor management of the lending

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process and others have been able to create well-diversified portfolios that have allowed banks to ease lending standards and maintain a total low risk. Another explanation for high credit losses is the occurrence of banks in areas with bad economic conditions. But even specialization in a particular lending category may increase the probability of losing the loan. For example, credit within the category may have a higher probability of failure than loans in other categories or investing heavily in a bank category reduces the degree of diversification of the portfolio as a whole.

The large change in the level of credit losses between different markets suggests that banks would be less vulnerable to the fate of individual areas or industries if they were to provide loans in a wider geographic area. The results of this study suggest policymakers promote greater diversification to curb excessive risk.Boudriga, Taktak, and Defi (1997) consider a panel of 59 states for the period 2002-2006 in order to determine the factors affecting non-performing loans, the potential impact of overdraft facilities and the institutional environment on exposure to risk loan. The empirical results of this study show that a high level of capitalization, a prudent provision policy, concentration in the banking industry and the presence of foreign capital are the main factors that reduce the level of non-performing loans. At the same time, it is noticed that state participation in banks increases the

level of problem loans. According to the study, banks with a capitalization level (CAR) less than the regulatory minimum are obliged to adjust balances to comply with regulatory requirements or to increase capital or reduce risk-weighted assets.The main results of this search give some basic suggestions:

a. Higher levels of banking capitalization (CAR) result in lower credit exposure levels;

b. More developed financial systems represent improved stability compared to less developed or developing countries;

c. Private ownership and foreign capital participation provide more healthy financial systems in less developed economies, while in developed countries foreign capital brings greater credit problems;

d. In order to reduce the degree of credit risk faced in poorly performing countries, the most effective way is to improve the legal system, strengthen institutions and increase the level of transposition and democratization.

In his study, Keeton (1999) seeks to understand the relationship between increasing the level of credit and increasing the level of non-performing loans in several states of America. Taking into account a relatively long period (1982 - 1996), the author concludes that the rapid growth of loans leads to high losses due to the shift of supply, ie the increased desire of the banks to credit.

When this shift occurs, banks usually seek to increase lending in two ways:

- *The interest rate on new loans fell;*

- *Facilitate lending conditions for new loans (eg lowering the level of collateral, accepting borrowers with poor credit history etc.).*

The author also notes that the "incubation" period for the emergence of non-performing loans due to the rapid growth of the loan is 3 years. According to this study, an increase in business loans tends to lead to an increase in the non-performing loan rate despite the need for some time for non-performing loans to emerging because the first effect of a credit-level rise would be a decline in the rate of non-performing loans. non-performing loans in relation to the total of loans. These authors identify these key factors affecting the level of non-performing loans:

First, the composition of the loan portfolio plays an important role as an indicator of the banking risk profile;

Secondly, inefficient banks which carry out a poor review and

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pursuit of creditors will have a lower portfolio quality;

Thirdly, generally, the competitive environment in which banks operate may affect the level of credit risk the bank wants to take over. The cost of problem loans is important for taxpayers and depositors in many countries and especially in those countries that faced the payment crisis and fiscal deficits. The increase in non-performing loans led to the deterioration of banking assets and the eradication of their capital. In the short run, many banks with liquidity problems resorted to short-term financing in the form of interbank loans, but the high cost of these debts further aggravated the banking crisis. Hess, Grimes and J. Holmes (2008) analyze the defining factors of credit losses and examine data from 32 Australian banks for a period ranging from 1980 to 2005. In this study, the authors assume as a dependent variable the ratio between the costs of depreciated assets on total loans. Independent variables are categorized into two classes:

a. Macroeconomic factors which include: real GDP growth, unemployment rate, stock index, house price index and inflation rate;

b. Banking factors: the market share of the credit system, the net interest margin, the growth rate of assets, the cost/income ratio, the

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profit before tax and provisions as a percentage of total assets.

According to the analysis of regression, the authors show that the growth of GDP and the unemployment rate change have the predicted effects on the dependent variables but with one year of delay. The stock index and the home price index have negative coefficients and the stock index has much greater explanatory power than the house price index. The inflation growth coefficient has a positive sign in relation to lost Lending Expenses but which is of limited importance. Bank size and earnings and tax earnings (EBIP) coefficients are positive and important for the entire sample being reviewed. While cost/income ratio coefficients and net interest margin are negative, but with some years of delay. Asset growth rate coefficients are affected by delays considered, simultaneous growth has negative coefficients, while for periods overdue over 2 years the coefficients have the expected undesirable positive effects, where with the growth of assets we also have the increase in loan losses. Shijaku and Ceca (2009) address the credit risk in the Albanian banking system, which they identify with the level of non-performing loans. According to this study, the stress test methodology for credit risk at the Bank of Albania is based on stressing directly the increase of non-performing loans to the banking system and measuring the effect on capital adequacy. According to the statistical analysis, the dependent variable is the

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non-performing loan rate as independent variables include: the level of economic growth, the foreign exchange interest rate changes (Euribor and Libor), the domestic interest rate, the ALL / EUR and ALL / USD and finally the inflation rate. Regression coefficients have the expected signs and GDP growth although small is important. Other significant statistical variables were the Libor interest rate and the ALL / USD exchange rate, the Euribor interest rate, and the ALL / EUR exchange rate. Under the dependent variable analysis is the NPL ratio and as independent variable are taken:

1. *Annual Gross Domestic Product (GDP) Growth;*

2. *The real interest rate measured as the difference between the weighted average credit rate and inflation;*

3. *Annual inflation rate;*

4. *Effective real exchange rate;*

5. *Ratio between total credit and total assets;*

6. *Bank size as a ratio of total assets of the bank and total assets of the entire banking system;*

7. *Growth of bank credit level i.*

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The analysis notes that there is a fair link between the loan / asset ratio and the non-performing loans, suggesting that banks with a high risk of carrying risk have encountered higher levels of non-performing loans. Growth in the level of credit, inflation rate and GDP growth have an adverse correlation to the level of non-performing loans. The real interest rate and the real effective exchange rate are related to the problem of non-performing loans. Biabani, Gilaninia and Mohabatkhah (2012) consider data from the 2006-2011 banking system and try to estimate the effective factors affecting the level of non-performing loans. According to an analysis by the SPSS program, where as dependent variable is taken the level of problem loans and as independent variables will be taken: loan collateral, the duration of the paid installment payment period, account control, the same bank and the credit history of the client, the authors examine the different links between the dependent variables and the independent variables. The results of the study show that all hypotheses except one are verified, and that means that among independent variables only that of a deposit possesses no significant link in the creation of problem loans.

2.1.1 *Summary of non-performing loans*

At the end of the review of the literature on the factors affecting the level of non-performing loans we can say that there are many

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studies from different authors around the world on this issue. Despite the fact that authors have found different ways to address the level of problem-solving creditworthiness depending on the macroeconomic and banking variables, the results achieved by their studies tend to converge on the presence of these key links:

- *Oblique relation between GDP growth and the level of non-performing loans;*

- *Oblique relation between the inflation rate and the level of non-performing loans;*

- *a fair link between the level of unemployment and the level of non-performing loans;*

- *a fair link between the interest rate and the level of non-performing loans;*

- *a fair link between the level of credit growth and the level of non-performing loans;*

- *Oblique relation between the level of banking capitalization and the level of non-performing loans;*
- *the right link between the effective exchange rate and the level of non-performing loans.*

- *Oblique relation between ROE and the level of non-performing loans;*

- *the fair link between the loan / asset ratio and the level of non-performing loans;*

- *the fair link between the intermediation margin and the level of non-performing loans.*

Based on the hypotheses discussed in the table below we have aimed at building an econometric regression model that will test their validity or the opposite. At the same time, it is studied and the way independent variables are linked to each other to understand how they interact in different situations.

Table 1.1. Macroeconomic and banking factors affecting the level of non-performing loans

Macroeconomic factors	Expected sign of regression coefficient
PBB	Negative
Inflation Level	Negative
Unemployment rate	Pozitive
Interes rate	Pozitive
Effective exchange rate	Pozitive
Banking factors	
Increasing the level of credit	Pozitive
The level of banking capitalization (CAR)	Negative
Brochure of mediation	Pozitive
ROE	Negative
Credit / assets ratio	Pozitive

2.2 *Measures taken by the Bank of Albania and second-tier banks to reduce non-performing loans to the Albanian banking system*

The Bank of Albania has consistently tried to reduce the share of non-performing loans. Decisions taken up to 2008 were driven by control over credit enhancement and lending-related risks. Nowadays we are in a very different situation. The decisions of the second tier banks were affected by the market or the decisions of the banks of the countries of origin, and as a consequence, the banks revised their business plans which led to the reduction of their lending activity. Until 2008 we say that the high credit growth was associated with the decline in lending levels immediately after the global financial crisis began. Looking at this situation, some measures were taken to keep the banking system from the effects of the global financial crisis such as:

Reduce the exposure limit to parent bank investments;

Termination of bank profit distribution for 2008 and 2009;

Proposal to increase the level of deposit insurance approved by the Albanian Parliament;

Presentation of the new regulation on liquidity risk management with a minimum indicator of 20%, which then increased to 25%.

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Despite the Bank of Albania's interventions, the level of non-performing loans remained high. Under these conditions, the Bank of Albania in March 2013 proposed banks a new package of anti-crisis measures, which was expected to revive lending to the economy and lower the level of problem loans. The adoption of this package seems to have not provided the expected effects until March 2014, as not only do we not have an improvement in the revival of banking lending, but we have a decline. Under the legal column enter into force some amendments to the Civil Procedure Code and the Civil Code, which are expected to facilitate the execution of bank collateral by avoiding unnecessary procedural prolongations. Improvements in the legal framework and the practice of collateral execution are expected to create new spaces for boosting lending in our country.

Under the monetary policy, the column is meant the easing policy of the BoA, which in recent years has carried out 9 consecutive key interest rates, bringing it to the lowest level of 2.75%. According to the prudential column, it is expected that the impact will be direct and very fast on the revitalization of credit by the banking system. Measures of regulatory change enable:

a. Reduction of liquidity requirements for banks;

b. Change of risk coefficients.

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The Bank of Albania has repeatedly encouraged second-tier banks to carry out the necessary restructuring to facilitate temporary-loan borrowers. But that requires for banks to be able to distinguish qualitative borrowers (with temporary difficulties) from non-qualifying borrowers (with no recuperation). According to this logic, banks should play the role of advisors with different borrowing businesses, but also the latter should take an active role in identifying timely difficulties, interacting with banks to find the most appropriate and costly solutions more shorter. To facilitate this necessary interaction between banks and borrowers, the Bank of Albania has designed two guidelines on the issue of individual and business loan restructuring. Despite the Bank of Albania interventions, second tier banks have taken their individual measures to curb non-performing loans. Already every bank has created experience in the field of problem loans and have tried to provide the best solutions in their own way. For example, ProCredit Bank currently continues to lend business and focuses on important sectors, which affect economic growth and improve financial indicators. ProCredit's currently focussed sectors are: production, agriculture, tourism and trade. At the same time, financial monitoring of clients affected by sectoral difficulties continues, aiming to prevent problems in the upcoming periods. ProCredit Bank also focuses on the serious pursuit of any client who

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experiences problems in making payments, aiming at finding a long-term solution that is most appropriate for both parties.

2.3 *Perspectives on the management of non-performing loans in the Albanian banking system*

If the problem-free situation is not solved in our country, this will deepen the severity and duration of the financial crisis and complicate the management of the macroeconomic situation. At the same time, non-performing loans affect the shrinking of financial resources and hamper the resource allocation process, thus prolonging the economic stagnation associated with the financial crisis. Also, non-performing loans may hinder the improvement of the economy by weakening the financial system. For this reason it becomes mandatory to implement effective non-performing loan management policies. These policies should be designed to curb the growth of non-performing loans and their solving, and should be an integral part of the stabilization of the financial crisis. Non-performing loans management is mainly related to the issue of vertical integration of a work unit within the bank. Banks have several options regarding the management of non-performing loans such as:

Creation inside a bank of a restructuring department, which should perform the self-management of non-performing loans. For this

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reason knowledge and expertise of human capital is required;

Purchase by the bank of necessary skills for management problem loans. A version of this structure is the creation of a "joint venture" in which the bank acquires or cooperates on the most important skills, experience and capabilities for managing non-performing loans;

The sale of the entire portfolio, which is transferred to investors who are mainly different funds or investment banks. This version emphasizes the transfer of non-performing loans to an external entity and the sale of the loan portfolio to a bad bank. Deletion of non-performing loans from the balance sheet of banks. In fact, this is a very bureaucratic process as some basic conditions for its realization need to be met: credit classification in the "lost" category as well as the completion and completion of the legal process for the execution of the collateral. In the Albanian banking system currently second-tier banks have preferred for the first and third option. While the other options mentioned above seem to have so far not found application in the banking system of our country. It should be noted that in the current situation where the Albanian banking system is located, depreciation of credit from the balance sheet may be a powerful alternative of second tier banks to emerge from the difficult situation of non-performing loans accumulation:

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If banks decide to erase their loans from balances they may face three different scenarios:

1. The bank deletes the loan lost from its books before executing the collateral. This process would have no positive effect on the bank's indicators. The loan and the corresponding provision funds are excluded from the balance sheet without any changes in the value of the asset because the loan lost by the Bank of Albania is 100%. This scenario has no effect on the capital adequacy ratio because regulatory capital is reduced by the increase in losses or the decrease in profit, while the loan is weighted at its net worth;

2. The bank is able to execute collateral linked to the loan by transferring it to a bank asset. This process affects two ways: first the asset balance increases with the value of collateral executed and increases the value of risk-weighted assets and secondly, we have the improvement of the financial result according to the collateral value that is recorded in the income statement an income. In this scenario, the capital adequacy ratio will improve when collateralised income is higher than the provision expense;

3. The Bank executes and realizes the monetary value of the collateral related to the lost credit through auctions organized by the

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bailiff's offices. Here we have the reduction of risk-weighted assets because the money is weighted by 0%, and at the same time the increase in the capital adequacy ratio. This process of returning cash collateral also improves the bank's liquidity position. This scenario, despite being more efficient for banks, has many practical difficulties as the lack of liquidity facing the economy of our country today is limiting transactional transactions.Another alternative to solving the difficult situation that the Albanian banking system is going through regarding non-performing loans may be the creation of an exclusive management company. The main purpose of the company for the management of non-performing loans (SHMKP) would be the compulsory purchase of those loans that meet certain conditions. The MNBP should be state owned and at the same time supervised and monitored by the Bank of Albania.The money that will be used to purchase non-performing loans from AEV can be secured in two ways:

1. Issuance of special bonds according to the carrying amount of non-performing loans;
2. Cash by the market value of non-performing loans.

Also, for the complete structuring of non-performing loans, SHMKP should have a broad power in relation to:

1. ☐ *Negotiating the repayment of loan interests;*

2. ☐ *Increase the loan repayment term;*

3. ☐ *Launch of bankruptcy procedures under applicable law.*

2.4 *A panorama of credit risk management at Raiffeisen*

In their activity, from the use of financial instruments, banks face these main risks: (a) credit risk; (b) liquidity risk; (c) market risk and (d) operational risk.

In this study, special attention will be given to the ways of managing credit risk from the two largest banks of the Albanian banking system, Raiffeisen and BKT, which together account for about 50% of all assets of the Albanian banking system. Like most banks in the Albanian banking system, these banks are also foreign-owned, with direct impact on the way of managing credit risk.

They have established the Assets and Liabilities Management Committee (ALCO) and the Credit Committee, which are responsible for developing and monitoring risk policies.

Banks define credit risk as "the Bank's financial loss risk if a counterparty or counterparty of a financial instrument fails to meet contractual obligations and derives mainly from loans and advances to customers and other banks and from investments."

A. For Raiffeisen Bank (Case study)

At the Raiffeisen Bank, the Board of Directors delegates responsibility for credit risk management to the Bank's Lending Committee. There after a special division for credit risk management is responsible for supervising credit risk including:

- *Formulate lending policies by consulting the core business units;*

- *Establishment of the authorization structure for approval and renewal of credit facilities;*

- *Supervision and assessment of credit risk and of all credit risk exposures that exceed the established limit;*

- *Limitation of exposure to parties, geographical areas and industries;*

- *Developing and using the Group's risk assessment system in order to categorize exposure based on the degree of risk of financial losses;*

- *Monitoring the implementation of approved limits for exposure to business units, including those for selected industries, country risk and product types.*

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Provide advice, guidance and specialized skills to business units to develop best practices for lending risk management throughout the Group. For provisioning effects, Raiffeisen Bank lends its loan portfolio to 9 categories. According to Table 3.5, we look at the analysis of customer loans and advances according to the respective depreciation and gross and net value. In the management of credit risk in Raiffeisen there are some specifics regarding the classification of loans and securities in cases when they pose problems with their repayment. According to this classification, the bank categorizes loans and securities as follows:

1. Loans and impaired securities, loans or probable securities for the non-payment of interest and principal amounts in accordance with the terms of the contract;

2. Late but not impaired loans, loans or securities where interest payments are delayed but it is believed that depreciation is not appropriate due to collateral, collateral or the amount of the loan amount;

3. Loans with renegotiated terms, loans that have been restructured due to the deterioration of the client's financial situation. Once the loan is restructured, it stays in the same category, although post-restructuring performance can be

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improved.

4. Raiffeisen Bank has created a provision for impairment losses that represents the cash outflow of the bank's portfolio losses. The provision consists of:

5. Component for specific losses, which relates to considerable individual exposures;

6. Component for general losses related to similar asset groups for realized losses but not identified in loans that are subject to individual impairment estimates.

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Table 3.5 Loans and advances to customers in Raiffeisen (values in thousand ALL)

	2014	2013
Individually impaired Level 5: Depreciated	13,526,705	12,930,870
Gross value	**13,526,705**	**12,930,870**
Provides for devaluation	(9,605,933)	(9,294,945)
Accounting value (A)	**3,920,772**	**3,635,925**
Provision for loss-based portfolios		
societies		
Rate 1	189,029	428,255
Degree 1.5	348,487	4,952,394
Rate 2	6,296,641	9,096,202
Rate 2.5	10,437,679	9,923,276
Degree 3	9,236,493	7,861,843
Rate 3.5	42,632,219	30,023,186
Degree 4	7,363,341	19,655,201
Rate 4.5	13,619,145	11,359,095
Step 5 (without rating)	9,625,379	5,312,078
	99,748,413	**98,611,530**
individuals	22,719,972	23,449,830
Gross value	122,468,385	122,061,361
Provides for devaluation	(1,812,438)	(1,571,004)
Accounting value (B)	**120,655,947**	**120,490,357**
Delayed but not impaired		
30-60 days	2,654,801	8,687,743
60 to 180 days	3,426,181	5,430,914
Accounting value	**6,080,982**	**14,118,658**
Accounting value (A + B)	**124,576,719**	**124,126,282**
Individually impaired		

Source: Raiffaisen Bank

Table 3.6 Collateral for loans and advances to customers in Raiffeisen (values in thousand ALL)

	Against individual depreciation	Against collective depreciation	Total 2014	Total 2013
Property	2,807,141	34,200,201	37,007,342	32,225,143
Hostage	1,285,969	14,040,086	15,326,055	14,331,297
Money	38	2,192,391	2,192,429	2,362,302
Warrant y	40,312	5,151,018	5,191,330	8,568,610
Totali	**4,133,460**	**55,583,696**	**59,717,156**	**57,487,352**

Source: Raiffeisen Bank

According to Raiffeisen bank policies, a loan or letter of credit will be disposed of when the Bank's troubled Loan Committee decides that they are uncollectible. This definition is given after reviewing all the information and events that have affected the borrower's financial condition, and he is unable to pay the obligation or when the proceeds from the execution of the collateral will not be sufficient to cover the entire liability. In the lending activity Raiffeisen Bank holds collateral for loans and advances in the form of mortgages for assets, other securities with blocked securities and in the form of guarantees. Generally, fair value is based on the collateral value at the time the loan is borrowed and does not

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change unless the loan is individually impaired. While collateral is not required for loans granted to other banks, unless securities are held as part of reverse repurchase and securities lending activity. Another very important element in the management of credit risk in Raiffeisen is the concentration of credit risk on the basis of subjects, sectors and geographical areas. If we analyze the credit risk by its type it is seen that the largest share of the loan portfolio in Raiffeisen holds loans with 47.39%, overdrafts with 41.01% and mortgages with 8.13%. Fourth and fifth place are the other loans and credit cards respectively 3.18% and 0.27% respectively. According to Raiffeisen entities, loans are divided into 5 categories as follows (table 3.7): individuals, corporations, SMEs, micro-businesses and employees. These categories are reallocated into several subdivisions by maturity term in: short-term loans, mid-term loans and long-term loans

Table 3.7 Analysis of concentration risk by types (values in thousand ALL)

December 2014	Individs	Corporates	SME	Micro business	Employed		Totali
Overdraft	2,137,172	46,733,603	5,716,631	1,125,523	68,125		55,781,054
Credit Cards	328,29	-	-		39,892	368,182	
Loans							
Short-term	149,28	764,404	128,729		1,229	1,056,015	
Middel-term	3,518,209	24,855,866	3,107,301	1,337,698	127,92		32,946,994
Long-term	8,303,794	18,778,852	3,081,429		351,364	30,968,983	
Adminstrativ fee	-169,236	-273,473	-53,282	-23,971	-		-519,962
	11,802,047	44,125,649	6,264,177		480,513	64,452,030	
Property	8,813,112	-	62,63	316,515	1,875,804		11,068,061
Others	545,324	2,519,473	967,959	289,424	3,583		4,325,763
Total	23,625,945	93,378,725	13,011,397	3,511,106	2,467,917		135,995,090

	Individs	Corporates	SME	Mircoö business	Emplyed		Totali
				31 December 2013			
Overdraft	2,642,981	45,407,105	6,770,969		61,162	56,502,994	
Credit Cards	228,592	-	-	-	31,427		260,019
Loans							
Short-Term	138,979	327,478	183,357	42,942	1,971		694,727
Middel -Term	3,823,889	22,859,189	3,677,216		160,827	32,454,537	
Long-Term	9,603,044	17,415,120	3,460,370	408,47	429,692		31,316,696
Administrativ e fees	-184,39	-251,533	-62,858		-	-540,717	
	13,381,522	40,350,254	7,258,085	2,342,892	592,49		63,925,243
Property	7,818,371	-	-	363,262	1,294,814		9,476,447
Others	479,391	2,817,067	1,259,795	266,074	5,2		4,827,527
Totali	24,550,857	88,574,426	15,288,849	4,593,005	1,985,093		134,992,230

Source: Raiffeisen Bank

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Table 3.8 Credit risk concentration by entities

Year /Subject	Individs	Corporates	SME	Micro-business	Employed	Total
Year 2013	18.19%	65.61%	11.33%	3.40%	1.47%	100.00%
Year 2014	17.37%	68.67%		2.58%	1.81%	100.00%
Different in % 2013 - 2014	-3.77%	5.43%	-14.90%	-23.56%	24.32%	NA

Source: Raiffeisen Bank, adapted by the author

Looking at the table in 3.7, it can be seen that, according to the type of loan, the portfolio of Raiffeisen Bank is divided into: overdraft, credit card, loan, mortgage and more. From the point of view of credit risk concentration by economic entity, it is seen that the loan portfolio of Raiffeisen bank for the most part consists of corporate loans which at the end of 2014 accounted for 68.67% of the total portfolio.

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Accounting Value 31 Dhjetor 2014	Loans to customer	Conditioned balance	Investment	Investment
Albania	129,215,057	27,679,797	41,281,170	81,381,682
Usa	-	-	-	-
Europe	6,780,033	563,361	-	-
Total	135,995,090	28,243,158	41,281,170	81,381,682
Accounting value 31 December 2013	Loans to customer	Conditioned balance	Investment	Investment
Albania	128,241,875	24,967,257	39,202,048	105,760,202
USa	-	-	-	-
Europe	6,750,355	704,194	-	-
Total	134,992,230	25,671,451	39,202,048	105,760,202

Table 3.9 Credit risk by geographic area in Raiffeisen (values in thousand ALL)

Source: Raiffeisen Bank

Second place is loans for individuals (17.37%) and then SMEs (9.57%), micro businesses (2.58%) and finally employees (1.81%). If we compare the change of risk concentration from 2013 to 2014

from Table 3.8 we see that Raiffeisen has increased the concentration of corporate loans by + 5.43%, the concentration with employees by + 24.32% and has decreased the focus on individuals with -3.77% micro-businesses with -23.56% and SMEs with -14.90%. Table 3.7 shows that almost half of the loan portfolio in Raiffeisen belongs to loans that, by term, consist of short-term loans (1.63%) medium-term loans (51.14%) and long-term loans that account for 48.04% of loans. Raiffeisen Bank also makes another partition of loans and securities investments that is related to their geographic area. According to table 3.9, loans and investments are divided into: loans and advances to customers, contingent balances, held-for-trading investments and held-to-maturity investments. According to the data in the table above, the risk of credit concentration at Raiffeisen is relatively high, as in each of the above categories prevails lending and investment in securities of our country. Loans and advances in Albania for 2014 account for 95.01% of the total while 4.99% belong to the area of Europe. We have to bear in mind that Raiffeisen has a very high risk of investing in securities for trading and held to maturity, as 100% of them are invested in Albania's securities. If Albania would have public debt problems and additional borrowing needs, then the credit risk that the bank may face is expected to be higher, reflecting, in particular, in the trading price of securities.

Chapter 3. AN ECONOMETRIC MODEL EXPLAINING THE IMPACT OF MACROECONOMIC AND BANKING FACTORS AT THE LEVEL OF CREDITS WITH PROBLEMS IN THE ALBANIAN BANKING SYSTEM

3.1 The main reasons for the increase of non-performing loans in the Albanian banking system

The increase in the level of non-performing loans in the Albanian banking system, especially after 2008, has led many banking researchers to find the key factors that have led to this progressive and disturbing increase. Based on the detailed analysis of non-performing loans and factors affecting their level, it is noticed that the majority of scholars distinguish between two factors: (1) external factors and (2) internal factors.

(1) External factors in general relate to the country's macroeconomic indicators such as: GDP, unemployment rate, inflation rate, etc.

(2) Internal factors are mainly related to banking factors such as credit growth, loan interest rates, loan-to-assets ratio, credit monitoring quality and quality, etc.

Of course, the Albanian banking system has different conditions compared to the banking systems of other countries of the world

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but also the region. There are some noticeable changes in the factors affecting the level of problem loans. Theoretically, the level of non-performing loans is closely related to the economic cycle of a given country. As many scholars say, when a country's economy is on the rise, businesses and borrowing individuals have enough income to repay their loans, reducing the amount of non-performing loans. By contrast, when the country's economy falls or slows down, both businesses and individuals will face difficulties in repaying their loans, thus increasing the level of problem loans. In the case of Albania we can say that contraction of GDP growth starting from the first quarter of 2008 to the present day has been an important factor, which has influenced the increase of the level of problem loans in the system Albanian banking. 2008 marks the beginning of the global financial crisis, which has had a very significant impact on the rise in the level of non-performing loans.The consequences of the global financial crisis in the Albanian economy have affected the reduction of business sales and the increase of liquidity problems. This has had a chain effect throughout the economy of our country. The difficult economic situation has also affected individuals. Of course, loss of jobs, curbing or waning of wages or limiting and shrinking working hours have negatively affected the accumulation of non-performing loans.

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According to a study carried out by Deloitte Albania shpk during 2014, in over 15 second-tier banks operating in Albania, it is noted that in 86% of cases the main cause that has led to the increase of the level of non-performing loans is the negative impact of the global financial crisis in the Albanian economy. Significant is the fact that the two neighboring states, Greece and Italy, have faced great difficulties in their economies in recent years. But in these countries live almost 1.1 million Albanian migrants and the effects of the economic crisis in these two countries have negatively affected the Albanian economy. Especially Greece has contracted the economy since 2008 with almost 25%, and is still experiencing a dramatic situation with public finances today. These economic difficulties of the two neighboring countries are also reflected in the economy of Albania according to two different perspectives:

On the one hand, we have the shrinkage of remittances that live in these two countries as a result of job cuts that have been caused by the economic crisis that is passing through these countries.
The decline in these remittances has led to a decline in household income by increasing the difficulties in repaying loans on time.

On the other hand, Albanian enterprises that export to neighboring countries or work with subcontracting for these countries have

significantly reduced their work due to lower demand from neighboring countries. The downsizing of these businesses has led to many of them having financial difficulties, and in many cases not being able to settle their obligations to the banks they are credited. In some cases these enterprises have been forced to relax many employees by increasing the total number of unemployed, and consequently further aggravating the non-performing loans indicator in the Albanian banking system.As most of the Albanian banking system's loans are denominated in foreign currency105, mainly in euro, the growth of the domestic currency exchange rate has been another factor that has affected the accumulation of non-performing loans. Depreciation of the borrower's income currency compared to the currency that is credited will lower their ability to pay off loans. So, if we compare the euro exchange rate with the lek from 2008 to 2014, it is seen that we have a devaluation of almost 15% of the domestic currency. This means that, under other conditions of unchanged, borrowers for the repayment of loans received in the euro now pay 15% more than in 2008. Lending activity during the last 10 years has seen a significant increase compared to the assets of the Albanian banking system.

If we compare the level of credits against total assets (total credit / total ratio) of 2002 with that of 2014 we see a large increase (this

indicator from 11.47% goes to 48.38%). This means that during this period banks have been willing to increase their lending activity. Sometimes the aggressiveness of banks in lending policies, especially for home loans and the provision of non-sound loans, has negatively affected the accumulation of non-performing loans.The barriers faced by banks with the execution of credit collateral are another strong reason that has affected the rise in the level of non-performing loans. Banks often find it difficult or almost impossible to end the collateral execution procedures, due to customer complaints in the courts, slowing down the process very much. According to the Governor of the Bank of Albania, second tier banks should start collateral execution as soon as this will help reduce the weight of non-performing loans to the total outstanding credit. However, this would not be so simple as some problems would arise for the entire banking system such as:

First of all because not all credit types are collateralized. Consumer loans as well as loans obtained through overdrafts are not collateralised. So collateral in these cases does not have any impact on minimizing the level of problem loans in the banking system. The reason for the emergence of non-performing loans for this category of credit may be high interest rates ranging from 15% to 20%, despite the fact that the Bank of Albania has led to a minimum level of 2.75% of the key interest rate.

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Secondly, even for collateralized loans, banks are not always interested in executing collateral, as this could further aggravate the financial conditions of companies by bringing their bankruptcy. In these cases, this process could turn into a boomerang for the bank itself. On the other hand, the incentive to execute collateral may also be a source of second-tier bank staff abuses. When businesses are in financial difficulty and present delays in loan repayment more than 365 days, banks may promptly demand collateral execution. In these cases there is the doubt that collateral can be sold much cheaper than the market value to be purchased by persons associated with the bank's staff. This would be a reason for the banking staff who abuses not helping businesses restructure the loan or by not giving additional loans that would help the client to get out of the difficult financial situation.

Thirdly, initiating procedures for massive collateral execution can affect the further decline in market value due to strong supply growth. This phenomenon was observed in 2008 in the US, where as a result of the mortgage-backed mortgage crisis, banks found themselves in portfolios with a lot of real estate, the value of which in some cases fell by up to 50%. So in these cases, the mass execution of collateral would further deepen the crisis in the construction sector, given that the share of construction sector

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credit in the banking sector accounts for about 20% of total credit. Until 2008 in Albania, the Albanian banking system had no credit records. This enabled businesses or individuals simultaneous credit from some banks without the knowledge of each other. The beginning of the credit registry operation in January 2008 created the possibility for banks to accurately verify the borrowing clients, the number and amount of credits each had in the other banks. During this period, many borrowers found themselves under pressure from banks to repay the loans they received, where in many cases they were abusive.In order to analyze the causes of increasing the level of non-performing loans, banks carefully analyze their distribution by economic sectors. According to a study carried out by Deloitte Albania sh.pk during 2014, the large concentration of non-performing loans in the construction sector is adversely affecting their accumulation. Given that about 93% of non-performing loans belong to the very construction sector, we can say that this sector is the most disturbing part of the credit granted by the Albanian banking system. The construction sector in Albania has been touched by the economic crisis of recent years, and is currently experiencing a challenging period of sales and liquidity, directly affecting the ability of loan repayments by construction companies. Credit concentration in some particular sectors is another reason that has negatively affected the

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accumulation of non-performing loans.If we analyze the data for 2014, it can be seen that only in three sectors of the economy is concentrated 47.7% of all credit provided by the Albanian banking system.This means that banks are highly exposed to the credit risk concentration risk, which should be managed with caution because many banking crises have emerged as a result of a high concentration risk. If we analyze non-performing loans in the above mentioned three sectors we will look at the specific weight of non-performing loans for all these sectors is on average almost 29%. This requires greater attention from supervisory authorities that would affect the reduction of these loans. Another reason that has affected the accumulation of non-performing loans is also related to the high interest rates on loans second-tier banks apply to their clients, be they individual clients or business clients. Despite the fact that second-tier banks have made some attempts to lower the average credit rate in recent years, we are currently at the highest levels in the region.

3.2 *Econometric model*

In this chapter, by means of a regression model, the relationship between the level of problem loans of the Albanian banking system and some macroeconomic and banking factors is examined in detail.

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Non-performing loans are given special attention all over the world as their large and uncontrolled growth would lead to bankruptcy of the banking system as a whole and a collapse throughout the financial system. In fact, some Albanian banking experts have tried to find different answers to the high level of problem loans in our country. In the studies on non-performing loans, many analysts have tried to link the level of problem loans directly to two sets of factors:

(1) macroeconomic factors and (2) banking-related factors.

1. Macroeconomic factors are analyzed as external events such as general macroeconomic conditions affecting borrowers' solvency;Banking factors or banking factors aim at explaining the variability of the level of non-performing loans among different banks. With regard to independent variables in our model, we will classify them into two groups:

1. *Macroeconomic factors;*
2. *Banking factors*

As macroeconomic factors, following an analysis of research in this area, indicators of interest to the context in which our country is

located have been selected. These factors are:

1. *GDP growth (RR / GDP);*
2. *Inflation Rate (INF);*
3. *Unemployment rate (NRP);*
4. *Interest rate (INT);*
5. *Exchange rate Euro / Lekë (K / K).*

There are many indicators included in the banking factor group, but from the detailed review of the literature as well as in the current context, we will use the following banking indicators:

1. *Increasing the level of credit (RR / KR);*
2. *The level of banking capitalization (CAR);*
3. *Brokerage (MN);*
4. *Return on Equity (ROE);*
5. *Credit to total assets ratio (KR / CA).*

All independent variables, like the dependent variables, are considered for a period of eleven years with quarterly data starting from the first quarter of 2002 to the fourth quarter of 2014. This period was taken into consideration since starting in 2002 data on the banking system were more complete and accurate.

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3.2.1 The performance of macroeconomic and banking variables

The study period of the study includes a relatively long time ranging from the first quarter of 2002 to the fourth quarter of 2014. The performance of non-performing loans (variables) according to chart 4.1 can be divided into two sub-periods. The first sub-period includes the years 2002-2007 and the second sub-period 2008-2014. If we analyze the first sub-period we see that the quarterly average of non-performing loans in the Albanian banking system is 4.29%, while for the second sub-period the quarterly average rate of loans with the problem was 13.13%. During the 2002-2007 period, we notice a steady trend of non-performing loans, while during the 2008-2014 sub-period we see a progressive increase, reaching the highest point in the fourth quarter of 2014 with 23.86%.

Grafiku 4.1: Ecuria e kredive me probleme, 2002 – 2014 (në %)
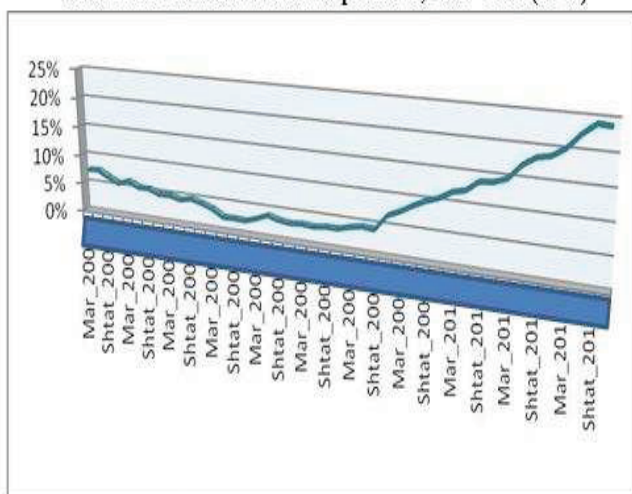
Burimi: Banka e Shqipërisë,

In our study we will analyze the performance of independent variables of the econometric model by dividing them into two categories of groups:

Macroeconomic variables;
Banking variables.

In the macroeconomic variables group we analyze the performance of: unemployment rate, GDP, inflation rate, average interest rate and exchange rate ALL / EUR. In the banking variables group we analyze the performance of: credit growth rate, net interest margin,

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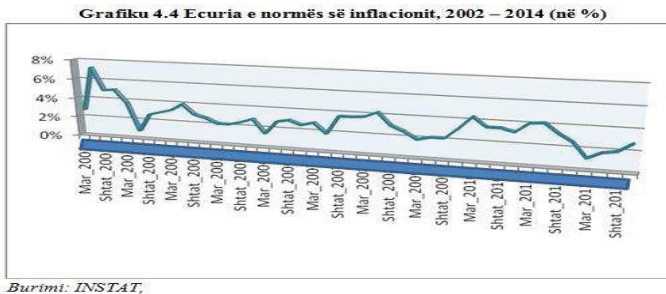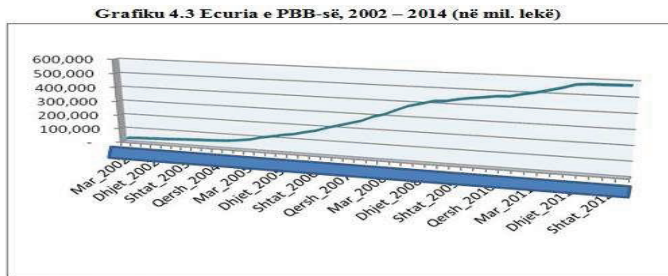credit / assets ratio, capitalization level and ROE indicator.

Grafiku. 4.2 Ecuria e normës së papunësisë, 2002 – 2014 (në %)
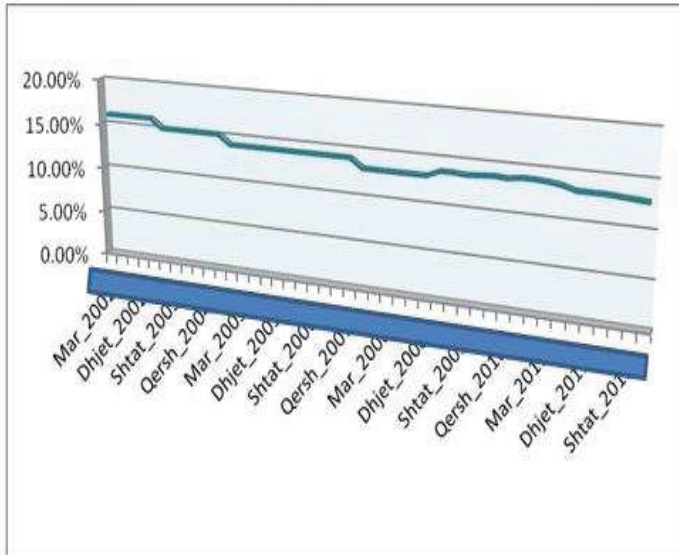
The unemployment rate is the ratio between the number of registered unemployed and the number of active population. During the study period, the unemployment rate had a relatively stable trend reaching the maximum point to 16% and the minimum point to 12.8%. It should be underlined that, for this indicator, real data compared to the data published by INSTAT are thought to be higher as many unemployed do not register at the respective labor offices

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by reducing the real number of unemployed. Gross Domestic Product (GDP) is an indicator of the market value of all finished products and services produced in one country. GDP includes all current products and services destined for the market as well as those produced for consumption by themselves from all resident units operating in the territory of a country. GDP in Albania has grown progressively (see Chart 4.3). However, this growth trend has not been constant because during 2001-2004 growth has been moderate, and from 2005 to 2010 the growth has been higher, whereas during the last two years there is a slowdown affected by the effects of the global financial crisis in our country's economy.

Grafiku 4.3 Ecuria e PBB-së, 2002 – 2014 (në mil. lekë)

Burimi: INSTAT.

Grafiku 4.4 Ecuria e normës së inflacionit, 2002 – 2014 (në %)

Burimi: INSTAT.

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Inflation is an indicator of the change of overall price level in an economy. It is measured as the change in the consumer price index (CPI), which measures the price change of an item basket that represents those goods usually consumed by a household. During the study period, the inflation rate reached the highest point in the second quarter of 2002 with 7.2%, while the minimum point in the second quarter of 2003 was 0.8%. From Chart 4.4 we see that the inflation rate has not been very stable. However, despite this trend, it can be said that the inflation rate has been within the Bank of Albania's target (3% ± 1%) in order to ensure a sustainable economic growth. The level of banking capitalization shows the bank's capital and is expressed as a percentage of risk-weighted assets. The Bank of Albania has decided that the minimum regulatory capital adequacy ratio should be 12%. The ROE indicator is expressed in percentage and shows the level of return on equity. This indicator is calculated as the ratio of net profit to shareholder capital and measures the profitability. It shows how much money the bank generates with the money invested by the shareholders.

3.2.2 Hypotheses and research questions

The purpose of this study is to determine and analyze the relationship between the dependent variables (non-performing loans) and the independent macroeconomic and banking variables in the Albanian banking system. From the literature review in this specific area, a converging tendency of many authors has been noted towards some assertions and attestations for the links between non-performing loans and macroeconomic and banking factors. This study is based on raising some of the hypotheses expected to be confirmed by the regression model to be used. The zero hypothesis of our study is: none of the macroeconomic and banking variables under consideration does not affect the level of problem loans. Alternative hypotheses, at least one of the macroeconomic and banking variables, has an impact on the level of problem loans. Under the hypothesis of the study, the focus is on the relationship between non-performing loans and independent variables as follows:

H0,1. GDP growth does not affect the level of non-performing loans;

Ha, 1. GDP growth has an impact on the level of non-performing

loans;

H0,2. The inflation rate does not affect the level of non-performing loans;

Ha, 2. The inflation rate has an impact on the level of non-performing loans;

H0,3. The level of unemployment does not affect the level of non-performing loans;

Ha, 3. The level of unemployment has an impact on the level of non-performing loans;

H0,4. The interest rate does not affect the level of non-performing loans;

Ha, 4. The interest rate has an impact on the level of non-performing loans;

H0,5. The Euro / Lek exchange rate does not affect the level of non-performing loans;

Ha, 5. The euro / lek exchange rate has an impact on the level of non-performing loans;

H0,6. The level of capitalization does not affect the level of non-performing loans;

Ha, 6. The level of capitalization has an impact on the level of non-performing loans;

H0,7. The increase in the level of credit does not affect the level of non-performing loans;
Ha, 7. The increase in the level of credit has an impact on the level of non-performing loans;

H0,8. The ROE indicator does not affect the level of non-performing loans;

Ha, 8. The ROE indicator has an impact on the level of non-performing loans;

H0,9. Credit / assets ratio does not affect the level of non-performing loans;

Ha, 9. Credit / assets reports have an impact on the level of non-

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performing loans;

H0,10. Mediation margin does not affect the level of non-performing loans.

H0,10. Mediation margin has an impact on the level of non-performing loans.

Hypothesis 1, the link between GDP growth and the level of problem loans is theoretically expected to be an oblique link. In fact, GDP growth causes a country's revenue growth in general. Revenue growth means that both businesses and individuals have more available income, which means that they are already better able to repay their loans, and as a result, there is a decline in the level of problem loans

Hypothesis 2, theoretically, is expected to have oblique links between the inflation rate and the level of non-performing loans, and actually an increase in inflation would lead to a reduction in the real value of the remaining principal without pay, and borrowers would have more opportunities to pay their loan installments which would be translated at a lower level of non-performing loans.

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Hypothesis 3, theoretically, is expected to have a fair link between the level of unemployment and the level of non-performing loans, and in fact an increase in the level of unemployment would lead to a decline in the overall income of a country which would be translated later to a reduction in the solvency of the loans received, and ultimately to a further increase in the level of non-performing loans.

Hypothesis 4, theoretically, is expected to have a fair link between the interest rate on the loan and the level of non-performing loans. Indeed, raising the credit interest rate would lead to an increase in the loan installment, and as a result borrowers would have even more difficult to pay their new installments already higher than before raising the rate interest

Hypothesis 5, theoretically, is expected to have a fair link between the euro / lek exchange rate and the level of non-performing loans. This link is explained by the fact that if other conditions are kept unchanged if there is an increase of the euro / lek exchange rate, for loans given in the euro, repayment of installments would be hampered as borrowers would pay higher installments as a result of the exchange rate increase.

Hypothesis 6, theoretically, is expected to have oblique links between the level of capitalization and the level of non-performing loans. In fact, banks with a higher level of capitalization are expected to have a lower level of non-performing loans as a result of covering the losses from their own equity loans

Hypothesis 7, theoretically, is expected to have a fair link between the level of credit growth and the level of non-performing loans. In fact, a rapid increase in the level of credit is expected to affect the level of non-performing loans, but with a delay ranging from 1 - *3 years*.

Hypothesis 8, theoretically, is expected to have oblique links between the level of the ROE indicator and the level of non-performing loans. An increase in the level of non-performing loans would lead banks to a reduction in ROE levels. In the case of problem loans, banks have difficulty in repaying these loans and as a consequence this would lead to a deterioration in their performance, which would eventually be translated into a lower ROE

Hypothesis 9, theoretically, is expected to have a fair link between total credit / total loan ratio and the level of non-performing loans.

In fact, the relationship between the loan / asset ratio and the non-performing loans is positive, claiming that high risk "risk appetite" banks face higher levels of non-performing loans

Hypothesis 10, theoretically, is expected to have a fair link between the brokerage margin and the level of non-performing loans. It seems reasonable that an increase in the level of the intermediation margin would aggravate borrower conditions, which would now be forced to pay higher installments on their loans. As a result of higher installments, borrowers would have difficulties in their payments, which would be translated into a general increase in the level of non-performing loans

3.2.3 Testing hypotheses and interpreting the results of the study

To analyze the relationship between the dependent variables (non-performing loans) and the independent macroeconomic and banking variables in this study we use linear regression analysis
The analysis analyzed data for all variables from the first quarter of 2002 to the fourth quarter of 2014, ie 44 observations for each variable. Testing of hypotheses is performed according to the criteria of F, t, and probabilities and Ho is rejected if the probability results less than $\alpha = 0.05$ or when F-statistic results higher than the

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critical one according to degrees of freedom. The final equation of the econometric model is expected to have the following form:

$(T + t), t + t, t + t, t + Ki, t + \mu i, t$

After processing the data, the following results were obtained:

The coefficient of determination ($R2 = 0.907$) shows that independent regression variables explain 90.7% of the change of dependent variables, ie the level of non-performing loans.

Regarding the statistical significance of the econometric model we consider the F-statistic indicator, which has a value of F = 32,166 with a probability level of p = 0,000 which confirms that the model is statistically significant as having a high value of F and a the probability is quite small that the error level $\square = 0.05$.

The statistical indicator showing the autocorrelation of DW errors equals 1.357. This value of the indicator is close to the value 2, meaning that errors (single-step waste) do not express an autocorrelation between them, evidencing the independence of the residue as a condition of square method smaller (OLS). In Table 4.1 we present the results of the regression analysis. If we analyze the regression results in relation to multicolinearity between variables

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according to the variance inflation factor (VIF) we see that the credit / asset ratio and the level of banking capitalization (CAR) have very high values of the indicator, respectively with 23,383 and 20,522. The VIF indicator values associated with the other variables of the study do not present multicolinearity problems as they are smaller than 10. To avoid multicolinearity problems in a multiple linear regression, we remove data from exactly the loan / asset variable and the level of bank censorship.

Table 4.2 Results of the first regression analysis

Variablat	Beta	G -gabimi standard	Vlera t	Vlera p
Konstantja	-0.196	0.153	-1.278	0.210
RR/PBB	0.015	0.035	0.412	0.683
INF	0.205	0.373	0.551	0.586
NRP	0.226	0.131	1.720	0.095
INT	-2.975	0.637	-4.673	0.000
K/K	0.004	0.001	5.077	0.000
CAR	0.227	0.247	0.920	0.364
RR/KR	-0.328	0.131	-2.502	0.017
ROE	-0.223	0.106	-2.100	0.043
KR/AK	0.009	0.104	0.086	0.932
MIN	1.979	0.743	2.662	0.012

Table 4.3 Values of the VIF indicator, the first regression

Variablat	VIF
RR/PBB	1.357
INF	1.566
NRP	1.136
INT	8.074
K/K	2.846
CAR	20.528
RR/KR	3.884
ROE	6.389
KR/AK	23.383
MIN	5.571

After re-processing the data with the SPSS program, but this time without including the two variables (credit / asset ratio and CAR ratio capitalization ratio) that had multicollity problems, we get results as per table 4.4. The coefficient of determination ($R2 = 0.898$) shows that independent regression variables explain 89.8% of the change of the dependent variables, ie the level of non-performing loans. Regarding the statistical significance of the econometric model we consider the F-statistic indicator, which has a value of $F = 30,607$ with a probability level of $p = 0,000$, which reconfirms that the model is statistically significant as having a high value of F and a the probability much smaller than the error level $\square = 0$. The statistical indicator showing the DW error autocorrelation equals 1.305. This value of the indicator is close to

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the value 2, meaning that the errors (single-stranded bonding) do not express an autocorrelation between them, evidencing the independence of the residue as a condition of the OLS method. Regarding the multicolinearity analysis of the variables in the second regression according to Table 4.5 it is noted that none of the variables taken into consideration presents multicolinearity problems since all values of the VIF indicator are smaller than 10.

Table 4.4 Second Regression Analysis Results *

Variables	Beta	Standart Error	T Value	P Value
Constant	-0.278	0.104	-2.678	0.011
RR/PBB	0.022	0.035	0.618	0.541
INF	0.026	0.356	0.074	0.941
NRP	0.264	0.128	2.062	0.049
INT	-2.163	0.373	-5.804	0.000
K/K	0.004	0.001	5.913	0.000
RR/KR	-0.318	0.126	-2.527	0.016
ROE	-0.154	0.071	-2.169	0.045
MIN	1.355	0.556	2.439	0.020

* Variable dependent on problem loans

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Table 4.5 VIF indicators, second regression

Variables	VIF
RR/PBB	1.297
INF	1.384
NRP	1.084
INT	2.682
K/K	2.494
RR/KR	3.466
ROE	3.603
MIN	3.019

From the analysis of the results of Table 4.4 we built the economical metric model that explains the

dependent variable (the level of non-performing loans), which is presented in the following form:

N, T + -0.278 + 0.022RR / PBBi, t + 0.026INFi, t + 0.264NRPi, t - 2.163INTi, t + 0.004K / Ki, t-0.318RR / KRi, t-0.154ROE + 1.355MINi, t

To analyze the correlation and the statistical significance of the beta coefficients of independent variables, the values that the probability p assumes are examined.For Value The p-SE (observed level of importance) times greater than 0.05 the influence of the

Independent variable on the dependent variable is insignificant in terms When other variables remain unchanged in the equation and for the p values of less than 0.05 the zero hypothesis on the absence of the link will be rejected, so the link between the variables is important. Also, all beta coefficients will be analyzed in relation to the tire's mark and value according to the regression results. Analyze all the hypotheses of the study according to the value of p:

H0,1. GDP growth does not affect the level of non-performing loans;

Ha, 1. GDP growth has an impact on the level of non-performing loans;

The beta of GDP ratio increases by 0.022, indicating that there is a fair link between GDP growth and the level of non-performing loans. The weighted value of GDP growth equals 0.541 ie greater than 0.05. This shows that the concrete hypothesis is verified in the concrete case, so in the Albanian banking system GDP growth does not affect the level of problem loans. This result is not in line with the studies conducted in this area where there is a close link between GDP growth and the level of non-performing loans. In fact Albania's case is special: at the same time, GDP and the level of

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non-performing loans increase. This means that despite the fact that during the study period there is an increase of GDP this did not affect the reduction of the level of problem loans.

H0,2. The inflation rate does not affect the level of non-performing loans;

Ha, 2. Inflation rate affects the level of non-performing loans;

The Inflation Rate Inflation Rate (INF) is positive at 0.026, indicating that there is a fair link between the inflation rate and the level of non-performing loans. The value of "p" is equal to 0.941, ie H0,3. The level of unemployment does not affect the level of non-performing loans;

Ha, 3. The level of unemployment affects the level of non-performing loans;

The unemployment rate coefficient (NRP) is 0.264, indicating that we have a fair link between the unemployment rate and the level of non-performing loans. The value of "p" is 0.049 so smaller than 0.05. This means that the hypothesis zero and proven alternative hypothesis, which means that the level of unemployment has an

impact on the level of problem loans. The beta coefficient sign is in line with other studies in this area where there is a fair link between the unemployment rate and the level of non-performing loans, as an increase in the unemployment rate would aggravate the borrower's financial conditions and consequently increased the level of problem loans. Concerning the interpretation of the beta coefficient we say that an increase of 1 unit of unemployment leads to an increase of 0.264 units of non-performing loans.

H0,4. The interest rate does not affect the level of non-performing loans;

Ha, 4. The interest rate has an impact on the level of non-performing loans;

The interest rate beta (INT) coefficient is -2,163, indicating that there is an oblique link between the interest rate on the loan and the level of non-performing loans. The value of "P" is 0,000 well, less than 0.05. This means that there is a zero hypothesis and an alternative hypothesis is proved, which states that the interest rate on credit has an oblique effect on the level of problem loans. This means that the interest rate affects the level of non-performing loans, and that this level of beta coefficient indicates that an increase of 1 interest rate unit brings the reduction of non-

performing loans to 2,163 units. Unlike the above results, according to other authors' studies conducted in this area, the link between the interest rate on loans and the level of non-performing loans should have been fair as the increase in the interest rate on the loan would bring growth loan installments, making borrowers more difficult to repay the installments, which would already be higher than the installments that were paid before raising the interest rate. Second-tier banks in Albania have made efforts to lower interest rates on loans.

H0,5. The Euro / Lek exchange rate does not affect the level of non-performing loans;

Ha, 5. The euro / lek exchange rate has an impact on the level of non-performing loans;

The exchange rate beta (K / K) coefficient is 0.004, indicating that we have a fair link between the euro / lek exchange rate and the level of non-performing loans. The value of "P" is 0,000 less than 0.05, which means that there is a zero hypothesis and an alternative hypothesis is confirmed which states that the euro / lek exchange rate has a fair impact on the level of problem loans. In this case, this level of beta coefficient indicates that an increase of 1 unit of

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the euro / lek exchange rate would bring the level of non-performing loans to increase by 0.004 units. This result is also supported by the exchange rate performance during the study period, where it is noticed that from 2004 to 2014 the exchange rate has increased by almost 15%. This is a very important fact given that in the Albanian banking system almost 60% of the total credit is in the euro currency and this greatly affects the increase and accumulation of non-performing loans in this currency.

H0,7. The increase in the level of credit does not affect the level of non-performing loans;

Ha, 7. The increase in the level of credit has an impact on the level of non-performing loans;

The beta credit growth rate (RR / KR) coefficient is -0.318, indicating that there is an oblique link between the level of credit growth and the level of non-performing loans. So, $p = 0.016$, ie less than 0.05 means that the alternative hypothesis is verified and say that the increase in the level of credit has an adverse effect on the level of problem loans. Specifically, the increase of 1 credit unit unit would bring the level of non-performing loans to 0.318 units. Even this result is not in line with other studies in this area since

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according to them there should be a fair link between the level of credit growth and the level of non-performing loans. According to other authors 'research, rapid credit growth leads to high losses due to the shift of supply, ie by increasing banks' desire to credit. But according to the study in Albania, the opposite has happened. Banks, having seen the high level of non-performing loans, have tightened lending terms in recent years, indirectly affecting the level of non-performing loans.

H0,8. The ROE indicator does not affect the level of non-performing loans;

Ha, 8. The ROE indicator has an impact on the level of non-performing loans;

The ROE beta beta coefficient is -0.154, indicating that there is an oblique link between the ROE indicator and the level of non-performing loans. So, p = 0.045 (less than 0.05) shows that the alternative hypothesis is verified, ROE has an impact on the level of problem loans. In fact, this relationship is questionable as these two variables have mutual interdependence: the level of non-performing loans affects banks' profitability, subsequently lowering the level of the ROE indicator. The ROE beta beta coefficient is

thus interpreted: a 1-unit increase in the ROE indicator would cause a reduction of 0.154 non-performing loan units. This result is in line with the studies conducted in this area as increasing the level of non-performing loans would lead banks to reduce the level of ROE. Even the data of the Albanian banking system show that ROE-measured profitability has suffered a sharp decline, especially after the years of the global financial crisis of 2008.

H0,10. Mediation margin does not affect the level of non-performing loans.

H0,10. Mediation margin has an impact on the level of non-performing loans.

The intermediation margin beta (MN) coefficient is 1,355, indicating that there is a fair link between the brokerage margin and the level of non-performing loans. So, $p = 0.020$ (less than 0.05) indicates that the hypothesis is zero and the alternative hypothesis is verified, so the mediation margin has an impact on the level of problem loans. This result is in line with the conclusions reached by other authors' research in this area, where the increase in the intermediation margin is affecting the deterioration of the terms of borrowers who would already be forced to pay higher installments on their loans . The intermediary margin indicator beta is thus

interpreted: a 1-unit increase in the indicator would trigger an increase of 1,355 non-performing loans.

Hypothesis 6 shows the relationship between the level of banking capitalization and the level of non-performing loans. We can say that despite the fact that the variable of banking capitalization (CAR) presents multicolinearity problems in linear regression this does not mean that it does not matter at the level of problem loans. If we analyze the relationship between the level of banking capitalization and the level of non-performing loans according to the correlation coefficient, there is an oblique link (-0.375), which is in line with other studies in this area. This means that in the Albanian banking system the increase in the level of banking capitalization leads to the reduction of the level of non-performing loans.

Hypothesis 9 indicating the relationship between credit / asset ratio (KR / CA) is not considered in the regression model as the variable / multivariate problem was present. Here we can say that despite the statistical reason this variable is removed from the regression model, if we analyze its relation to the level of non-performing loans by means of the correlation coefficient (+0.61), the link is right. This conclusion is in line with other studies in this area. In the

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Albanian banking system, the growth of the credit / assets ratio leads to the growth of non-performing loans, so banks with high "appetite" to provide loans are expected to have high level loans.

3.3 The main conclusions of the chapter

This study is an attempt to analyze the relationship between the level of non-performing loans and some macroeconomic and banking factors in Albania. In this study, quarterly data were used starting from the first quarter of 2004 to the fourth quarter of 2014. With the help of an econometric model and multiple linear regression analysis, it was intended to examine the connections and concluded that the level of non-performing loans in the Albanian banking system depends on both macroeconomic factors and bank factors. The macroeconomic factors that were considered in this study are:

1. *Growth of gross domestic product (RR / GDP);*
2. *Inflation Rate (INF);*
3. *Unemployment rate (NRP);*
4. *Interest Rate (INT);*
5. *Exchange rate Euro / Lekë (K / K).*

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But as bankers were valued:

1. *Increasing the level of credit (RR / KR);*
2. *The level of banking capitalization (CAR);*
3. *Brokerage (MN);*
4. *Return on Equity (ROE);*
5. *Credit to total assets ratio (KR / CA).*

In the linear multiple regression model, the level of non-performing loans was considered a dependent variable, while all macroeconomic and banking indicators were valued as independent variables. After analyzing the data with the SPSS statistical program, we tested the hypotheses raised according to the criteria of F, t, and probabilities and Ho is discarded if the probability results less than $\alpha = 0.05$ or when the F statistic will result higher than the critical one according to degrees of freedom. According to the results of the first regression it turned out that:

The determination coefficient (R^2) was equal to 0.907;

The statistical significance measured with the F-statistic indicator has a value of F = 32,166 with probability level p = 0,000 which reconfirms that the model is statistically significant; The statistical

indicator showing the DW error autocorrelation resulted to be equal to 1,357. After analyzing the results of the regression with respect to multicolinearity between variables according to the VIF indicator it was observed that the credit / asset variables and the banking capitalization rate (CAR) had very high values of the VIF indicator, ie 23,383 and 20,522 respectively. Other study variables did not pose problems with multicolinearity as their VIF indicator had values smaller than 10. To avoid multicolinearity problems in a multiple linear regression, the exact credit / asset variable and the bank capitalization variable were removed from the data. The data was re-processed again on the side of the SPSS program, but this time without including the two varieties that had multicontinental problems. According to the results of the second regression it turned out that:

The determination coefficient (R^2) was 0.898;

The statistical significance measured with the F-statistic indicator has a value of F = 30,607 with probability level p = 0,000 which reconfirms that the model is statistically significant;

The statistical indicator showing DW error autocorrelation was equal to 1.305.

The VIF indicator that measures the multicolinearity is less than 10 for all variables taken into consideration in the second regression,

which means that none of the variables presents multicolinearity problems. From the analysis of the second regression results, an econometric model was developed that explains the dependent variable (the level of non-performing loans), which is presented in the following form:

T + 0, 244Re, t + -0.278 + 0.022RR / PBBi, t + 0.026INFi, t + 0.264NRPi, t - 2.163INTi, t + 0.004K / Ki,

For the analysis of the correlation and the statistical significance of the beta coefficients of independent variables we looked at the values obtained by probability p. According to the analysis of the results of the second regression it was observed that out of the 8 independent variables only 6 of them (NRP, INT, K / K, RR / KR, ROE, MIN) were statistically significant while 2 other variables (RR / GDP and INF) were not significant. From the analysis of the second regression results, we concluded that the following factors are not related to the level of non-performing loans. Thus:

T*he increase of the level of the GDP does not affect the level of non-performing loans;*

Inflation rate INF does not affect the level of non-performing loans;

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Based on the results of the second regression we came to the following conclusions:

1. Between the unemployment rate (NPR) and the level of non-performing loans, there is a fair link. From here we say that the level of unemployment has a positive impact on the level of problem loans and the beta coefficient is in line with other studies in this area. Concerning the interpretation of the beta coefficient we say that the 1-unit increase in the unemployment rate indicator leads to an increase of 0.264 units of non-performing loans.

2. Between the average interest rate on credit (INT) and the level of non-performing loans has an oblique link. Theoretically, a fair link between the interest rate on loans and the level of non-performing loans is expected, while in the Albanian banking system it is noticed that even though second tier banks have tried to lower interest rates they have not been able to lower the level of credit problem loans.

3. Between the Euro / Lek exchange rate (CC) and the level of non-performing loans, there is a fair link. The exchange rate has an impact on the level of non-performing loans and this result is supported by the exchange rate performance during the period of

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our study, where it is noted that between 2004 and 2014 the exchange rate has increased by almost 15% has negatively affected the accumulation of non-performing loans, knowing that almost 60% of the total of the loan is in the euro.

4. The increase in the level of credits (RR / KR) and the level of non-performing loans has oblique links. The increase in the level of loans has an impact on the level of problem loans, but the sign of the relationship is not in line with the studies conducted in this area. This result has mainly come as a result of the change in tightening lending policies of second tier banks, especially after 2008-2009, which correspond to the global financial crisis.

5. Among ROE indicators and the level of non-performing loans, there are oblique links. ROE has an impact on the level of problem loans and this is in line with the studies conducted in this area. In our country's banking system we find that the profitability measured by the ROE indicator has suffered a major decline, especially after the years of the global financial crisis of 2008.

6. Between the MNI brokerage and the level of non-performing loans, there is a fair link. This result is in line with the conclusions reached by other authors' research in this area where it is said that

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the increase in the intermediation margin would have an impact on the deterioration of borrower conditions that would already be forced to pay higher installments their loans.

Chapter 4. CONCLUSIONS AND RECOMMENDATIONS OF THE STUDY

In the last decade, non-performing loans have had a great deal of attention almost all over the world, as their large and uncontrolled increase would lead to the bankruptcy of the banking system as a whole. In the case of non-performing loans, various analysts have tried to correlate the level of non-performing loans directly to two categories of factors:

(1) Macroeconomic factors;

(2) Banking or Specific Banking Factors.

In terms of macroeconomic factors we can mention here: the level of GDP growth, inflation rate, unemployment rate, exchange rates, etc, while the factors of banking nature include: ROE indicator, credit level increase, credit report / active, capitalization level and level of intermediation margin. From the review of international and national literature it is concluded that non-performing loans relate to macroeconomic and banking factors:

Oblique link between GDP growth and the level of non-performing loans;

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Oblique link between the inflation rate and the level of non-performing loans;

A fair link between the level of unemployment and the level of non-performing loans;

Fair link between the interest rate and the level of non-performing loans;

The right link between increasing the level of credit and the level of non-performing loans;

Oblique link between the level of banking capitalization and the level of non-performing loans;

The right link between the effective exchange rate and the level of non-performing loans;
Oblique link between ROE and the level of non-performing loans;

Fair link between the loan / asset ratio and the level of non-performing loans;

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The right link between the brokerage margin and the level of non-performing loans.

The study focuses on the Albanian banking system focusing on the lending system and its problems that have been encountered especially in the last 5 years. The Albanian banking system is the most important sector of the financial system in Albania, accounting for about 85% of the financial system, and implying the weak role of the capital market. Developments in the global economy and especially the global economic crisis have exerted a negative impact on the Albanian market and are causing the collapse of the credit market whose growth has slowed down. Thus, if data for the fourth quarter of 2008 show an increase of 5.02%, the data of the third quarter of 2013 give a decrease of 1.86%. Second-tier banks claim to have some reasons that have been forced to tighten their credit standards especially in the last three years, among which are mentioned:

Problems that characterize the sector where the enterprise is developing. Sectors such as construction, processing industry and trade, vehicle repair and household goods in recent years have been in financial difficulty. The situation of non-performing loans throughout the banking system which has begun to deteriorate,

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starting from the fourth quarter of 2008 and to the present day, where their level reaches 24%. The overall macroeconomic situation, which in recent years despite the positive growth, has been unable to support the upward trend in the level of non-performing loans. After analyzing the lending activity of the Albanian banking system by entities for the period 2009 - 2014, the share of the private sector from 62.83% to 69.48% is increased and at the same time we have a decrease of the individual sector weight from 35.81% to 25.16% . According to the analysis of bank data for the period 2009 - 2014, the average credit growth in our country's banking system was 14.18% on an annual basis. Recent years as a result of the global financial crisis, second tier banks have tightened lending standards mainly in two respects:

Increase in collateral demand relative to loan amount;

In the expansion of the average margin and for the loans at risk.

These two aspects have made businesses even more difficult to get new loans at second-tier banks.

Credit analysis by economic sectors at the end of 2012 shows a high concentration in some sectors such as processing industry, construction and trade, repair of vehicles and household items,

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which together have a weight equal to 47.7% of the total credit of the economy in the Albanian banking system. This means that even the risk of banks' concentration in these sectors is very high compared to other sectors of the economy, all of which together account for 25.8% of the total credit accorded to the economy. Between sectors with problems in loan repayment, the business sector grew by 256% from 2008 to 2012. This increase was due to the combination of loan portfolio quality by sectors of the economy with the weight of each sector-level system. Economic sectors such as trade, repair of vehicles and household goods, processing industry and construction have the highest level of credit problems (29.55%) than all businesses taken together (17.99%). Loans to outstanding loans are higher in the business sector (25.3%) than in individual loans (17.7%), noting the major difficulties that businesses are experiencing in recent years. The main purpose of this paper was to analyze the relationship between the level of non-performing loans and some macroeconomic and banking factors, which was based on two hypotheses that were tested by the regression model.

The basic hypothesis of the study is as follows:

The zero hypothesis, none of the macroeconomic and banking variables under consideration does not affect the level of problem

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loans.

Alternative hypotheses, at least one of the macroeconomic and banking variables, has an impact on the level of problem loans.

The level of non-performing loans was considered a dependent variable, while all macroeconomic and banking indicators were assessed as independent variables. With the help of an econometric model and according to the multiple linear regression analysis, the review of the links was intended and it was concluded that the level of problem loans in the Albanian banking system depends on both macroeconomic factors and bank factors. In this study, a division of results obtained from linear regression is performed in three categories:

1. *Results that are in line with other studies in this area;*
2. *Outcomes that contradict other studies in this area;*
3. *Results that are not statistically relevant for Albania's case.*

In the first category, we reach the following conclusions:

Between the unemployment rate (NRP) and the level of problem loans, there is a fair link. The level of unemployment has a fair

impact on the level of non-performing loans and the beta coefficient is in line with other studies in this area, as an increase in the unemployment rate would aggravate borrower's financial conditions and consequently increased the level of problem loans. Increasing the level of unemployment in Albania leads us to an increase in the level of problem loans. Between the Euro / Lek exchange rate (K / K) and the level of non-performing loans, there is a fair link. The Euro / Lek exchange rate has an impact on the level of non-performing loans. The result is also supported by the exchange rate performance during the study period, where it is noticed that from 2004 to 2014 the exchange rate has increased by almost 15%. This is a very important fact given that in the Albanian banking system almost 60% of the total credit is in the euro currency and this greatly affects the increase and accumulation of non-performing loans in this currency. Between ROE indicators and the level of non-performing loans, there are oblique links. ROE has an impact on the level of problem loans and this is in line with the studies conducted in this area. In fact, this connection is controversial as these two variables have interdependence the level of non-performing loans affects the profitability of banks by subsequently reducing the level of the ROEN indicator to our country's banking system that the profitability measured by the ROE indicator has suffered a sharp decline especially after the

years of the global financial crisis of 2008 . Between the brokerage margin (MN) and the level of non-performing loans is the right link. This result is in line with the conclusions reached by other authors' research in this area, where the increase in the intermediation margin would have an impact on the deterioration of borrower conditions that would already be forced to pay higher installments their loans. In the Albanian banking system, there has been a recent high growth of intermediation margin.

In the second category, we reach the following conclusions:

Between the average interest rate on credit (INT) and the level of non-performing loans, there are oblique links. According to other authors' research conducted in this area, the link between the interest rate on loans and the level of non-performing loans should have been fair because the increase in the interest rate on the loan would increase the loan installments by making borrowers would have more difficulty repaying the installments, which would already be higher than the installments that were paid before raising the interest rate. Although second tier banks have tried to lower interest rates, they did not have managed to reduce the level of problem loans. The increase in the level of credits (RR / KR) and the level of non-performing loans has oblique links. The increase in the level of loans has an impact on the level of problem loans, but

the sign of the relationship is not in line with the studies conducted in this area. According to other authors 'research, rapid credit growth leads to high losses due to the shift of supply, ie by increasing banks' desire to credit. This result has come mainly as a result of the tightening lending policies of second-tier banks, especially after 2008-2009, corresponding to the global financial crisis.

In the third category, we reach the following conclusions:

Between the GDP growth and the level of non-performing loans, there is a fair link. As this variable is not statistically significant, we say that in the Albanian banking system GDP growth does not affect the level of non-performing loans. This result is not in line with the studies carried out in this area where there is a noticeable link between GDP growth and the level of non-performing loans. Actually, Albania is unique: at the same time, GDP growth and the level of non-performing loans. This means despite the fact that during the study period there is an increase of GDP, according to the study this has not had an impact on the reduction of the level of non-performing loans. Between the Inflation Rate (INF) and the level of non-performing loans has a fair link. As this variable is not important statistically we say that in Albania the inflation rate does

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not affect the level of problem loans. This result is also related to the fact that during the study period the inflation rate has been very stable, fluctuating within the Bank of Albania's objectives, while the level of non-performing loans has progressively increased from 2010 to 2014. Following the detailed analysis of the literature, the lending and problem loans in the Albanian banking system, we give some recommendations as follows:

More attention has to be paid to sectoral credit diversification. Today, there is a high concentration of credit in some special sectors such as processing industry, construction and trade, repair of vehicles and household items, which together have a weight equal to 47.7% of the total credit of the economy in the Albanian banking system;

Banks need to earn the lost time with respect to collateral execution of their clients. In fact, this procedure is very hampered by the current judicial system, and it should be noted that despite the Bank of Albania's interventions in the unblocking of the difficult situation, much remains to be done;

As the euro / lek exchange rate growth is one of the determinants of non-performing loans, we suggest banks lower credit in the euro as

this would lead to a decrease in the level of non-performing loans;

Banks should lower the interest rates they apply on loans to businesses and individuals. Credit interest rates in the Albanian banking system are noted to be among the highest in the region, and this directly affects the growth of non-performing loans;

Since there is a fair link between the intermediation margin and the level of non-performing loans, this conclusion leads us to think that banks should reduce the level of the intermediation margin. This would have the effect of reducing the level of non-performing loans;

Banks need to review lending policy strategies. There is an obvious correlation between the level of credit and non-performing loans. Therefore, banks should increase the level of credit, as this would bring about a reduction in the level of non-performing loans;

The reconfirmed fairness of the unemployment rate with the level of non-performing loans is presented as an argument rather for the usefulness and need of governmental measures to intensify policies, which reduce the level of unemployment, subsequently affecting the level of loans with problems in the Albanian banking system;

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Establishment of an "ad hoc" state-owned joint stock company for the purpose of purchasing and managing non-performing loans and collateral that rely on these loans. This company can be funded initially with state capital and can then issue bonds with its name. Banks should begin preparing their staff with the changes expected to come from the entry into force of the new capital adequacy regulation by the end of 2014. This regulation presents many new challenges and opportunities, which banks need to catch them in due time to take advantage of them.

To prevent the emergence of new non-performing loans we think it would be worthwhile to create collective guarantee companies. The establishment of these companies is expected to affect the level of credit growth by helping those companies that pose a high risk of lending and which are unable to be credited to banks

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Annexes

Tabele 1.

Descriptive Statistics

	Mean	Std. Deviation	N
NPL	.08394769342651	.063690512743502	44
NRP	.1442	.02741	44
K/K	131.25	7.433	44
INF	.029773	.0113442	44
INT	.140059	.0150936	44
RR/PBB	.03004472962280	.111513121443832	44
RR/KR	.0721	.05077	44
MIN	.0761	.01074	44
ROE	.13864	.080636	44

Tabele 2.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.948[a]	.898	.875	.0225226061	.898	30.607	8	35	.000	1.305

a. Predictors: (Constant), ROE, INF, NRP, RR/PBB, INT, K/K, MIN, RR/KR

b. Dependent Variable: NPL

Tabele 3.

ANOVAᵃ

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.157	8	.020	30.607	.000ᵇ
1 Residual	.018	35	.001		
Total	.174	43			

a. Dependent Variable: NPL

b. Predictors: (Constant), ROE, INF, NRP, RR/PBB, INT, K/K, MIN,RR/KR

Tabele 5.

Coefficients[a]

Model	Unstd.Coef. B	Std. Error	Std. Coef. Beta	t	Sig.	95.0% Confidence Interval for B Lower Bound	Upper Bound	Correlations Zero-order	Partial	Part	Collinearity Statistics Tolerance	VIF
(Const)	-.278	.104		-2.678	.011	-.489	-.067					
NRP	.264	.130	.114	2.026	.049	.000	.529	.196	.324	.109	.922	1.084
K/K	.004	.001	.504	5.913	.000	.003	.006	.755	.707	.319	.401	2.494
INF	.026	.356	.005	.074	.941	-.697	.749	-.091	.013	.004	.723	1.384
1 INT	-2.163	.373	-.513	-5.804	.000	-2.919	-1.406	-.596	-.700	-.313	.373	2.682
RR/PBB	.022	.035	.038	.618	.541	-.050	.093	-.135	.104	.033	.771	1.297
RR/KR	-.318	.126	-.254	-2.527	.016	-.574	-.063	-.734	-.393	.136	.289	3.466
MIN	1.355	.556	.229	2.439	.020	.227	2.484	-.653	.381	.132	.331	3.019
ROE	-.154	.071	-.195	-2.169	.045	-.318	.010	-.815	-.307	-.103	.278	3.603

a. Dependent Variable: NPL

Tabele 6.

Coefficient Correlations[a]

Model	ROE	INF	NRP	RR/PBB	INT	K/K	MIN	RR/KR
ROE	1.000	.069	-.134	.037	-.388	.355	.038	-.531
INF	.069	1.000	.117	-.140	-.429	-.152	.192	-.112
NRP	-.134	.117	1.000	-.056	-.054	-.158	-.015	.131
RR/PBB Correl	.037	-.140	-.056	1.000	.092	-.041	.115	-.372
INT	-.388	-.429	-.054	.092	1.000	-.281	-.595	.218
K/K	.355	-.152	-.158	-.041	-.281	1.000	.323	.163
MIN	.038	.192	-.015	.115	-.595	.323	1.000	-.293
RR/KR 1	-.531	-.112	.131	-.372	.218	.163	-.293	1.000
ROE	.007	.002	-.001	.000	-.012	2.093E-005	.002	-.005
INF	.002	.127	.005	-.002	-.057	-3.940E-005	.038	-.005
NRP	-.001	.005	.017	.000	-.003	-1.508E-005	-.001	.002
RR/PBB Covar	.000	-.002	.000	.001	.001	-1.043E-006	.002	-.002
INT	-.012	-.057	-.003	.001	.139	-7.652E-005	-.123	.010
K/K	2.093E-005	3.940E-005	1.508E-005	1.043E-006	7.652E-005	5.325E-007	.000	1.494E-005
MIN	.002	.038	-.001	.002	-.123	.000	.309	-.021
RR/KR	-.005	-.005	.002	-.002	.010	1.494E-005	-.021	.016

Dependent Variable: NPL

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Histogram
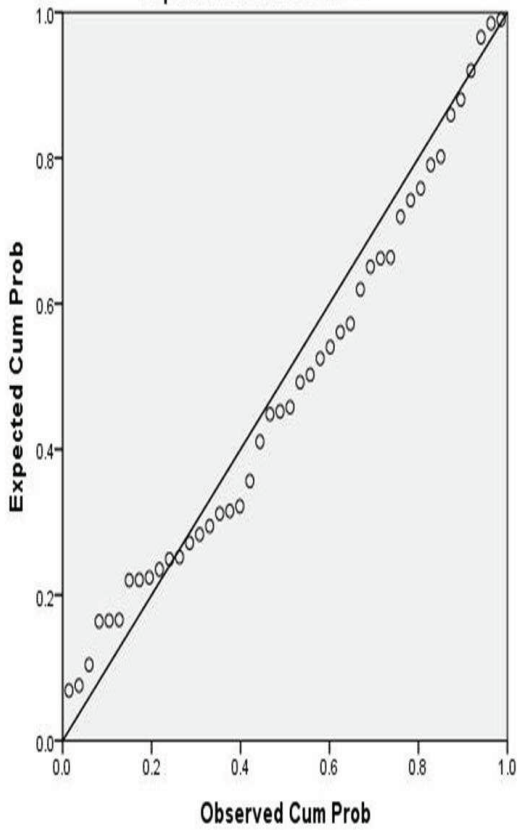
Dependent Variable: NPL

Mean = -1.67E-15
Std. Dev. = 0.902
N = 44

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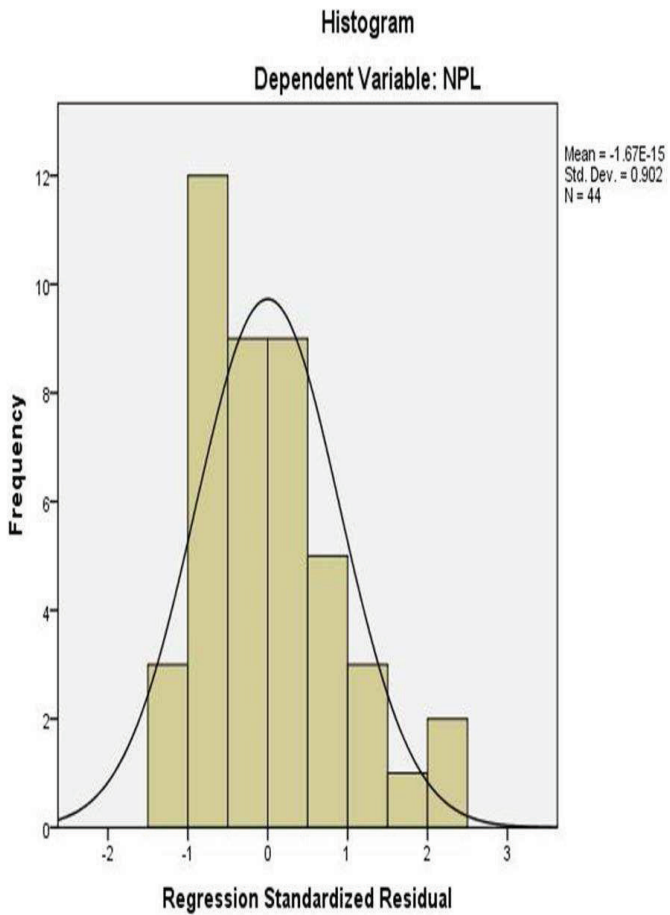
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: NPL

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