NPLs — THE SOLUTION RECIPE FOR ALBANIA

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Abstract

The quality of the loan portfolio in Albanian banking system is facing many obstacles during the last decade. In this paper we look at possible determinants of assets quality. During the recent financial crisis commercial banks were confronted with deteriorating asset quality that threatened not only the banking industry, but also the stability of the entire financial system. This study aims to examine the correlation between non-performing loans and the macroeconomic determinants in Albania during the last decade. NPLs are considered to be of a high importance as they represent the high risk exposure of banking system. A solid bank with healthy assets increases the market efficiency. Our approach is based on a panel data regression analysis technique from 2005-2015. Within this methodology this study finds robust evidence on the existing relationship between lending interest rate, real GDP growth and NPLs. We expect to find a negative relationship between lending interest rate and asset quality. Further we assume an inverse relationship between GDP growth and non-performing loans, suggesting that NPLs decrease if the economy is growing. Furthermore this study proposes a solution platform, which looks deeper into the possibility of creating a secondary active market for troubled loans, restructuring the banking system or implementing the Podgorica model. This research paper opens a new lieu of discussion in terms of academic debates and decision-making policies.

Keywords: Non Performing Loans, Albania, lending interest rate, real GDP growth, bank restructuring, secondary market

Introduction

Non-performing loans are considered to be the one of the biggest obstacles within Albanian banking system and not only. They induct an issue of high interest from all financial stakeholders all over the world, especially after the global financial crisis of 2008. Considering recent studies about NPLs, it is visible that they have experienced a significant increase everywhere in the world, especially in Balkan Region. The deterioration in the loan quality was considered the main cause of financial crisis for development economies.

Despite all efforts done, it is obvious that NPL problem is still a big obstacle in terms of economic efficiency. Therefore, it is necessary to develop a solution platform, which can contribute in reducing the risk that derives from troubled assets. Many studies are done with respect to this problem, but most of them are constrained by only explaining the reasons that brought the system at this stage by examining the current situation. The inability to address NPLs to a solution is the biggest hurdle economies are facing nowadays. They are one of the main causes of economic stagnation. Therefore minimizing

troubled asset portfolio is a "must-do" in order to increase economic growth. According to Hou (2007) NPL are likely to hamper economic growth and reduce economic efficiency. This paper aims to analyze non-performing loans in Albanian banking system. The study gives a clear picture of the situation by not only discussing the main determinants that drive NPLs and giving a clear overview of the Albanian financial system, but also coming up with a solution package for dealing with troubled assets. This paper opens a new lieu of discussion in terms of academic debates and future studies related to banking industry.

The study is focused on two main determinants in explaining the NPLs behavior: real GDP growth and lending interest rate. On a macroeconomic perspective the study expects to come up with a negative relationship of lending interest rates and indicating that by increasing lending interest rates, nonperforming loans will decrease; in addition the same relationship direction stands for real GDP growth, stating that during the periods of economic expansion, the asset portfolio of the banking system is more healthy, making banking system more solid.

The paper continues as follows: In the following section the paper illustrates a summarized literature review about the importance of nonperforming loans in the banking system. The third section describes the methodology; the forth section exhibits the financial situation of Albania, followed by the quantitative analysis of the NPL and macroeconomic factors during the last ten years and the solution package strategy. The study ends with the conclusion section.

The NPLs importance for banking system

Non-performing loans have been in the spotlight during the recent financial crisis. This paper highlights the reasons that drive NPLs to an acute threat and also aims to come up with a solution package. According to Barr and Siems (1994) asset quality is the main reason of bank failure. Richard (2011) states that a rapid growth on non-performing loans in developing countries causes an increase in inflation, a significant decrease in economic growth and a severe depreciation of the domestic currency. Meka (2015) highlights that NPLs are of high importance for the top level management of the banking system, for the following reasons:

Firstly, they cause a decrease in banking profitability. Jassaud & Kang (2015) points that NPLs generate a "negative carry, " as they do not produce cash interest revenues, yet require funding at market rates. On the other side, this fact keeps an increasing pressure on interest rates charged on standard and special mention loans, which must compensate losses coming from problem loans. Furthermore, Murgasova et . al (2015) affirms that elevated levels of NPLs can also pose a threat to financial stability.

Secondly, Meka (2015) highlights the continuous operational costs, which are mostly related to human resources and other financial, legal and administrative costs that banks have to face when dealing with NPL portfolio.

Thirdly, high cost of funding; banks facing high levels of non-performing loans have difficulties in attracting new funding opportunities, which imposes a high pressure for the shareholders of the banks.

Fourthly, higher risk premium coverage; an increase of the NPL portfolio consequently leads to an increase in provision fund, which creates a direct effect on shareholders profitability and return.

Fifthly, compromised future liquidity difficulties; NPLs occlude the investment fund and also hampers the relationship between the bank and its clients by not being able to fulfill their liquidity requirements thus putting the bank into liquidity troubles.

Lastly, according to Murgasova et. al (2015) a high stock of non-performing loans can restrain the economic activity of overextended borrowers, which leads to a discouragement of the efficient resource allocation towards productive consumers.
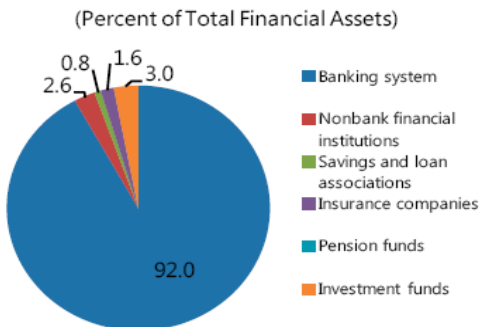
According to Adela and Iulia (2011) unresolved NPLs force economic activity of overextended borrowers and discourage resources from being allocated to productive uses. They emphasize that an increase of the NPL portfolio in Western Balkan Countries, will shrink the medium-term investments and economic growth. Further they add that high NPL levels constitute the biggest constrain in terms of credit supply in Balkan Region.

Referring to Murgasova et . al (2015), non-performing loans increased significantly mainly in those economies where the loan growth during the pre-crisis was strong and where the recession was deep. Albania manifests precisely the same inclination of rapid growth of NPLs and a sharp decrease of the economic growth, despite the fact that it did not fall off to a recession. Many studies about the relationship between troubled assets and macroeconomic indicators come up with different results in line with their economic cycle phase either their state of economy. Further this paper analyses the relationship of GDP growth and lending interest rate with non-performing loans.

Salas and Saurina (2002), Khemaj and Pasha (2009), Dash and Kabra (2010) have found negative relationship between troubled assets and real GDP growth. This studies lead to a clear indication that higher GDP growth entails higher level of income. Referring Guy and Lowe (2012) this increase of GDP growth (decrease of NPLs) improves the capacity of the borrower to pay its debt and reduces bad debt.

Interest rate is an important indicator in determining asset portfolio. According to Bofondi and Ropele (2011) there should be a strong correlation between interest rates and rise of NPLs. In addition Fofack (2005) states that economic growth and real interest rate are significant indicators in determining bad loans. Jimenez and Saurina (2006) find evidence that GDP growth, real interest rate and credit conditions are the main determinants in explaining the bad loan portfolio of the banks. Further they find a negative relationship between GDP growth and NPLs. Messai and Jouini (2013) came up with consistent results with the theory mentioned above about the relationship between troubled assets and real growth. This findings are consistent with Rajan and Dhal (2003), Fofack (2005), Jimenez and Saurina (2006), Khemraj and Pasha (2009), Dash and Kabra (2010), Espinoza and Prasad (2010), Greenidge and Grosvenor (2010). In terms of real interest rate Messai et. al (2013) obtained a positive relationship with NPLs, consistent with Fofack (2005), Jimenez and Saurina (2006), Khemraj and Pacha (2009), Dash and Kabra (2010).
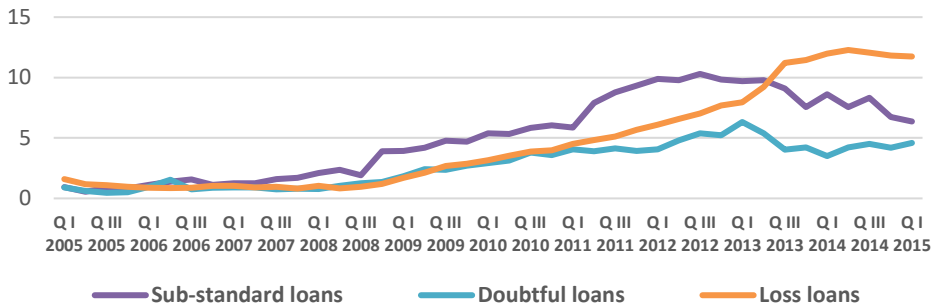
Financial Market in Albania

The dominant part of the Albanian financial market is constituted by banks, indicating that more than 90 percent of the financial system is leaded by banking system. The financial health of this major part of the system is very important for the country. According to recent studies, the main threat for this predominant part of the financial system is attributed to non-performing loans. Therefore, this paper attempts to address the NPL issue. Even though Albania dialed relatively well with the recent financial crisis, the economy is still frail and continually dealing with economic troubles. Referring to International Monetary Fund report systematic risk in Albanian financial system has increased with the recently established investment funds.

Graph 1: Financial System in Albania

Source: IMF Report, 2014

The banking system has faced many problems related to troubled assets, which caused a significant deterioration of bank's balance sheets; this consequently caused a decline in profitability level.

The graph below shows the trend of the main categories of quarterly non-performing loans in Albania from 2005 until first quarter of 2015. In overall the graph shows a significant increase of the NPL, indicating a sovereign threat for the financial system.

As seen in the graph below, the NPL problem became more evident especially after 2008. Loss loans were mainly stable until 2008, but increased sharply right after in 2009 getting to its highest value in late 2014. This again affirms that financial system in Albania is dealing with serious troubled assets and decrease of profitability. This weakens the whole economy, making the country less able to deal with the possible financial shocks.
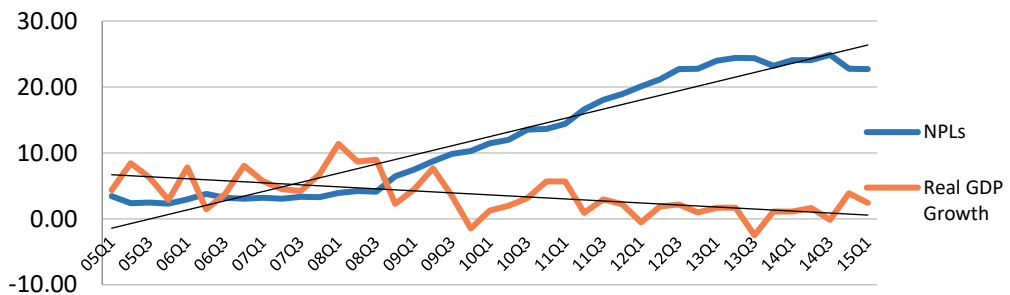
Graph 2: Non-performing loans in Albanian banking system.

Source: Authors

Referring to the literature section above, one of the main indicators affecting troubled loan portfolio is real GDP growth. To have a better picture of the current situation, the trend line of troubled loans and GDP is displayed. As seen in the graph below a negative relationship is expected. During the 10 year period taken into analysis the GDP in overall has experienced a slight constant decline, while in opposition to this is the trend line of NPLs, which have experienced a sharp increase during the same period of time. The slope of the trend lines points out that the elasticity of NPLs with respect to GDP change is high.

Graph 2: Real GDP growth and NPL portfolio

Source: Authors

During periods of economic contraction, savings shrink, therefore banks experience a significant decrease in deposits level. In this type of situations, banks tend to take higher risk in order to increase their loan portfolio and consequently increase their profits.

Data and Methodology

This study focuses on Albanian financial system, more specifically commercial banks. The time frame taken into consideration after the adjustments for missing data is 2005 until first quarter of 2015. The data on NPL and lending interest rate is generated from Bank of Albania, and data on real GDP growth from INSTAT. A detailed approach on data collection is shown in Table 1.

Outliers are considered as numerical values highly shifted from the rest of the data. They usually occur because of extreme events or measurement error. To identify them a scatter plot and kurtosis computation analysis is made. After computing the scatter plot, observations that were highly shifted from the rest of the data were identified and deleted (this is known as a trimming approach).

Table. 1: Variable Description

This table summarizes all variables used in this empirical analysis. Apart from variable description, abbreviation, expected relationship to the depended variable, literature review is also proved in forth column. These assumption on expected relationship are based on the literature review summarizes in the second section of the paper. The expected correlation based on the literature, is also shown in the fifth column.

Variable	Description	Literature	Corr	Abbr	Source
Non Performing Loans	*Non-performing loans refers to the troubled assets of the bank. It is measured as a percentage change on quarterly basis. Three main loan classifications are included in the NPL portfolio (Substandard loans, doubtful loans and loss loans). NPLs are considered as the dependent variable in this linear regression analysis.*	Hou (2007) Ropele (2011) Messai & Jouini Murgasova et . al (2015) Meka (2015)		NPL	Bank of Albania
Real GDP Growth	*Real GDP growth is an indicator for the state welfare, and is closely related to saving and consumption. This variable is also calculated on quarterly basis. Literature shows that countries with high NPL portfolio experience a sharp decrease in economic growth. Therefore it is considered to be very close to NPLs.*	Salas & Saurina (2002), Khemaj & Pasha (2009), Dash & Kabra (2010)	−	GDP	World Bank
Lending Interest Rate	*The indicator used for Interest Rate in terms of NPLs is lending interest rate in ALL currency. This is a clear cut indication whether an increase in lending interest rate will disfavor borrowing in an economy, hence reducing troubled asset portfolio.*	Rajan &Dhal (2003), Fofack (2005), Jimenez Saurina (2006), Khemraj Pasha (2009), Dash & Kabra (2010), Espinoza Prasad (2010), Greenidge & Grosvenor (2010).	−	LIR	Bank of Albania

The variables mentioned in Table 1, are compiled in a pooled equation. A multi-factorial linear regression analysis is computed taking NPLs as the explained variable and real GDP growth and interest rate as the explanatory variables. The study covers a 10 year time frame, where the financial crash is also included.

$$NPL = \beta_0 + \beta_1 real_{GDP} + \beta_2 Lending\ IR + \varepsilon \qquad \text{Where } \beta_i \text{ is the intercept} \qquad (1)$$

In the next section an empirical analysis is computed to have a better picture of the current situation of NPLs and its explanatory factors.

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Empirical Findings

In this section empirical results and interpretations on the prominence of the research are provided. A descriptive statistics table is depicted to give a general idea on variables distribution and their correlation to dependent variables. Table 2 summarizes the descriptive statistics of the variables taken into consideration for this analysis.

The correlation matrix gives a better insight on the relationship between variables. The correlation coefficient measures the strength and direction of a linear relationship between two variables; the closer the coefficient to one, the higher the correlation between variables and vice versa.

Table 2

This table summarizes the descriptive statistics of the regression analysis. The sample includes 41 observations from Albanian financial industry. The variables for the multivariate regression analysis are generated mainly from Bank of Albania, World Bank and Institute of Statistics in Albania (INSTAT). Non-performing loans and I ending Interest rates are generated from Bank of Albania; real GDP growth is downloaded using INSTAT database. All the observations are on quarter basis. The correlation matrix gives a clear picture of the relationship and correlation strength of the variables. The closer the coefficient to 1 the stronger is the correlation and vice versa. The positive sign indicates that the variables move to the same direction (positively correlated) and a negative one indicates that the variables move in different directions (i. e if one increases the other decreases). This table is computed after outliers are deleted.

Descriptive Statistics

Variable		Non Performing Loans								Correlation matrix		
		Ob	Mean	Median	Std. Dev	Kurtos.	Skew.	Min	Max	(1)	(2)	(3)
(1)	NPL	41	12, 46	11, 46	8, 623	-1, 759	0, 197	2, 30	24, 8	1. 00		
(2)	GDP	41	3, 62	2, 926	3, 089	-0, 550	0, 414	-2, 50	11, 3	-0. 67	1. 00	
(3)	LIR	41	12, 07	12, 88	1, 837	-0, 276	-0, 565	7, 87	14, 5	-0. 87	0. 52	1. 00

From table 2 it can be said that there is a strong positive correlation between lending interest rate and non-performing loans. This correlation counts for approximately -87%, stating that variables are negatively correlated, which is in line with findings of Rajan and Dhal (2003), Fofack (2005), Jimenez and Saurina (2006), Khemraj and Pasha (2009), Dash and Kabra (2010), Espinoza and Prasad (2010), Greenidge and Grosvenor (2010). Almost the same scenario appears with real GDP growth, with a negative correlation counting for about 67%, indicating that these variables move in opposite directions and are moderately correlated.

In terms of distribution shape characteristics, kurtosis and skewness are also showed in the descriptive statistics table. Kurtosis checks for how small and sharp the central peak is relative to a standard bell curve. Standard normal distribution

Table 3

This table indicates the multivariate regression model which stands in support of this article. The regression is run for non-performing loans and for real GDP growth and lending interest rate, which represent the dependent variables.

Variable	Coefficient	Std. Error	t-statistics	P value
Intercept	56, 72***	4, 108	13, 420	0. 0001
Real GDP Growth	-0, 843**	0, 221	-3, 813	0, 0021
Lending Interest Rate-ALL	-3, 358***	0, 372	-9, 035	0. 0001
Observations	41			
Adjusted R Square	0. 82			
Standard Error	3. 715			

Statistical Significance; coefficients: *significant at 10%; **significant at 5%; ***significant at 1%, two sides.

is called mesocurtic and equals a kurtosis value of 3. Non-performing loans are relatively sharp but still close to normal distribution, while the independent variables are not very close to normal distribution, regarding its fat tails.

Skewness is an indicator of the asymmetry and deviation from normal distribution. The negative sign for skewness shows that the distribution of observations is left skewed, and vice versa.

Table 2 shows that skewness value for non performing loans vary within the range of [-0. 5 to +0. 5], closer to 0, meaning that the distribution is closely symmetric. Real GDP growth skewness indicator in between the range [-0. 5 to +0. 5] states that GDP observations are moderately skewed. While lending interest rates variation of skewness, indicates that interest rate distribution is moderately skewed (left skewed).

Table 3 displays the regression output. As shown in the table 3 real GDP growth is negatively related to non-performing loans. The result is statistically significant at a level 5%. The negative coefficient of 0. 843 indicates that under ceteris paribus condition, an increase of 1 per cent in real GDP growth, leads to a decrease in almost 0, 84 per cent in NPL. This is an indication that during positive economic cycles, troubled loan are not a threat. These findings are in line with Salas and Saurina (2002), Khemaj and Pasha (2009), Dash and Kabra (2010).
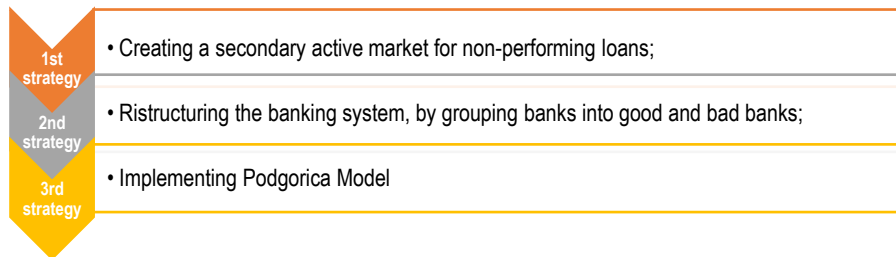

The same relationship stands for lending interest rate, which results to a statistically significant negative relationship with a magnitude of 3. 358. This coefficient means that under ceteris paribus an increase in 1 per cent in lending interest rate for Albanian lek currency (ALL), leads to a decrease in almost 3. 36 per cent in non-performing loans. This is a clear indication that an increase in the interest rate discriminates borrowers in the economic system. Therefore, borrowers with high credit risk will not have incentive to get loans from the banks.

The model displays an adjusted R-Square of 0. 82, which reveals that 82 per cent of the variance is explained by the model. The impact of both in-depended variables, are considered statistically significant, according to the *p-values* and *t-statistics* values.

Solution Strategies

After analyzing the NPL situation in Albanian banking system, this paper comes out with the result that non-performing loans are a threat for the banking system. In the current situation where the Greek financial crisis is seriously affecting the stability for all East European Region and especially Albania— because of the expected decrease of the remittances of Albanian immigrants working in Greece—the stability of the financial system is a necessity. Therefore the system should be kept out of financial distress. NPLs are a "must deal with" issue. In this point of view this article suggests three main options as the strategy of dealing with NPLs. The diagram below summarizes the three solution strategies to be taken into account.

Table 4: Recommended Solution Recipes for NPL problem in Albania

1st strategy	• Creating a secondary active market for non-performing loans;
2nd strategy	• Ristructuring the banking system, by grouping banks into good and bad banks;
3rd strategy	• Implementing Podgorica Model

Source: Authors

First strategy is related to creating a secondary active market for troubled loans and developing the securitization process in Albania. This process would reduce the costs for managing this toxic asset portfolio. Banks would have the opportunity to trade the risky assets. Creating this market would significantly increase the market efficiency.

Second strategy of solving the NPL problem is a bank restructuring, which consists in dividing the banks in two main groups: good banks and bad banks. The last one specifically consists in creating a so called "bad bank" which will manage non-performing loans. This bad bank will bail out the financial system. According to Shehu and Kaci (2014) this strategy increases the credibility of good banks, and reduces the liquidity risk, which is the main cause of banking failure. Cavallo and Majnoni (2002) further find supportive empirical evidence and suggest policy implications regarding banking restructuring. This strategy should be accompanied with a private placed Guarantee Fund, which should monitor and control the process. In overall this restructuring of the troubled loan portfolio leads to a minimization of the credit risk and improves the NPL portfolio.

Third strategy is the Podgorica Model. As mentioned in the section above, the main determinants that drive NPLs are economic growth and lending interest rate; but looks like examining the main determinants is still not enough. Therefore another solution should be taken into account. According to Impavido et. al (2012), keeping economic growth at the optimal level is not the best alternative for Eastern Europe Region. Technically Podgorica Model is a multitask approach, which includes some stakeholder groups such as: banks, central bank, government and businesses in difficulties. Podgorica— according to Stijepovic (2014) — is based on several approaches.

The first approach is financial and operational restructuring of business on voluntary basis, as the basic issue for materializing this approach, which facilitates the NPL restructuring process.

The second is approving the *Lex Specialis*, as a multilateral agreement between government, central bank and commercial banks. According to Dakovic (2013), all these stakeholders should sacrifice. According to this approach government creates conditions for fiscal incentives (tax deduction and partial subsidization of the interest rate).

The third approach is compilation of a detailed plan for financial and operational restructuring; this NPL restructuring considers only the financial administration of the company, but also a reshape of business activity and its operational structure.

The forth approach is related to the restructuring process which is completely out of the court, as a pure intermediary process.

According to Dokovic (2013) this model creates positive impact in remodeling the economy in long term; it also decreases the risk of financial instability. Applying Podgorica Model in Albania will come up with a positive result not only regarding banking industry, but also the whole economy. Referring to Meka (2015), applying Podgorica approach for restructuring NPL portfolio will lead to the following issues.

- Commercial banks in Albania would cash in more funds and pay less provisions; on the other side this would lead to relieve lending process;
- The consumption demand would experience a significant increase which would positively impact Albanian economy;
- Businesses keep them self away from possible failures and still circulate in the economic system, generating incomes, employment possibilities, contributing in this way to a further improve in credit risk and increasing liquidity in the economy.
- Government would generate more income from tax, as long as the business climate will improve because of the decrease of credit risk;
- Central Bank can fulfill its long term financial objective, lowering in this way the liquidity risk.

According to Meka (2015), in substance, the "Podgorica" Approach is rooted on common grounds as the Bank of Albania actual platform for NPL resolution, but a better addressing of the issue of non-performing loans should aim at more ambitious objectives and ensuring positive effects for more and more stakeholders.

Conclusion

Financial market in Albania is still narrow and dominated by commercial banks at about 90 per cent. During the last decade non-performing loans has increased substantially, posing a threat to financial stability.

The study find significant statistical evidence for a negative relationship between lending interest rates and real GDP growth, ascertaining that real GDP growth and lending interest rates have a negative relationship respectively on loan misbehavior, indicating that in cases of economic expansion of Albania, the borrower ability to repay loans will increase; on the other side higher interest rates embed higher pressure on borrowers to deal with their periodic payments. These findings are in line with Rajan and Dhal (2003), Fofack (2005), Jimenez and Saurina (2006), Khemraj and Pasha (2009), Dash and Kabra (2010), Espinoza and Prasad (2010), Greenidge and Grosvenor (2010) etc.

The article proposes a triple solution "recipe". Creating a secondary market for troubled loans, restructuring the banking system by grouping banks into "good" and "bad" banks and implementing the non-traditional but effective Podgorica model—are the most convenient pathways to drive non-performing loans to a solution. To make the solution strategy work, a strict financial supervision is required. Combining these alternatives in time can also be a successful bailout strategy for Albania. We cannot find the "*one model fits all*", but we can take the best experience from the countries to deal with this issue.

To conclude, it should be emphasized that non-performing loans are not only constrain to banking industry, but to the whole society because it effects are spread directly into economic growth and social welfare, therefore a special attention should be paid to them.

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