SPOTLIGHT ON:

Problematic Loans: Determinants of Growth and Possible Solution[1]

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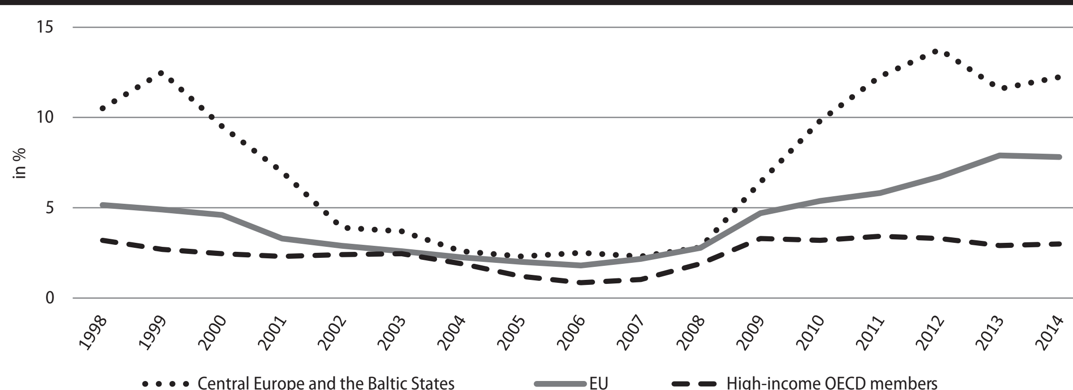
1. Regional Trends

The growth of problematic loans over the past few years has been a key problem facing the countries of central and eastern Europe. Following the start of the global financial crisis in 2007-2008, a growth of problematic loans was noted in most of the economies in the world. However, there are significant differences from country to country in terms of the participation of problematic in the overall loans (Graph T-1).

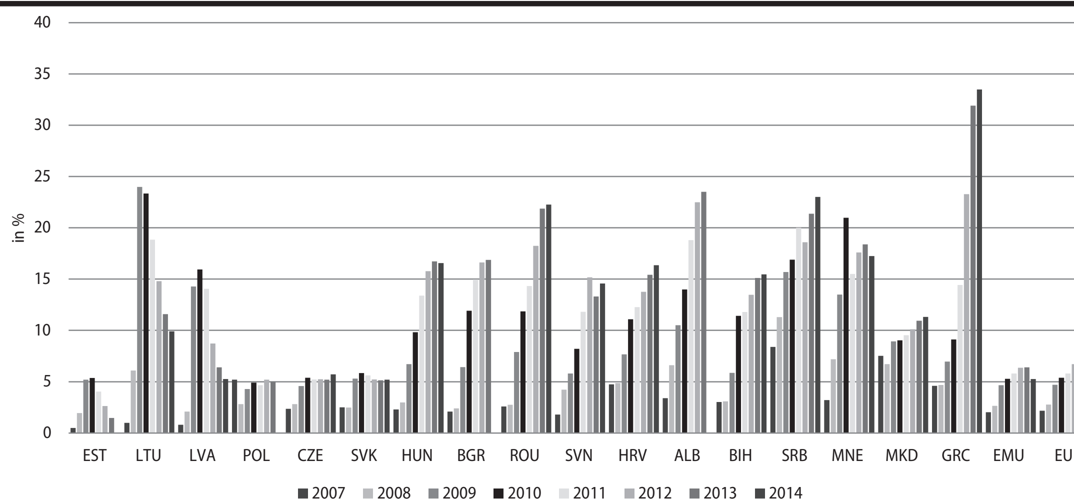
Graph T-1. Participation of problematic in overall loans, 1998-2014.



Source: World Development Indicators

There are differences among the countries of central, eastern and southeastern Europe as well (Graph T-2). The observed group of countries have seen the participation of problematic loans grow in the overall loans by 3.3% in 2007 and by 14.1% in 2013 (if we take Greece out of the equation, the participation of problematic loans in the observed period rose by 3.2% to 13.01%). Over the same period in the Eurozone, this indicator stood at 2% in 2007 and at 6.4% in 2013.

Graph T-2. Participation of problematic in overall loans for select countries, 2007-2014.



Source: World Development Indicators

1 The authors thank Milojko Arsić for his valuable comments and suggestions

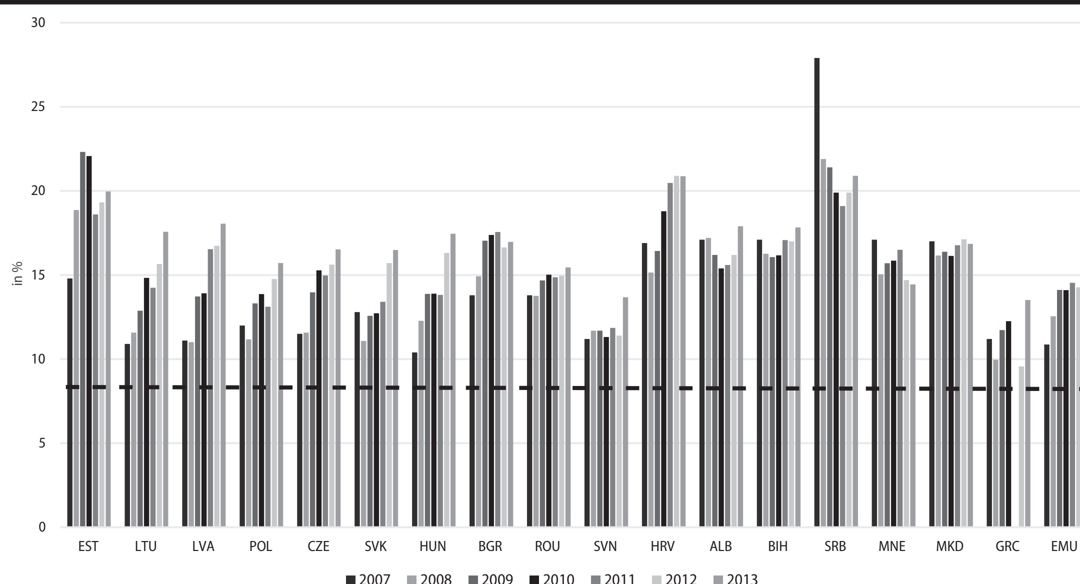
On the basis of the evident difference in the speed of growth of problematic loans, the observed countries can be divided into several groups according to the size of the growth and level of participation of problematic loans (Table T-3). The countries with small growth and medium level of participation were in the best position: Estonia, Poland, the Czech Republic and Slovakia. As a rule, the countries of southeastern Europe fell in the category of bad performance – the growth of the participation of problematic loans is higher and the level was moderately high or high. Based on the participation of bad loans, Serbia was with Greece, Albania and Romania in 2013 at the very top among the countries of central and eastern Europe. Serbia is specific compared to other countries in that prior to the crisis (2007-2008) it had the highest participation of bad loans in overall loans within the group of observed countries. That leads to the conclusion that the problem of bad loans existed in Serbia prior to the crisis and that it only deepened during the crisis. That then leads to the important conclusion that the causes of the bad loans in Serbia lie to a significant extent in the problems that existed before the crisis and which are probably due to institutional elements and a strong credit expansions in that period.

Table T-3. Countries in categories based on height and rate of growth of NPL in overall loans in 2007-2013 period

Level/ Growth	Medium level	Moderately high level	High level
Small growth	Estonia Poland Czech Republic Slovakia	FYRM	
Medium growth		Bosna and Hercegovina Croatia Hungaria Slovenia	Lithuania Serbia
High growth		Latvia	Romania Albania Montenegro Greece Bulgaria

The level of adequacy of capital which places bank capital and risky assets into a relationship is often taken as one of the important elements of financial stability. This indicator is practically a shock absorber in the case of negative effects which could appear in the form of a writing off of a number of problematic loans. The European Banking Authority (EBA) sets the lower level of this indicator at 8% while some economists advocate the idea of raising it to more than 15% in conditions of financial crises. The adequacy of capital for the EMU countries is registering a rise following the start of the financial crisis (Graph T-3) but in most economies it is at the level of 10%-15% except in the cases of Estonia, Croatia and Serbia where it is constantly above that level. The average level of adequacy of capital in the banking sector in Serbia since the start of the crisis is at the level of around 20%. Bearing in mind the regulatory standards and the values in other countries, this high level of adequacy of capital is having a positive effect on the assessment of the stability of the banking sector in regard to problematic loans. Still, the high values of this indicator do not have influence on the process of decreasing the participation of NPLs except for the function of signaling stability.

Graph T-3. Level of adequacy of capital for select countries 2007-2013



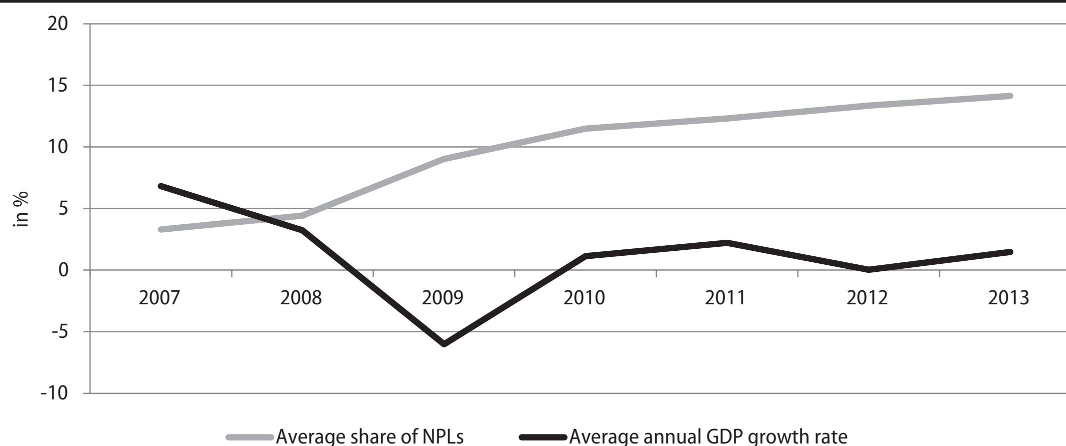
Source: IMF-FSI (October 2014)

2. Determinants of Problematic Loans

Although economists dealt with the determinants of the level and dynamics of the participation of problematic loans earlier, interest in this topic gained in significance over the past few years. The problems that can appear in economies with a high level of participation of problematic loans demand better understanding of this problem in order to clearly define measures to reduce them in as short a period as possible. In analyses to date, researchers most often linked two groups of factors as the factors of participation of problematic loans: macroeconomic determinants and specific determinants linked to the operations of banks. Besides those two groups, more recent research has noted attempts to partly explain the problem of problematic loans through the effects of institutional factors which determine the rules of behavior in the banking sector of a given country.

Empiric analyses of a group of countries confirm the strong dependence of problematic loans on GDP trends (Espinoza and Prasad, 2010; Nkusu, 2011, Bock and Demyantes, 2012, Beck, Jakubik and Pilou, 2013). Recent research indicates that the effects of economic trends on NPLs is not linear – during the period of crisis the influence of macroeconomic conditions on credit risks grows stronger (Buncic and Melecky, 2012). Still, even in the observed sample of 17 countries of central, eastern and southeastern Europe, we noted that the participation of problematic loans continued to grow after the economy started to recover which shows that along with GDP trends other factors make a significant contribution in explaining the differences between individual countries (Graph T-4).

Graph T-4. Average GDP growth rate and participation of NPL in select group of countries



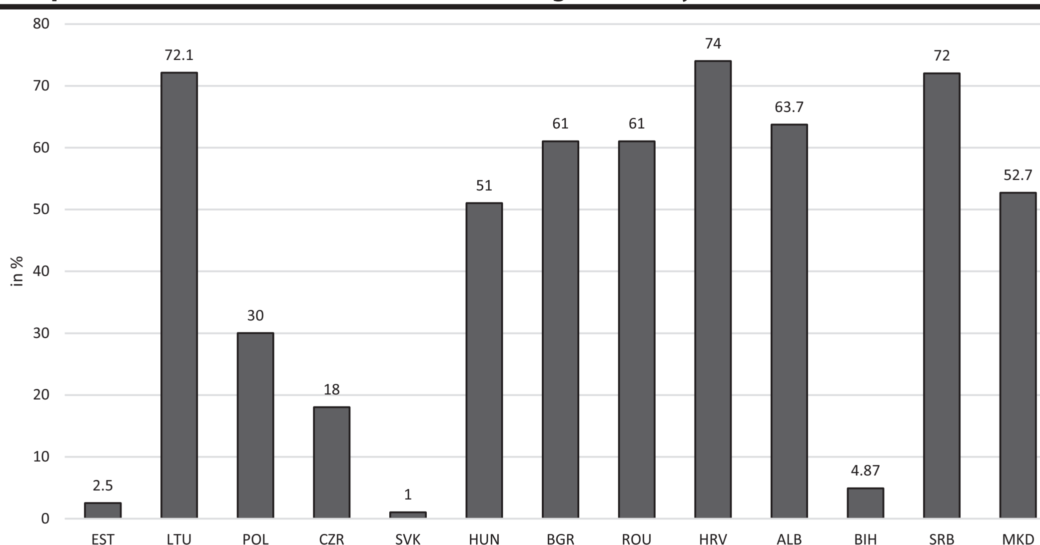
Source: World Development Indicators

Along with economic growth, the contribution of other macroeconomic factors has been determined such as: interest rates, unemployment rates, inflation, exchange rates and the level of participation of loans indexed in foreign currency.

The rise of interest rates additionally increases the participation of problematic loans through the increased burden on debtors who, because of increased dues to service interest, are no longer able to meet their obligations on the basis of credit. This is especially evident in cases of loans with variable interest rates. A large number of empiric research confirms this connection but it is still at a much lower level than the influence of economic conjencture (Berg and Boye, 2007 ; Espinoza and Prasad, 2010, Buncic and Melecky, 2012 ; Nkusu, 2011 ; Beck et al, 2013, Louzis et al, 2011, Messai and Jouini, 2013). The effects of *inflation* on trends with problematic loans is less clear. One of the possible channels of influence is the fact that because of monetary policy efforts to lower the inflation rate, interest rates rise (Nkusu, 2011). Viewed theoretically, higher inflation can lower the value of debts and cause a reduction of problematic loans while on the other hand it can reduce income in real terms if earnings do not follow the rise of prices and in that way have the opposite effect. The result of research into macroeconomic determinants of problematic loans in Serbia (Otasevic, 2013) shows that the first effect was dominant in Serbia in the period between Q3 2008 to Q2 2012: higher inflation caused a reduction of problematic loans. Other analyses of the determinants of problematic loans in the countries of central and eastern Europe found that higher inflation leads to the growth of problematic loans (Klein, 2013, Škarica, 2014).

The effects of the *depreciation of the domestic currency* is fairly direct in almost all research into this topic. The weakening of the exchange rate can cause very unfavorable effects in economies which have a high participation of loans indexed in foreign currency. Research into the determinants of problematic loans in the countries of central and eastern Europe (Jakubik and Reiniger, 2013) showed that the depreciation of the domestic currency can have a negative effect on the participation of problematic loans with the power of this influence depending on the participation of loans indexed in foreign currency in overall loans. On the other hand, if these are open economies which do not have this problem, depreciation could improve the financial position of companies through its positive effects on exports and in that way cause a reduction of problematic loans (Beck et al, 2013.). The effects of depreciation have an immediate effect on increasing the amount of debt in domestic currency while the positive effect on exports comes with a delay which can sometimes be longer than one year. Because of that, economies with a high participation of loans indexed or loans in foreign currency are more exposed to this risk. Based on this indicator (Graph t-4) Serbia, together with Lithuania and Croatia is in the group with an extremely high participation. In a regime with a fluctuating exchange rate such as Serbia has, this represents an additional danger in periods of depreciation of the Dinar exchange rate. In the past five years, the Dinar has nominally depreciated against the Euro by more than 30% which has affected those debtors who took loans indexed in Euro and whose earnings are in Dinars. A more recent example of the effects of fluctuations in the exchange rate through indexed loans was felt recently following the decision by the Swiss central bank to remove the lower limit of the Franc exchange rate against the Euro. Foreign currency markets reacted instantly and the outcome was a strengthening of the Swiss currency against the Euro by 13% (and against the Dinar at the same time) which had an immediate effect on some 20,000 debtors who took out housing loans in Serbia indexed in Swiss Francs through their monthly installments in Dinars.

Graph T-4. Participation of indexed loans and loans in foreign currency in select countries in 2013



Source: IMF, ECB, central banks of select countries.

An additional problem which appears with problematic loans is the presence of the so-called *ripple effect* (problematic loans → economy) which is reflected through a further deterioration of economic activity: a rise in problematic loans weakens the macroeconomic performance of the economy which activates a "vicious circle" in which the problems of the banking sector and the drop in economic activity mutually strengthen each other. Several empiric research papers confirmed the influence of this effect (Nkusu, 2011; Bock and Demyantes, 2012; Espinoza and Prasad, 2010). Empiric analyses devoted solely to the countries of central and eastern Europe (Klein, 2013) also confirm the presence of the ripple effect in this group of countries which points to the fact that the high level of problematic loans in a large number of observed countries hamper the recovery of the economy.

Research confirms that besides macroeconomic factors, the institutional environment in which banks operated also affect the participation of problematic loans. The economic logic to include institutional factors into the analysis is based on the assumption that an inefficient court system, problems in revision and control of bank operations, interference of politics into business decisions and insufficiently developed other institutions that the system is based on can have a negative effect on the operations of banks. Godlewski (2005) in research which covered 30 countries in central and eastern Europe, South America and Asia found that an efficient court system and higher level of rule of law suppress the motivation to take higher-risk loans. Bodriga et al (2010) also stated that better control of corruption, better rule of law and other institutional elements play an important role in reducing the participation of bad loans in MENA countries. The empiric results which Breuer (2006) lists also confirm the influence of a large number of institutional elements on bad loans including corruption which is listed as a very significant factor.

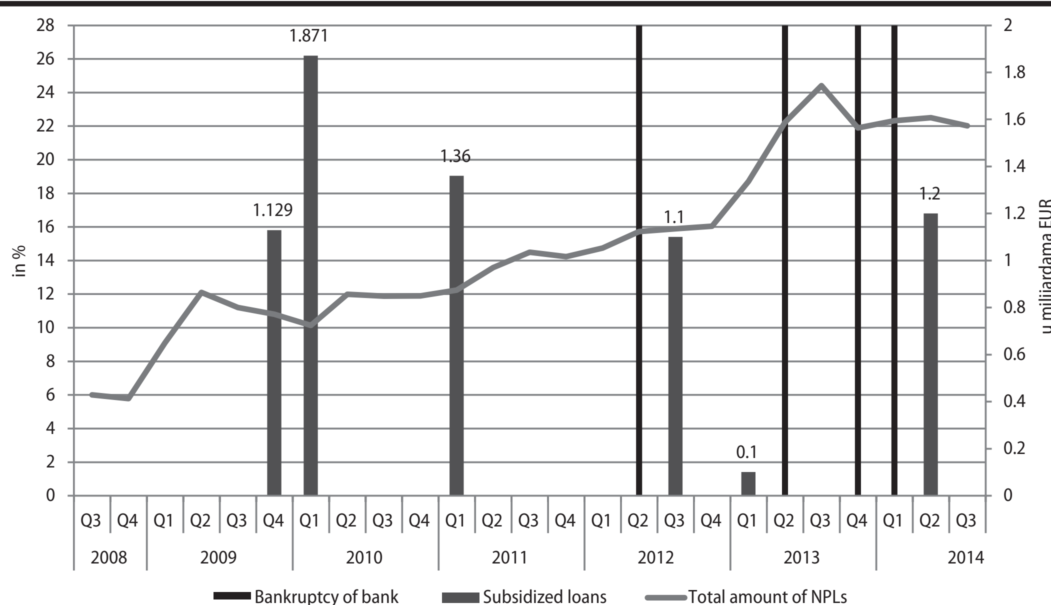
3. The Effects of Macroeconomic and Institutional Factors on Problematic Loans in Serbia

The analysis of the factors which have an effect on the level of problematic loans in 2006-2013 period on the group of countries which includes Serbia (Tanasković and Jandrić, 2015) confirms the significant effect of macroeconomic variables and some institutional variables. The variable that stands out as the one with the most significant marginal effects of some 2.4% is the GDP of the country which confirms the very strong link between economic cycles and the level of problematic loans. It also confirms the effects of the variation of the exchange rate and participation of problematic loans on the dependent variable while the influence of inflation is not statistically significant. The model which includes institutional variable for the observed countries gives a statistically significant effect of the quality of financial monitoring and control as well as the level of development of the financial market. This finding shows that the growth of problematic loans is partly the consequence of the regulatory framework which did not define sufficiently strict guidelines for conditions of loans and the determining of credit abilities of clients in the period of credit expansion. In the case of Serbia, credit expansion in the 2003-2008 period of the crisis is borne not just by good performance and credible client plans and indications of positive economic growth but also the powerful struggle of newly formed banks for as high a market share as possible. The specific reason for a strong credit expansion in Serbia in the period prior to the crisis is the level of debt of the economy and population which was very low at the start

of the transition – the earlier hyperinflation and inflation made old loans worthless. In the struggle for as much of a market share as possible, banks mainly relied on collateral in real estate when approving loans while the business operations of clients were deemed secondary. The problem appeared when the value of the collateral dropped significantly during the period of crisis and the liquidity of the real estate market dropped. The problem of the speedy credit expansion of the time in the countries of the region was visible prior to the crisis as well. Besides potential problems linked to the rise of inflation and foreign trade deficit of the current segment of the balance of payments, warnings appeared in 2006 that the risk of banking problems increased with the increase of the speed of growth of overall loans with the risks in individual countries varying depending on the initial quality of the banking system, capitalization, rules of oversight and competencies and similar. Besides that, the indexation of loans which at the time managed to successfully neutralize the currency risk, threatened to become one of the possible sources of the problem in regard to the ability to collect on loans in the future. The warnings linked to potential macroeconomic shocks indicated that the upsets in the banking system in case of large-scale shocks such as the rise of interest rates, slowing down of economic growth and pressure on the exchange rate will depend directly on the exposure of the banking sector to those risks and on the extent of their capital reserves.

In the case of Serbia, in the 2009-2014 period all macroeconomic variables contributed to the growth of the participation of problematic loans (Graph T-5). As one of the ways of resolving this and the problem of the general drop in credit activity, the Serbian government introduced a program of subsidized loans late in 2009. For that purpose, between 55 and 94 million Euro were allocated from the budget depending on the year with the exception of the year 2013 when the subsidies for interest rates on loans stood at just 5 million Euro. Graph T-5 shows that the effects of these subsidies was the creating of new loans worth between 1.1 and 1.8 billion Euro except in the year 2013 when some 100 million Euro in fresh loans were created in that way. Besides these measures, we note that the growth of the participation of problematic loans did not stop in 2014 and that is shown by the problems of business banks owned by the state which surfaced in mid-2012. In the 2012-2014 period, four banks in which the state had a majority stake lost their licences because of constant losses which reduced the amount of capital below the regulatory minimum after which their debts and obligations were transferred to the Postal Savings Bank. Obviously the participation of problematic loans in these bank was significantly higher that the average in the banking sector which suggests that these banks were subject to macroeconomic and other factors, primarily of an institutional nature. The overall amount of funds which the state used to guarantee deposits and the recapitalization of the Postal Savings Bank because of the bankruptcy of these four banks reached the level of 1.75% of the GDP which shows the seriousness of the problem and the need for a significantly more serious approach to the problem of problematic loans.

Graph T-5. Participation of bad loans in overall placements in Serbia 2008 Q3 –2014 Q3

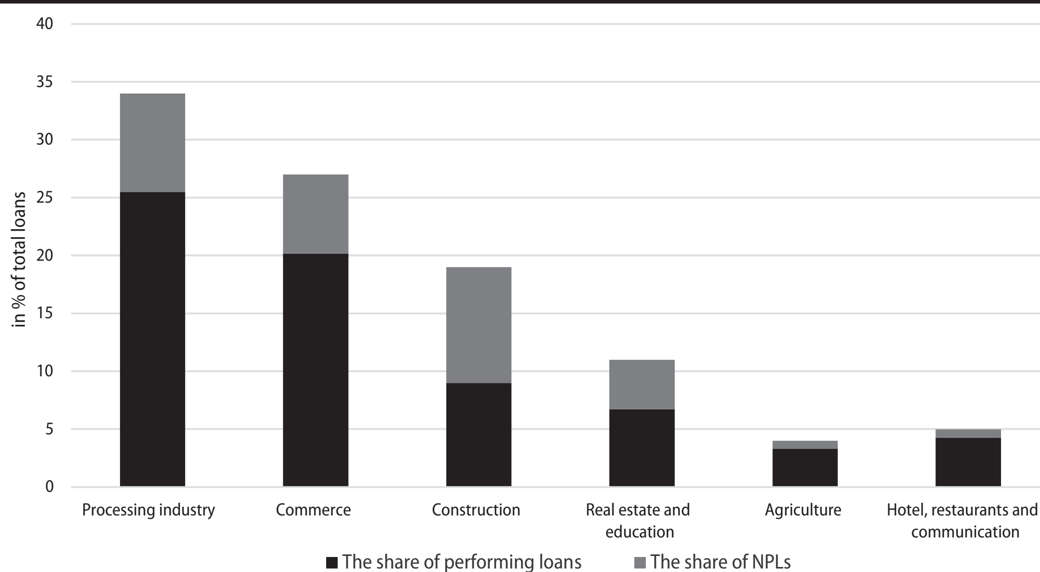


Source: *QM*

A current review of the structure of problematic loans shows that their highest participation is within the segment of entrepreneurs at around 45% (see section Monetary Trends and Policy). Since loans to entrepreneurs account for just some 3% of the overall placed loans on this market, a much bigger problem has been observed among companies

which have had 65% of all loans placed with them. As part of these loans at the end of 2013 27.7% of debtors were late with their payments by more than 90 days which puts them in the category of problematic. This number dropped at the end of 2014 to some 26.5% but it continues to represent a great danger to the stability of not just the banking system but also the overall economy if there is not system approach to finding a solution to the problem. Within the economy, the greatest percentage of problematic loans, viewed nominally, is with the construction and processing industries and trade (Graph T-6). The construction industry has been hit very hard by this problem since more than half of the loans taken fall into the category of problematic and we observe something similar in the real estate sector.

Graph T-6. Participation of problematic loans in regard to overall placed loans by branch of the economy in 2013



Source: NBS

4. Examples of Solutions in International Practice

Solving the problem of a high participation of problematic loans is a great challenge for the carriers of economic policy which is confirmed in the examples of countries which had this problem before the financial crisis broke out. The experiences of other countries shows that there is no simple cure but that any ignoring of the problem will be paid dearly in the end with the money of the taxpayers. One of those cases is the banking crisis in Turkey which started with political-economic problems back in 1996. It peaked in the year 2001 with the sudden drop in the value of the Lira which caused a rise in the number of problematic loans to almost two thirds of the overall placements of loans in a very short period (recall that Serbia the participation stands at 21.06%). The Turkish deposit insurance fund, which is under the patronage of the Agency regulating and supervising banks, took over in the space of two years the management of 20 banks which faced the danger of going bankrupt because of a shortage of capital and great participation of problematic loans in their portfolios. The entire program was named the Istanbul approach and was formulated on the model implemented in the case of the Asian financial crisis in 1997. The idea was to adopt a common framework within which commercial banks, financial mediators, state banks and banks in receivership would work to solve the problem of the problematic loans. That framework included clearly defined rule for financial restructuring, writing off problematic loans, approving new credit lines and the easier resolving of court cases so that private banks could be brought into a situation as soon as possible in which they would use funds set aside to insure problematic loans. The success of the Istanbul approach was partial. Part of the banks which were owned by the state were recapitalized or were completely sold but the expected financial aid for private banks never came. The cost of restructuring state-owned and the most seriously affected banks was covered with funds from the taxpayers and stood at 30% of the GDP of Turkey in 2002 which made this banking crisis one of the most expensive in recent history.

Because of all that, there was just a delay of the repayment of debts for a longer period instead of restructuring and that meant there was not great reduction of the problematic loans. Turkey tried to revive the entire process again in 2002 by introducing a law on the founding of asset management companies which would buy up the NPLs from banks but despite that there were no significant changes in the participation of problematic loans until economic growth in Turkey returned to the level it was prior to the crisis.

In contemporary financial crises which had an effect on the banking sector, two methods were most often present in efforts to resolve the problem of problematic loans. The first model relies on financial aid from the state through the forming of special banks or agencies to buy up the NPLs and in that way remove the "toxic" assets from the balance of the banking sector. By issuing bonds or guarantees, the state finances the operating of these banks or, as in the case of the crisis in China in 1997, the central bank writes off the debts of business banks for funds at the level of NPLs which the business banks wrote off. This approach is efficient but places the burden of resolving the problem on the taxpayers and because of that it is not often the preferred option for countries with problems in public financing. Ireland also formed a state company on the basis of this model to manage the problematic capital "NAMA" which in 2009 started buying up NPLs to a certain amount on the basis of issued state bonds. Besides the high cost to the state, another negative characteristic of this approach is the moral hazard which appears in the banking sector which is partly responsible for the appearance of problematic loans and does not bear the cost of their reduction.

The second model for resolving problematic loans is based on the creating of conditions for banks to, independently or in cooperation with other financial institutions, resolve the problem by restructuring debts, writing them off in the case of companies going into receivership or the sale of problematic loans to third parties. The success of this program requires an increase in the efficiency of courts in resolving receivership proceedings which in Serbia could last up to five years or more in recent history. Also, a system of tax stimulations needs to be introduced for banks to write off problematic loans to a greater extent which would partly neutralize bank losses. Although this method is in the spirit of market economy since it demands coordinated efforts by the state on multiple fronts, it is less successful in regard to lowering the participation of problematic loans.

5. Measures and Plans in Serbia to Date

The solutions that the NBS started implementing at one point in the struggle against problematic loans rely in part on the previously described "Istanbul approach" with the assessment that it was impermissible to wait for 2012 to devoted more attention to this problem for the first time. One of the attempts to secure more space for business banks to restructure problematic loans for private individuals is the change to the Decision on the Classification of Balance Assets and Non-Balance Items of December 2012 when the assessment of the credit abilities of clients and the level of credit debt were completely transferred to each individual bank. In terms of companies, that same decision allowed the relinquishing of problematic debts to companies which do not have to have their headquarters in Serbia nor do their business operations have to be primarily financial. Following those changes, most of the efforts by the NBS were directed towards a stabilization of inflation and the volatility of the Dinar exchange rate but there were not further efforts to solve the problem of problematic loans.

That meant that an opportunity was missed to stop the participation of problematic loans at a level which would be much less risky to the stability of the entire banking system. During the 2012-2014 period, four banks went into receivership despite the earlier recapitalization which was at the expense of the taxpayers since those were banks which were majority-owned by the state. That lack of a more active approach in resolving the problem of problematic loans had a negative effect on credit activity which is showing no signs of recovery and that lowers the changes of a speedier economic recovery. It seems that the gravity of the problem which was finally noticed won a lot of attention in the recently signed agreement with the International Monetary Fund. The latest report by the IMF mission said that the problem of the high level of participation of problematic loans has to be resolved on multiple fronts. In order to prevent receivership episodes in the banking sector, new regulatory mechanisms need to be introduced and the existing level of control increased. On of the results of the negotiations with the IMF was the adopting early in February of changes and amendments to the Law on Banks which will be implemented as of April 1 this year. The new changes primarily cover the defining of competencies and the regulating of relationship in cases of potential danger to the stability of the financial system because of the bad operations of some banks. Based on those changes, competencies in implementing control and undertaking specific measures with the aim of preserving financial stability will be completely in the hands of the NBS. Unlike the previous law which covered only banks owned by the Republic of Serbia, the new articles of the law will cover all banks operating in Serbia. That bring a higher level of coverage and oversight whose goal is to be able to see potential risks to the financial system as early as possible.

In regard to measures of control, a clear set of oversight and intervention procedures (when the need for them is determined) has been defined and has to be implemented with the possibility of using the discretionary rights of individuals or institutions. The first stage defines the instruments to notice early warning signals and after that if

any negative elements are noticed, business banks implement measures set out in an earlier prepared plan of recovery which does revisions at annual level and submits them to the NBS for adoption. Another NBS obligation under the changes is the implementing of analyses for all solutions and their effects on the entire financial system in order to determine which manner of regulating the problem carries the least cost. In cases when banks act contrary to the articles of the law which define the criteria of stability in operation or a sudden deterioration of liquidity and similar is determined on the basis of reports, the NBS can implement measures of early intervention which in extreme cases can go to the point of dismissing members of management bodies or imposing receivership management on the bank. In cases when the restructuring process is being implemented after all other options have been exhausted, the NBS takes over all activities with the aim of resolving the problem at minimal cost to the involved parties and the entire financial system. Another novelty under the changes to the law is the defining of the legal framework to found a bank for special purposes which only the Republic of Serbia can do. If founded, the authority over the operations of those banks in regard to monitoring the criteria to found and meet the goals, that is the restructuring of the basic bank would fall within the competencies of the NBS. This solution is similar to the examples in international practice and the solution in Ireland but because of the fact that it creates a huge expense to public finances, in our case it is virtually an unusable option. If we bear in mind the problem in public finances and the obligation to stop the growth of the public debt by the year 2017 which is already in doubt, the realistic solutions for Serbia are the creating of a mechanism in which the biggest expense would be borne by the players in the credit transaction itself including the original bank. The problem of the high participation of problematic loans in the banking sector in Serbia was dominantly present in banks which are Serbian-owned whether state-owned or private but in time it spilled over into the rest of the system. That meant that an increase in supervision will not have too great an effect if the regulatory framework, which existed earlier and included certain measures of oversight and control, continues to be side-stepped. As long as decisions by bank managers are not independent of the interests of the structures of power (as is the case in the public sector), we cannot expect progress in that segment. A possible solution which was implemented in the case of Turkey is privatization in the case of state-owned or concentration and recapitalization of private banks which have been reporting bad results for some time (Srpska banka, JUBMES, NLB, OTP and others).

One measure which has been included in the agreement with the IMF and which could have a greater effect in reducing the participation of problematic loans is the introduction of a new mechanism for restructuring debts outside of court and the speeding up and simplifying of court proceedings when debtors declare bankruptcy. The removal of obstacles in the law on bankruptcy which hamper the finding of quick solutions to relationships between debtors and banks could free significant funds which are currently locked down to cover problematic loans. Besides that, better tax treatment of banks which write off some problematic loans, the use of an existing framework for out of court restructuring of debts and stimulation of the development of a market for the purchase of problematic debts could speed up the resolving of the existing problem. The experiences of countries which implemented a similar solution shows us that in cases when the state is not capable of implementing planned reforms, the solution to the problem is postponed instead of being resolved. Also, a complete solution to the problem of high participation of problematic loans can be expected only if a recovery of production comes along with the proposed solutions since, according to all analyses to date, it has a dominant effect on their growth.

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