

# THE ROLE OF THE NATIONAL BANK OF SERBIA IN REDUCING THE NEGATIVE EFFECTS OF FINANCIAL CRISIS IN SERBIA

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## **Abstract**

*Rapidly overflow crisis in Europe has in the short term to dramatically decrease the projection of economic growth; despite a significantly reduced liquidity is present and growing danger of inflation. Access to new sources of funds is almost out, which left negative consequences on the countries of Eastern and Southeast European countries, whose financial system is dominated by subsidiaries of large European banks. Effects of reduced inflow of capital, the depreciation pressure, increase the risk of deterioration of the quality of assets in countries in the region, whose products are mostly indexed in foreign currency. World financial crisis arrived in Serbia. It is now reflected in the reduced availability of funds from abroad and the psychological-induced fall in confidence in the banking system, that is, to some extent, resulted in withdrawal of foreign currency deposits. According to the two grounds there was a fall in foreign currency liquidity. This paper presents the role of central banks in the mitigation of systemic risk and the role of the National Bank of Serbia and measures undertaken to protect the national financial system and reduce the negative effects of financial crisis in Serbia.*

**Keywords:** financial crisis, negative effects, central banks, National Bank of Serbia, measures

**JEL codes:** G01, E31, E44, E58

## **1. Introduction**

The crisis on financial markets is the most important feature of movement in the international environment: the liquidity crisis has caused the collapse of a number of large financial institutions, but some states led to the threat of bankruptcy. The high degree of geographic dispersion of risk and the existence of numerous channels for the spread of contamination caused by the global response of the crisis, but the question of comprehensive reform.

The depth and breadth of financial crisis has given fresh impetus for authorities around the world to rethink existing financial stability frameworks. Such revision needs to start from reconnecting with objectives of financial regulations. More effective mitigation of systemic risk requires completion of the set of tools that can be used in the pursuit of financial stability. However, this begs of question of who should be charged with applying these tools; and more generally, which regulatory structures are conducive to successful mitigation of systemic risk. An important issue within that – highlighted by the actions taken by central banks since the onset of the crises – is that of the proper role of the central bank in the overall framework. [Nier, 2009, p.3]

This paper is an attempt to clarify some of these issues. It first reviews the role of central banks in the mitigation of systemic risk, using the tools that are typically at their disposal. In second part, the paper offers a comprehensive review the role of National bank of Serbia and measures undertaken to protect national financial system and reduce negative effects of financial crisis in Serbia.

## **2. The Role of Central Banks in Financial Stability – Lessons from the Crisis**

The recent crisis has reopened the debate about whether and how central banks should take into account developments in asset prices, leverage, and credit growth. As this crisis has shown, by aiming to achieve – and by achieving – a narrow price stability objective, central banks may come to neglect developments in credit growth and asset prices. They may then miss a build-up of credit and leverage in the system that, over a longer horizon, proves unsustainable.

The Bank for International Settlements (BIS) has argued for a long time that the financial system is intently procyclical and thus chronically prone to bubble-like behavior [Borio and Shim, 2007 and Borio and White, 2004]. As the BIS has pointed out, on this as well as on many other occasions, very rapid credit growth led to increases in asset prices above fundamental values, which in turn fuelled a boom in consumption and investment [White, 2008].<sup>1</sup> In all of these cases of the Great Depression in the U.S., Japan in the 1990s,

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<sup>1</sup> In open economies, moreover, the increase in credit and the resulting consumption boom tend to be underpinned by capital inflows and an over-appreciation of the (real) exchange rate relative to its fundamental level, further relaxing borrowing constraints (Korinek, 2008). As a result of both increases in asset prices and exchange rates, leverage increases while the quality of credit deteriorates.

and East Asia from 1997, the crisis was preceded by rapid credit creation which manifested in higher asset prices and thus higher collateral values that led to further increases in credit.<sup>2</sup>

While these mechanisms are now increasingly well understood, as the present juncture we are still some way from a consensus about what, if anything, central banks can do to solve the problem: some have for a long time advocated shading of the interest policy – ‘leaning against the wind’ – to counter an increase in asset prices and acceleration of credit. [Nier, 2009, p.6]

However, if monetary authorities behave in this way, they are effectively writing a ‘put’ that enables financial markets to sell the ‘financial messes to the authorities ex post. To be certain, it must be right for the authorities to offer some such (monetary) insurance, all the more so when market failures lead to an endogenous downward spiral of falling asset prices and tightening credit, adversely affecting real activity and overall welfare [Diamond and Rajan, 2006]. There are a number of important qualifiers.

- Firstly, it can hardly be efficient for this insurance not to be priced. It is commonplace in financial markets for whoever writes a put to receive a premium upfront. When such a premium is not collected, this creates incentives for financial firms to over-extend themselves, rapiding inflated rewards along the way. In short, the expectation of a (monetary) bail-out creates moral hazard.
- Secondly, what is clear from the ongoing crisis is that it is by no means always easy or costless for monetary authorities to clean up the fall-out ex post. Monetary policy may lose its effectiveness in “cleaning up the mess”, when the unwinding of financial imbalances adversely affects or puts in doubt the solvency of the banking system, as was the case during Japan’s lost decade and the U.S. Great Depression, and is evident since the breakdown of interbank markets and the inability of banking institutions to raise capital during most recent crisis. Moreover, as the nominal zero bound is approached, monetary policy can fall into a liquidity trap; a situation when real rates remain positive despite efforts to ease monetary conditions. In these cases there may be no other choice but a costly fiscal bailout.

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<sup>2</sup> White (2008) counts the 2001 bursting of the tech bubble as a crisis that should have been prevented by policymakers. However, Mishkin (2008) argues that stock market bubbles pose a risk to the economy only if they are underpinned by a financial accelerator channel that involves assets used as collateral for bank credit.

- Thirdly, the unwinding of financial imbalances entails costs for central bank's key macroeconomic policy objectives, which are compounded by limited effectiveness of monetary policy. When the effect of frozen credit markets on economy cannot be countered effectively by monetary policy, this may lead aggregate demand to collapse and unemployment to increase sharply. Moreover, the ability of monetary policy to attain its price stability objective may become seriously impaired. This may take the form greater variability in inflation outcomes, as policy becomes focused on sustaining the financial sector. It may also involve persistent deflation that puts further pressure on the balance sheets of debtors, thus deepening the downturn.

As a result of recent experience, central banks are reviewing the contribution that monetary policy can make to counter the build-up of financial imbalances, by thinking through how monetary policy can take greater account of developments in credit, leverage, and prices. Central banks have also called for a closer investigation of macro prudential tools that could have a more targeted effect on the financial sector and that could be used in addition to the interest rate to respond to the challenges posed by financial cycles.

Macro prudential policies may be most successful in the presence of an overall policy framework that fosters complementary use of monetary and macro prudential policies.<sup>3</sup> The policy framework can benefit, if it can harness the central bank's institutional **expertise** in assessing macroeconomic conditions and macro-financial risks, which can inform the design and continued review of macro prudential policies. The policy framework can benefit also from harnessing central banks' **interest** in ensuring the effectiveness of macro prudential measures.

Since the onset of the financial crisis in August 2007, central banks have provided liquidity in interbank and other wholesale markets. Central banks have amended aspects of their monetary operations to relieve liquidity stress. They have, for example, reduced the penalties associated with banks missing their reserves targets and reduced the discount rate at which banks could access standing facilities. When banks became reluctant to lend to each other, central banks increasingly interposed themselves between banks that were short liquidity and those that were long. Central banks also changed the terms of open market

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<sup>3</sup> Borio and Shim (2007) list 18 cases across Europe and Asia where countries have pursued measures designed to stem accelerating credit growth. In all but two cases (Korea and Norway) these actions were implemented by the central bank, rather than by a separate supervisory agency.

operations, increasing the maturity of liquidity provision, and extending the type of collateral accepted in these operations to more illiquid and credit-risky securities. Some central banks also needed to expand the set of their counterparties in order to ensure that liquidity could flow where it was most needed. While many of these actions were initially taken with the aggregate amount of reserves provided to the system kept constant, banks have since expanded their balance sheet, blurring the distinction between systemic liquidity provision and unconventional monetary policy.

The role of the central bank as provider of market liquidity during the times when financial markets have become disorderly and illiquid has been referred to as that of the market maker of last resort (MMLR). Buiter (2008) compares the effectiveness of these policies during the crisis across a number of central banks, including European Central Bank, Bank of England and Federal Reserves. However, the phenomenon of central banks providing liquidity to the banking system and wider financial markets in crisis time is not new. The bank of Japan took similar action during the early 1990s, when the collapse of asset prices put bank balance sheets under stress. Central banks throughout Latin America have provided systemic liquidity in response to a number of banking crises in the region since the mid-1990s [Jacome, 2008].

Central banks take these actions to contain the impact of realization of systemic risk on the financial system and the economy. But the containment of banking crises does not come free. Provision of liquidity in interbank markets against credit-risky collateral can, in the longer run, put central banks' balance sheets at risk. It also complicates the implementations of (conventional) monetary policy, as the central bank needs to sterilize ever larger amounts of liquidity and communicate the tension between its monetary policy stance and the objectives of liquidity provision. In small open economies in particular, systemic liquidity provision can lead to a sharp depreciation of the exchange rate and, in the longer run, increase inflation [Jacome, 2008].

In their capacity as Lender of Last Resort (LOLR), central banks have traditionally extended credit to individual banks that see an outflow of liquidity and are unable to finance this in interbank money markets. The experience also highlights how – as an extension of their role of LOLR – central banks tend to become involved in the resolution of individual systemically – important institutions that are under particular liquidity stress. This includes important deposit takers, but can go beyond this class to take in those institutions whose failure is disruptive to broader financial markets.

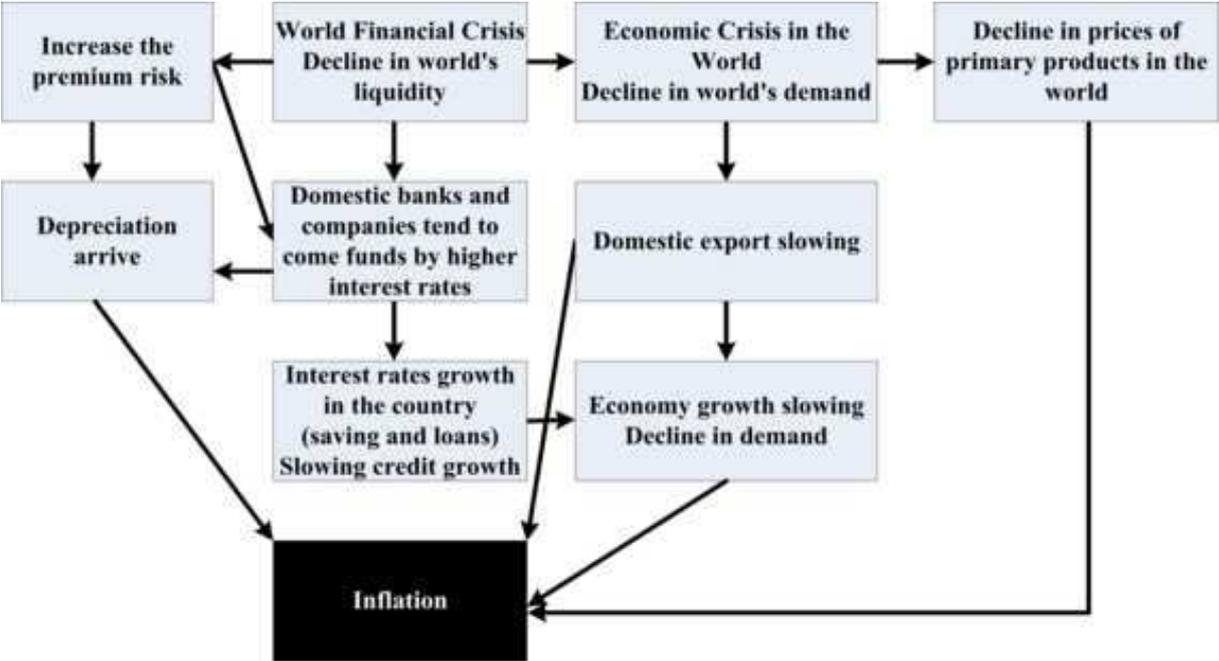
In these cases, since the beginning of the crisis, central banks have provided emergency liquidity assistance until a more permanent solution was found – as did the Bank of England in the case of Northern Rock – or have supported a private solution with a line of credit – as did the Federal Reserves in case of JP Morgan Chase’s takeover of Bear Stearns. Later, they also acted as a bridge bank, taking temporary control of the failing institution, as did the Federal Reserves in the case of AIG. Through these actions, central banks become intimately involved in the negotiation of a permanent resolution that involves a private bidder, or (ultimately) public capital support and nationalization.

It is now becoming more widely accepted that a central bank’s de-facto role as LOLR and as an agent in the resolution of systematically important financial institutions gives them an interest in the regulation and supervision of these institutions [Nier, 2009, p.6 - 11].

### 3. Financial Crisis in Serbia and the Role of the National Bank of Serbia in Crisis Environment

As in other countries in the region, the world economic crisis arrived in Serbia. The first effects of the crisis was felt Serbia in 2008 through reduced availability of funds from abroad and psychologically induced decline of confidence in the banking system. But, not only that, the effects of the crisis have more serious consequences for Serbia.

**Figure 1 Effects of World Financial Crisis on Serbia**



Source: National Bank of Serbia

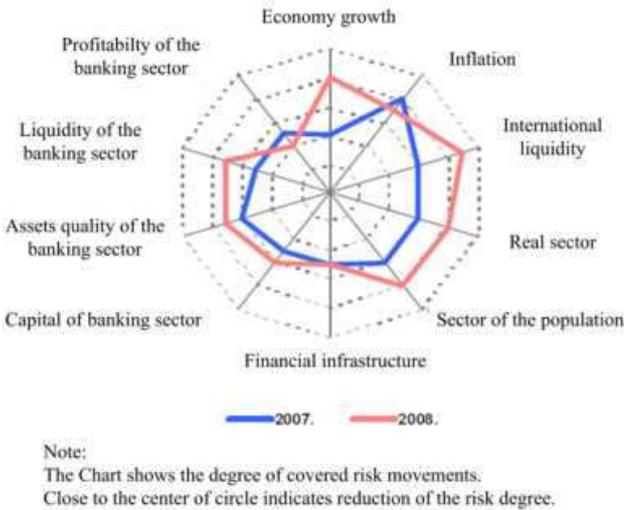
Serious consequences of the global financial crisis are manifested through the decrease in the value of domestic currency, increase in premium risk, the decline of domestic economic activity and, finally, the growth of inflator’s expectations.

One of the main objectives of National Bank of Serbia, established by law, is the preservation of financial stability. National Bank of Serbia in 2007, in addition to other long-term strategic priorities, identified and improvement of its activities in connection with function continuous monitoring of financial stability.

During the 2008 National Bank of Serbia was undertaken detailed analysis of factors relevant for financial stability. It included business analysis of the financial institutions and analysis of environment in which these institutions operate. The aim of such analysis was timely identification of risks existing and potential, which exposed to the financial system particularly the banking sector, and assessment capabilities of the system to absorb these risks and remain stable and able to operate freely.

Financial stability in 2008 was preserved despite the strong negative effects of the global financial crisis. Conservative monetary and prudential policies by the National Bank of Serbia waged, in recent years, have made the financial system more resistant to the effects of the crisis spilling. As a result prevented the sudden disruption of stability of financial institutions and retained confidence in the overall system of financial intermediation. Despite this fact, risk for financial stability has increased in comparison with the 2007.

**Figure 2 Factors of financial stability**



Source: National Bank of Serbia

### ***3.1. International environment***

The risks that come from the international environment grew from the beginning of the crisis second-class mortgage loans in the US in September 2007, but their stronger manifestation began with the bankruptcy of investment bank *Lehman Brothers* in mid September 2008. Trust in international financial markets fell to extremely low level. Prospects of increased credit risks have greatly increased the premium risk and reducing the tendency of investors to risk in the countries of Southeast Europe. As a result there is migration of foreign capital to safer destinations and investment, which adversely affect position of the international liquidity of Serbia.

Problems with the liquidity of individual domestic banks has initiated, psychologically, withdraw 17% of the total foreign currency savings of the populations, which, along with other mentioned effects, negative impact on foreign currency liquidity of banks in Serbia, but not to the extent that would be brought into question stability of the sector. Such events have contributed to the strong depreciation pressures, which reflected negatively on the quality of loan portfolios of domestic banks, mostly indexed in foreign currency. Also, reduced availability of foreign resources has left a mark on the ability of the real sector of Serbia to renewal of borrowing to service its obligations, but also hugely influenced on the deceleration of credit activity of banks. [National Bank of Serbia 2008, p.87]

### ***3.2. Banking sector***

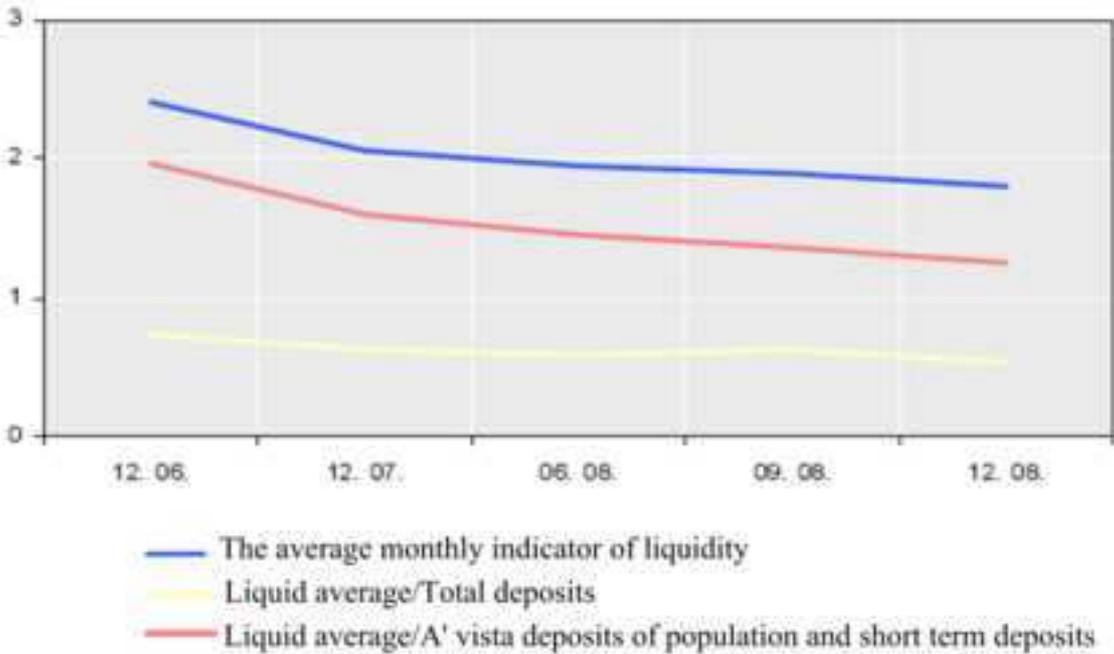
Indicators of stability of the banking sector in 2008 are kept at a high level. Resistance of the banking sector primarily contributed to the good liquidity and high sector capitalization, constructed cyclically monetary and supervisory measures in the years that preceded the occurrence of crisis.

Liquidity in the banking sector is reserved at a satisfactory level. Conservative monetary and prudential policies conducted in recent years enabled the liquidity of banks is not drastically affected in spite of strong pressures on the foreign exchange liquidity in the last quarter. At the end of the liquid assets was made even one third of the total assets of the banking sector and other indicators of liquidity are kept well above the regulatory minimum. National Bank of Serbia, with its measures, the October and December further contributed to strengthening the liquidity of the banking sector while continuing with the improvement of regulations in regarding the liquidity risk management. The quality of the assets of the

banking sector was severely affected during the year. Slight deterioration of the quality indicators was created primarily because of slowing economic activity in the last quarter, and the negative effects of depreciation mainly on the index portfolio of the population.

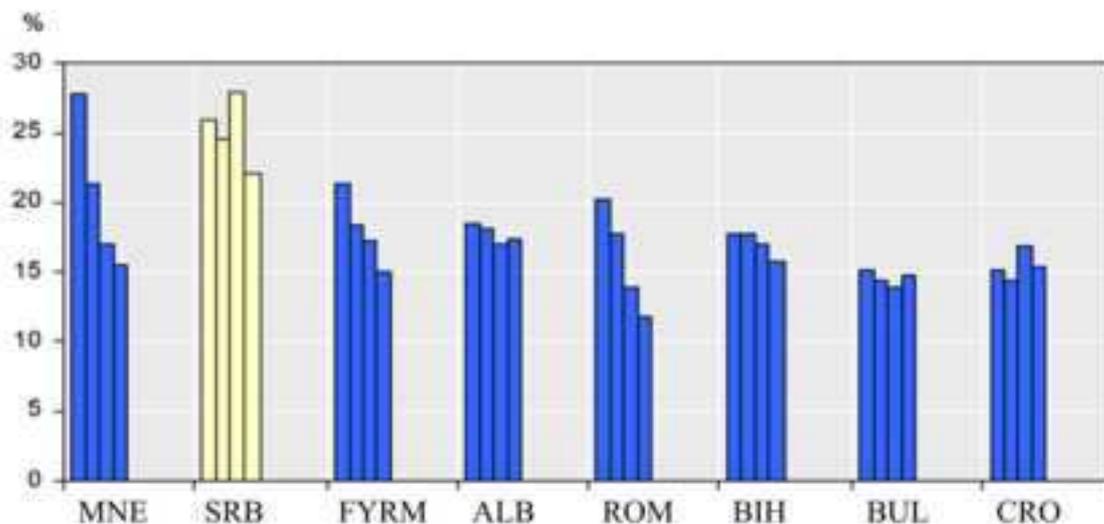
Also, slowing itself credit activities has led to the proportion of problematic loans in total loans to be increased compared with the previous year. Such a trend is not brought into question the stability of the banking sector owing to good capitalization of the banking sector and the fact that all the problematic loans were sufficiently covered by the reservations and retained earnings. Capital adequacy ratio at the end of 2008 amounted 22% which, despite the reduction in relation to the end of last year (to 5.9 p.p.), still significantly more than the prescribed minimum in Serbia (12%), and internationally accepted minimum (8%). Strong capital base to a large extent contributed to the resistance of the banking system of Serbia, while the special importance of the fact that over 70% of assets of the banking sector operated by banks whose capital adequacy indicator was above 20%. Stress-tests were conducted during the year confirmed the high resistance of the banking sector on the provided shock. It turns out that even in case of credit, market risk and liquidity risk in extreme scale – an indicator of capital adequacy ratio would fall below the prescribed minimum. [National Bank of Serbia 2008, p.87 - 89]

**Figure 3 Indicators of liquidity**



Source: National Bank of Serbia

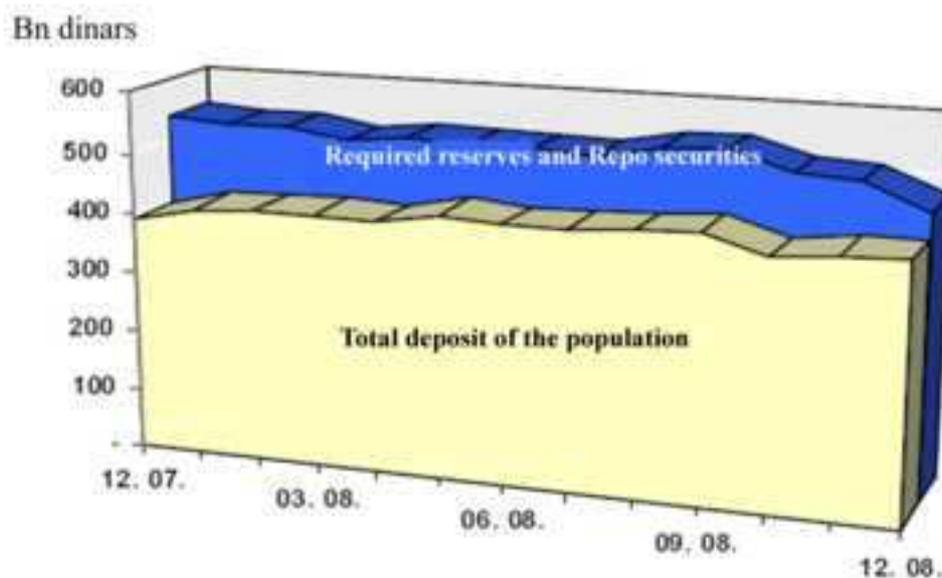
**Figure 4 Comparative Review of indicators of capital adequacy in Serbia and neighboring countries from 2005 to 2008**



Available data from 30.09.2008.

Source: National Bank of Serbia

**Figure 5 Coverage of individual customer deposits by required reserves and Central Bank securities**



Source: National Bank of Serbia

### ***3.3. Measures of the National Bank of Serbia for Reducing Negative Effects of Financial Crisis in Serbia***

National Bank of Serbia since the beginning of the appearance effects of the global financial crisis closely followed and analyzed developments in the global financial market and, in accordance with their legal authority, timely and adequately adopted prudential and regulatory responses to the challenges that the financial crisis spilling placed in front of the domestic financial institutions.

#### **3.3.1 Foreign Currency Liquidity**

In the first set of adopted measures, the National Bank of Serbia has affected the incentives of banks to obtain funds from abroad. Changing their regulations, liberated banking reserve requirement to taking foreign borrowing, subordinated loans and borrowing of financial leasing companies in foreign banks, which made borrowing abroad much cheaper, and thus stimulating.

#### **3.3.2 “Lender of Last Resort” Function**

By decision about conditions of loans approval for maintenance liquidity of banks, the National bank of Serbia is closer set their own role of “lender of last resort”, defining the conditions under which business banks may require, from the National Bank of Serbia, credit for liquidity to overcome temporary difficulties with liquidity. National Bank of Serbia is defined, by the decision, granting of loans to banks under the conditions that they previously used the other favorable sources of liquidity available on the market, and have adopted a program of measures to overcome the problem of liquidity. In this decision the National Bank of Serbia has set conditions of approval of local currency loans to banks with maturity up to twelve months as a special measure of support to the financial stability of the country. According to this decision, the short-time loans of National Bank of Serbia may be granted up to:

- *90% of the nominal value of pledged short – term securities of the National Bank of Serbia and/or;*
- *90% of the nominal value of pledged short – term securities of the Republic of Serbia and/or;*
- *80% of the nominal value of the dinar pledged long – term securities of the Republic of Serbia whose maturity period is for more than two years and/or;*

- *dinar equivalent nominal value of pledged long – term foreign securities of the Republic of Serbia, recalculated according to the official middle exchange rate of dinar on approval of short – term loans, as follows:*
  - *80% of the dinar equivalent of securities whose maturity period is for more than two years and/or;*
  - *70% of the dinar equivalent of securities whose time to maturity is less than two and more than four years and/or;*
  - *60% of the dinar equivalent of securities whose time to maturity is less than four and more than seven years and/or;*
  - *90% of the collateral free of foreign currency (Euros) pledged by the bank in a special foreign exchange account at National Bank of Serbia, recalculated according to the official middle exchange rate of dinar on approval of short – term loans.*

### **3.3.3 Ways to Overcome Difficulties in Loan Repayment**

National Bank of Serbia has launched an initiative for an agreement of commercial banks which will allow customers to easily overcome the temporary difficulties in loan repayment, or to reduce or eliminate their exposure to foreign exchange risk. It was agreed set of measures that have a temporary characters, and it means the first opportunity for early loan repayment clients of banks without compensation (penalties), but three significant opportunities in the client's request: (1) extension of the repayment period up to one year for approved loans, with cash loans can be extended only if be covered into dinars; (2) conversion of loans indexed in foreign currency into dinar; (3) conversion of loans indexed in Swiss Francs into Euro. The basic requirement that these measures be implemented in a fair manner, without additional cost and with unchanged or more favorable terms, and according to the customers who regularly paid the obligations and whose difficulties in loans repayment are only temporary. In addition to the National Bank of Serbia changes its regulations to ensure the extension of repayment period for a year, (under these conditions) does not adversely affect the classification of these loans.

### **3.3.4 Measures to Stimulate Lending Activity**

National Bank of Serbia has adopted a number of its regulations changed that, taking into account the effects of global crisis in Serbia, a positive effect on the stability of financial

institutions and simultaneously stimulate the credit function of banks. Editing includes first sub-regulation effects of the depreciation in the prescribed ratio of gross placements to individual customer and bank capital, and excluding from those relationship placements for agricultural production and entrepreneur placements, which also stimulate enterprise's lending, and, additionally, the prescribed ratio of gross retail placements and the basic bank capital has increased from 150 to 200%. The effects of depreciation are excluded and when it is a prescribed ratio of borrowing and net monthly income of regular client (the ratio of 30/50%), due to which the banks will be exempted from the classification of lower indexed claims of customers who exceed specified ratio – if the cause of such excess depreciation and provided that such client properly settle claims against the bank and that the client's difficulties are temporary. It also introduces additional measures to preserve financial stability, which frees the banks liabilities classification claims in "D" category, unsecured by deposit of 30%. Addition, temporary lifted a reserve for general banking risks, which is applied in the case of annual growth in lending activity over 15% of risk assets.

### **3.3.5 Investments of Financial Institutions**

One part of measures developed by modifying the current regulation related to investments of financial institutions. There is, on the one hand, an expanded framework for investment in quality productions, while the other, certain limits affects the quality of such investment. First, the National Bank of Serbia changed regulations that regulate the business of insurance companies. They include primarily the increase in the limit for investment of technical reserves in bank deposits, and changed the conditions to be met by action in that invest technical reserves. Then, during the implementation of decisions on interim measures to preserve financial stability in the Republic of Serbia, banks and other residents can make payments for purchases of financial products abroad, and only with the aim of protecting the interest rate, currency and market risks. Also, in the same period residents (legal customers, entrepreneurs and individuals) can make payments for purchases in foreign ownership of securities that are not only direct investments and long – term debt securities issued by OECD countries and international financial institutions.

Finally, modifying regulation and reduced the indicators of major exposure of banks to guarantee queens institutions, and depending on the written support of majority shareholders of the queen's institution, provided that if such support is missing, bank can not perform the allocation of profit except in capital and reserves.

## 4. Conclusion

Although due to its restrictive monetary policy, repeatedly criticized, the National Bank of Serbia is a “good” time used to prepare for the “worse”. Measures taken from the moment of global financial crisis overflow on Serbia, National Bank of Serbia showed its ability to adequately and proactively act and that, in extremely difficult conditions, not to nullify the previously created the preconditions for sustainable price stability and financial sector stability.

Serbia, with a stable banking sector, the first wave of the crisis just rescued by flexible exchange-rate policy, that is, with high foreign reserves, contribute to the stabilization of financial market conditions and the rapid decrease in foreign currency liquidity.

The role of the National Bank of Serbia, in reducing the negative effects of global financial crisis is very important. National Bank of Serbia changes its regulations duly reacted to currency fluctuations would not be significantly worse quality of loan portfolios of banks, as well as to stimulate the credit maintenance activities on unchanged level.

National Bank of Serbia provided that macroeconomic adjustment shift implement without high inflation, without disrupting the stability of banking sector, and without support from the budget. This created the basis of formal transition to inflationary targeting as a monetary policy regime. National Bank of Serbia with the Serbian Government signed memorandum of inflation targeting, provided the preconditions for negotiations on a new arrangement with IMF and to deal with foreign banks not to reduce its exposure in Serbia – then everything which guarantees macroeconomic stability.

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