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## **Credit crunch in Serbia and the challenge of global financial crisis**

### *Executive summary*

Harsh condition in credit market can undermine overall economic activity and quality of life. It plays crucial role in economic development and today became an ardently discussed policy issue. This policy study analyses the recent developments in the financial sector of the Republic of Serbia that occurred as a repercussion of the current global financial crisis. After initial strike Serbia suffered both the bank run and the run on international reserves. The drainage of bank resources have had an immediate adverse effect having caused a credit contraction, what together with some problems in cross-border financing, creates milieu of a full-blown credit crunch. We propose some solutions to cope with credit crunch. Some of them are urgent; some are a part of the broad structural reform of the credit market and the banking sector.

### **Relevance of the issue**

It is well accepted both in theory and policy that the malfunctioning credit market undermines economic activity and human well-being. Well functioning credit market serves the role of channeling financial resources to most profitable and (by assumption) socially most usable alternatives. What happens when this mechanism does not operate as it expected, i.e. when credit crunch happens? According to Meeusen (2009) the spillovers of the credit crunch to the real economy are massive and are reflected in: a) negative real growth rates of GDP in most countries, b) deflationary tendencies and a concomitant squeezing of profit margin, c) quickly rising

unemployment and bankruptcy rates, d) thinning international trade flows, e) currency crises in smaller countries. The list is not exhaustive. In a slightly wider policy framework global credit crunch, like it is now, among the most dangerous adverse spillovers are a) the recourse to protectionism, b) the recourse to monetary financing of the government budget deficit, and c) increasing levels of government indebtedness and the resurgence of the snow-ball nightmare on government debt in a number of countries.

A credit crunch often comes together with other financial disturbances, e.g. with liquidity squeeze, or with currency crisis. There is an explanation. Bank liquidity squeeze and currency crisis (also known as balance of payment crisis) can share a common feature. Both can be a consequence of shrinkage of bank resources, with former being a consequence of bank run and the latter a consequence of foreign credit outflow. In those circumstances banking sector responds to losing funds. As an immediate effect of contracting liability side of balance sheet, reduction of reserve assets position occurs. Further effects will depend on whether the reserve assets position is returned to its previous level, or reserves-to-deposits ratio rise above its pre-crisis level. Right this will determine in what extent contraction of liability side will be transformed into contraction of credit activity.

Moreover, credit crunch can be taken as an independent cause of economic recession if the increase of loan rates and credit contraction is not followed by simultaneous contraction in bank financial resources, while in cases when credit potential reduces in extent of reduction of financial resources (i.e. without additional amplifying portfolio shift toward safe assets) credit crunch is rather channel that transmit already present crisis signals. Thus it not causes but only propagates crisis.

The pioneer attempt to research on possible influence of credit market on economic recession is Ben Bernanke seminal paper (1983). The author have developed the concept, originally named cost of credit intermediation (CCI). The author shows that apart of well-known monetary channel (*Cf.* Friedman and Schwartz, 1963), banking disturbances influence economic activity by decreasing the efficiency and cost of credit intermediation. Hence, credit restrictions are often more than simple reflection of available resources. Firstly, it is followed by flight to quality behavior, i.e. portfolio readjustment toward safe assets (monetary claims or government debt). Secondly, credit restriction hits harder those economic sectors that are already the most dependent from banking sector, i.e. SMEs and start-ups. Lack of credit resources available to the SMEs is not the only way of

influence. Increase the spread between credit interest rate and deposit rate additionally constrains the business operations. Namely, this means that end-users of banking intermediation gets less for financial surpluses and pays more for financial deficits.

This rather short review of issue indicates that a) shrinkage of credit potential, b) credit contraction, and c) increase of loan interest rate and the spread mutually indicate manifestations of typical credit crunch.

### **Serbia faced with the global crisis: Credit aggregates, portfolio shifts and flight to quality**

In the fall of 2008 Serbia experienced combined banking and currency disturbance. Firstly, international banking groups started withdrawing liquidity from their local subsidiaries. It was the main reason why international reserves decreased from March to September in 2008. It was a trigger for depositors to rush. This phase of crisis ended up with up to one fifth of the previous amount of foreign currency savings that left the banking system. Total residents' foreign currency deposits that were withdrawn solely in last quarter of 2008 amounted 977 mln. euro. Despite the defence, local currency lost 20 percent of its nominal value against the euro from 10th of October to the end of January. The authorities finally admitted that available international reserves cannot withstand all the possible pressure, and after initial precautionary arrangement (402.5 mln EUR) ask IMF for a new Stand-by arrangement.

However, this short-lasting episode is far more important than it appears at first glance. It was only the first wave of incoming crisis-like milieu. Credit contraction that followed this incident was mostly a consequence of bank run. Sudden stop in credit activities is the first issue that deserves considering. That, together with an increase in deposit rates, loan rates and interest rate spread, created incoming credit crunch.

That development came after years-long period of continuously rising bank credit to private sector. This trend was region-wide development, and the countries in region differ mostly in turning point (Appendix, Table A1). In the cited paper *early birds* was named the countries where BCPS ratios have been rising for at least five years at an annual average rate exceeding 1.5 percent of GDP. *Late risers* were the countries that have experienced only recently rise that exceeding the same threshold, while the *sleeping beauties* are the ones that the threshold are not reached yet. Data in the Table (A1)

did not cover most recent period. In the next table (1) we fill that gap. It stands clearly that in case of Serbia the trend continued. Growth rate of bank credit to private sector (EUR) for the period 2003 – 2008 was in average 28.87 percent.

In Serbia the initial rise was fueled by a surge in deposits in early 2002. It was also the main force to keep the upward trend going up to the last quarter of 2008, when the banking crisis strike.

The evolution of bank liabilities was fairly homogeneous throughout the period preceding the crisis (Appendix, Table A2). In all years, the increase in BCPS reflected increased bank intermediation. Deposits rose, as well as credit portfolio. Interestingly, in all but one period (the first quarter 2008) it was followed by increase in bank credit to the public sector (mostly claims on NBS).

The expansion of BCPS was not constrained by the availability of domestic funds. The rise in the BCPS ratio was also supported by increased net borrowing from abroad. Foreign capital inflows played an equally important role in funding the lending boom. Starting in 2002, when Serbia opened the doors to foreign banks, the channel opened widely in 2004 when foreign bank acquisitions took the way up. Bank borrowing was very strong from early 2004 to 2006. Then fell dramatically because the cheaper alternative was found, i.e. direct cross border borrowings of local corporate businesses. In fact early credit support from local bank units latter was substituted for credit support from parent bank companies, with or without explicit guaranty from local bank unit.

**Table 1: Bank credit to private sector in Serbia (2003 – 2008)**

	2003	2004	2005	2006	2007	2008
GDP real growth rate	2.5	8.4	6.2	5.7	7.1	5.4
GDP (EUR) growth rate	7.1	9.4	7.1	15.2	23.0	16.0
BCPS (EUR) growth rate	19.1	26.9	41.6	26.9	39.8	20.7
BCPS/GDP change	11.2	15.9	32.2	10.1	13.6	4.0

*Source:* NBS, 2009, Statistical Bulletin, September (author's recalculations)

In order to get into details annual data for the last year have been decomposed into quarters (see Appendix, Table A2). In the last quarter of 2008 the Republic of Serbia faced for the first time reversal in growth of

bank credit to private sector (- 5.0 percent). By using methodology similar to that of Cottarelli *et al.* (2005), we calculated that net foreign liabilities contributed to the decline with 0.3 percent<sup>1</sup>. Solely on the basis of deposit contraction the rate of decline will be 13.3 percent, and it was completely offset by portfolio shift outwards of bank claims to the NBS (reserve requirements and short-term securities) and public sector (13.6 percent). The regularity is similar in the first quarter of next year. Thus we can conclude that bank run induced deposit contraction is almost solely responsible for the credit contraction that followed in the next two quarters. Assets portfolio readjustments (toward safe assets) did not provoke additional credit contraction.

It is obvious that the swing in foreign credit flow contributed to boom – bust credit cycle. How much, if any, foreign credit inflow can be explained by excessive local return? Local currency denominated (nominal) return on credit portfolio in Serbia was huge in comparison to other countries in region. However, it plays secondary role in explaining extent of foreign inflow and lending boom. The prime role ought to be attributed to exchange rate dynamics. Namely, that high return was merely a consequence of constantly appreciated local currency. As McKinnon (2000, p. 159) put it forcefully ”as long as the *peg* holds and domestic inflation continues, the effective rate of return, seen by domestic investors, falls below the real return garnered by foreign creditors. Thus, absent exchange controls, this differential encourages excess inflow of capital”. It is not quite clear if the foreign banks were attracted by high return on credit market or, in a way, to speculate on risk-free NBS repo market. Namely, there is also an idea that the way NBS used to sterilize growth in money stock and credit aggregates created a kind of speculative bubble. NBS uses repo-operations in order to influence loan interest rates and it was the second most intensively used monetary instrument. However, the rationale of using it has to be considered in connection with already very stringent required reserve policy. Repo was introduced as a complement to reserve requirements in order to relax the pressure from this repressive instrument. How excessive was yield on NBS short-term securities? The yield was just slightly above consumer price inflation, and several times lower than rate banks regularly earn on

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<sup>1</sup> The construction of the table needed complex recalculations. Negative values indicate negative influence of the specific element on the rise of BCPS. In case of “bank credit to the public sector and NBS“, as it is a bank asset item, negative figures mean increase of it. Other items, which are (generically or in net amount) sources of bank funds, positive values indicate rise in specific source and simultaneously its positive contribution to financing growth of BCPS.

consumer loans at the same time. Real exchange rate appreciation makes it rather high, when converting it into euro equivalent, as well as all domestic financial return. Finally, one should bear in mind that the bills are the only usable assets to serve the role of secondary liquidity reserve. From this brief narrative, it is clear that the increased capital inflows can to a considerable extent be attributed to high real return garnered to foreign creditors.

There are some papers (Kraft and Jankov, 2005, Cottarelli *et al.* 2005) that bring some evidence on the importance of credit growth in region, with former being more alert to the danger. The rise of bank credit to private sector/GDP surely indicates rising of leverage, but we don't have data to appraise if it was excessive, or if the leverage of the private sector reached a certain precautionary threshold, in the case of Serbia. Moreover, apart from already discussed exchange rate policy, government has not imposed any other implicit scheme of guaranties for the private sector to encourage foreign creditors' behave in the moral hazard way. Of course, it might be that Serbia in broader perspective fits into "overborrowing framework" but it cannot explain the timing and the trigger itself.

#### **Box 1: Is there credit crunch?**

The next table (B1) shows some summary statistics on various indicators of credit market conditions. For the purpose of this analysis the whole period of time is separated into three sub-periods. We analyze 7 quarters that preceded the break out of the crisis (the first sub-period). The crisis hits in October 2008. The last quarter of the previous year and the first two months in the 2009 was the *intense period* featured with bank run, attack on currency and strongest credit contraction. In the March 2009 started second phase of the crisis, called here *mature* phase.

All the indicators of credit crunch got their highs during the intense phase of the crisis. The only variable that moved in favor of local borrowers is dropping in international money market rates. However, the real effects of decreasing (thanks to massive public interventions into the euro money markets) the mostly used reference rate in credit arrangements in Serbia (six months euribor), depends on availability of those cheap resources to local borrowers.

Cost of domestic funds (weighted average of deposit interest rates) increased dramatically since beginning of the crisis and did not return to its pre-crisis level. Annualized rate of BCPS change set up for rising after February this year. Deposit interest rate is event higher than before, what means that the local financial sources are now more expensive. Loan-to-

deposit interest rate spread after initial widening shrink again after February, but worries that rates moving up, threatening quality of loan portfolio. At the same time, ratio of non-performing loans was continuously rising, what means that loan portfolio worsens.

**Table B1: Credit market conditions – summary statistics**

	<b>Tranquil times (pre-crisis period) Jan 07 – Sep 08</b>	<b>Intense phase of the crisis Oct 08 – Feb 09</b>	<b>mature phase of the crisis Mar 09 – Sep 09</b>
<i>Cost of funds and return on assets in the banking sector (average for the period)</i>			
One month deposit rate (p.a.)	9.45	11.56	12.40
LIBOR (6 months EUR) <sup>1)</sup>	4.60	2.91	1.43
Deposit interest rate (weighted average, RSD only)	4.91	7.45	7.02
Loan interest rate (weighted average, RSD only)	13.54	18.86	15.32
Loan-to-deposit rate spread	8.63	11.41	8.30
<i>Credit contraction statistics (average for the period)</i>			
BCPS (EUR) annualized rate of change	31.72	- 8.48	7.18
Ratio of non-performing loans <sup>2)</sup>	4.33	5.29	8.12

*Source:* NBS (2009b), NBS (2009a) and British Bankers' Association; (author's recalculations).

*Notes:* <sup>1)</sup> Data in the table stands for *libor*, because they were easily available, but interest rate arbitrage holds those two money market closely linked, so that the difference between them are rather irrelevant.

<sup>2)</sup> The figures stand for the value at the end of September 2008, December 2008, and March 2009, respectively.

## Policy recommendations

In this section we will discuss some policy options. All the measures on the list (table 2) are separated into two subsections. The first one (upper section) lists what can be done immediately to fight against the present credit crunch. The second one contains measures that can be undertaken anyway, no matter is there credit crunch or not.

**Table 2: Course of action**

<b>Time frame/Action</b>	<b>Impact on</b>	<b>Drawbacks</b>
<b>Short-term (tactical level)</b>		
NBS repo-rate decrease	availability of credit	inflation
Credit guaranties and subsidies	credit interest rate and readiness to lend	market forces suppression, budget expenses,
Personal income tax reform	decrease tax-exempt deposit rate	budget revenues
Deposit insurance	rise readiness to deposit	increase contingent liability of ultimate insurer (government)
Negotiate with foreign bank groups to back up their local bank subsidiaries	availability of credit	explicit concessions
Stability of real exchange rate	cancel implicit guaranty and stabilize foreign credit flow	exchange risk induced credit risk and possibly inflation
<b>Long-term (strategic level)</b>		
Public registries	readiness to lend	no
Legal rights protection	readiness to lend	no
Competition policy	increase deposit interest rate and decrease credit interest rate, and shrink interest rate spread	undermine franchise value of banks

The main differences between short-term (tactical) measures and the strategic ones are as follows: *Firstly*, time frame for action is different. The strategic actions are not fire-fighting measures. *Secondly*, tactical measures always introduce a kind of trade-off between different economic and social goals, in a way that often go with some costs. Final decision to opt for any of those measures depends on as accurate as possible cost-benefit analysis.

On the *short-term* policy makers have some options that are not mutually exclusive. Firstly, NBS can decrease the repo-rate in order to induce shift of bank asset portfolio toward private entities, and hence reduce the effect of crowding out. Secondly, government should strengthen schemes of credit guaranties for new businesses and start-ups, as well other support measures like business incubators etc.

Further, domestic financial resources are especially important when foreign credit resources are getting scarce. Thus, we propose to back-up deposit market by personal income tax reform and by continuing with the previously increased deposit insurance ceiling.

Regards to foreign resources at least two measures can be undertaken. More urgently, it is needed to work with the foreign banking parent groups to stand up for their local subsidiaries. The second policy measure should start as soon as possible, but it should need longer time-horizon to be effective. Serbia needs to follow the policy of real exchange rate stability (avoid further real appreciation of local currency).

*Strategic level actions:* By strategic level actions we mean some structural reforms of banking markets. In order to decrease the riskiness of bank portfolio it is necessary to design an environment in which creditworthiness of the borrowers and their projects can be assessed with highest possible level of certainty, and the creditor rights are protected. Both creditor protection through the legal system and information-sharing institution (e.g. public credit registries) are associated with higher ratios of private credit to gross domestic product (*Cf. Djankov et al. 2007*). Some reforms in order to introduce public credit registry already has been done. Similar is with legal rights protection. What is next to be done is work on low enforcement capacity. Serbia needs faster and more efficient enforcement of bankruptcy procedures as well as with collateral liquidation.

More competitive banking industry is expected to influence both deposit and credit market conditions. However, the role of competition policy is not so straightforward. It can have some negative side-effects on franchise value of the banks, with equally negative effects on profitability and eventually solvency of the banking industry. Not to mention that the loss of franchise value is possible to produce moral hazard behavior, or excessive risk-taking, so that it can be done with due diligence.

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Table A1: Bank credit to the private sector (BCPS) – cross country overview (1994-2003)

Variable	Bulgaria	Croatia	Hungary	Poland	Slovenia	Bosnia and Herzegovina	Serbia and Montenegro	Albania	Macedonia FYR	Romania
<i>Measures of growth of BKPS</i>										
Turning point	1998	1994	1997	1996	1992	2001	2002	-	-	-
Average annual real growth rate	33.0	12.3	11.1	13.5	13.0	36.6	23.1	14.5	-6.7	4.7
Change in BCPS ratio	11.0	20.8	9.2	12.9	21.6	9.2	2.3	1.5	-9.1	1.3
Average annual change in BCPS ratio	2.2	2.6	1.5	1.8	2.2	4.6	2.3	0.3	-1.8	0.3
<i>Financing the growth of the BKPS ratio</i>										
Bank credit to the public sector	-5.9	-11.4	-1.9	-1.2	-0.4	-5.2	0.1	-9.7	1.6	-4.3
Bank deposits	14.0	30.0	2.1	9.6	18.3	12.1	3.9	3.3	15.5	-1.6
Net foreign liabilities	-6.4	-7.7	-3.9	2.6	2.4	-4.4	0.6	-0.2	-8.7	-0.2
Other net liabilities	-2.5	-12.9	9.1	-4.3	-2.6	-3.7	-2.2	-11.4	-14.3	-1.2

Source: Cottarelli *et al.*, 2005, Early birds, late risers, and sleeping beauties: Bank credit growth to the private sector in Central and Eastern Europe and in the Balkans, *Journal of Banking and Finance* 29, Tables 1 and 2, pp. 87-88.

Notes: Reference period for Bulgaria, Poland, Macedonia FYR, Albania and Romania is 1998-2002, for Croatia 1995-2002, Hungary 1997-2002, Slovenia 1995-2002, Bosnia and Herzegovina 2001-2002, and for Serbia and Montenegro 2002.

**Table A2: Sources of financing the growth of the BCPS (EUR) in Serbia (2003 – 2009)**

Variable	2003	2004	2005	2006	2007	2008				2009		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
Annual/quarterly BCPS (EUR) growth rate	19.1	26.9	41.6	26.9	39.8	4.9	9.6	10.5	-5.0	0.7	1.4	2.1
<b>Financing the growth of the BCPS</b>												
Bank claims to the public sector and NBS	-2.7	-10.0	-29.4	-61.4	-16.1	3.1	-1.8	-4.4	13.6	4.7	-6.8	-4.6
Bank deposits	13.3	14.0	30.5	43.8	45.9	0.5	4.8	6.4	-13.3	-2.6	5.2	2.8
Net foreign liabilities	2.2	24.2	30.3	30.3	-10.9	-2.3	0.1	3.4	0.3	0.6	1.3	2.4
Other net liabilities	6.3	-1.3	10.2	14.2	21.0	3.6	6.4	5.1	-5.6	-2.0	1.7	1.5

Source: NBS (2009b) Statistical Bulletin, September (author's recalculations)