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Research Article

Influence of Macroeconomic Factors in Failure of Return of Bank Loans in Kosovo

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Abstract

The risk from non-payment of loans is a challenge for all the banks. Payment of the loans is a crucial issue for efficient functioning of the banking system. Loaning is one of the main uncertainties in the banking business, for loan payment can be rarely guaranteed completely. Often, a question occurs: what are the factors that influence in failure of the return of bank loan? What are the politics that must be followed to stimulate the return of bank loans? Through this research we aim to highlight the reasons of debtors in failing of loan return by studying the link of macroeconomic factors with NPL (non-performing loans). This is a first research in Kosovo that analyses the link of the macroeconomic factors influence (GDP, interest norms, unemployment, inflation, maturity period and grace period) these referred in the research as "independent variables" in failure of bank loan return that in the study bellow are referred as "dependent variable NPL for the Kosovo bank sector. This study argues as what is needed for the Kosovo banking system and presents the ideas of sustainable development of banking system in correspondence with non-performing loans, acknowledgment of the factors that hinder the return of the bank loans and reorientation of the loaning politics.

Keywords: *GDP; loan return; interest rate; unemployment rate; inflation.*

1. Introduction

Problematic loans have a special treatment in all the countries of the world, because an uncontrolled increase of the problematic loans would bring a possible bankruption of the overall banking system and failure of the financial system.

Failing the return of the bank loans is one of the main risks that influence the stability of the banking system.

Banks in Kosovo had a somewhat slow increase during the transition and NPL had an increase during the last five years as a result of the influence of the macroeconomic factors in the country. Such situation with a fragile economy, increases the need for further analysis of the macroeconomic variables and their influence in NPL.

In the last year Kosovo had a slow increase in crediting, in the first half of 2014 first signs of the reclamation of the crediting activities in Kosovo. In June 2014 the overall value of the loans was 1.89 billion euros, that presents an annual increase of 3,5% which is higher than annual rate of 2.8% as of June 2013 (CBK, 2014). Loaning risk is one of the main risks for the banking system in Kosovo. Comparing to the previous year, the loaning risk increased, in June 2014 report of the non-performing loans towards the overall loans reached 8.2% form 7.8 % in June 2013 (BQK, 2014).

2. Research Issues

Influence of the macroeconomic factors, GDP, interest rate, inflation rate and unemployment rate, maturity deadline and grace period in increasing the non-performing loans in Kosovo.

3. Theoretical Frame

In the theoretical frame we will present the findings from the literature and research findings from different authors and other institutions regarding the influence of macroeconomic factors in failing of return of bank loans. Academic literature proves a strong connection between macroeconomic factors and NPL. Among the most important factors that are researched in different countries are: annual rate of GDP, real interest rate, annual rate of inflation, level of unemployment, real exchange course, bank risks etc.

A general explanation for the relation of GDP and NPL was given from the authors (Salas and Suarina, 2002; Rajan and Dhal, 2003; Fofack, 2005; Jimenez and Saurina, 2005) according to them an increase of real GDP will influence in the increase of the incomes that will improve the capabilities of the debtor to pay back the loan. On the other side, when the economy stumbles the level of the problematic loans it is possible to increase as a result of unemployment increase, this will result in increasing the difficulties of debtors for loan payment. When the economy is decreasing (when we have a negative increase of GDP) the level of bad debts will increase, according to them, unemployment is positively related to NPL.

Regarding the relation between the macroeconomic factors and the loan quality exist many theoretical models, where economic cycles and banking stability are explained. Expansive economy is characterized with relatively small number of bad debts, customers and companies have sufficient incomes to cover their debts in the foreseen deadlines. Whereas, economies in recession has a positive influence in increase of the bad debts. Generally, theoretical models in the business cycle with a financial role offer a good base for modelling of NPL, because they explain the business cycle nature and the loan risks – failing in return of loans (Williamson, 1987).

Lawrence (1995) analyses the theoretical literature on the model of consume life cycle and presents clearly the possibilities for non-payment. This model means that debtors with low incomes have higher chances not to pay back in time due to the risk of facing the unemployment and not to be able to full fill their obligations. Besides this, by aiming to protect their loaning balance, the banks charge high interest rates for the clients considered as risk for non-return of the loan. Rinaldi and Sanchis-Arellano (2006) expand the model of Lawrence by supposing that agents get loans to invest in actual or financial incomes. They argument that the possibility of non-payment in time depends from the actual incomes and unemployment rate, which is related with the level of uncertainty of future income level and the loaning rate.

According to Nkusu, (2011) the influence of inflation in NPL might be unclear. He explained that their relation might be positive or negative. In one side, it shows that high inflation might make easier the return of the loan by decreasing the real value of the paid loan, but in the other side a high inflation might decrease the real incomes of the debtor, since the salaries are not fixed. Further, Nkusu explains that in the countries where the changes rates of the inflation are high, can bring higher interest rates, this strategy is compiled from monetary politics to fight the inflation. According to him, NPL have a central role in the relations between the market of the loans and macro financial factors.

According to one study in Africa, it is argued that economic growth (GDP) and the increase of the real interest rate are the main determents of the bad loans (Fofack, 2005).

A research on the factors that influence in NPL in the Islamic banks in Malaysia for the period of 2007-2009 is done by Adebola et al. (2001). His results show that long term relation between the interest rates and non-performing loans is positive.

Bofondi and Ropele (2011), analysed the influence of macroeconomic determinants in the quality of bank loans in Italy for the period of 1990- 2010. According to this study, the quality of the bank loans can be attributed to a limited number of macroeconomic factors, such us overall economic situation, loan stages and the costs for loan receiving, the difference in this general

macroeconomic condition influences in loan quality.

Louzis et al. (2010), analysed the banking sector in Greece, and studied the influence of macroeconomic factors (real rate of increase of GDP, level on unemployment and real interest rate) for the period of 2003 – 2009. The research shows that the quality of bank loans in Greece is related to macroeconomic factors (GDP, unemployment rates and the interest rate) as well the management quality.

Salas and Saurina (2002), according to a research in the Spanish banks found that variation of the bad loans/bedts is explained with real increase of GDP, size of the banks, capital report and the power of market.

Problems with NPL rise when economic growth turs to decrease, we have an increase of interest rates and risk increase (Espinosa and Prasad, 2010). Macroeconomic factors that were found to influence the bank assets include exchange course, interest rate and inflation (Louzis, Vouldis and Metaxas, 2010).

4. Methodology

For realisation of this study we used the methodology that consists in combining the primary data with secondary data. A considerable part of secondary data is secured through usage of existing literature regarding non-performing loans, by consulting reports and important researches regarding the factors that influence non-performing loans.

For the empiric part of the research, the data are gathered from two self-administered questionnaires: one questionnaire is filled from the debtors, where they express their views for the influence of macroeconomic factors in NPL. All respondents are debtors in different Kosovo banks and they failed in payment of loans in set deadlines. In total of 190 questionnaires are distributed and only 161 of them contains requested data that are used in the analyses of the regression and correlation. Out of these respondents, 86 (53%) of them were individual debtors (59% male, whereas 41% female) and 75 (47%) are legal entities and business loaners, enterprises according to their business activity (27% serving businesses, 13% production businesses, 49 % trade and 11% construction businesses).

The second questionnaire was distributed among the different bank employees operating in Kosovo to express their views on the influence of the macro economic factors in NPL. In total of 100 questionnaires are distributed but only 81 were received back and their data were uploaded in the SPSS for analysing the regression and correlation.

Questioners were adopted in such manner to enable us to gather data from which we create information requested through this research.

In the first part of the research we will discuss some of the macro economic factors gathered from the secondary sources (reports from different institutions), whereas in the second part will be presented perceptions of the banking sector the debtors in different tables, regarding the influence of macroeconomic factors in the increase of NPL in Kosovo.

To realise this analyse we used the SPSS programme, where we uploaded data and gave adequate code's. Analysis is done with regression and correlation. Used scale in the questionnaire is based on the Likert scale 5 points (with 1= don't agree at all, 2= don't agree, 3= neutral, 5= agree, 6 = strongly agree).

5. General Overview of the Macro Economic Factors and Problematic Loans in Kosovo for the Period of 2010 – 2014

In this part of study, we will present some important data related to macroeconomic factors (GDP, interest rate, inflation rate and unemployment rate) in the increase of the non-performing loans, data gathered from secondary sources.

Compared with the previous year, the loaning risk has increased, in June 2014 the report of non-performing loans towards the loans in total reached 8.2% from 7.8% in June 2013, this means that there was an increase of 0.4% for the same periods of time (CBK 2014).

Gross Domestic Product – according to the same report the increase of GDP for a five years'

period had the following flow (2010, BPB 3.3%; 2011, BPB 4.4%; 2012, BPB 2.8%; 2013, BPB 3.4%; and 2014, BPB 3.0%), from these data we can see a light increase of GDP during 2011, whereas in the last year we a light decrease in comparison with the previous year (CBK, 2014).

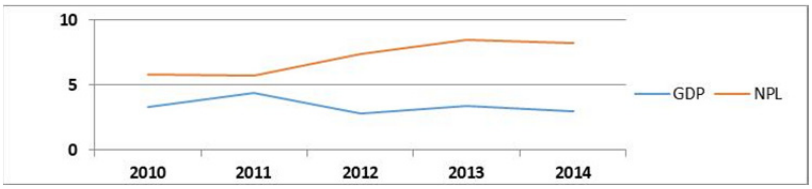

Fig. 1: Source: IMF & WB (2014), adapted from the authors.

Non-performing loans in Kosovo in relation with overall loans expressed in percentage during the period 2010 – 2014 are as follows (2010, NPL 5.8%; 2011, NPL 5.7%; 2012, NPL 7.4%; 2013, NPL 8.5%; 2014, NPL 8.2%), from these data we find that in 2013 was the higher rate of NPL (WB, 2014).

As seen in the figure 1, where through the graphics is presented the relation between the rate of GDP and NPL in Kosovo for the period of 2010-2014, generally it is presented a negative connection between these two variables, that means that with the increase of GDP the NPL decreases. Exception is year 2014 where these two variables have the straight report.

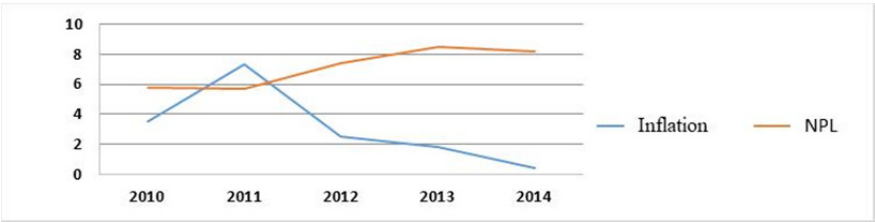

Fig. 2: Source: (WB, 2014), adapted by authors.

Inflation rate – had continuous decrease in Kosovo in the period of 2010-2014 (2010, 3.5%; 2011, 7.3%; 2012, 2.5%; 2013, 1.8%; 2014, 0.4%), the highest inflation rate is marked in 2011, whereas further it continued with decrease (WB, 2014). In the figure 2, graphically is presented the relation between the inflation and NPL.

inflation rate has two effects related to NPL: a) shows that high inflation can make loan payment easier by decreasing the real loan value to be paid; b) high inflation can decrease the real incomes of the debtor, since the salaries are uncertain. (Nkusu, 2011).

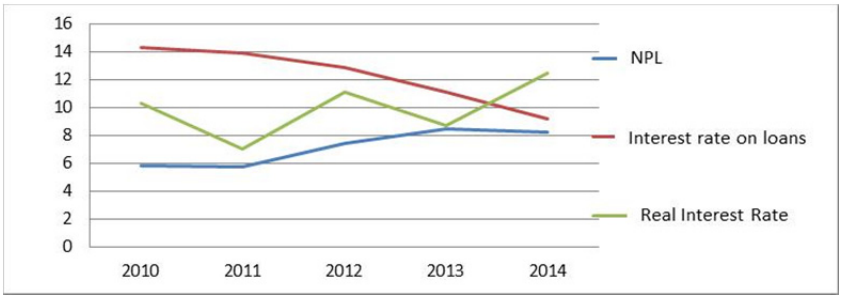

Fig.3: Source: World Bank (2014), adapted by the authors.

Interest rate- for loans in Kosovo for the period 2010- 2014 (2010, 14.3%; 2011, 13.9%; 2012, 12.9%; 2013, 11.1%; 2014, 9.2%). The interest rate in Kosovo since 2010 has a continuous decrease (WB, 2014).

The interest rates in loans are characterised with decreasing trend during the first half of 2014. The interest rate in loans decreased in 10.6% in June of 2014 from 12.0% as in June of 2013 (CBK, 2014). Whereas the real interest rate for period of 2010- 2014 was: (2010, 10.3%; 2011, 7.0%; 2012, 11.1%; 2013, 8.7%; 2014, 12.5%), (WB, 2014).

In figure 3 is graphically presented the report between interest rate for loans, real interest rate and NPL for the last five years. From the figure can be seen that the report between the real interest rate and NPL is completely straight from 2010-2012, that with chances of real interest rates changed NPL in the same direction.

Unemployment- according to the last survey of Labour force (AFP), Kosovo has a scale of unemployment of approx. 30%. Almost 70% of the unemployed are long term unemployed (Progress Report for Kosovo, 2014).

Regarding the theoretical explanation of the relation between unemployment and NPL is that we have an increase of unemployment in the country and this influences negatively in individual incomes and decreases their capabilities in loan payments, this is obvious when one person losses his job he cannot pay back its loans, similarly increased unemployment negatively influences the country economy, and also negatively influences in the demand for product that after all influence production / sales of the companies, and all this definitely decreases the incomes for the companies and fragile loan conditions (*Louzis, Vouldis the Metaxas, 2010*).

6. Results and Discussion

The results of our research are divided in two parts; in the first part are presented the perceptions of the bank employees regarding the influence of macroeconomic variables in NPL variable, whereas in the second part perceptions of the debtors regarding the macro economic variables in increase of NPL.

6.1 Views of bank employees

To measure the influence of independent variables (rate of GDP, interest rate, inflation rate, unemployment rate, maturity rate and application of grace period) in the dependent variable NPL, the regression analyse is used and the results are bellow presented, see table 1.

Table 1: Dependent Variable: NPL

	B	Std. Error	t	Sig.
(Constant)	.549	.440	1.248	.216
GDP rate (X_1)	-.128	. 077	-1.671	.099
Interest rate (X_2)	.455	.077	5.914	.000
Inflation rate (X_3)	.029	.066	.430	.669
Unemployment rate (X_4)	.601	.091	6.614	.000
Maturity deadline (X_5)	-.043	.070	-.613	.541
Appliance of grace-periods (X_6)	-.100	.066	-1.501	.138
R				.843
R Square				.710
Adjusted R Square				.686
Std. Error of the Estimate				.401
F-stat			(6, 73)	29.797
Sig				.000

*Critical **F** critic* for the free scale (6, 73) is 3.07 whereas real F is 29.797 that means that the model is statistically important with the level of significance α= 1% (0.01).

According to the regression analysis, the regression variables are part of the analysis by explaining 68.6% of the dependant variable NPL.

By using the unstandardized weights of the regression, the equation of regression might be presented as bellow:

$$\mathbf{Y= 0.549 – 0.128X_1 + 0.455X_2 + 0.029X_3 + 0.601X_4 -0.043X_5 – 0.100X_6}$$

Rate of GDP **–** from the regression analyse the level of GDP is in diagonal proportion with NPL, if other variables remain unchanged according to the equation fir each unit 0.1-unit increase of GDP we have a decrease of 1.28% on NPL. If GDP increases the capabilities of the debtors for loan payment within deadlines increases.

If we continue with explanation of these negative relationships with literature data's, we find that increase of gross domestic product usually increases the incomes and finally increases capacities for payments of loans of the debtor which from his side contributes in decreasing the non-performing loans and vice versa (Khemraj and Pasha, 2009).

Interest rate **-** according to the perceptions of the bank employees the relation between the interest rate and NPL is positive (in straight proportion) that means that with the increase of the interest rate for 0.1 will be increased the possibility of failing in loan payment for 4.55 %, if the other variables remain unchanged this is as logical flow that as higher the loan costs the more difficult to pay the loan.

Similar explanation is given from the authors Sinkey and Greenwalt (1991), from the research in United States they found a positive relation between the rates of loan losses and the high interest rates.

When there is an increase of the loan and increase of the interest rates, that the effect of the interest rates must be positive in the increase of the problematic loans (Bofond and Ropele, 2011).

*Inflation rate***-** from the survey results we found that inflation rate is in positive relation with failure of return of bank loans where for each 0.1 unit change in the inflation rate we have a change of 0.29% in NPL, if the variables remain unchanged. As higher the inflation rate similarly will be increased the rate of NPL in the report with overall loans.

Unemployment rate- bank employees classified this as most important variable that influences in failure of payment of bank loans, from the results of testing gained from the regression analyse the unemployment rate is in positive relation with failure of payment of the bank loans (NPL), where for each 0.1 unit change in the unemployment rate if other macroeconomic variables remain unchanged the dependant variable in our case, NPL changes for 6.01%.

Similar results where unemployment is positively related with NPL are shown in the previous researches from the authors (Salas and Suarina, 2002; Rajan and Dhal, 2003; Fofack, 2005: and e Jimenez and Saurina, 2005).

Maturity deadline and Grace period appliance – from the research results we see that these two independent variables are negatively related in failure of bank loan payment (NPL). With the increase of the time line for loan payment the payment rate will be decreased and as result the debtor will have higher possibilities to pay the loan within the set deadlines. Also, if the grace period will be applied which gives time space for the debtor up to the payment start.

This possibility helps the debtor to circulate with borrowed money aiming income increase that will later serve for regular payment of bank loans.

The loan structure according to the maturity deadline in Kosovo remains similar as in previous periods. The highest part of the loans continues to be dominated from loans with longer term maturity. The loans with maturity deadline "above 2 years" in June 2014 represented 67.6% of the overall loans (68.0% in June 2013). The loans with medium maturity deadline ('1 up to 2 years') continue to have lower participation within the loans, by being represented with 7.3% in June 2014 (7.8% in June 2013). Whereas, the loans with low maturity deadline ('until 1 year') marked a light increase in participation, by being represented with 25.1% of the overall loans in June 2014 (24.2% in June 2013), (CBK, 2014).

6.2 Views of debtors

The views of debtors are also uploaded in the regression analyse to test the influence of independent variables (GDP, interest rate, inflation rate, unemployment rate and deadline of maturity) in debtors, if these macroeconomic factors move oppositely with the increase of the debtor's incomes, then as a result non-capability for payment of loans towards banks they become bed debtors which we coded as dependent variable NPL for banks.

Table 2: Dependent variable: NPL

	B	Std. Error	t	Sig.
(Constant)	1 .297	.391	3.313	.001
GDP rate (X_1)	-.024	.024	-.984	.327
Interest rate(X_2)	.458	.047	9.770	.000
Inflation rate (X_3)	.219	.056	3.889	.000
Unemployment rate (X_4)	.131	.054	2.435	.016
Maturity deadline (X_5)	-.045	.052	-.862	.390

R		.698
R Square		.487
Adjusted R Square		.471
Std. Error of the Estimate		.533
F-stat	(5, 155)	29.455
Sig		.000

By using the un standardised weights of regression, regression equation might be presented as bellow:

$$\mathbf{Y= 1.297 – 0.024X_1 + 0.458X_2 + 0.219X_3 + 0.131X_4 -0.045X_5}$$

*Critical **F** critic* for the free scale (5, 155) is 3.14 whereas *real* F is 29.455 that means the model is statistically important with the level of significance α= 1% (0.01).

According to the regression analyse independent variables that enter the analysis explains 47.1% of the dependent variable *NPL*.

Also, according to the perception of the debtors the results have the same logic with the perceptions of the bank employees, dependent variables (GDP and maturity deadline) are connected negatively with dependent variable NPL, whereas other independent variables (unemployment rate, interest rate and inflation rate) are positively related to NPL.

According to the survey results of the debtors the main reason for failure in payment of bank loans is the high interest rate. Non appliance of a low interest rate that would challenge individuals to get loans for business issues and consequently will influence economic growth in general is causing a continuous increase of NPL in Kosovo. From the regression analyses it shows that for each 0.1-unit increase of the interest rate we will have 4.58% increase of NPL and vice versa, if other variables remain unchanged.

7. Conclusions

From the research results we achieved to identify few results for the influence of macroeconomic factors in the non-performing loans.

As per the regression analyse the results of the two questionnaires gathered from the bank employees and the debtors, these results show that macroeconomic variables (GDP, maturity deadline and appliance of grace period) have negative relation with (in diagonal proportion) with dependent variable NPL. If GDP increases the maturity deadline and the grace period, we will have

a decrease of the NPL in relation with the overall loans. With the increase of GDP increase the incomes of debtors that will serve them for payment of the loan within the set deadlines. Negative relation between GDP and NPL is expressed also from the authors (Espinosa and Prasad, 2010; Lawrence 1995; Williamson, 1987; Salas and Suarina, 2002; Rajan and Dhal, 2003; Fofack, 2005; and Jimenez and Saurina, 2005).

If the maturity deadline is prolonged the debtor will have lower loan rates for a certain period, so the debtor will face easier and will fulfil its services towards banks within the foreseen deadline. Appliance of the grace period is a challenge for loan receiving, up to present is not applied in Kosovo often, the views of the bank employees for this crediting method is that the grace period will enable the debtors to pay the loans within the set deadlines because this method gives them a free time from the time of receiving the debts up to the time when starting payment of the debts, therefore the debtors will face easier and will pay the certain loans.

Whereas other macroeconomic variables (interest rate, inflation rate and unemployment rate) that from the analysis of regression express a positive (straight) relation with the dependant variable NPL. If the interest rate increases this increases the loan costs that will be more difficult to be paid and as result, we will have an increase of NPL. Positive relation between the interest rate and NPL is also given in the researches of (Espinosa and Prasad, 2010; Adebola et al. 2011).

When the inflation rate increases this decreases the possibility of the debtor to pay the loan within the set deadline. Generally, in Kosovo the salaries in the private sector are low, so as such we have an increase of the consume costs than the budget of the customer decreases and such situation of the debtor decreases the possibilities for loan payment, because with the increase of the inflation the debtor becomes poorer.

Increase of the unemployment rate will influence the increase of the NPL, as higher the unemployment is as higher the rate of NPL will be, as per the results of our research. In the last years in Kosovo there is an increase of failures of the companies that stopped operating, and this will result with increase of unemployment. If one company has bank loans and also its employees have loans, the closing of this company will influence in the overall increase of NPL due to loss of possibilities for loan payment towards the bank of the company employees since they will become unemployed. A similar result is achieved in the study of macroeconomic factors in the quality of the Czech bank sector for the period 1993-2006, where there is a positive correlation between unemployment rate and the consumer price inflation towards the problematic loans *(*Babouček and Jančar ,2005*)*. Also, the authors (Louzis, Vouldis and Metaxas, 2010) found positive relation between unemployment and NPL.

8. Recommendations

Recommendations given in this study are based on the results of this research and aim decrease of NPL rate in Kosovo.

Recommendation directed to the Central Bank of Kosovo- this recommendation for Central Bank of Kosovo is done since it has an important influence in the country economy. We advise to decrease the interest rate towards the commercial banks operating in Kosovo; such action will challenge the increase of requests for goods and services, with the increase the need for increase of production of products will rise that increases the activity of the production companies and consequently is related with the decrease of unemployment and finalises with economic growth in the country. But, such change of the interest rate must be in accordance with the level of inflation rate. Such action of CBK would lead to a positive change of macroeconomic factor which were analysed in this study (GDP, interest rate, unemployment rate and the inflation rate) which contribute in the decrease of NPL and save the stability of the financial sector in the county.

Recommendation for economical financial policies – the role of state in the economy in the modern countries is undisputable, the influence of state in economy come through a development of legal and institutional platforms based on which are developed economical state activities. The state must draft politics for the price stability and increase of the employment in the country. This can be done by using strategies that influence in business development, stimulating the production companies, subsidising agriculture and all this influences in the economic development of the

country. Also, it must draft laws aiming protection of employees in the private sector where the minimum wage is low and in case of increase of the inflation rate this category cannot face their obligations. Such politics to influence in the decrease of NPL in relation to overall loans in Kosovo.

Recommendations for the banks operating in Kosovo- we advise the banks to give long term loans (to extend the maturity deadline of the loan) and to apply the grace period per business loans which enable the young enterprises to develop its economic activity for a certain period with the borrowed means from the bank without having the burden for loan payment. Extending the maturity period and appliance of the grace period as per the study results influences the decrease of NPL in Kosovo.

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Appendix

Perception of bank employees

Correlations

	NPL	GDP Rate	Interest rate	Inflation rate	Unemploym. rate	Maturity deadline	Grace period appliance
NPL	1						
GDP Rate	-.066	1					
Interest Rate	.714**	.110	1				
Inflation Rate	.033	.048	.008	1			
Unemployment Rate	.729**	.095	.547**	-.004	1		
Maturity deadline	.041	.397**	.052	.005	.203	1	
Appliance of grace periods	-.024	.263*	.056	-.103	.166	-.040	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Coefficients correlation between the different explanatory variables are low, except between the increase of the unemployment rate and NPL (0.72); as well interest rate and NPL (0.71).

Perception of debtors

Correlations

	NPL	GDP Rate	Interest rate	Inflation rate	Unemployment rate	Maturity deadline
NPL	1					
GDP Rate	.009	1				
Interest Rate	.642**	-.001	1			
Inflation Rate	.381**	.113	.256**	1		
Unemployment Rate	.136	- .018	.003	-.010	1	
Maturity Deadline	.009	- .159*	.056	.107	.001	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Highest coefficient of correlation is between variables interest rate and NPL (0.64), followed by correlation of the inflation rate with NPL (0.38), others in general have small correlation coefficient.