

Preserving Macrofinancial Stability in Serbia: Past Legacies, Present Dilemmas and Future Challenges

Sándor Gardó¹

In the course of the boom years from 2004 to 2008, Serbia accumulated sizeable macrofinancial imbalances, which made the country vulnerable to external shocks during the global crisis and rendered the process of crisis management more complex. As these vulnerabilities materialized, Serbia had to take recourse to international support which helped stabilize the country's macrofinancial conditions. Some macrofinancial risks prevail, however, mainly with regard to fiscal and external sustainability. At the same time, financial stability concerns are mitigated by the banking system's high shock-absorption capacities, the strategically oriented presence of foreign banks and vigilant central bank action. A major future challenge will be to avoid a renewed rise in financial and external vulnerabilities. This calls for a prudent economic policy mix and increased efforts toward structural reform

JEL classification: F36, G2, O52, P2

Keywords: financial stability, banking sector, economic and financial crisis

1 Introduction

After several years of exceptional growth up until 2008, the global economic and financial crisis posed a major challenge to the Serbian economy and banking sector as it highlighted economic and financial vulnerabilities, thus creating numerous policy challenges and bringing home the need for inevitable reform measures. Against this background, this paper aims to look into macrofinancial developments in Serbia during the crisis years 2008 to 2010.² In this sense, it provides updated information following up on Barisitz and Gardó (2008), who covered macrofinancial developments in Serbia over the period from 2002 to 2008.

This paper is structured as follows: Section 2 provides an overview of Serbia's macroeconomic environment, highlights the policy measures taken by the Serbian authorities in response to the spillovers of the global crisis and assesses their effectiveness and implications for future policy-making. Section 3

focuses on banking developments and pinpoints the banking sector's strengths and vulnerabilities in the wake of the global crisis by analyzing its balance sheet and earnings structure as well as shock-absorbing capacities. Finally, section 4 concludes.

2 The Macroeconomic Environment in Serbia

Similar to most other Central, Eastern and Southeastern European (CESEE) economies, Serbia was hit by the global economic and financial crisis in a way that brought the country's multi-year domestic demand-driven economic boom, which had begun to show signs of overheating, to an end in 2008. In fact, after a gradual slowdown in economic growth in the course of 2008, the spillovers of the global crisis fully hit the Serbian economy in 2009. The ensuing slump in economic activity went hand in hand with large shifts in the composition of economic growth. While domestic demand plunged in a

Refereed by
Mario Holzner, wiiw,
Petar Sekulić,
Snežana Vilaret,
Svetlana Gospić,
NBS.

¹ Oesterreichische Nationalbank, Foreign Research Division, sandor.gardo@oenb.at. The author wishes to thank Peter Backé and Andreas Greiner (both OeNB), Mario Holzner (wiiw) and Petar Sekulić, Snežana Vilaret and Svetlana Gospić (all National Bank of Serbia) for valuable comments.

² Cutoff date: April 15, 2011.

setting of waning consumer confidence, gradually deteriorating labor market conditions, more limited availability and higher cost of credit, a slowdown in capital inflows (including FDI) and fiscal restraint, net exports contributed positively to GDP growth, with imports falling faster than exports (see table 1). The sluggish economic recovery that set in during the second half of 2009 continued in 2010, when GDP expanded by 1.8%, largely driven by a strong rebound in exports on the back of a relatively robust recovery of Serbia's main EU trading partners and the weakening of the Serbian dinar (RSD) vis-à-vis the euro. Pursuant to IMF projections, GDP growth is forecast to accelerate to 3% in 2011 and 5% in 2012 on the back of firming domestic demand, in particular investment activity.

The crisis reached the Serbian labor market with a time lag in the second half of 2009. Depressed domestic and foreign demand and the related reduction of production caused the number of employed persons to decrease by an average 7.3% in 2009, bringing the employment rate (according to Labour Force Survey, for the group aged 15+) down from 44.4% in 2008 to 41.2% in 2009. At the same time, the unemployment rate rose sharply from an average 13.6% in 2008 to 16.1% in 2009. Given the rather slow pace of economic recovery, labor market conditions remained weak in 2010, too; employment losses continued (-8.5%) and the unemployment rate climbed to 19.2%. Rising unemployment and the freezing of public sector wages in 2009 and 2010 caused wage growth to decelerate sharply in both nominal and real terms in 2009, and continued to do so (albeit at a much slower pace) also in 2010.

The economic downturn brought about a reduction in external imbalances, which had reached high levels in

Serbia in the run-up to the global crisis. In fact, a major current account adjustment took place in 2009, with Serbia's current account deficit narrowing from over 21% of GDP in 2008 to 7% a year later. This correction came on the back of a strongly improving trade balance, but was also driven by a surprisingly sharp pick-up in current transfers (mainly workers' remittances). The trade deficit tended to decline further in 2010, but the adjustment process slowed markedly toward year-end 2010, as strong export growth and the slow but steady recovery of domestic demand started to translate into higher imports. In this context, it is worth noting that Serbia's export base is relatively narrow and its export structure is tilted to resource-based and low-tech products. This makes it more difficult to ensure a more balanced external position. As the narrowing trade deficit was compensated by a higher deficit of the income balance and lower current transfers, in 2010 the current account deficit remained basically unchanged against 2009 in both absolute and relative terms.

Similarly, pronounced adjustments occurred on the external financing side, too, as tightening global credit conditions took a toll on capital flows. In 2009 net FDI inflows to Serbia were fairly sizeable, though, due to privatization revenues related to the sale of a 51% stake of Serbia's national petroleum company NIS (amounting to some EUR 400 million), but still net FDI inflows were much lower than during the pre-crisis years. However, as the fall in FDI was less pronounced than the correction in the current account, the coverage ratio even improved in 2009. Both net portfolio investment flows and other investment flows remained largely unchanged in 2009. However, the composition of the latter

Table 1

Main Macroeconomic Indicators for Serbia

	2005	2006	2007	2008	2009	2010
Real sector						
GDP growth (real, annual change, %)	5.6	5.2	6.9	5.5	-3.1	1.8
Total consumption (contribution to growth, percentage points)	0.2	5.5	5.9	5.6	-2.9	-1.7
<i>of which private consumption</i>	0.5	4.6	2.2	5.2	-1.7	-1.2
<i>public consumption</i>	-0.3	0.9	3.8	0.4	-1.1	-0.5
Gross fixed capital formation (contribution to growth, percentage points)	0.6	3.1	5.9	0.5	-2.4	0.0
Inventories (contribution to growth, percentage points)	-5.5	-1.5	1.5	1.4	-5.3	0.0
Net exports of goods and services (contribution to growth, percentage points)	10.4	-1.9	-6.3	-2.0	7.5	3.5
<i>of which exports of goods and services</i>	3.6	1.3	4.6	2.6	-3.7	5.2
<i>imports of goods and services</i>	-6.8	3.2	10.9	4.6	-11.2	1.7
Industrial production (real, annual change, %)	6.0	4.2	4.1	1.4	-12.6	2.5
Average gross monthly wages (whole economy, annual change, %) ¹	24.1	24.4	21.8	18.0	8.8	7.5
Unemployment rate (Labour Force Survey, age 15+, %)	20.8	20.9	18.1	13.6	16.1	19.2
Monetary and financial sector						
Inflation (CPI, annual average, %)	16.5	12.7	6.5	11.7	8.4	6.5
Exchange rate (period average, RSD/EUR)	83.2	84.4	80.0	81.5	93.9	103.0
Exchange rate (period average, RSD/USD)	67.0	67.3	58.5	55.8	67.6	77.8
Nominal effective exchange rate (2001=100) ^{2,3}	79.9	88.4	90.2	80.0	74.2	66.4
Real effective exchange rate (2001=100) ^{2,3,4}	119.6	136.6	149.9	142.5	139.2	134.9
Policy rate (end of period, %) ⁵	19.2	14.0	10.0	17.8	9.5	11.5
Broad money (M3, end of period, annual change, %)	42.1	38.3	42.5	9.8	21.5	12.9
Broad money (M3, end of period, % of GDP)	27.3	32.3	39.3	36.4	42.8	44.2
Fiscal sector						
Budget balance (consolidated general government, % of GDP) ¹	1.0	-1.6	-1.9	-2.6	-4.3	-4.4
Total budget revenues (% of GDP)	43.0	44.2	43.5	42.0	40.7	39.7
Total budget expenditures (% of GDP)	42.0	45.8	45.5	44.6	45.0	44.1
Public debt (% of GDP)	50.7	40.1	30.8	26.3	32.9	40.7
<i>of which foreign debt</i>	29.7	23.6	19.0	16.8	18.9	24.2
<i>domestic debt</i>	21.0	16.4	11.9	9.5	14.0	16.4
External sector						
Current account balance (% of GDP)	-8.8	-10.1	-17.6	-21.1	-7.0	-7.0
Net FDI inflows (% of GDP)	6.2	14.3	6.3	5.5	4.6	2.9
Gross external debt (end of period, % of GDP)	60.3	61.0	59.6	63.1	75.0	79.5
Private external debt (% of GDP)	21.3	32.7	37.7	43.6	49.1	49.1
<i>of which banks</i>	8.7	15.0	12.5	10.5	14.4	17.0
<i>corporations</i>	12.6	17.7	25.2	33.1	34.8	32.1
Public external debt (% of GDP)	39.0	28.4	21.8	19.5	25.9	30.3
Short-term external debt (% of GDP)	4.7	4.1	3.6	6.4	6.7	6.1
Long-term external debt (% of GDP)	55.6	56.9	55.9	56.7	68.4	73.4
Foreign exchange reserves (end of period, % of GDP)	24.5	38.9	33.6	24.7	35.3	33.4
Short-term external debt (% of foreign exchange reserves)	19.1	10.6	10.9	26.2	18.9	18.3
Import coverage (months)	6.2	9.1	7.2	5.2	9.4	8.1

Source: IMF, Ministry of Finance of the Republic of Serbia, NBS, Statistical Office of the Republic of Serbia, *wiiv*.

¹ 2009 figures are based on 2008 data recalculated according to a new methodology applicable since January 2009.

² End-of-period values.

³ A decreasing index denotes a depreciation of the RSD.

⁴ CPI-deflated since 2006 (RPI-deflated earlier).

⁵ 2005: Weighted average interest rate on securities used by the NBS in open market operations. 2006 to 2010: Two-week repo rate.

changed substantially as compared to the pre-crisis period when capital inflows were largely driven by cross-border borrowing of corporations (“other sectors”) given underdeveloped local capital markets and restrictive measures by the National Bank of Serbia (NBS) aimed at containing bank lending.

However, capital inflows to corporations declined in 2009 as foreign funding became scarcer and more expensive. At the same time, capital inflows to banks and the public sector (comprising general government and monetary authorities) increased considerably, as banks adhered to their commitments undertaken within the framework of the Vienna Initiative³ to maintain their exposures at end-2008 levels⁴ and the public sector (especially the monetary authorities) recorded inflows stemming from international support measures which became necessary as temporary financing strains emerged at the turn of 2008/09. 2010 was characterized by further moderating net FDI inflows and a pick-up in net portfolio investment. At the same time, net total other investment inflows decelerated sharply but remained positive, as corporate sector outflows were compensated by public sector and banking inflows.

In fact, Serbia turned to the IMF for a Stand-By Arrangement (SBA) in October 2008, which was approved in January 2009 for the amount of SDR

350 million (about EUR 400 million) and a length of 15 months and was initially treated by Serbian authorities as precautionary. However, in May 2009, when the impact of the global crisis on Serbia became fully apparent, the SBA was prolonged in duration to 27 months and extended in volume to SDR 2.6 billion (about EUR 3 billion), which gave authorities more room in dealing with the crisis and helped contain external financing pressures. All in all, Serbia has drawn only half of the total eligible amount within the SBA, given gradually easing external financing needs and a steady level of foreign exchange reserves. The arrangement expired as scheduled in mid-April 2011. Serbian authorities seem to aim for a new precautionary arrangement to be concluded most likely in the fall 2011. Moreover, the EU granted Serbia a nonrepayable EUR 100 million budget support from the Instrument for Pre-accession Assistance (IPA) facility in mid-2009 (by now fully disbursed) and a loan worth EUR 200 million as macrofinancial assistance in July 2010, with disbursements being conditional on the satisfactory implementation of obligations undertaken within the framework of the SBA.

Driven by the public sector and by exchange rate effects, Serbia’s gross foreign debt increased strongly to 75% of GDP in 2009 (2008: 63%), with 8 percentage points of this increase

³ *The Vienna Initiative, formally known as the European Bank Coordination Initiative (EBCI), was established in January 2009 by international financial institutions (IFIs), EU institutions, home and host country regulatory authorities as well as major banking groups active in the CESEE region to provide a public-private framework for coordinating the management and resolution of crisis-related financial sector issues. First and foremost, the Vienna Initiative aimed to prevent an uncoordinated withdrawal of international banking groups from the CESEE region by ensuring that parent bank groups publicly committed to maintaining their exposures and recapitalize their subsidiaries not only in Serbia, but also in Bosnia and Herzegovina, Hungary, Latvia and Romania, i.e. in countries where support programs provided by IFIs and the EU had become necessary during the financial crisis. See EBRD (2010b).*

⁴ *During the meeting of the European Bank Coordination Initiative on 26 February 2010 it was agreed to lower foreign parent banks’ exposure limits from 100% to 80% effective as at April 2010 until year-end 2010 when the exposure commitment expired.*

being attributable to the denominator effect (decline in GDP in euro terms) and the rest to valuation and volume effects in the numerator. Serbia's external indebtedness continued to rise in 2010, again largely driven by the public sector (but also by banks), while corporations' foreign debt levels decreased rather strongly. Available data show that the maturity breakdown of external debt shifted to shorter durations in 2008 and 2009 which, however, still remained moderate (and decreased again in 2010) when calculated on an initial maturity basis. This is also confirmed by the so-called Guidotti-Greenspan rule⁵, according to which Serbia had a foreign exchange reserves-to-short term debt ratio of around 1.8 (based on residual maturities) as at end-2010. The IMF expects Serbia's external debt service to remain at fairly high but stable annual levels of some 19% of GDP over the period from 2011 to 2015. The currency structure of Serbia's foreign debt reveals the predominance of euro-denominated debt, which accounted for some 76% of total external debt, while 10% were denominated in U.S. dollar, 8% in SDR and 5% in Swiss francs as at end-2010.

Foreign exchange reserves plunged by some 20% at the turn of 2008/09 given the prevalent foreign currency liquidity shortages and the related exchange rate pressures. In fact, the NBS regularly intervened on the foreign exchange market and changed the applicable mandatory reserve allocation rules (see box 1) to mitigate strong downward pressures on the Serbian dinar at the time, which partly came along with declining public confidence in the national currency and substantial temporary deposit withdrawals (in the

magnitude of some EUR 1 billion or around 17% of total household deposits) by the population in October 2008. Despite valiant NBS action, which also included a policy rate hike by 200 basis points to 17.75% at the end of October 2008, the Serbian dinar lost over 20% against the euro in nominal terms between October 2008 and March 2009. This depreciation followed a prolonged period of appreciation, however. From the second quarter of 2009, when global financial conditions began to stabilize, the NBS did not intervene in the foreign exchange market until December 2009. Together with foreign currency inflows related to international support measures (funds from the SBA) and IMF general and special SDR allocations, this helped improve the country's foreign exchange reserve level, which by end-April 2010 reached some EUR 10.8 billion. However, by the end of 2010 Serbia's foreign exchange reserves came down to EUR 10 billion (some 33% of GDP) given lower mandatory reserve requirements and episodes of renewed downward pressures on the Serbian dinar. In fact, downward exchange rate pressures eased toward end-2010 owing to repeated NBS policy rate hikes. Nevertheless, in 2010 the Serbian dinar lost a further 10% against the euro, largely driven by higher risk aversion caused by spillovers of the Greek crisis and despite substantial foreign exchange market interventions of the NBS in favor of the national currency, which amounted to a total of EUR 2.3 billion in 2010. Still, at the end of 2010, import coverage was at a comfortable level of some eight months.

After a three-year phasing-in period, as from January 1, 2009, the NBS started to implement inflation targeting as its

⁵ According to the Guidotti-Greenspan rule, a country's gross foreign exchange reserves should fully cover its short-term external debt, implying a ratio of at least 1.

official monetary policy strategy. Its inflation target is defined as a linearly declining band of headline CPI, with a midpoint and band for each month of the year in order to signal continuous monitoring.⁶ For 2011 the NBS targets a year-end inflation of 4.5% (± 1.5 percentage points), and for 2012, the inflation target is 4% (± 1.5 percentage points). After the sharp policy rate hike in October 2008, the NBS gradually eased monetary conditions in the light of rapidly deteriorating economic conditions and an easing inflationary environment. Until mid-2010, the NBS cut its policy rate in several steps by a total of 975 basis points to a historical low of 8%. In August 2010 the interest rate cycle came to an end and the NBS – in line with its primary objective of safeguarding price stability – hiked the policy rate in five steps to 11.5% by year-end 2010 (see box 1), against the background of inflationary pressures that started to build up on higher food and energy prices, rising regulated prices as well as exchange rate pass-through effects. Despite monetary tightening, at 10.3% year-end 2010 inflation overshoot the NBS's target range of 6% (± 2 percentage points) for 2010. Given persistent inflationary pressures as well as rising inflation expectations (which also raised concerns about possible wage inflation), the NBS continued its monetary tightening in early-2011 and increased the policy rate

in several steps by a total of 100 basis points to 12.5% by mid-April to steer inflation closer to its targets.

The NBS also took a number of measures to safeguard financial stability, ranging from outright crisis management (e.g. the provision of foreign currency liquidity, confidence building, foreign exchange market interventions) via tackling the second-round effects of the crisis on banks (e.g. nonperforming loans, provisioning, capitalization) to regulatory and supervisory reform (e.g. implementing an enhanced legal framework for dealing with troubled banks, changing deposit insurance regulations, taking preparations for the implementation of Basel II on December 31, 2011).⁷

Most NBS measures were designed to ensure an orderly functioning of the interbank market in times of heightened liquidity pressures which came along with reduced net capital inflows and deposit withdrawals. In fact, the NBS established a lender-of-last-resort facility in October 2008, by means of which it can extend liquidity loans to banks which are solvent but face temporary liquidity problems for up to one year against collateral. In order to improve local and foreign currency liquidity conditions on the interbank market, the NBS also established two special liquidity facilities open to banks that participated in the Financial Sector Support Program (FSSP)⁸, which expired at the end of 2010.

⁶ For further details, see NBS (2010a).

⁷ Regulatory changes include amendments to the Law on the National Bank of Serbia, which became effective on July 1, 2010, and aims to strengthen the NBS's independence and to harmonize national legislation with EU standards. According to the new provisions the NBS governor will be nominated by the President of the Republic of Serbia and not by the Parliament's Finance Committee, which was previously the case. The law, *inter alia*, also extends the governor's and vice governors' mandate by one year to six years and prohibits public sector financing.

⁸ The FSSP (encompassing the commitments undertaken under the Vienna Initiative and other country-specific provisions) was set up under the auspices of the NBS and was a precondition for signing the SBA with the IMF. 27 out of a total of 34 Serbian banks participated in the FSSP, which obliged banks to (1) obtain explicit commitments from parent banks with a view to sustaining exposures at end-2008 levels during 2009 and 2010 (the exposure limit was reduced to 80% of end-2008 levels in April 2010), (2) maintain adequate capitalization and liquidity levels and (3) participate in stress tests based on IMF methodology.

The first facility, i.e. an extended dinar facility, was open to banks which, within the framework of the FSSP, engaged in loan restructuring by offering maturity prolongation, free-of-charge conversion of foreign currency-denominated or -indexed loans into dinar loans, or other measures reducing monthly payments to 20% of borrowers' monthly income. To encourage loan restructuring, loan loss provisioning was relaxed for restructured loans as well. In order to ensure proper liquidity conditions on the interbank market, as a second facility, the NBS also started to organize foreign exchange swap auctions as at May 2009.⁹ Initially, these foreign exchange swaps were offered with a maturity of two weeks, but as demand was rather low, the NBS introduced swap auctions with a three-month maturity in April 2010 (available until end-2010). It further boosted foreign currency liquidity by canceling reserve requirements for new foreign borrowing made in the period from October 1, 2008, to December 31,

2009 (which was later prolonged to March 31, 2010), and changing reserve allocation rules by raising the dinar share to be allocated against the foreign currency component of required reserves (this measure was repealed gradually until May 2009). Countercyclical NBS measures to stimulate bank lending also include relaxing and later on removing restrictions for lending to households, enabling the exclusion of loans granted under the government's financing program from the reserve requirement base, withdrawing the 30% down payment requirement and lowering minimum reserve requirements in March 2010. However, in parallel to the policy rate hikes, the NBS also started to tighten reserve requirements in February 2011 by introducing maturity-dependent minimum reserve requirement rates on banks' liabilities and requiring banks to allocate part of their required reserves for foreign currency liabilities in dinar by applying differentiated rates (see box 1).

Box 1

Overview of Selected Crisis Response Measures of the NBS since Mid-2008

Policy instrument	Date	Measure
Policy rate	May 29, 2008	Policy rate hike by 50 basis points to 15.75%
	October 31, 2008	Policy rate hike by 200 basis points to 17.75%
	January 22, 2009	Policy rate cut by 125 basis points to 16.5%
	April 6, 2009	Policy rate cut by 150 basis points to 15%
	April 22, 2009	Policy rate cut by 100 basis points to 14%
	June 9, 2009	Policy rate cut by 100 basis points to 13%
	July 10, 2009	Policy rate cut by 100 basis points to 12%
	October 8, 2009	Policy rate cut by 100 basis points to 11%
	November 5, 2009	Policy rate cut by 100 basis points to 10%
	December 29, 2009	Policy rate cut by 50 basis points to 9.5%
	March 23, 2010	Policy rate cut by 50 basis points to 9%
	April 8, 2010	Policy rate cut by 50 basis points to 8.5%
	May 11, 2010	Policy rate cut by 50 basis points to 8%
	August 5, 2010	Policy rate hike by 50 basis points to 8.5%

⁹ For further details, see p. 24f of the May 2010 issue of NBS (2010d).

Box 1 Continued

Policy instrument	Date	Measure
Policy rate	September 7, 2010	Policy rate hike by 50 basis points to 9%
	October 14, 2010	Policy rate hike by 50 basis points to 9.5%
	November 11, 2010	Policy rate hike by 100 basis points to 10.5%
	December 9, 2010	Policy rate hike by 100 basis points to 11.5%
	January 17, 2011	Policy rate hike by 50 basis points to 12%
	March 10, 2011	Policy rate hike by 25 basis points to 12.25%
	April 8, 2011	Policy rate hike by 25 basis points to 12.5%
Reserve requirements	May 15, 2008	10% of the required reserves for foreign currency liabilities are to be allocated in Serbian dinar.
	October 1, 2008	Required reserves are not to be calculated against foreign liabilities, including foreign borrowing by banks, subordinated foreign capital and borrowing by financial leasing providers. Moreover, the currency structure of required reserves allocation is to be changed: 20% of the required reserves for foreign currency liabilities are to be allocated in Serbian dinar.
	October 31, 2008	As an exception for the maintenance period from October 18 to November 17, 2008, banks may calculate required reserves on foreign currency savings on the basis of the book balance of foreign currency savings deposits as at October 15, 2008, or as at October 30, 2008, whichever is more favorable.
	December 8, 2008	Beginning with the maintenance period from December 18, 2008, to January 17, 2009, and ending with the maintenance period from May 18 to June 17, 2009, 40% of the required reserves for foreign currency liabilities are to be allocated in Serbian dinar.
	February 13, 2009	Foreign liabilities incurred from October 1, 2008, to December 31, 2009, are exempt from the calculation of reserve requirements until their maturity.
	February 13, 2009	The required reserve base can be reduced by the amount of loans to enterprises (investment loans; RSD 17 billion) and households (loans for durable consumer goods; RSD 20 billion) approved in line with the Government Program to Ease the Effects of the Global Crisis.
	May 18, 2009	35% of the required reserves for foreign currency liabilities may be allocated in Serbian dinar.
	June 10, 2009	The deadline for the receipt of funds from abroad that are not included in the reserve base is extended for the period from December 31, 2009, to December 31, 2010. Consequently, banks do not have to allocate required reserves for Serbian dinar- and foreign currency-denominated foreign liabilities in respect of deposits and loans in the period from October 1, 2008, to December 31, 2010, until the initial maturity of such liabilities.
	July 10, 2009	30% of the required reserves for foreign currency liabilities may be allocated in Serbian dinar.
	October 8, 2009	Beginning from the maintenance period from October 18 to November 17, 2009, 25% of the required reserves for foreign currency liabilities may be allocated in Serbian dinar. The effects of this measure: Release of dinar liquidity (RSD 14.5 billion) and increase in foreign currency required reserves by around EUR 155 million. Banks will decide on their own what to do with fresh dinar liquidity: a) boost lending activity, b) buy foreign exchange in the IFEM, or c) invest in government or NBS securities.
	November 13, 2009	As of November 18, 2009, 20% of the required reserves for foreign currency liabilities may be allocated in Serbian dinar.
	March 5, 2010	The Monetary Policy Committee adopts a new Decision on Banks' Required Reserves, effective as of March 18, 2010, which streamlines and reduces the reserve requirement on both Serbian dinar and foreign currency liabilities. The new decision changes and expands the required reserve base by reducing the number of exemptions from foreign currency reserve requirements and significantly lowers the reserve requirements from 10% to 5% on the dinar base, and from 40% and/or 45% to 25% on the foreign currency base. The new reserve requirements for foreign currency deposits are to be phased in gradually over 2010, and any excess amount of allocated required reserves will be returned to banks in three monthly instalments beginning from February 2011. Effectively, a one-year transition period is envisaged for the introduction of the new regime. Banks shall not calculate required reserves on Serbian dinar and foreign currency liabilities in respect

Policy instrument	Date	Measure
Reserve requirements	March 5, 2010	of deposits, credits and other funds received from abroad from October 1, 2008, to March 31, 2010, until the original maturity of such liabilities, but not later than December 31, 2013. Required reserves for foreign currency liabilities are to be fully allocated in euro.
	October 22, 2010	Banks do not have to calculate required reserves on RSD-denominated time deposits accumulated from October 31 to November 8, 2010 until the end of their term, provided these deposits are not foreign currency-indexed.
	January 19, 2011	The new decision reflects a differentiation of reserve requirement ratios on Serbian dinar and foreign currency reserve bases depending on the maturity of liabilities, i.e. banks' sources of funding. Moreover, the decision obliges banks to allocate in dinar part of the required reserves for foreign currency liabilities by applying differentiated ratios. The ratio applied on the portion of the dinar reserve base composed of liabilities with a maturity up to two years remains 5%, while the ratio of the dinar sources of funding with a longer maturity is reduced to 0%. The ratio applied on foreign currency liabilities with a maturity over two years remains 25%, while the ratio on foreign currency liabilities of a shorter maturity is raised to 30%. The decision further requires banks to allocate in Serbian dinar part of the required reserves for foreign currency liabilities, also by applying differentiated ratios – 15% for liabilities with a maturity up to two years and 10% for those of longer maturities.
Loan classification / provisioning / capital requirements	June 30, 2008	Household dinar loans that are not foreign currency-indexed and intended for investment in agricultural production and dinar loans that are not foreign currency-indexed and approved to entrepreneurs for investment in the production of goods or services within their line of business are excluded from gross household lending.
	July 1, 2008	Amendments to regulations on risk weights applied to calculating risk-weighted assets and off-balance sheet items. A 50% risk weight applies to dinar claims secured by a mortgage; 75% to mortgage-secured foreign currency and foreign currency-indexed claims on unhedged borrowers; 125% to foreign currency and foreign currency-indexed claims on unhedged borrowers. The RSD 10 million limit with regard to the 125% risk weight is abolished. Moreover, provisioning requirements related to off-balance sheet items are brought more into line with international accounting standards, while other regulations aim for standardizing risk and liquidity risk management practices across banks.
	July 1, 2008	Receivables to be classified in the worst category E are receivables on loans with a paid-in deposit or downpayment of less than 30% (previously 20%) of the respective loan volume, with the exception of housing loans, dinar loans that are not foreign currency-indexed, and credit card obligations.
	July 1, 2008	The compulsory down payment or deposit to be provided upon loan approval is raised from 20% to 30% in order for receivables under such loan agreements not to be classified in the least favorable category E.
	December 19, 2008	Loans for agriculture and investment into other activities are exempt from the gross household lending-to-banks' share capital ratio (150%). Moreover, depreciation effects are excluded from the calculation of borrowers' debt-income ratio (30/50 ratio). Hence, banks' receivables on foreign currency-indexed loans were not downgraded when this ratio was exceeded due to the effects of depreciation on condition that borrowers' obligations were settled regularly and that borrowers were experiencing only temporary repayment difficulties.
	January 1, 2009	The ratio of gross household lending to banks' share capital remains 150%; however, no penalty applies in the event of noncompliance caused by the depreciation of the Serbian dinar.
	February 13, 2009	The ratio of gross household lending to banks' share capital is raised from 150% to 200% as of February 28, 2009.
	February 13, 2009	Banks no longer have to obligate their clients (natural persons) to place a deposit equal to 30% of the approved loan amount. If borrowers' down-payments or deposits are lower than 30% of the total loan amount (except for approved housing loans and credit card obligations), receivables from natural persons shall not be classified in category D.

Box 1 Continued

Policy instrument	Date	Measure
Loan classification / provisioning / capital requirements	June 10, 2009	The obligatory 200% ratio of gross household lending to banks' share capital is abolished.
	Year-end 2009	Banks are no longer required to allocate special reserves for estimated losses on receivables classified in category A.
	May 6, 2010	Aware of the fact that the foreign exchange risk is the largest systemic risk, and given borrowers' debt-income currency mismatch, the NBS raises the borrowing limit for natural persons with a matched foreign currency position from 30% (excluding housing loans) and 50% (including housing loans) to 40% and 60%, respectively, of borrowers' regular monthly income. Thus, borrowers must borrow primarily in the currency of their regular income. These extended borrowing limits apply not only to persons receiving income in Serbian dinar and taking out dinar loans, but also to persons taking out foreign currency-indexed dinar loans, provided they receive income in foreign currency or foreign currency-indexed dinar income. The 30/50 ratio will continue to apply to debtors that have foreign currency loans or foreign currency-indexed dinar loans and an income denominated in dinar. With the above measures the NBS intends to diminish systemic risk, reduce the degree of euroization by encouraging borrowing in Serbian dinar instead of euro or Swiss franc, and support the government's efforts to revive demand and strengthen Serbia's weakened economy through the extension of affordable dinar-denominated consumer loans.
Open foreign exchange positions	July 1, 2008	The limit on the net open foreign exchange position is reduced from 30% to 20%.
	January 31, 2009	The limit on the net open foreign exchange position is reduced from 20% to 10%.
	June 6, 2009	A bank shall maintain its assets/liabilities ratio in such a way so as to ensure that its total net open foreign currency position, including the absolute value of the net open position in gold, does not exceed 20% of its capital at the end of each business day, notwithstanding provisions of the decision governing bank risk management.

Source: NBS, author's compilation.

As in many other economies, the fiscal position in Serbia deteriorated strongly during 2009; a development which was predominantly driven by a sizeable cyclical shortfall in budget revenues and entailed two budget revisions in that year. In fact, after a rather expansionary fiscal stance in 2007 and 2008, the country's fiscal room for maneuver proved to be limited during the crisis. In order to keep the budget deficit under control and to comply with the commitments undertaken under the SBA, Serbia largely adjusted budget expenditures by restrictions on public

sector employment and a nominal freeze of public sector wages and pensions until end-2010, which in turn created at least some room for anti-crisis measures.

In particular, to ease the effects of the global economic crisis and foster economic recovery, the government under its Economic Stability Plan introduced measures to encourage lending activity and to promote de-euroization by supporting bank lending denominated in local currency (via subsidized interest rates, cofinancing or state guarantees).¹⁰ Moreover, to stop de-

¹⁰ For further details, see p. 35f of the May 2009 issue of NBS (2009c).

posit outflows and to restore confidence in the banking sector, in December 2008 the government raised the level of guaranteed deposits from EUR 3,000 to EUR 50,000, extended the scope of insured deposits to small and medium-sized legal entities and entrepreneurs, shortened the payout period for depositor compensation from 30 to 3 days and temporarily canceled the 20% tax on interest earnings on foreign currency savings for 2009 (the tax was reintroduced in 2010 and reduced to 10% as of March 2010).¹¹ Less favorable fiscal developments continued in 2010, with the relatively slow pace of economic recovery and the related weak revenue performance making a budget revision necessary. With the consent of the IMF, Serbia increased its 2010 fiscal deficit target to 4.8% of GDP, up from the originally targeted 4%; in the end, the fiscal deficit came to 4.4% of GDP.

According to the revised 2011–2013 Memorandum on the Budget, Serbia targets a general government budget deficit of 4.1% of GDP in 2011, which should be reduced gradually to 3.2% in 2012 (which will be an election year) and to 2.3% in 2013 by reducing current expenditure, in particular public sector wages and pensions. With a view to ensuring fiscal sustainability, enhancing fiscal responsibility and strengthening fiscal discipline, in October 2010 the Serbian parliament adopted amendments to the Budget System Law. The amendments inter alia specify as a fiscal rule a medium-term consolidated fiscal deficit target of 1% of GDP (to be reached by 2015),¹² which is important for anchoring expectations with a view to fiscal credibility after the expiration of the SBA in April 2011.

Rising fiscal deficits implied higher financing needs, so that the government stepped up borrowing from both domestic and foreign sources. With a view to the latter, as budgetary support the government took on a USD 500 million loan from the World Bank in December 2009, USD 200 million from Russia (as part of a USD 1 billion loan package) in April 2010 and (as mentioned above) EUR 100 million from the EU in mid-2009. However, plans regarding a possible Eurobond issue worth EUR 200 million were put off given high and rising risk premia; instead, the government took out loans from domestic (one Austrian- and two Greek-owned) banks to the tune of EUR 250 million. To increase the domestic component of financing and to support the development of domestic financial markets, in 2009 the government started to increasingly cover its financing needs via issuing treasury bills (by offering better interest rates than the NBS for central bank repos). Most treasury bills in 2009 were issued with a maturity of 3 months, but in the same year the Ministry of Finance (MoF) started to offer treasury bills with maturities of 6 and 12 months. In 2010, treasury bills with maturities of 18 and 24 months were introduced as well. In the second half of 2010, treasury bill sales were rather weak though, most likely because of continued downward pressures on the Serbian dinar (which dampened demand from non-residents) and rising repo rates. In order to make treasury bills more attractive, the MoF started to issue euro-indexed treasury bills with 6-month maturities toward the end of 2010. Budget financing for 2011 will be partly contingent on the success of the privati-

¹¹ For further information on deposit insurance in Serbia, see IMF (2010g).

¹² For further details, see p. 26 of the November 2010 issue of NBS (2010d).

zation of a 51% stake in Telekom Srbija, from which the government expects revenues of some EUR 1.4 billion. In addition, the World Bank provided Serbia a credit guarantee for international borrowing up to the amount of USD 400 million in mid-February 2011, which should help cover budgetary financing and allow for debt refinancing at reduced costs and longer maturities.

Given the above (and sizeable exchange rate valuation effects), public debt levels have increased considerably during 2009 and continued to do so in 2010 (partly also due to one-off statistical effects, i.e. the inclusion of previously nonregulated foreign liabilities in official statistics), reaching some 41% of GDP by end-2010, up from 26% of GDP at the end of 2008. In this context, more worrisome than the level of public debt is the pace of its increase. This most likely motivated the Serbian authorities to put a 45% cap on the public debt-to-GDP ratio when amending the Budget System Law in October 2010. Serbia's sovereign ratings remained largely unchanged in 2008–2010.

An enhanced economic policy framework, stepped up efforts toward fiscal consolidation and structural reforms as well as some progress made in terms of European integration served as a basis for more recent sovereign rating upgrades. Fitch lifted Serbia's long-term foreign currency rating outlook from negative to stable in November 2010, while affirming the country's credit rating at BB– (three notches below investment grade). Subsequently, in March 2011 Standard & Poor's hiked

Serbia's sovereign rating by one notch to BB with a stable outlook, up from BB– (stable). A rating from Moody's does not exist.

Beyond fiscal discipline, accompanying reform measures will be of key importance for ensuring fiscal sustainability and improving medium- to long-term growth prospects. On this note, the European Commission's 2010 Progress Report urges Serbia to address long-standing structural problems (i.e. promote economic restructuring and privatization), implement systemic reforms (mainly related to the pension and healthcare systems), reduce labor market rigidities, step up the fight against corruption and organized crime, reform public administration and strengthen the legislative and institutional framework.

These measures would be important also with a view to increasing the private sector's share in the economy (currently only 60% of GDP), enhancing the country's export capacity and improving the business environment in terms of which Serbia drags behind not only in comparison with the new EU Member States, but also with many of its Western Balkan peers. However, there are a few factors that allow for some cautious optimism as regards improving business conditions in the years ahead, including (1) the more limited availability and higher cost of (foreign) funding, which provides an incentive for pushing forward with structural reforms, (2) the conditionality of international financial assistance, and (3) the European integration process¹³ and the gradual adoption of the *acquis communautaire*.

¹³ Serbia is a potential EU candidate country, which signed a Stabilisation and Association Agreement (SAA) with the EU in April 2008 and submitted its application for EU membership in December 2009. The European Council decided to start the ratification process of the SAA in June 2010 and invited the European Commission to prepare an opinion on Serbia's application for membership in October 2010.

3 The Serbian Banking Sector

3.1. Market Structure

No major changes occurred in the Serbian banking sector's structure during the crisis years 2008–2010. The total number of banks went down by one to 33 during the observation period, while the number of foreign-owned banks rose by one to 21 due to the acquisition of Credi banka by Slovenia's Nova KBM d.d. Maribor in the first quarter of 2010. The fairly large number of small banks (i.e. 10, each with a market share of below 1% in terms of total assets), the still sizeable state ownership in the banking sector (compared to other CESEE countries) and the potential strategic repositioning of internationally active foreign banks as a result of the global crisis suggest further consolidation in the years ahead.

The rapid network expansion of the Serbian banking sector observed in the years 2002–2007 came to a halt abruptly because of the spillovers of the global crisis. In fact, the lower demand for banking services, but also banks'

ambition to streamline and consolidate business activities after a prolonged boom period and to bring capacities into line with the new short- and medium-term economic perspectives, triggered major staff cuts in 2009 and 2010. Simultaneously, the number of organizational units (including business units, branches, branch offices and teller units) decreased noticeably (see table 2).

The Serbian payment card system developed rather positively in recent years, although at a somewhat slower pace than before the crisis. The number of ATMs and point-of-sale (POS) terminals available in Serbia continued to increase in 2008 and 2009, and partly also in 2010. Similarly, the total number of payment cards issued grew from 5.7 million in 2007 to some 6.2 million in 2010 (see table 3). However, while the number of debit cards went up considerably over the review period, the number of credit cards decreased strongly – a development which might reflect banks' higher risk aversion in the wake of the global crisis.

Table 2

Structure of the Serbian Banking Sector

	2005	2006	2007	2008	2009	2010
Number of banks (of which foreign-owned) ¹	40 (17)	37 (22)	35 (21)	34 (20)	34 (20)	33 (21)
Number of employees	25,680	28,145	30,244	32,342	31,182	29,887
Number of organizational units ²	1,867	2,158	2,435	2,734	2,635	2,487
Market share of state-owned banks ¹ (% of total assets)	23.9	14.8	15.8	16.0	17.5	17.9
Market share of foreign-owned banks ¹ (% of total assets)	66.0	78.7	75.5	75.3	74.3	73.5
Market share of the five largest banks (% of total assets)	50.3	47.2	44.6	46.2	46.0	45.1
Herfindahl-Hirschmann Index (total assets) ³	665	614	578	627	636	629
EBRD index of banking sector reform ⁴	2.7	2.7	2.7	3.0	3.0	3.0

Source: NBS, EBRD.

¹ Majority ownership.

² Including business units, branches, branch offices, teller units and agencies.

³ Sum of the squared asset shares of individual banks. The index ranges between 0 and 10,000. A figure below 1,000 suggests a nonconcentrated sector, whereas a figure above 1,800 indicates high concentration.

⁴ The scores range from 1 (little progress beyond the establishment of a two-tier system) to 4+ (standards and performance of advanced industrial economies).

Table 3

Payment System Developments

	2005	2006	2007	2008	2009	2010
Number of ATMs	837	1,348	2,074	2,494	2,723	2,857
Number of POS terminals	31,816	48,194	55,340	57,919	59,058	57,459
Number of debit cards (thousand) ¹	3,476.6	4,382.8	4,686.4	4,640.0	4,991.8	5,211.9
Number of credit cards (thousand)	382.2	857.6	1,039.0	1,082.8	1,022.5	936.0
<i>Memorandum items:</i>						
Number of ATMs (per million inhabitants)	112	182	281	339	372	392
Number of debit cards per inhabitant	0.47	0.59	0.63	0.63	0.68	0.71
Number of credit cards per inhabitant	0.05	0.12	0.14	0.15	0.14	0.13

Source: NBS.

¹ Including business cards.

The Serbian banking sector continues to be dominated by foreign banks, which provided 71% of the sector's total capital in 2010. At the same time, foreign banks accounted for a market share of 73.5% in terms of total assets, which is lower than in many other

CESEE countries (e.g. Bosnia and Herzegovina, Croatia, the Czech Republic), but is roughly at par with the respective share in Poland and well above that in Slovenia. Most foreign banks present in Serbia are EU-based. In fact, banks from Italy, Austria,

Table 4

Top 15 Serbian Banks¹

Ranking	Bank	Main shareholder(s)	Total assets (EUR million)	Market share (%)
1	Banca Intesa a.d. Beograd	Intesa Holding International (77.8%), Intesa Sanpaolo SPA (15.2%), IFC (7%)	3,404.1	14.2
2	Komercijalna banka a.d. Beograd	Republic of Serbia (42.6%), EBRD (25%)	2,425.3	10.1
3	Eurobank EFG a.d. Beograd	EFG Eurobank Ergasias Athens (55.2%), EFG New Europe Holding (42.7%)	1,714.6	7.1
4	Raiffeisen banka a.d. Beograd	Raiffeisen International Beteiligungsholding (100%)	1,695.1	7.1
5	UniCredit Bank Srbija a.d. Beograd	UniCredit Bank Austria AG (100%)	1,582.8	6.6
6	Hypo Alpe-Adria-Bank a.d. Beograd	Hypo Alpe-Adria-Bank International AG (99.9%)	1,370.6	5.7
7	Agroindustrijska komercijalna banka AIK banka a.d. Niš	Agricultural Bank of Greece (20.3%), UniCredit Bank Austria AG (6.1%)	1,342.0	5.6
8	Société Générale banka Srbija a.d. Beograd	Société Générale S.A. (100%)	1,293.2	5.4
9	Alpha Bank Srbija a.d. Beograd	Alpha Bank A.E. Athens (100%)	932.4	3.9
10	Vojvodanska banka a.d. Novi Sad	National Bank of Greece (100%)	871.0	3.6
11	Volksbank a.d. Beograd	Volksbank International AG (96.9%)	787.1	3.3
12	Poljoprivredna banka Agrobanka a.d. Beograd	Republic of Serbia (20.1%), Hypo Kastodi 4 (6.9%)	705.4	2.9
13	ProCredit Bank a.d. Beograd	ProCredit Holding (83.3%), Commerzbank AG (16.7%)	660.4	2.7
14	Erste Bank a.d. Novi Sad	EGB CEPS Holding GmbH (74%), Steier- märkische Bank und Sparkassen AG (26%)	588.9	2.5
15	Piraeus Bank a.d. Beograd	Piraeus Bank Sapireus (100%)	532.2	2.2

Source: NBS.

¹ In terms of total assets, as at December 31, 2010.

Table 5

Selected Banking Sector Indicators in CESEE (2010)

	Czech Republic	Hungary	Poland	Slovenia	Bulgaria	Romania	Albania	Bosnia and Herzegovina	Croatia	FYR Macedonia	Serbia
Total assets (% of GDP)	119.8	129.1	87.5	147.0	111.3	75.4	83.4	85.2	116.8	82.5	89.0
Total loans (% of GDP)	72.0	85.1	66.8	103.6	79.6	53.1	63.4	58.9	89.0	49.8	59.7
Total deposits (% of GDP)	75.5	49.8	51.5	64.3	63.6	35.8	66.7	50.6	71.3	54.5	43.1
EBRD index of banking sector reform ¹	4.0	3.7	3.7	3.3	3.7	3.3	3.0	3.0	4.0	3.0	3.0
Return on assets (pre-tax, %)	1.6	0.2	1.3	-0.2	1.0	0.0	0.9	-0.5	1.2	0.8	1.1
Return on equity (pre-tax, %)	20.0	2.3	12.9	-2.2	7.2	0.2	9.0	-4.8	8.4	7.4	5.3
Capital adequacy ratio (%)	15.5	13.3	13.8	11.6	17.5	14.7	15.4	16.2	18.4	16.1	19.9

Source: NCBs, ECB, author's calculations.

¹ The figure for the Czech Republic refers to 2007, when the country ceased to be an EBRD country of operation.

Greece and France take the lead, but banks from Hungary and Slovenia are present as well. Austrian banking groups (excluding Bank Austria, which is a member of Italy's UniCredit Group) accounted for 18.5% of Serbia's total banking sector assets in 2010 or 25.2% of total foreign bank assets in Serbia. In contrast, according to BIS data on consolidated foreign claims of reporting banks, the exposure of Austrian banks in Serbia accounted for a tiny 1.5% of Austrian banks' total foreign exposure and for some 3% of their CESEE exposure in 2010. Four Greek banks are present in Serbia with a total market share of some 15% of total assets. The NBS expects no negative spillovers from the Greek crisis to Serbia, given Greek subsidiaries' sound capital and liquidity positions and their low degree of dependence on parent bank financing.

The asset share of state-owned banks increased during the crisis and reached 17.9% at end-2010, mostly due to bank recapitalizations by the state.¹⁴ Thus, at end-2010 eight banks were still state owned (with the state being

either a majority owner or having the largest individual stake).

Italy's Banca Intesa claimed the largest market share of 14.2% in terms of total assets at the end of 2010 (see table 4), followed by still partially state-owned Komercijalna banka (10.1%) and Greece's EFG Eurobank (7.1%). Together, the five largest banks (C5) accounted for some 45% of total banking sector assets, reflecting a rather low degree of market concentration, which is also mirrored by a Herfindahl-Hirschman Index (HHI) of 629. With a view to bank lending, the concentration ratio (C5) was similarly high at 45% (HHI: 649), while in terms of deposits it was somewhat higher at 50% (HHI: 720).

The Serbian banking sector's institutional framework has improved over recent years. The IMF's May 2010 Financial Sector Assessment Program attests Serbia good progress with a view to upgrading its legal and supervisory framework, even though it states that in some areas challenges still remain (e.g. capacity building, international supervisory cooperation). In the same

¹⁴ Most notably of Kosovsko-Metohijska banka and Metals banka, which was also under NBS receivership between October 2008 and November 2009 and was then renamed Razvojna banka Vojvodine a.d. Novi Sad.

vein, the EBRD sees further room for catching-up in banking sector reform while indicating that, in general, Serbia has reached an intermediate degree of progress in this area so far – a level which is at par with that of most other Western Balkan countries, but is still lower than that of more advanced CESEE economies (see table 5).

3.2. Balance Sheet and Earnings Structure

The process of rapid financial deepening seen in the period from 2004 to 2007 has slowed in the wake of the global crisis, but unlike in other CESEE economies has not fully come to a halt in Serbia. This can largely be attributed to the fact that credit growth (albeit decelerating owing to deteriorating economic conditions and banks' rising risk

aversion) remained relatively strong in a CESEE comparison given explicit commitments of foreign banks to maintain exposure levels and the government's decision to subsidize loans in order to promote lending and economic recovery. In conjunction with exchange rate effects, this has caused the banking sector's aggregate balance sheet total expressed as a percentage of GDP to increase from 70% in 2008 to 89% by the end of 2010 (see table 6). However, Serbia's financial intermediation level still ranks below that of more advanced CESEE economies (see table 5) and is also far below the euro area average of 340%.

Claims on domestic nonbanks continued to account for the largest share in total banking sector assets, corresponding to some 60% of GDP at the

Table 6

Asset Structure of the Serbian Banking Sector

	2005	2006	2007	2008	2009	2010
<i>% of total assets</i>						
Claims on the NBS	22.5	36.8	33.9	26.5	25.0	17.7
Claims ¹ on domestic nonbanks	58.3	48.1	49.8	58.8	60.2	67.1
<i>of which: claims on the general government</i>	2.8	1.8	0.9	1.0	5.1	7.7
<i>claims on households</i>	14.9	16.3	18.6	20.1	18.2	19.3
<i>claims on enterprises²</i>	40.6	29.9	30.3	37.7	36.9	40.2
Foreign assets	7.3	4.4	6.6	6.3	6.9	8.2
Other assets ³	11.9	10.8	9.7	8.5	7.9	7.0
Total assets	100.0	100.0	100.0	100.0	100.0	100.0
<i>Memorandum items:</i>						
Total assets (% of GDP)	54.3	64.9	72.9	70.4	83.0	89.1
Claims on domestic nonbanks (% of GDP)	31.7	31.2	36.3	41.4	50.0	59.8
Claims on domestic nonbanks (nominal, annual change, %)	49.5	15.0	36.4	34.8	24.8	30.9
Claims on domestic nonbanks (real, annual change, %)	27.7	8.5	21.9	24.9	17.1	26.2
Short-term claims of domestic nonbanks (% of total claims on domestic nonbanks)	43.9	40.1	39.5	38.7	36.6	35.8
Long-term claims of domestic nonbanks (% of total claims on domestic nonbanks)	56.1	59.9	60.5	61.3	63.4	64.2
Claims on households (% of total claims on households and enterprises)	26.8	35.3	38.0	34.8	33.0	32.4

Source: NBS.

¹ Comprising securities (including shares) issued by residents as well as claims on interest and fees.

² Including other financial organizations.

³ Including fixed assets and other assets, such as prepayments and accrued income, and claims from internal relationships.

end of 2010. The strong relative increase of claims on nonbanks in terms of total assets since 2007 went in parallel with a sharp decrease in banks' claims on the NBS, in particular those related to NBS repo transactions. A decomposition of banks' claims on nonbanks shows that the share of claims on households in total assets remained fairly stable at approximately 20% of total assets over the review period, while that of claims on enterprises increased to about 40% of total assets by the end of 2010. This reflects the fact that during the crisis lending to households decelerated more sharply than lending to corporations, but exchange rate valuation effects might have played a role, too, as corporations' foreign currency-denominated loan portfolio is more than twice as high as households'. As banks' increasing risk aversion drove up demand for low-risk assets, while treasury bills of the Republic of Serbia at the same time offered more favorable interest rates than NBS repo securities, lending to the government and investment in treasury bills became more attractive. Consequently, banks' claims on the general government picked up strongly from 1% of total assets in 2008 to 7.7% by the end of 2010. Finally, the share of foreign assets in total assets increased as well, in particular in 2010, which can be partly explained by exchange rate valuation effects.

Banks' liabilities continued to be dominated by deposits of domestic nonbanks, mainly private sector deposits (see table 7). However, their share in total liabilities dropped from 50% in 2007 to 47% in 2008 given substantial

deposit withdrawals by the population in the final quarter of that year. The overall share of nonbank deposits in total liabilities has remained fairly stable since then, which, however, masks changes in the underlying structure. In fact, a decreasing share of corporate deposits that came along with deteriorating corporate profitability and foreign debt repayments was compensated by an increasing share of household deposits, which was predominantly driven by banks' attempt to regain confidence and remobilize household savings, including those withdrawn during the most critical period of the crisis, other mattress money and workers' remittances. The share of short-term deposits in total deposits remained very high at over 90% during 2008–2010, which indicates deep-rooted confidence problems. Coming to some 75% at the end of 2010, the share of foreign currency-denominated deposits in total deposits is comparatively high even in a CESEE context and increased considerably during the crisis, in particular in the final quarter of 2010 ("Savings Week" in November).¹⁵ Around 90% of foreign currency deposits are denominated in euro. Available data reveal an increasing share of foreign currency-denominated deposits in total deposits also in exchange rate-adjusted terms, implying that only part of this increase can be explained by exchange rate valuation effects. As local currency-denominated deposits stagnated in absolute terms during the observation period, new deposits were basically conducted only in foreign currency.

¹⁵ For more details on the root causes of euroization in Serbia, see Chailloux, Ohnsorge and Vavra (2010). On households' saving behavior, see Dvorsky, Scheiber and Stix (2009, 2010).

Table 7

Liability Structure of the Serbian Banking Sector

	2005	2006	2007	2008	2009	2010
% of total liabilities						
Liabilities vis-à-vis the NBS	0.1	0.0	0.1	0.3	0.0	0.0
Deposits of domestic nonbanks	44.5	44.9	49.8	47.0	47.4	46.5
of which: deposits of the general government	2.2	2.4	1.9	1.4	1.2	1.1
deposits of households	23.8	23.5	25.8	24.3	26.9	28.9
deposits of enterprises ¹	18.5	19.0	22.2	21.4	19.3	16.6
Foreign liabilities	20.9	24.2	17.9	18.2	21.4	22.2
Other liabilities ²	19.2	12.5	11.4	11.9	11.5	12.3
Capital and reserves	15.3	18.4	20.8	22.6	19.7	19.0
Total liabilities	100.0	100.0	100.0	100.0	100.0	100.1
Memorandum items:						
Total deposits (% of GDP)	24.1	29.1	36.3	33.1	39.4	41.5
Deposit growth (nominal, annual change, %)	46.9	40.6	46.3	7.7	23.1	15.1
Deposit growth (real, annual change, %) ³	25.4	32.6	30.8	-0.2	15.4	11.0
Local currency deposits (% of total deposits) ⁴	33.3	37.2	38.2	33.5	30.5	24.6
Foreign currency deposits (% of total deposits)	66.7	62.8	61.8	66.5	69.5	75.4
Short-term deposits (% of total deposits)	90.0	88.0	90.0	91.3	91.8	87.6
Long-term deposits (% of total deposits)	10.0	12.0	10.0	8.7	8.2	12.4
Domestic nonbanks' claim-to-deposit ratio	131.1	107.2	99.9	125.1	126.9	144.3
General government's claim-to-deposit ratio	129.2	77.9	49.2	71.5	414.6	694.6
Households' and enterprises' claim-to-deposit ratio	131.2	108.8	101.9	126.7	119.2	130.9

Source: NBS.

¹ Including deposits of other financial organizations.

² Including frozen foreign currency savings deposits, restricted deposits, loan loss provisioning and other liabilities.

³ CPI-deflated.

⁴ Including foreign currency-indexed deposits.

The share of capital and reserves in total liabilities continued to grow strongly in 2008 as banks increased their capital to comply with tighter quantitative NBS limits related to household lending, but went down thereafter as these regulations were relaxed and then abolished in the first half of 2009. Consequently, capital growth has not kept pace with total balance sheet expansion. Banks' foreign liabilities grew rather strongly during the crisis as foreign banks delivered on their promise to retain exposure levels and several parent banks even increased the funding of their Serbian subsidiaries. This also led to a deterioration of banks' net foreign liability position from 11% of total assets in 2007 to 14.5% at the end of 2009. As the lower exposure limit (as defined by the EBCI) of 80% as of April 2010 did not trans-

late into major exposure reductions by foreign banks, the year 2010 saw only a minor improvement in the banking sector's net foreign liability position.

Concerning banks' earning structure, net interest income remained the main source of revenue for the banking sector, representing 4.6% of banks' average assets as at year-end 2010, down from 5.7% in 2008 (but on par with 2007 levels); a development which came along with narrowing interest rate spreads as a result of falling interest rate levels and a relatively fast expansion of interest-bearing assets in banks' portfolios (largely driven by subsidized loans and investments in NBS repo securities and treasury bills). Similarly, net noninterest income relative to average assets continued to fall over the review period (except for a temporary uptick in 2009) as a result of

Table 8

Earnings Structure of the Serbian Banking Sector

	2005	2006	2007	2008	2009	2010
Net interest income (% of total income) ¹	28.3	32.7	40.7	61.0	50.4	74.3
Net noninterest income (% of total income)	71.7	67.3	59.3	39.0	49.6	25.7
Operating expenses (% of total income)	38.5	43.5	46.7	56.1	47.1	69.1
Loan loss provision expenses (% of total income) ²	60.0	42.0	39.3	66.6	70.8	82.6
Pretax profit or loss (% of total income)	5.9	11.2	15.1	22.3	10.0	17.4
Net interest income (% of average assets)	5.6	5.0	4.7	5.7	5.3	4.6
Net noninterest income (% of average assets)	14.1	10.2	6.8	3.7	5.2	1.6
Operating expenses (% of average assets)	7.6	6.6	5.4	5.3	4.9	4.3
Loan loss provision expenses (% of average assets)	11.8	6.4	4.5	6.2	7.4	5.2
Pretax profit or loss (% of average assets)	1.2	1.7	1.7	2.1	1.0	1.1
Deposit rate (weighted averages, RSD-denominated loans, end of period, %)	3.7	5.1	4.1	7.3	5.1	5.6
Lending rate (weighted averages, RSD-denominated loans, end of period, %)	14.4	15.9	11.1	18.1	11.8	12.4
Interest rate spread (lending rate minus deposit rate)	10.7	10.8	7.0	10.8	6.7	6.8
Return on average assets (ROAA, pretax, %)	1.2	1.7	1.7	2.1	1.0	1.1
Return on average equity (ROAE, pretax, %)	6.6	10.3	8.8	9.0	4.6	5.3

Source: NBS.

¹ Total income is defined as net operating income including income from the reversal of indirect write-offs of loans, investments and provisions.

² Figures excluding income from reversals of indirect write-off of loans, investments and provisions.

higher losses related to exchange rate valuation effects. Operating expenses relative to average assets continued to decline as well, a trend that was underpinned by banks' cost-cutting efforts during the crisis, including branch network and staff level optimization. Finally, increased credit risk brought about higher provisioning costs and lower profitability in 2009 and 2010.

3.3. Strengths and Vulnerabilities

3.3.1. Credit Risk

Serbia's rapid process of financial deepening in the boom years up until 2008 slowed markedly in the context of the financial crisis given both supply-side factors (e.g. tight global liquidity conditions, a slowdown in capital inflows, banks' increased risk aversion) and demand-side factors (recession), although not as strongly as in many other CESEE economies. Consequently, the private sector credit-to-GDP ratio increased further during the crisis from 36% in 2007 to 53% of GDP by end-2010. A

more severe slowdown in credit activity was avoided thanks to continued foreign parent bank financing, NBS measures to provide liquidity by temporarily abolishing reserve requirements for new external borrowing and the governments' subsidized loan program, which was launched in early 2009. Thus, loans to the private sector (households and corporations) still grew at some 16% in nominal terms in 2009 (see table 9); even adjusted for exchange rate valuation effects, credit growth amounted to 10%, with lending to corporations expanding faster than lending to households.

Partly underpinned by an extension of the government's subsidized loan program (which will continue on a reduced scale also in 2011), lending to households reaccelerated in 2010, with housing loans being one of the most dynamically expanding lines of business. Similarly, corporate loans grew strongly on the back of state subsidies, but most likely also due to the lack of

foreign funding. While foreign currency lending was dominant in 2009 given the strong pick-up in foreign currency-denominated deposits and existing limits for banks on open foreign exchange positions, lending in local currency became more important during 2010 in line with the authorities' dinarization strategy¹⁶. Nevertheless, as foreign currency-denominated and -indexed loans to the private sector still accounted for slightly below 70% of total loans at end-2010, the degree of currency substitution remains high, exposing households and enterprises to exchange rate and foreign interest rate fluctuations, which in case of unhedged borrowers might translate into credit risk for banks. However, with a view to households, workers' remittances and the sizeable amounts of mattress money might work as risk-mitigating factors, even when taking into account possible mismatches between foreign currency depositors and borrowers. The decomposition of foreign currency-denominated and -indexed loans to the private sector shows a predominance of the euro at a share of 78%, followed by the Swiss franc at 13% and the U.S. dollar at 2%. During the crisis, the share of euro-denominated or -indexed loans increased to the detriment of Swiss franc loans, which represented 17% of total foreign currency-denominated and -indexed loans back in October 2008.

The slowdown in credit growth, the deteriorating economic conditions

(materializing in lower corporate profitability and worsening labor market conditions) and the strong nominal depreciation of the dinar started to adversely impact loan quality in the final quarter of 2008; a development that continued throughout 2009 and 2010. In fact, the share of nonperforming loans (NPLs)¹⁷ in total loans increased from about 10% in the third quarter of 2008 to some 17% by the end of 2010. A further rise of NPL ratios cannot be excluded, as restructured loans (with presumably rather high re-default risks) do not classify as nonperforming (as long as they are serviced). Asset quality has tended to worsen more rapidly in the corporate segment (albeit starting from a much higher level), with default rates increasing particularly strongly in construction, wholesale and retail trade, as well as hotels, restaurants, transport and communication. The NPL ratio in the corporate segment was nearly three-times as high as in the household sector in 2010 (see table 9), which can partly be explained by the relatively large share of housing loans in total household loans (some 50%) and their rather low and stable default rates (the NPL ratio in this segment comes to some 5.5%). Another possible explanation for the faster increase of NPLs in the corporate segment could be the strong reliance of large corporations with good financial standing on cross-border borrowing in the run-up to the global crisis, which might have led to an adverse selection problem.¹⁸

¹⁶ Serbian authorities follow a three-pillar dinarization strategy by aiming for macroeconomic stability (implying a low-inflation environment, balanced economic growth and stable financial markets), developing dinar capital markets and promoting foreign currency hedging instruments.

¹⁷ Loans past due for more than 90 days.

¹⁸ See IMF (2010e) and NBS (2009b).

Table 9

Indicators of Banking Sector Stability

	2005	2006	2007	2008	2009	2010
Credit risk						
Credit growth (annual change, %)	49.5	15.0	36.4	34.8	24.8	30.9
Private sector credit ¹ (annual change, %)	52.0	16.2	39.2	35.1	16.2	26.6
Household credit (annual change, %)	98.7	52.8	50.0	23.5	10.1	24.5
Housing loans (annual change, %)	139.7	103.2	88.9	79.8	16.9	33.7
Housing loans (% of household loans)	18.7	24.2	29.6	44.1	47.6	50.1
Nonperforming assets (% of total classified assets) ²	23.2	33.0	30.4	12.7	19.3	19.1
Nonperforming loans (% of total loans)	n.a.	n.a.	n.a.	11.3	15.7	16.9
Corporate sector (excluding public enterprises)	n.a.	n.a.	n.a.	15.0	20.9	21.8
Household sector	n.a.	n.a.	n.a.	7.3	8.1	7.9
Foreign currency-denominated and foreign currency-indexed loans to private sector (% of total private sector loans)	n.a.	n.a.	n.a.	69.7	74.4	68.5
Foreign currency deposits of the private sector (% of total private sector deposits)	68.7	65.5	63.7	67.9	70.7	75.9
Market risk						
– Foreign exchange risk						
Open foreign exchange position (% of total assets) ^{3,4}	2.5	3.3	2.5	1.6	0.6	0.2
Open foreign exchange position (% of tier 1 capital) ^{4,5}	18.6	21.7	14.5	7.4	3.2	3.4
– Stock market risk						
Equity investments (% of total assets) ³	0.4	0.3	0.4	0.3	0.3	0.4
Liquidity risk						
Liquidity ratio ⁶	2.06	2.41	2.06	1.81	1.86	1.96
Liquid assets (% of total assets) ^{4,5}	19.8	22.9	46.7	43.3	40.7	36.4
Liquid assets (% of short-term liabilities) ^{4,5}	30.6	38.8	73.7	68.6	62.6	58.1
Shock-absorbing capacities						
Specific provisions (% of gross nonperforming assets) ^{4,5}	n.a.	n.a.	n.a.	56.9	49.5	46.5
Capital adequacy ratio	26.0	24.7	27.9	21.9	21.4	19.9
Market share of foreign-owned banks (% of total assets)	66.0	78.7	75.5	75.3	74.3	73.5

Source: NBS, IMF.

¹ The private sector comprises households and enterprises (including public sector enterprises and other financial organizations).

² Please note that there was a change in the loan loss classification in 2008. According to the NBS Decision on the Classification of Bank Balance Sheet Assets and Off-Balance Sheet Items, assets in categories D and E are classified as nonperforming (previously C, D and E).

³ Total assets according to banking supervision data.

⁴ 2010 data as of September 2010.

⁵ Data series according to IMF calculations.

⁶ According to the NBS Decision on Liquidity Risk Management, the bank liquidity ratio is defined as the ratio of the sum of a bank's first- and second-degree liquid receivables to the sum of liabilities payable on demand with no agreed maturity and liabilities due within a month from the date of the liquidity ratio calculation. Banks are required to maintain a level of liquidity that ensures that their liquidity ratio equals (1) at least 1.0 if calculated as the average liquidity ratio for all business days within a month, (2) not less than 0.9 for more than three days in a row and (3) at least 0.8 if calculated for one business day only.

3.3.2. Market and Liquidity Risks

Banks' exposure to interest rate risk appears to be manageable, as most loans (to both households and corporations) bear variable interest rates set with reference to a benchmark interest rate (EURIBOR or LIBOR), implying also a foreign interest rate risk. At the same time, on the liability side, the bulk of bank deposits (about 90%) is short

term, allowing for a high degree of flexibility in times of high interest rate volatility. Consequently, most of the interest rate risk has been shifted to bank clients, and could materialize through the credit risk channel in the event of adverse shocks.

Direct foreign exchange risks seem to be limited as well. The banking sector's net open foreign exchange posi-

tion decreased considerably during the crisis from 14.5% of regulatory capital in 2007 to 3.2% in 2009, which corresponds to 0.6% of total assets. At the same time, the long open foreign exchange position observed in the years prior to the crisis turned into a short position (in euro and U.S. dollar) in 2009, implying that banks became more exposed to foreign exchange risks related to a depreciation of the Serbian dinar. In 2010, the short position changed again into a long net open position in all currencies. To reduce banks' exposure to foreign exchange risk, the NBS tightened regulatory requirements in two steps in July 2008 and January 2009 by lowering the level of the maximum permitted net open foreign exchange positions by 10 percentage points, respectively, from 30% to 10% of banks' regulatory capital. As heightened financial market tensions subsided, in June 2009 the NBS raised the maximum permitted level to 20%. In this context, the NBS's foreign exchange swap facility represents an important hedging tool for banks.

Banks' favorable pre-crisis liquidity positions and vigilant NBS measures with a view to alleviating temporary foreign currency liquidity pressures at the height of the crisis helped keep liquidity risks in check during the period from 2008 to 2010. Although the ratio of liquid assets to total assets decreased gradually from 47% in 2007 to about 36% in September 2010 (inter alia driven by a decrease in banks' claims on repo transactions with the NBS), the banking sector's liquidity position appears to be still adequate. Similarly, the liquidity ratio fell slightly, but remained well above the prescribed regulatory requirement. Liquidity and funding risks were also alleviated by strong foreign bank presence in Serbia, with parent banks' commitment miti-

gating concerns about possible disruptions in cross-border bank funding and a related major liquidity squeeze. Nevertheless, the still high (albeit most recently decreasing) share of foreign liabilities in total liabilities requires cautious monitoring. Finally, should the need arise, the NBS could still ease possible liquidity pressures by further lowering reserve requirements or by employing its newly-created liquidity facilities.

3.3.3. Shock-Absorbing Factors

Thanks to its high shock-absorbing capacities, the Serbian banking sector proved fairly resilient to the global crisis. In fact, given tight regulatory requirements during the pre-crisis boom (e.g. quantitative limits on household lending relative to bank capital), the banking sector entered the crisis with a strong capital position, despite a sharp drop in capital adequacy in 2008, which can be largely explained by changes in regulatory requirements in mid-2008 (e.g. higher risk weights on unhedged foreign currency loans). During the crisis retained profits and owners' capital injections (amounting to RSD 27.2 billion or some EUR 265 million in 2010) helped strengthen the sector's capital base, although capital adequacy has continued to fall in 2009 and 2010 as risk-weighted assets grew faster than capital. However, the banking sector remained well capitalized, as suggested by a capital adequacy ratio of 20% as at end-2010; a level which is far above the international standard of 8% and the Serbian regulatory minimum of 12%.

Stress tests carried out by the NBS based on IMF methodology in October 2009 and updated in January 2010 within the framework of the FSSP confirmed the sector's resilience to macroeconomic (output, exchange rate, interest rate) shocks (see IMF 2010e). In

all scenarios tested, the Serbian banking system's capital adequacy remained well above regulatory requirements. The different crisis scenarios indicate only limited overall recapitalization needs of 0.7% to 1.2% of GDP to restore the minimum capital adequacy of 12%.

Moreover, although bank profitability (which ranked among the lowest in CESEE before the crisis owing to high capital and liquidity buffers as well as corporations' extensive foreign borrowing) eroded further in the first half of 2009 as credit default rates and provisioning needs went up, the banking sector as a whole stayed profitable during the crisis. Bank profitability on a sectoral level bottomed in the second quarter of 2009 and has gradually recovered since then (even though the number of banks operating with losses has increased), equipping banks with an added cushion to deal with unexpected shocks. However, as indicated by a return on average equity of 5.3% as at end-2010, there is still some way to go before profitability will return to the levels seen before the crisis.

Finally, foreign bank ownership proved beneficial during the crisis. In fact, within the framework of the EBCI, foreign banks have explicitly confirmed their strong long-term strategic interest toward Serbia and have proven their readiness to support their subsidiaries in times of heightened liquidity pressures and to keep their exposures at the agreed levels.¹⁹

4 Conclusions

The global financial and economic crisis brought Serbia's multi-year economic boom and rapid financial deepening process abruptly to a halt in 2008. The country was hit hard by the

crisis, not least because it had piled up considerable domestic and external imbalances during the boom, which had been characterized by buoyant domestic demand (fueled by rapid credit and wage growth), persistent inflationary pressures, a high and rising current account deficit and the rapidly growing foreign indebtedness of the private sector. In turn, these pre-crisis vulnerabilities made Serbia one of the rather vulnerable economies in the CESEE region, amplified the spillovers of the global crisis and complicated the process of crisis management.

However, in an exemplary process of public-private coordination, Serbian authorities together with IFI support and private sector involvement have succeeded to navigate the country through these rough waters. Nevertheless, a protracted worsening of real economic conditions could not be avoided. Economic activity nosedived on the back of collapsing domestic and external demand, while labor market conditions deteriorated sharply with some time lag, entailing mounting pressures on public finances. On a more positive note, the slump in domestic demand curbed inflationary pressures (in turn giving the NBS more room for maneuver in safeguarding financial stability) and, at the same time, also brought about a substantial reduction in external imbalances, which had been particularly high before the crisis. The banking sector proved resilient during the crisis, helped by prudent NBS policies in the run-up to and vigilant NBS action during the crisis. NBS stress tests confirm the system's high shock-absorbing capacities, i.e. its high capitalization and liquidity. In the event, widespread foreign ownership proved beneficial as well.

¹⁹ For countries with a similar experience, see Lahnsteiner (2011).

Notwithstanding these positive aspects, macrofinancial risks persist. Pass-through effects of the depreciation of the domestic currency, amongst other factors, reignited inflationary pressures, bringing inflation outside the NBS's target band and thus also back on the NBS's agenda as a key policy issue. Despite recent policy rate hikes, inflationary risks are still present, given the potential feedback loops of inflation on wages, exchange rate pass-through effects as well as global commodity price dynamics.

External disequilibria remain to some extent present despite recent corrections. In this regard, a low export base and a rather unfavorable export structure seem to represent a challenge when it comes to achieving a more balanced external position. Therefore, strengthening the country's international competitiveness will be an important task, not only with regard to reducing external imbalances, but also with a view to improving labor market conditions. Looking forward, if the current account deficit were to rise again, this would most likely entail heightened foreign funding risks, in particular if capital inflows remain subdued. For this reason, special attention is to be placed on avoiding a renewed rise of external vulnerabilities. At the same time, the most recent policy rate hikes could also lead to a substantial pick-up in capital inflow dynamics, sparking an inflow of speculative capital, which would imply new policy challenges and calls for careful monitoring. Finally, Serbia's high and rising external indebtedness increases funding and roll-over risks in case of renewed global financial strains, although

the low short-term component of external debt appears to be a risk-mitigating factor.

Despite the recent establishment of fiscal rules, some risk of budgetary slippage remains in view of the expiration of the SBA with the IMF in April 2011 and upcoming parliamentary elections in spring 2012. This also highlights the potential for an uneven policy mix, in particular as monetary policy has already been tightened considerably. At the same time, if privatization plans were to be delayed, this would challenge budgetary financing in 2011.

Regarding the banking sector, the high and rising level of nonperforming loans warrants the careful monitoring of banks' credit risk. Moreover, the high degree of currency substitution reveals high foreign exchange risks, mainly with respect to unhedged borrowers (mostly households). Thus, the Serbian authorities' dinarization efforts are important, not only from the point of view of mitigating direct (indirect) foreign exchange risks for debtors (banks), but also with regard to improving the efficiency of the monetary transmission mechanism.

Looking ahead, the still fragile international economic and financial conditions as well as existing and/or newly emerging macrofinancial risks call for a prudent economic policy mix, aiming for more balanced economic growth, fiscal and external sustainability and financial stability. In this context, institutional and structural reforms will also have an important role to play, but the right timing of exiting the crisis response measures currently in force is, and will be, a major challenge in the short to medium term as well.

References

- Barisitz, S. and S. Gardó. 2008.** Financial Sector Development in Serbia: Closing Ranks with Peers. In: Focus on European Economic Integration 2/08. Vienna: OeNB. 94–119.
- Chailloux A., F. Ohnsorge and D. Vavra. 2010.** Euroisation in Serbia. EBRD Working Paper 120. October.
- Dvorsky S., T. Scheiber and H. Stix. 2009.** CESEE Households amid the Financial Crisis: Euro Survey Shows Darkened Economic Sentiment and Changes in Savings Behavior. In: Focus on European Economic Integration Q4/09. Vienna: OeNB. 71–83.
- Dvorsky S., T. Scheiber and H. Stix. 2010.** Real Effects of Crisis Have Reached CESEE Households: Euro Survey Shows Dampened Savings and Changes in Borrowing Behavior. In: Focus on European Economic Integration Q2/10. Vienna: OeNB. 79–90.
- EBRD – European Bank for Reconstruction and Development. 2008.** Transition Report 2008: Growth in Transition. London. November.
- EBRD – European Bank for Reconstruction and Development. 2009.** Transition Report 2009: Transition in Crisis? London. November.
- EBRD – European Bank for Reconstruction and Development. 2010a.** Transition Report 2010: Recovery and Reform. London. November.
- EBRD – European Bank for Reconstruction and Development. 2010b.** Vienna Initiative Factsheet. London. January.
- European Commission. 2010a.** EU Candidate and Pre-Accession Countries Economic Quarterly. Various issues. Brussels.
- European Commission. 2010b.** Serbia 2010 Progress Report. Brussels. November.
- IMF – International Monetary Fund. 2010a.** Republic of Serbia: Fourth Review Under the Stand-By Arrangement and Requests for Waiver of Non-Observance of End-March Performance Criterion and Modification of End-June Performance Criteria, and Financing Assurances Review. IMF Country Report 10/210. July.
- IMF – International Monetary Fund. 2010b.** Republic of Serbia: Fifth Review Under the Stand-By Arrangement; Request for Modification of End-September Performance Criterion, and Financing Assurances Review. IMF Country Report 10/308. October.
- IMF – International Monetary Fund. 2010c.** Republic of Serbia: Financial Sector Assessment Program Update – Financial System Stability Assessment. IMF Country Report 10/147. May.
- IMF – International Monetary Fund. 2010d.** Republic of Serbia: Financial Sector Assessment Program Update – Detailed Assessment of Basel Core Principles for Effective Banking Supervision. IMF Country Report 10/148. May.
- IMF – International Monetary Fund. 2010e.** Republic of Serbia: Financial Sector Assessment Program Update – Technical Note on Banking Sector Soundness and Stress Testing. IMF Country Report 10/149. May.
- IMF – International Monetary Fund. 2010f.** Republic of Serbia: Financial Sector Assessment Program Update – Technical Note on Crisis Management Framework. IMF Country Report 10/150. May.
- IMF – International Monetary Fund. 2010g.** Republic of Serbia: Financial Sector Assessment Program Update – Technical Note on Deposit Insurance. IMF Country Report 10/151. May.
- IMF – International Monetary Fund. 2010h.** Republic of Serbia: Financial Sector Assessment Program Update – Technical Note on Corporate and Household Debt Restructuring. IMF Country Report 10/152. May.
- IMF – International Monetary Fund. 2010i.** Republic of Serbia: Sixth Review Under the Stand-By Arrangement. IMF Country Report 11/9. January.

- Lahnsteiner, M. 2011.** The Refinancing Structure of Banks in Selected CESEE Countries. In:
Focus on European Economic Integration Q1/11. Vienna: OeNB. 44–69.
- NBS – Narodna banka Srbije. 2009a.** Annual Report 2008. Belgrade.
- NBS – Narodna banka Srbije. 2009b.** Financial Stability Report 2009. Belgrade.
- NBS – Narodna banka Srbije. 2009c.** Inflation Report. Various issues. Belgrade.
- NBS – Narodna banka Srbije. 2010a.** Annual Report 2009. Belgrade.
- NBS – Narodna banka Srbije. 2010b.** Banking Supervision Quarterly Report. Various issues.
Belgrade.
- NBS – Narodna banka Srbije. 2010c.** Financial Stability Report 2010. Belgrade.
- NBS – Narodna banka Srbije. 2010d.** Inflation Report. Various issues. Belgrade.
- NBS – Narodna banka Srbije. 2010e.** Statistical Bulletin. Various issues. Belgrade.

