

# Macrofinancial Stability in Croatia in the Wake of the Global Crisis: Risks and Policy Responses

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*After a long-lasting boom period, the global crisis put the resilience of Croatia's economic and financial system to a severe test. The country has mastered this test so far. To some extent, the crisis also altered the country's macrofinancial risk profile, although – against the backdrop of a high (and increasing) degree of currency substitution – credit risk continues to represent the main challenge to financial stability, in particular as bank clients' rising debt-servicing problems started to translate into deteriorating credit quality. However, the banking sector's shock-absorbing capacity – as indicated by still relatively high profitability and capitalization levels – the strategically-oriented presence of foreign banks and vigilant central bank measures were key in cushioning the spillovers of the global crisis and in alleviating vulnerabilities.*

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## 1 Introduction

The paper aims to give an overview of the most recent financial sector developments in Croatia,<sup>2</sup> notably with regard to banking sector stability, and to highlight possible existing or newly emerging macrofinancial challenges in the context of the global economic and financial crisis. The study also provides updated evidence of and information on financial sector developments in Croatia, following up on earlier OeNB studies on this topic (especially Gardó, 2008).

An introductory overview of macroeconomic conditions in section 2 puts financial developments into perspective, placing the main emphasis on Croatia's policy responses to the spillovers of the global economic and financial crisis. Section 3 discusses banking market developments during the crisis years 2008–09 and into early 2010, inter alia by analyzing the structure, balance sheet composition and profitability of the banking market. This is followed by an examination of the underlying risk factors and the sector's shock-absorbing capacity. Section 4 focuses on nonbank financial intermediaries as well as on stock and bond markets, while section 5 concludes.

## 2 The Macroeconomic Environment

After the boom years 2002 to 2007, which were characterized by buoyant domestic demand, the Croatian economy saw a gradual slowdown in growth over the course of 2008 on the back of the unfolding global financial turmoil. The downward trend reached its peak in the first half of 2009, when the spillovers of the global crisis fully hit the Croatian economy and led to the deepest recession since early transition. The strong economic downturn also entailed notable changes in the growth pattern: While domestic demand plunged on the back of waning consumer confidence, tightening credit conditions, fiscal adjustments and deteriorating labor market

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<sup>2</sup> Cutoff date for data: July 1, 2010.

Table 1

## Real Economic Developments

	2003	2004	2005	2006	2007	2008	2009	Q1/2010
<i>Annual change in %</i>								
Real GDP growth	5.0	4.2	4.2	4.7	5.5	2.4	-5.8	-2.5
<i>Contribution to growth in percentage points</i>								
Total consumption	3.4	3.3	3.0	2.6	4.5	0.9	-5.1	-2.8
of which: private consumption	3.1	2.6	2.7	2.2	3.9	0.5	-5.3	-3.1
public consumption	0.2	0.6	0.3	0.4	0.6	0.3	0.0	0.3
Gross fixed capital formation	5.2	1.2	1.2	2.7	1.7	2.2	-3.4	-3.7
Inventories <sup>1</sup>	-2.3	-0.1	0.5	0.5	0.9	0.6	-1.9	0.5
Net exports of goods and services	-1.2	-0.2	-0.5	-1.2	-1.7	-1.3	4.7	3.5
of which: exports of goods and services	4.9	2.4	1.7	2.9	2.0	0.8	-7.3	1.1
imports of goods and services	6.1	2.6	2.2	4.1	3.7	2.1	-12.0	-2.4
Memorandum items:	%							
Industrial production (annual change, real)	3.3	3.2	4.6	4.1	4.9	1.2	-9.3	-0.5
Unemployment rate (LFS)	14.3	13.8	12.7	11.1	9.6	8.4	9.1	11.2

Source: Crostat, OeNB calculations.

<sup>1</sup> Including statistical discrepancy.

conditions, the contribution of net exports to GDP growth turned strongly positive, despite the collapse in world trade, with imports contracting more strongly than exports (see table 1). This growth pattern also characterized the first quarter of 2010, when the fragile economic recovery, which started in the second half of 2009, continued and the fall in economic activity moderated to 2.5% year-on-year. The European Commission's (EC) 2010 Spring Forecast still sees the Croatian economy to contract by 0.5% in 2010 and forecasts moderate growth of 2% in 2011. According to the EC's 2009 Progress Report, enhanced structural reforms, a more effective fight against corruption and organized crime as well as measures targeted at improving the business climate would be essential to ensure a sustained and broad-based recovery and to improve Croatia's short- and medium-term growth outlook.<sup>3</sup>

Against this backdrop, as in other Central, Eastern and Southeastern European (CESEE) countries, external imbalances in Croatia narrowed in some aspects in 2009, with the current account deficit falling to 5.2% of GDP, down from over 9% in 2008 (the highest level since the mid-1990s). Nevertheless, financing needs were high, especially in the first quarter of 2009, when the limited access to foreign funds, portfolio investment outflows and smaller FDI inflows translated into decreasing foreign exchange reserves. However, given gradually softening global liquidity conditions, financing pressures eased from the second quarter of 2009. As a result of falling GDP and continued (though smaller) increases in debt financing, Croatia's gross foreign debt increased further and reached close to

<sup>3</sup> The World Bank's *Doing Business 2010* report puts Croatia in 103<sup>rd</sup> place in a ranking of 183 countries, the third worst (after Bosnia and Herzegovina and Kosovo) among the CESEE EU Member States and EU candidate and potential candidate countries (CC/PCC). In Transparency International's *Corruption Perception Index 2009*, Croatia is in 66<sup>th</sup> place and thus ranks in the middle of the CESEE EU Member States and CC/PCC benchmark sample.

Table 2

### External Position of the Economy

	2003	2004	2005	2006	2007	2008	2009	Q1/2010 <sup>1</sup>
	% of GDP							
Current account balance	-6.2	-4.4	-5.6	-6.9	-7.6	-9.2	-5.2	-4.2
Net FDI inflows	5.6	1.8	3.5	6.5	8.2	6.8	2.1	4.2
Gross external debt	66.3	70.0	72.1	74.9	76.9	85.1	98.2	98.2
of which: public sector	21.1	20.0	17.2	14.5	12.5	8.8	11.4	10.8
private sector	45.1	50.0	54.9	60.4	64.3	76.3	86.9	87.4
of which: banks	20.5	23.6	25.1	26.1	20.7	21.2	23.5	23.5
other sectors	24.6	26.4	29.8	34.3	43.6	55.1	63.4	63.9
Foreign exchange reserves	21.8	19.6	20.8	22.3	21.7	19.3	22.1	21.3
Import coverage (months)	5.2	4.8	5.1	5.3	5.2	4.6	6.7	7.3

Source: HNB, OeNB.

<sup>1</sup> Rolling 4-quarter averages.

100% of GDP at end-2009 (see table 2). The increase reflected a revival of foreign borrowing by the corporate sector in the latter part of the year (which had largely come to a halt at the turn of 2008–09) and two government bond issues in international financial markets in 2009. At the same time, reserve accumulation resumed and by end-2009, foreign exchange reserves of around EUR 10 billion (or some 22% of GDP) again reached levels seen before the collapse of Lehman Brothers. Driven by a further improving trade balance, the current account deficit continued to narrow in the first quarter of 2010. At the same time, external debt levels stagnated in both absolute and relative terms.

Monetary policymaking remained challenging in 2008 and 2009. In the first half of 2008, Hrvatska narodna banka's (HNB) focus was on containing inflationary

Table 3

### Monetary and Financial Indicators

	2003	2004	2005	2006	2007	2008	2009	Q1/2010
	%							
Inflation (HICP, annual average)	2.4	2.1	3.0	3.3	2.7	5.8	2.2	1.1
Repo rate (end of period) <sup>1</sup>	..	..	3.5	3.5	4.1	6.0	6.0	..
Money market overnight interest rate (annual average)	3.1	5.0	3.0	2.4	5.0	5.9	7.2	7.2
Real short-term interest rate (contemporaneous)	0.7	2.9	0.0	-0.9	2.3	0.1	5.0	-0.5
Domestic credit (annual change)	17.4	12.8	20.1	22.6	14.8	13.6	3.0	0.0
HRK/EUR exchange rate (annual average)	7.6	7.5	7.4	7.3	7.3	7.2	7.3	7.3
Nominal effective exchange rate (2005 = 100) <sup>2,3</sup>	104.3	101.3	100.0	98.8	97.2	94.2	96.7	96.1
Real effective exchange rate (2005 = 100) <sup>2,3,4</sup>	105.0	102.2	100.0	98.0	95.8	90.6	91.0	90.6

Source: HNB.

<sup>1</sup> 2009 figure refers to October 2009; the HNB has not held repo auctions since then.

<sup>2</sup> Period averages.

<sup>3</sup> A decreasing index denotes a nominal (real) appreciation of the kuna.

<sup>4</sup> CPI-deflated.

pressures related to adverse global food and energy price developments, which drove average inflation to a nearly 15-year high in 2008 (see table 3), as well as on reining in credit growth driven by banks' foreign liabilities. However, the HNB's priorities quickly turned to safeguarding exchange rate and financial stability when the global financial market turmoil gained markedly in depth and intensity following the demise of Lehman Brothers, and inflationary pressures subsided in tandem with the deepening economic downturn and sharp corrections in global commodity prices.

Given, in particular, falling investor and depositor confidence (resulting in heavy stock market losses, increasing risk premiums and temporary deposit withdrawals) and, to a lesser extent, increased demand for foreign exchange by the government and corporations (to repay foreign liabilities), the kuna came under some downward pressure in the final quarter of 2008 and the first quarter of 2009.<sup>4</sup> During this turbulent period, the HNB allowed for some moderate depreciation of the kuna, but in order to prevent a more marked weakening, it did not only change reserve requirement allocation rules but also undertook outright market interventions in favor of the kuna.<sup>5</sup> Furthermore, to boost banking sector (foreign currency) liquidity, the HNB also reduced mandatory reserve requirements, eased foreign currency liquidity regulations and raised the maximum level of open foreign exchange positions banks are allowed to hold (see table 4). With a view to moderating interest rates fluctuations in interbank markets and stabilizing liquidity supply, towards end-2008, the HNB started to hold its regular repo auctions at a fixed interest rate of 6% and kept doing so until mid-October 2009. Given improving liquidity conditions in the market, the HNB has not conducted repo auctions since then.

Driven by improving global investor sentiment, increased foreign currency inflows following public sector Eurobond issues and also seasonal factors (tourism), the kuna began to strengthen from the second quarter of 2009. In the final quarter of 2009, the HNB even intervened in foreign exchange markets to smooth out excessive volatility of the kuna. As seasonal (tourism-related) appreciation pressures set in, the HNB intervened two more times against the kuna in June 2010, with a total volume of EUR 244 million.

Against the background of a continuously benign inflationary environment (with consumer price inflation averaging 0.8% in the first half of 2010) and with a view to supporting economic recovery, in early 2010, the HNB further reduced mandatory reserve requirements from 14% to 13%. Banks allocated large parts of the released liquidity with the Croatian Bank for Reconstruction and Development (HBOR) within the government's three-pillar credit/financing scheme, which intends to facilitate the extension of credit to enterprises.<sup>6</sup>

<sup>4</sup> For an empirical analysis of the determinants of downward exchange pressures, see HNB (2010).

<sup>5</sup> The first intervention in favor of the kuna – in the amount of EUR 270.6 million – took place on October 27, 2008, and was followed by two other interventions on January 23, 2009, (EUR 328.3 million) and February 18, 2009, (EUR 184.7 million).

<sup>6</sup> The government's financing models are Model "A", in which the state participates in the co-financing of bank loans through HBOR to finance working capital for companies (40% of the loans are provided by HBOR and 60% by commercial banks), Model "B", which encompasses a guarantee fund with the aim of assuming part of the risks (25% to 50%) tied to the extension of new long-term loans for development and investment projects, and finally Model "C", which envisages debt-equity swaps for troubled enterprises via a specially created economic cooperation fund for a period of five years or less.

Table 4

### HNB Measures in the Context of the Global Financial Crisis (2008–2010)<sup>1</sup>

Monetary policy instrument		Date	Measure
Interest rates		January 2008	The HNB increases the discount rate by 450 basis points to 9.0%.
		December 2008	As of December 2008, the HNB starts to hold its regular repo auctions at a fixed 6% interest rate.
		October 2009	The HNB discontinues its regular repo auctions.
Reserve requirements	General reserve requirement	October 2008	Starting from the reserve requirement calculation date of October 9, 2008, banks' vault cash is no longer included in the liquid kuna claims that may be used to maintain the kuna component of the reserve requirement. With this step, the HNB withdraws some EUR 365 million from the market.
		November 2008	The HNB reduces banks' reserve requirement rate from 17% to 14% to provide additional liquidity to the banking system totaling HRK 8.4 billion (5.9 billion in kuna and 2.5 billion in foreign exchange). The decision has to be applied as of the reserve requirement calculation period starting on December 10, 2008.
		January 2009	To maintain exchange rate stability, i.e. to ease depreciation pressures on the kuna against the euro, the HNB increases the foreign exchange component of the reserve requirement which is to be allocated in kuna from 50% to 75%. The decision has to be applied as of the reserve requirement period starting on January 14, 2009.
		February 2010	The HNB reduces the reserve requirement from 14% to 13% with the aim of speeding up economic recovery. This move releases HRK 2.9 billion in additional liquidity (2.4 billion in kuna and 0.5 billion in foreign exchange).
	Marginal reserve requirement	October 2008	The HNB suspends the 55% marginal reserve requirement on all commercial bank borrowing from abroad as of October 10, 2008. The elimination of the marginal reserve requirement will release HRK 3.2 billion in liquidity.
	Special reserve requirement	February 2009	The HNB abolishes the 55% special reserve requirement on banks' liabilities arising from issued securities, which releases additional liquidity of approximately HRK 10 million.
	Administrative measures		January 2008
November 2009			The HNB removes the obligation of banks to subscribe to HNB bills at 0.25% interest in case credit growth exceeds 12% annually, thereby releasing liquidity of around HRK 137 million.
Loan classification & provisioning & capital requirements		January 2008	The HNB imposes higher capital requirements on banks whose growth rate of placements exceeds the maximum permissible growth rate of placements and introduces increased risk weights (100%) to placements with a currency clause extended to clients with no own foreign currency income.
		March 2008	The HNB requires a 100% risk weight (instead of 75%) to be applied to foreign currency loans and loans with a currency clause fully and completely secured by mortgages on residential property that is or will be occupied or let by the borrower (with an unhedged currency position). At the same time, a 150% risk weight (instead of 125%) shall apply to foreign currency claims and claims with a currency clause not covered by bank deposits or adequate pledged property (referring to clients with an unhedged currency position).
Bank liquidity		March 2008	In the period from March 10, 2008, to May 31, 2008, banks are required to include in their foreign currency claims the amount with which they participate in the short-term foreign currency loan granted in March 2008 to the Ministry of Finance of the Republic of Croatia, totaling EUR 200 million.
		May 2008	The HNB cuts the ratio of banks' liquid foreign currency claims to foreign currency liabilities from 32% to 28.5%.
		February 2009	On February 4, 2009, the HNB cuts the ratio of banks' liquid foreign currency claims to foreign currency liabilities from 28.5% to 25% to boost liquidity and make it easier for the state to borrow at home. This step frees up around EUR 840 million.
		February 2009	On February 18, 2009, the HNB releases EUR 1.25 billion to banks by cutting the ratio of banks' liquid foreign currency claims to foreign currency liabilities from 25% to 20%.
Open foreign exchange positions		February 2009	On February 20, 2009, the HNB increases the maximum permitted open foreign exchange position for banks from 20% to 30% of own funds. This move should make it easier for banks to dispose the foreign exchange funds freed up by reducing the rate of minimum required foreign currency claims for banks from 25% to 20%.

Source: HNB and OeNB compilation.

<sup>1</sup> For an overview of HNB measures in the period from 2000 to 2007 (mainly with a view to rein in lending growth), see Gardó (2008).

Headline fiscal balances continued to improve overall in 2008, but public finances increasingly came under pressure toward year-end 2008 along with decelerating economic activity. In order to cope with the spillovers of the global crisis,

in early 2009, the government adopted a set of ten anti-recession measures<sup>7</sup> and, with a view to maintaining public confidence in banks, it also quadrupled the level of guaranteed bank deposits (natural persons) to HRK 400,000 (approximately EUR 55,000).<sup>8</sup> The severity of the economic downturn and the related revenue shortfalls also induced a series of budget revisions in 2009, including expenditure cuts and revenue-boosting measures, such as the introduction of a temporary “crisis/solidarity tax” on incomes and pensions in August 2009 and the increase of the main VAT rate from 22% to 23%. Still, given the severity of the economic downturn, the general government budget deficit climbed to over 4% of GDP in 2009 (see table 5), far beyond the originally targeted 0.9% of GDP.

According to Croatia’s 2009 Pre-accession Economic Programme, the 2010 budget envisages a consolidated general government budget deficit of 3.3% of GDP, which is expected to be cut gradually to 2.3% of GDP by 2012, mainly via fiscal consolidation on the expenditure side. Risks to the 2010 budget are, however, tilted to the downside for several reasons. First, the 2010 budget is based on economic growth and inflation projections of 0.5% and 3%, respectively; however, lower outcomes are not unlikely. Second, given the still weak economic conditions, budget revenues remained below plan in the first five months of 2010. This shortfall in revenues might be additionally compounded by tax cuts planned for the second half of 2010, including the abolition of the crisis tax in two steps. In a similar vein, as part of the recently launched Economic Recovery Program (April 2010), which aims to facilitate economic recovery and increase Croatia’s economic competitiveness over the next ten years, amendments, inter alia to personal income taxation, were adopted, reducing the level and number of income tax rates and abolishing certain tax reliefs as of July 2010.

To finance the budget deficit and refinance maturing public debt the government took out a EUR 1 billion loan from domestic banks in early 2009 and tapped international financial markets with two Eurobond issues totaling EUR 750 million and USD 1.5 billion (EUR 1 billion) in May and November 2009, respectively. Consequently, public debt levels picked up in 2009 but remained still relatively low at some 35% of GDP (or some 50% of GDP when public guarantees and HBOR debt are included). During 2008 and 2009, all major rating agencies reduced Croatia’s sovereign rating outlook, but affirmed the country’s long-term foreign currency ratings at pre-crisis investment grade levels, i.e. BBB (Standard & Poor’s), BBB- (Fitch) and Baa3 (Moody’s).<sup>9</sup> Given continued financing needs, the government tapped domestic bond markets with a kuna-denominated bond issue worth HRK 3.5 billion (EUR 480 million) and a euro-denominated issue worth EUR 350 million. It also took out a loan from the World Bank (EUR 200 million) and planned an international bond issue in the second quarter of 2010, which it had to postpone given increasing global sovereign default risk concerns and the related gloomy international environment.

<sup>7</sup> The measures included, among others, the revision of the state budget, the financial strengthening of HBOR and support for the tourism and real estate sectors.

<sup>8</sup> Starting from January 1, 2010, deposits of legal persons are also insured up to HRK 400,000 (approximately EUR 55,000).

<sup>9</sup> Standard & Poor’s and Fitch revised Croatia’s rating outlook down from stable to negative in October 2008 and May 2009, respectively, while Moody’s reduced its outlook from positive to stable in November 2008.

Table 5

### Fiscal Indicators

	2003	2004	2005	2006	2007	2008	2009	2010 <sup>3</sup>	2011 <sup>3</sup>	2012 <sup>3</sup>
	% of GDP									
General government balance <sup>1</sup>	-4.5	-4.3	-3.5	-3.0	-2.5	-1.4	-4.1	-3.3	-3.1	-2.3
Total budget revenues <sup>1</sup>	39.3	39.3	38.9	39.2	40.3	39.4	38.8	38.4	36.8	35.8
Total budget expenditures <sup>1</sup>	43.8	43.6	42.4	42.2	42.8	40.8	42.9	41.7	39.9	38.1
General government debt <sup>2</sup>	35.8	37.9	38.4	35.8	33.2	29.3	35.4	36.1	37.3	37.4
of which: foreign debt	20.1	20.5	17.2	14.5	12.6	8.9	11.3	13.2	14.1	15.8
domestic debt	15.7	17.4	21.2	21.3	20.6	20.4	24.1	22.9	23.2	21.6

Source: European Commission (AMECO database).

<sup>1</sup> According to ESA 95 methodology.

<sup>2</sup> Excluding public guarantees and HBOR debt.

<sup>3</sup> According to Croatia's 2009 Pre-Accession Economic Programme.

## 3 The Croatian Banking Sector

### 3.1 Banking Sector Structure

No major structural changes took place in the Croatian banking sector in 2008 and 2009. The total number of banks increased by 1 to 34, following the market entry of two savings banks<sup>10</sup> and the merger between Slavenska banka and Hypo Alpe-Adria-Bank in February 2009. The Croatian banking industry continues to be dominated by foreign ownership (see table 6). The asset share of foreign banks remained fairly stable at around 91% in 2008 and 2009, but the number of foreign banks decreased by 1 due to the merger mentioned before. Austria is the largest foreign investor, accounting for slightly over 60% of total banking sector assets (including Bank Austria, which is a member of the UniCredit Group), followed by Italy, France and Hungary. Preliminary, unaudited data for the first quarter of 2010 provide an almost identical picture.

Despite the large number of banks, the sector is fairly concentrated. The market share of the four largest banks increased even further – albeit slightly – in 2008 and 2009, to over 65% of total assets at year-end 2009 (see table 7). Similarly, the Herfindahl-Hirschman index reached 1,367 points in 2009, after 1,279 in 2007. The large number of small banks (25 in total), each with a strong regional focus and a tiny market share, suggests potential for further market consolidation.

The market penetration of banking services continued to increase in the last two years. The number of operating units rose from 1,191 in 2007 to 1,299 at year-end 2009, and the number of ATMs grew by some 600 to 3,601 over the same period. Network expansion went hand in hand with a continued rise in staff levels until the end of 2008, when staff numbers reached 22,027. However, a less conducive economic environment and the unfolding lower demand for banking services seem to have initiated staff reductions in the second half of 2009, with the number of employees falling to 21,673 by year-end 2009.

According to the EBRD's banking reform index, the Croatian banking sector exhibits well developed institutional standards and performance norms. In contrast

<sup>10</sup> To comply with the *acquis communautaire*, savings and loan cooperatives had to be turned either into savings banks in accordance with the Banking Act or into credit unions pursuant to the new Credit Unions Act adopted in December 2006.

Table 6

### Ranking of Croatian Banks in Terms of Total Assets as at December 31, 2009<sup>1</sup>

No.	Bank	Main shareholders <sup>2</sup>	Total assets	Share in total assets
			(EUR million)	(%)
1.	Zagrebačka Banka d.d.	Bank Austria Creditanstalt AG (84.2%), Allianz AG (11.7%)	12,645.0	24.1
2.	Privredna Banka Zagreb d.d.	Intesa BCI Holding International S.A. (76.6%), EBRD (20.9%)	8,863.9	16.9
3.	Erste & Steiermärkische Bank d.d.	ESB Holding GmbH (96.1%)	6,695.1	12.8
4.	Raiffeisenbank Austria d.d.	Raiffeisen International Bank-Holding AG (75%), Raiffeisenbank-Zagreb Beteiligungsgesellschaft mbH (25%)	5,381.6	10.3
5.	Hypo Alpe-Adria-Bank d.d.	Hypo Alpe-Adria-Bank International AG (100%)	5,281.3	10.1
6.	Société Générale-Splitska Banka d.d.	Société Générale (99.8%)	3,774.1	7.2
7.	Hrvatska Poštanska Banka d.d.	Croatian Privatisation Fund (33.1%), Hrvatska pošta (40.6%), Croatian Pension Insurance Administration (25%)	1,905.4	3.6
8.	OTP Banka Hrvatska d.d.	OTP Bank RT (100%)	1,720.7	3.3
9.	Volksbank d.d.	VB International AG (99.2%)	1,044.1	2.0
10.	Međimurska Banka	Privredna banka Zagreb d.d. (96.4%)	386.7	0.7

Source: HNB.

<sup>1</sup> Audited data.

<sup>2</sup> As of June 30, 2009.

Table 7

### Structural Indicators

	2003	2004	2005	2006	2007	2008	2009
EBRD index of banking sector reform <sup>1</sup>	3.7	4.0	4.0	4.0	4.0	4.0	4.0
Number of banks (foreign-owned)	41 (19)	37 (15)	34 (14)	33 (15)	33 (16)	34 (16)	34 (15)
Number of banks per 100,000 inhabitants	0.92	0.83	0.77	0.74	0.74	0.77	0.77
Number of employees	17,086	17,424	18,624	18,877	20,613	22,027	21,673
Number of operating units <sup>2</sup>	1,022	1,037	1,114	1,120	1,191	1,252	1,299
Number of ATMs	1,611	1,913	2,307	2,641	2,995	3,342	3,601
Assets of private banks (% of total assets)	96.6	96.9	96.6	95.8	95.3	95.5	95.7
Assets of foreign banks (% of total assets)	91.0	91.3	91.3	90.8	90.4	90.7	90.8
Assets of four largest banks (% of total assets)	61.6	64.9	64.9	64.0	63.9	64.9	65.1
Herfindahl-Hirschmann index <sup>3</sup>	1,270	1,363	1,359	1,299	1,279	1,311	1,367

Sources: HNB, EBRD.

<sup>1</sup> Reform progress ranges from 1 (little progress beyond the establishment of a two-tier system) to 4+ (standards and performance norms of advanced industrial economies).

<sup>2</sup> Including branches and subbranches.

<sup>3</sup> Sum of the squared asset shares of individual banks. The index ranges between 0 and 10,000. An index below 1,000 suggests a nonconcentrated sector, an index above 1,800 suggests a highly concentrated sector.

to some other transition economies, Croatia was able to maintain its EBRD ranking during the crisis years 2008 and 2009, which is better than that of many CESEE EU Member States; only Hungary and Estonia had similarly high rankings in 2009.<sup>11</sup>

### 3.2 Asset and Liability Structure

Financial deepening slowed markedly over 2008 and 2009. Initially, this could be attributed to HNB measures to curb credit growth, while later on deteriorating economic conditions, the process of global deleveraging, banks' increasing risk aversion and lower credit demand by bank clients (due to falling business and consumer confidence, deteriorating income and labor market prospects and rising interest rates) played a more prominent role. The expansion of banking assets slowed sharply from 13% in 2007 to 2.5% in 2009. Thus, the increase in financial penetration as a percentage of GDP from 109.8% in 2007 to 114.2% at end-2009 (see table 8) should mainly be seen in the context of strongly falling GDP levels. Croatia's financial intermediation levels continue to rank among the highest in CESEE but are still well below the euro area average of almost 340% of GDP (based on the aggregated balance sheet of other MFIs).

With a share of 57.4% of total assets in 2009, banking sector assets continued to be dominated by claims on domestic households and enterprises. This figure is as high as in 2007 despite the strong slowdown in lending to both corporations and households over 2008 and 2009. In contrast to most other CESEE economies, the slowdown was more pronounced in the retail segment, which seems to be the result of, *inter alia*, a slump in general-purpose cash loans and car loans.

The banking sectors' claims on the general government increased during the crisis years 2008 and 2009 due to stepped-up government borrowing from banks. In particular, given budgetary financing needs, in early 2009, the government took out a EUR 1 billion syndicated loan from a group of six domestic banks, for which the HNB relaxed liquidity provisions so that the banks were able to extend this loan without recourse to additional external funding. Emerging crowding-out concerns were, however, alleviated by a decreasing risk aversion in global financial markets starting from March 2009 and the subsequent two Eurobond issues by the government in 2009, a World Bank loan in January 2010 and two bond issues in domestic markets in spring 2010.

Banks' claims on domestic monetary financial institutions, which mostly consist of deposits with the HNB, decreased over the last two years, largely reflecting the HNB's measures with a view to easing reserve requirements during the most critical periods of the global financial crisis. These measures included abolishing the marginal reserve requirement in October 2008, reducing the mandatory reserve requirement rate from 17% to 14% in December 2008, suspending the special reserve requirement in February 2009 and removing the obligation for banks to subscribe to HNB bills in case credit growth exceeds 12% annually in November 2009, thereby releasing total liquidity of some HRK 12 billion (approximately EUR 1.6 billion).

<sup>11</sup> A ranking for the Czech Republic (which also posted an index of 4.0 in 2007) is no longer available, as in 2007 the country ceased to be an EBRD country of operation.

Table 8

**Asset Structure of the Banking Sector**

	2003	2004	2005	2006	2007	2008	2009
Commercial bank assets (% of GDP)	89.9	93.4	98.5	106.4	109.8	108.1	114.2
% of total assets							
Total domestic claims	79.2	77.3	82.7	84.5	84.2	84.3	84.5
Claims on domestic MFIs	18.8	17.6	18.7	18.4	17.9	13.8	14.9
Claims on domestic nonbanks	60.4	59.7	64.0	66.1	66.3	70.5	69.6
of which: general government	11.2	9.9	11.6	9.7	9.0	10.6	12.2
domestic households and enterprises	49.2	49.8	52.4	56.4	57.3	59.9	57.4
of which: domestic enterprises	23.2	22.3	23.1	25.8	25.4	26.6	26.1
domestic households	25.9	27.5	29.3	30.6	31.9	33.3	31.3
External assets	16.5	18.3	13.2	12.6	13.1	12.9	12.6
Memorandum items:							
Claims on domestic households (% of total claims on households and enterprises)	52.7	55.2	55.9	54.3	55.7	55.6	54.5
Loans-to-claims ratio for domestic nonbanks (%)	86.4	88.8	88.6	90.8	90.8	91.5	92.8
of which: general government (%)	37.5	39.4	42.2	49.5	45.6	54.7	68.0
domestic households and enterprises (%)	97.8	98.4	98.9	98.0	98.3	98.7	98.4

Source: HNB.

The share of foreign assets in total bank assets remained fairly stable over the review period. Thus, despite high global and local liquidity pressures banks did not have to run down foreign assets on a large scale in an annual comparison.<sup>12</sup> This was underpinned by the fact that foreign parent banks were on the spot to support their subsidiaries during times of heightened liquidity pressures. In fact, banks' external liabilities, which continued to fall in the context of HNB credit restrictions over the first three quarters of 2008, increased substantially in the final quarter of 2008 (in particular following the abolition of the marginal reserve requirement in October 2008) and helped to compensate for the decrease in domestic funding sources related to temporary deposit withdrawals.<sup>13</sup> Thus, banks' net foreign asset position, which had improved strongly in 2007 on the back of HNB measures to contain bank lending based on foreign borrowing,<sup>14</sup> again deteriorated from  $-4.8\%$  of total assets in 2007 to  $-7.9\%$  in 2009.

Banks' liabilities continued to be dominated by deposits of domestic nonbanks (51% of total liabilities at end-2009), especially private sector deposits (i.e. households and enterprises). Solid pre-crisis private sector deposit growth came to a halt in the final quarter of 2008, when waning public confidence in the banking sector caused temporary deposit withdrawals. The first quarter of 2009, however, saw the situation stabilize and household deposits (mainly in foreign currency) rise again, in particular in the second half of 2009. In fact, in 2009, household deposits

<sup>12</sup> It is important to note, however, that the relaxation of the HNB's foreign currency liquidity regulations in February 2009 (with the aim of facilitating governments' financing needs) led to a temporary recourse to foreign assets in the first quarter of 2009, which were then gradually rebuilt over the rest of 2009.

<sup>13</sup> See, among others, Bokan et al. (2009).

<sup>14</sup> The impulse responses of VAR estimates by the IMF suggest that HNB measures (especially the marginal and special reserve requirements) have achieved some success in temporarily reducing the overall volume of capital inflows to Croatia. See IMF (2010b), p. 146–148.

Table 9

### Liability Structure of the Banking Sector

	2003	2004	2005	2006	2007	2008	2009
% of total liabilities							
Deposits of MFIs	2.6	2.1	2.9	3.6	5.6	4.3	4.6
Deposits of domestic nonbanks	56.6	54.9	52.9	52.5	53.3	52.6	51.1
of which: general government	1.8	1.6	1.6	1.4	1.5	1.6	1.1
households and enterprises	54.8	53.0	51.1	51.0	51.7	50.9	49.9
Debt securities issued	1.6	2.7	2.0	1.7	1.4	1.9	1.0
Capital and reserves	8.9	8.6	9.0	10.3	12.5	13.5	13.9
External liabilities	23.0	24.1	23.9	23.5	17.8	18.9	20.5
Remaining liabilities	7.3	7.6	9.3	8.4	9.4	8.8	8.9
Memorandum items: %							
Domestic nonbanks' claim-to-deposit ratio	106.7	108.6	120.9	125.9	124.4	133.9	136.1
General government's claim-to-deposit ratio	622.7	616.0	723.6	695.2	599.4	659.7	1,109.6
Households' and enterprises' claim-to-deposit ratio	89.8	93.9	102.5	110.5	110.9	117.6	115.0

Source: HNB.

were up by some 4% on their 2008 levels as households sharply cut spending in light of the less conducive economic environment, deteriorating labor market conditions and the related worsening of households' income position toward year-end 2009. By contrast, corporate deposits fell by some 6% in 2009 given more limited access to other funding sources and declining corporate profitability so that total private sector deposits by and large stagnated during 2009 and their share in total liabilities fell to slightly below 50% (see table 9).

The term structure of deposits changed during the crisis years too, with the share of time deposits climbing to some 73% of total deposits at year-end 2009, up from 65% in 2007. While this development might to some extent be explained by the run-down of demand deposits (mainly for confidence reasons), it may also reflect the above-mentioned change in the structure of deposits (growing household and declining corporate deposits) and clients' shifting of deposits to longer maturities to secure higher interest rates, in particular before the global low-interest rate cycle (including the flattening of the yield curve) set in.

Foreign currency-denominated positions, while increasing over the last two years, continued to dominate the liability side of the banking sector, accounting for some three-quarters of total deposits at year-end 2009. This might be explained by the fact that workers' remittances and largely also tourism revenues are earned in foreign currency, but also by confidence issues, which may have triggered the conversion of kuna deposits into foreign currency-denominated deposits and entailed people's higher propensity to save in foreign currency.<sup>15</sup> As bank claims continued to grow faster than deposits, claim-to-deposit ratios increased over 2008 and 2009 and remained well in excess of 100%. This implies a continued need for refinancing from other sources, including foreign funding.

In the Croatian banking sector's liability structure, capital and reserves are also playing a strong (and over the last two years increasing) role as financing

<sup>15</sup> For further details, see Dvorsky, Scheiber and Stix (2009).

items; their share in total liabilities is more than twice as high as in the euro area. The reasons for this include 1) higher capital requirements in Croatia in general (and for banks whose placement growth exceeded certain permitted growth rates in particular), 2) presumably higher risks faced by banks operating in an emerging market environment and 3) widespread foreign ownership, with foreign banks providing their subsidiaries a portion of financing in the form of equity.<sup>16</sup> Especially the last point has been of importance in the case of Croatia, as the high marginal and special reserve requirement on banks' foreign liabilities and issued securities as well as the minimum foreign currency liquidity requirements as stipulated by HNB regulations induced parent banks to finance strong credit growth by boosting subsidiaries' capital positions.

### 3.3 Banking Sector Profitability

As in other CESEE countries, deteriorating economic conditions started to take a toll on banking profitability in Croatia in the final quarter of 2008, but the full impact materialized only in 2009. While banks remained profitable throughout the review period, profitability declined on weak business conditions and higher provisioning needs. Consequently, banks' return on average assets (pre-tax) dropped from 1.6% in 2007 and 2008 (see table 10) to 1.2% at end-2009, while the continuing decline in return on average equity (after-tax) to 6.7% was additionally underpinned by banks' attempts to strengthen their capitalization (in particular via retained earnings, but also minor capital injections). Preliminary HNB data suggest broadly unchanged banking profitability in the first quarter of 2010.

Net interest income continued to constitute the main source of revenue in the banking sector. Despite increasing interest rate spreads in the last two years, which were driven by a pick-up in lending rates, interest income grew only moderately in 2009, given tighter supply-side credit conditions based on banks' increased risk aversion and more subdued credit demand. Interest expenses grew more strongly, however, most likely due to the more widespread use of longer-term, fixed-interest rate deposit contracts. Thus, in 2009, net interest income decreased not only in absolute terms but also as a share of total operating income.

At the same time, net noninterest income increased considerably in both absolute and relative terms. In this context, net income from fees and commissions remained fairly stable, but strong increases in other, less stable sources of income such as securities and foreign exchange trading activities (including related valuation effects) pushed the share of total net noninterest income to some 37.5% of total operating income at year-end 2009. In this context, it is important to note that movements in net interest and noninterest income seem highly correlated, given certain swap transactions of Croatian banks with parent institutions.<sup>17</sup>

Despite continued network expansion and ongoing infrastructure deepening (e.g. ATMs), bank efficiency increased and operating expenses fell below 50% of total operating income at end-2009, partly due to lower staff expenses following crisis-induced cutbacks in staff. Finally, in order to provide for increased risks related to the deteriorating economic conditions and the pick-up in nonperforming loans, banks sharply stepped up their provisioning efforts in 2009.

<sup>16</sup> For more details on the refinancing structure of banks in CESEE, see Walko (2008).

<sup>17</sup> See HNB (2010) p. 44f.

Table 10

### Banking Sector Profitability

	2003	2004	2005	2006	2007	2008	2009
	<i>% of total income</i>						
Total operating income	100.0	100.0	100.0	100.0	100.0	100.0	100.0
of which: net interest income	75.3	69.2	70.2	70.5	67.5	69.3	62.5
net noninterest income	24.7	30.8	29.8	29.5	32.5	30.7	37.5
General administrative expenses	57.4	54.3	54.4	54.9	52.1	52.4	49.4
Loan loss provision expenses	7.7	6.6	5.3	6.2	7.6	7.6	22.4
Income tax	6.0	6.4	7.8	7.7	8.2	7.8	5.7
After-tax profit/loss	28.9	32.6	32.5	31.1	32.1	32.2	22.6
	<i>% of average assets</i>						
Net interest income	3.4	3.0	2.9	2.7	2.6	2.8	2.5
Net noninterest income	1.1	1.3	1.2	1.1	1.3	1.2	1.5
	<i>percentage points</i>						
Interest rate spread (total loans - total deposits)	8.0	7.6	7.0	6.5	6.0	6.3	7.0
	<i>%</i>						
Return on average assets (before tax)	1.6	1.7	1.6	1.5	1.6	1.6	1.2
Return on average equity (after tax)	14.1	16.1	15.0	12.4	10.9	9.9	6.7
	<i>% of average interest-bearing assets</i>						
Net interest margin	4.9	4.5	4.2	3.8	3.7	3.8	3.4

Source: HNB.

## 3.4 Risks and Shock-Absorbing Capacity

### 3.4.1 Credit Risk

Credit risk continues to represent the main source of risk to financial stability in Croatia. In fact, after years of strong credit growth, in the second half of the last decade, the ratio of private sector credit to GDP had reached fairly elevated levels relative to underlying fundamentals in Croatia.<sup>18</sup> Strong credit growth, albeit decelerating due to various HNB measures aimed at reining in lending growth based on banks' foreign liabilities, continued during 2007 and the first three quarters of 2008. However, credit growth moderated considerably thereafter as the downturn fully hit the Croatian economy in the first half of 2009, with both demand- and supply-side factors contributing to this development. The slowdown in household lending was more pronounced than in corporate lending, partly because demand for corporate loans kept up fairly well due to the – temporary – drying-up of other (including foreign) funding sources. As at year-end 2009, private sector credit levels were at some 67% of GDP, which is higher than the levels seen in most other CESEE countries, but still substantially below euro area levels of 120% of GDP. In the first quarter of 2010, overall credit growth came to a halt in an annual comparison; while loans to the government and corporations grew by 5% and 3%, respectively, loans to households continued to contract (–3%).

<sup>18</sup> For further details, see Zumer, Égert and Backé (2009).

Household debt, mostly consisting of bank loans, fell in 2009 (see table 11) after years of double-digit growth rates. For this reason and given increases in disposable income (by an average 2.8% in 2009),<sup>19</sup> household debt also fell relative to gross disposable income to 84.4% in 2009. Household debt levels remained stable at 40% of GDP during the crisis years though, given last year's fall in nominal GDP. Implicit interest payments relative to gross disposable income increased in 2008 and 2009, largely driven by a pick-up in interest rates. Housing loans, the most dynamic line of business in the household segment during the boom years, strongly lost momentum during the second half of 2009 on the back of lower demand for property and falling real estate prices (by 4% on average in 2009), which, given losses in collateral values, might indirectly expose banks to real estate-related risks. In contrast to other segments of household lending, growth in housing loans remained in positive territory in 2008 and 2009 though, so that their share in total household loans increased slightly to 43% over the last two years.

Table 11

### Selected Macprudential Indicators<sup>1</sup>

	2003	2004	2005	2006	2007	2008	2009
<b>Households</b>							
Debt (% of GDP)	25.4	28.0	32.4	36.6	39.5	40.4	40.6
Debt (% of gross disposable income)	52.1	58.3	69.5	78.0	85.1	88.6	84.4
Annual change in debt (%)	28.2	19.4	24.4	22.4	18.5	11.4	-2.7
Implicit interest payments (% of gross disposable income)	4.5	4.8	5.1	5.3	5.7	6.1	6.3
<b>Nonfinancial enterprises</b>							
Debt (% of GDP)	43.7	45.8	50.8	58.9	66.3	72.0	78.5
Debt (% of corporate bank deposits)	320.2	339.4	398.6	395.9	387.1	498.9	580.0
Annual change in debt (%)	12.9	13.2	19.6	25.5	23.5	18.3	6.1
Implicit interest payments (% of GDP)	3.2	3.1	3.1	3.5	4.2	4.4	...
<b>Total nonfinancial private sector</b>							
Debt (% of GDP)	69.1	73.8	83.2	95.5	105.8	112.5	119.1
Annual change in debt (%)	18.0	15.5	21.4	24.3	21.6	15.7	2.9
<b>General government<sup>2,3</sup></b>							
Debt (% of GDP)	35.7	37.9	38.5	36.0	33.4	29.3	35.4
Annual change in debt (%)	11.7	14.8	9.2	1.3	2.0	9.1	17.3
Interest paid (% of GDP)	1.8	1.8	1.9	1.9	1.8	1.5	1.7
<b>Total nonfinancial sector</b>							
Debt (% of GDP)	104.8	111.7	121.7	131.5	139.3	141.8	154.4
Annual change in debt (%)	18.0	15.5	21.4	24.3	21.6	10.9	6.0
<i>Memorandum items:</i>							
Total external debt (% of GDP)	66.3	70.0	72.1	74.9	76.9	85.1	98.2
Total private external debt (% of GDP)	45.1	50.0	54.9	60.4	64.3	76.3	86.9

Source: HNB.

<sup>1</sup> All items refer to total (i.e. domestic and foreign) debt.

<sup>2</sup> Starting from 2008 data excluding Croatian Highways.

<sup>3</sup> Growth rate for 2008 adjusted for exclusion of Croatian Highways.

<sup>19</sup> It is important to note, however, that full-year 2009 data mask strongly decelerating intra-year dynamics in disposable income growth from +8.9% in the first quarter of 2009 to -3.8% in the final quarter of 2009 on the back of the introduction of a special "crisis tax" in July and the lagged impact of slowing wage growth and worsening labor market conditions.

Despite a crisis-driven slump in investment activity, the growth in corporate sector debt levels continued at a robust pace in 2008 and 2009. However, this may have been partly driven by exchange rate valuation effects (e.g. the depreciation of the kuna vis-à-vis the Swiss franc by some 13% since the start of 2008), even though the bulk of Swiss franc loans seems to be related to the household segment, and within this segment to housing loans (detailed information about the currency decompositions of loans is not available, however). In this context, the corporate sector's debt growth (mainly bank loans) decelerated significantly in 2009 but remained positive, so that corporations' domestic debt climbed to over 75% of GDP, with interest payable also rising considerably on the back of increased refinancing costs.

Croatia's banking sector is highly exposed to indirect credit risk arising from the use of foreign currency in domestic operations. The large share of foreign currency-denominated and -indexed loans in total loans exposes households and enterprises to exchange rate and foreign interest rate fluctuations, thereby implying credit risk for banks. Given that households account for over 45% of total foreign currency-denominated (and -indexed) loans in Croatia, unhedged domestic borrowers seem to bear the bulk of the currency risk. According to HNB (2009c), some 96% of total net placements and contingent liabilities to households are considered as unhedged, implying substantial currency-induced credit risk in this sector. However, this risk is somewhat mitigated by the fact that household deposits are also largely denominated in foreign currency, as workers' remittances and tourism revenues represent a major source of household income.

Against the background of stricter capital adequacy and liquidity requirements imposed by the HNB, in particular the introduction of higher risk weights on foreign currency-denominated and -indexed loans (mainly claims on unhedged borrowers), the degree of currency substitution in bank liabilities declined considerably in 2006, 2007 and the first three quarters of 2008. This trend reversed, however, after the collapse of Lehman Brothers, which has shaken trust in the stability of global financial markets. In fact, the temporary waning of the Croatian population's and corporations' confidence in the local banking sector and the domestic currency led to the increased denomination of bank liabilities in foreign currency (especially due to conversions of local currency into foreign currency deposits), but the run-down in corporate deposits in kuna-denominated transaction accounts might have contributed to this development as well.<sup>20</sup> This, in conjunction with the release of foreign currency reserves by the HNB, entailed stepped-up foreign currency lending by banks to avoid currency mismatches. Thus, driven mainly by the strong growth of foreign currency lending to the corporate sector, the share of foreign currency-denominated (including indexed) loans in total loans increased considerably from 61% in 2007 to some 72% in 2009 (see table 12). Exchange rate valuation effects (the depreciation of the kuna vis-à-vis the Swiss franc) played some role in this development too.

Before the crisis, the Swiss franc, next to the euro, played an important role in domestic borrowing too. Given low interest rates, Swiss franc loans quickly became popular in Croatia during the boom years, with their share in total foreign currency loans (total loans) quintupling (quadrupling) from 5% (3.9%) at the start

<sup>20</sup> For further details, see Dvorsky, Scheiber and Stix (2009).

Table 12

**Selected Indicators of Banking Sector Stability**

	2003	2004	2005	2006	2007	2008	2009
<b>Credit risk</b>	<i>Annual change in %</i>						
Credit growth	17.4	12.8	20.1	22.6	14.8	13.6	3.3
Growth of credit to the private sector	16.2	13.3	18.7	23.7	14.2	12.1	-0.7
Real growth of credit to the private sector	14.5	10.8	14.6	21.3	8.3	8.971	-2.6
Growth of credit to households	27.4	18.0	20.5	21.9	18.1	12.0	-3.0
Housing loan growth	37.4	28.9	28.9	34.0	22.5	15.7	1.2
	<i>% of total loans</i>						
Nonperforming loans	8.9	7.5	6.2	5.2	4.8	4.9	7.8
<i>of which: households</i>	6.4	4.7	4.5	4.1	3.7	3.9	5.8
<i>corporations</i>	12.9	11.9	9.7	7.6	7.3	7.2	12.8
Foreign currency credit (% of total credit)	74.2	75.7	77.4	71.5	61.4	65.4	72.7
Foreign currency deposits (% of total deposits) <sup>1</sup>	87.5	87.3	86.4	76.3	66.8	68.5	76.1
<b>Market risk</b>							
<i>Foreign exchange risk</i>							
Open foreign exchange position (% of total assets)	1.2	1.0	0.6	0.2	0.7	0.5	0.9
<b>Stock market risk</b>							
Ratio of shares and participations (equity holdings) to total assets (%)	1.4	0.9	0.8	0.7	0.7	0.2	0.1
<b>Liquidity risk</b>							
Ratio of liquid assets to total assets (%) <sup>2</sup>	32.8	31.2	28.0	27.5	27.6	23.9	23.7
Ratio of liquid assets to short-term liabilities (%) <sup>2</sup>	117.2	120.4	103.1	102.6	107.1	106.1	119.2
Ratio of total loans to total deposits (%)	76.7	80.7	88.5	92.5	92.8	99.5	98.3
<b>Shock-absorbing factors</b>							
Loan loss provisions (% of nonperforming loans)	60.9	62.5	60.0	57.0	54.7	49.5	42.5
<i>of which: loan loss provisions for household loans</i>	53.0	69.9	66.2	62.6	67.0	63.8	60.6
<i>loan loss provisions for corporate loans</i>	62.0	57.4	56.4	52.2	45.3	38.1	33.0
Nonperforming loans net of provisions (% of capital)	22.6	19.0	16.7	14.0	11.3	12.8	22.2
Capital adequacy ratio (%)	16.2	15.3	14.7	14.0	16.4	15.2	15.8
<i>Memorandum items</i>							
Number of banks (foreign-owned)	41 (19)	37 (15)	34 (14)	33(15)	33(16)	34 (16)	34 (15)
Asset share of foreign-owned banks (% of total assets)	91.0	91.3	91.3	90.8	90.4	90.7	90.8

Source: HNB.

<sup>1</sup> Time deposits.

<sup>2</sup> Liquid assets = cash in vaults + deposits with the HNB + deposits with other banks + treasury bills.

of 2005 to 27% (16%) at end-2007. However, the global financial crisis brought about major changes regarding the currency composition of foreign currency loans and a falling (to 19% and 13%, respectively) Swiss franc share by year-end 2009, a trend which also continued in the first quarter of 2010. The declining

popularity of Swiss franc loans due to the higher volatility of the kuna against the Swiss franc (compared with the euro), a more limited supply of Swiss franc loans by banks given difficulties in obtaining liquidity in this currency and conversions of Swiss franc loans into euro loans have presumably contributed to this development.

Credit risk started to manifest itself in a deterioration of credit quality in the final quarter of 2008, which accelerated in 2009, as borrowers faced difficulties servicing their loans in a less conducive economic environment. After having decreased for years largely on the back of strong credit growth, the share of nonperforming loans<sup>21</sup> (NPL) in total loans picked up from 4.8% in 2007 to 7.8% at end-2009. NPL ratios in the retail segment were half as high as in the corporate sector, which is associated with the relatively large share of housing loans (some 43% at year-end 2009) in total household loans and their (up to now) fairly low delinquency rates (some 2.7%). Another possible explanation underpinning this development could be the recourse of large corporations with a good financial standing to cross-border borrowing (IMF, 2008), which could imply an adverse selection problem. However, in their recent empirical analysis, Cerovac and Ivičić (2009) find no evidence of a negative impact of corporations' direct cross-border borrowing on the risk profile of domestic banks' balance sheets. Quite the contrary, default rates seem somewhat higher for corporations with direct foreign financing (which are often affiliated to the construction sector). There are no data available on NPLs by currency composition, which makes it impossible to infer whether banks applied stricter risk management practices to foreign currency-denominated and -indexed loans to account for the higher risks associated with these loans. Being a lagging indicator, NPLs are set to increase further in 2010, inter alia on the back of declining corporate profitability and adverse labor market conditions.

### 3.4.2 Market and Liquidity Risks

The banking sector's exposure to interest rate risk is limited. Most of the interest rate risk (both domestic and foreign) has been shifted to bank clients and – in the event of adverse developments – would materialize through the credit risk channel, as loan contracts (including fixed-interest rate loans) often carry safeguard clauses which allow for pertinent interest rate adjustments. In fact, some two-thirds of total loans provide for interest rate adjustments within three months (and 95% within one year). At the same time, on the liability side, deposits are predominantly short-term, with some 85% (55%) of total deposits having a maturity of less than one year (three months), allowing for a rather great degree of flexibility in times of high interest rate volatility.

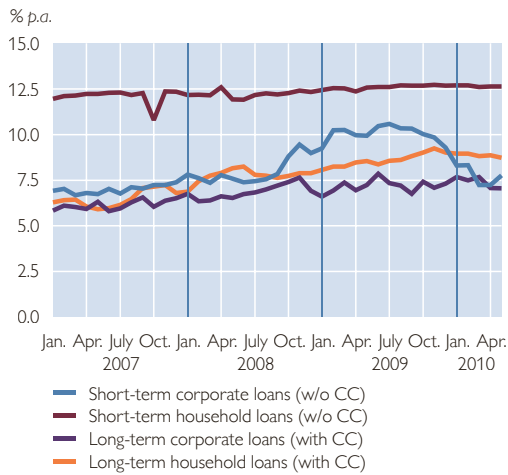
In contrast to global interest rate developments, average lending rates in Croatia increased more or less substantially and across the board over the last two years

<sup>21</sup> Pursuant to the HNB Decision on the Classification of Placements and Off-Balance Sheet Liabilities of Credit Institutions, placements are to be classified as placements without impairment (risk category "A"), partly recoverable placements (risk categories "B-1", "B-2" and "B-3") or fully irrecoverable placements (risk category "C"), with the latter two categories being labelled as nonperforming. In more detail, placements have to be classified as 1) B-1, if liabilities are overdue by more than 90 but less than 180 days, 2) B-2, if liabilities are overdue by more than 180 but less than 270 days, 3) B-3, if liabilities are overdue by more than 270 but less than 365 days, or 4) C, if liabilities are overdue by more than 365 days.

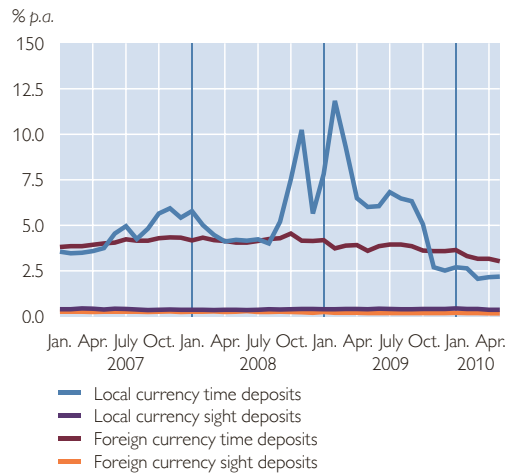
Chart 1

## Average Lending and Deposit Rates

### Average Lending Rates



### Average Deposit Rates



Source: HNB.

Note: CC = currency clause.

(see chart 1), especially rates on short-term local currency corporate loans and long-term household loans indexed to foreign currency, which increases indirect local and foreign interest rate risks. Average deposit rates remained fairly stable over 2008 and 2009, with major fluctuations in local currency time deposits. To some extent, these fluctuations were attributable to banks' attempts to stop deposit withdrawals during the height of the crisis and to prevent large-scale deposit conversions into foreign currencies, but – given their coincidence with the concurrent spikes in money market rates – also to the fairly high bargaining power of corporate treasurers, who demand short-term deposit interest rates comparable to money market rates or otherwise place their funds in the money market.

The share of equity participations in total assets declined by more than two-thirds over the last two years in the context of adverse global stock market developments. These positions do not represent a major risk to banking stability, as the banking sector's exposure to stock market risk is negligible in light of equity positions of only 0.1% of total assets in 2009.

Direct foreign exchange risk appears to be manageable as well. Open foreign exchange positions did not see major increases over the review period. However, in contrast to previous years, short open foreign exchange positions exceeded long positions over 2008 as a whole and in the first quarter of 2009, implying that during this period banks were more exposed to foreign exchange risks associated with a depreciation of the kuna. This changed, however, as of the second quarter of 2009, as foreign currency-denominated and -indexed assets increased more strongly than corresponding liabilities so that the ratio of average long foreign exchange positions to regulatory capital exceeded average short positions in the remainder of 2009.

There were substantial changes in legislation related to open foreign exchange positions during the crisis years. In May 2008, the HNB cut the minimum required

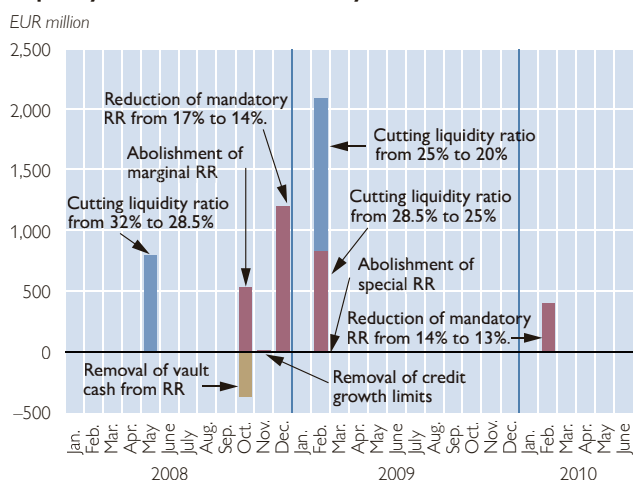
rate of foreign currency claims from 32% to 28.5% with the aim of facilitating the governments' budgetary financing by taking recourse to a EUR 760 million syndicated loan provided by domestic banks. In order to ease mounting foreign currency liquidity pressures that emerged at the turn of 2008 and 2009, the ratio of liquid foreign currency claims to foreign currency liabilities was cut further in two steps from 28.5% to 25% in early February 2009 (again with a view to facilitating government financing) and then to 20% in late February 2009, thereby releasing foreign exchange liquidity to banks of around EUR 2.1 billion. At the same time, to facilitate the management of the released funds, in February 2009, the HNB increased banks' maximum permitted open foreign currency positions to 30% of banks' regulatory capital (from previously 20%).

As reflected by liquidity indicators, liquidity risks increased somewhat over the last two years. In 2008, the ratio of liquid assets to total assets declined rather strongly to 24%, mainly on the back of the reduction of mandatory reserve requirements from 17% to 14% as of the reserve requirement calculation period starting on December 10, 2008. This HNB move released liquid assets worth a total HRK 8.4 billion (5.9 billion denominated in kuna and 2.5 billion in foreign exchange), corresponding to some EUR 1.2 billion (see chart 2). In 2009, the ratio of liquid to total assets stabilized. At the same time, the loan-to-deposit ratio increased further in 2008, reaching some 100%. However, given the strongly decelerating credit growth in the context of the financial crisis, in 2009 the loan-to-deposit ratio stabilized at 2008 levels. Despite the above, liquidity levels can still be considered high, also given the large amounts of free reserves held with the HNB. At the same time, the liquidity risks associated with the high share of liabilities toward nonresidents in total liabilities did not materialize during the crisis given parent banks' strong commitment vis-à-vis Croatia.

Chart 2

## Effects of HNB Measures in Response to the Spillovers of the Global Crisis

### Liquidity Effects of HNB Monetary Measures



### Effects of HNB Foreign Exchange Interventions



Source: HNB.

Note: RR = reserve requirement.

### 3.4.3 Shock-Absorbing Factors

Croatia's banking sector is well capitalized in terms of standard capital ratios. Notwithstanding substantial capital increases by banks, capital adequacy fell slightly in 2008 on the further tightening of capital adequacy regulations, which required banks to apply higher risk weights to foreign currency-denominated (and -indexed) claims vis-à-vis unhedged borrowers. However, at 15.2%, in 2008 the capital adequacy ratio was still well above the 10% required by Croatian law (see table 12). Bank capitalization improved again, in 2009 in particular owing to capital increases (mainly via retained earnings) in the context of the global crisis as well as slower growth in risk-weighted assets as a result of a slowdown in credit growth and stepped-up lending to the public sector (which carries lower risk weights). In order to further strengthen bank capitalization in line with the new Credit Institutions Act (which entered into force on January 1, 2009, replacing the Banking Act) and complementary HNB decisions on the capital adequacy of credit institutions, the HNB increased banks' minimum capital requirement from 10% to 12% as of March 31, 2010, when Basel II standards became operational in Croatia. Preliminary HNB data for the first quarter of 2010 reveal a capital adequacy ratio of some 19% for the banking sector. The rather substantial increase as compared to year-end 2009 is, however, less the result of increases in capital, but can largely be explained by lower risk weights applied for foreign currency-denominated (or -indexed) lending within the framework of Basel II compared with those applied under previous national regulations.

These substantial capital buffers allow the banking sector to withstand shocks stemming from operational and market risks and underpin its shock-absorbing capacities. In fact, HNB stress tests showed that even under a shock scenario which assumes a GDP decline by 6% and an exchange rate depreciation by 10%,<sup>22</sup> the banking sector as a whole would remain adequately capitalized. Moreover, stress tests for individual banking groups suggest that under the shock scenario, corporate banks would be the most exposed as they have the lowest initial capital adequacy ratios.

Moreover, despite the severity of the economic downturn and the increase in nonperforming loans, the banking sector retained its profitability in 2009, albeit at somewhat lower levels than during the boom years. This should provide banks with an additional buffer to weather the global economic and financial crisis, with retained earnings helping beef up banks' capital positions.

Finally, as the global crisis experience showed, widespread foreign ownership also bolstered banking system stability. In fact, foreign banks' strategic, long-term interest in Croatia and their commitment to supporting their Croatian subsidiaries during the turbulent times in late 2008 and early 2009 helped mitigate the impact of the crisis on the banking sector, both directly and indirectly. Specifically, parent banks were instrumental in further strengthening subsidiaries' capital base (predominantly via retained earnings) as well as in providing sufficient funding and liquidity. Moreover, Croatian subsidiaries indirectly benefited from the positive spillovers of foreign banks' commitment to and action in other CESEE countries. Last but not least, they also benefited from private-public coordination under the aegis of international financial institutions (e.g. through the European Bank Coordination ("Vienna") Initiative), which helped restore public trust and alleviate confidence concerns.

<sup>22</sup> For further details, see HNB (2009b).

### Capital Flows During the Crisis Years 2008–09

Croatia's pre-crisis growth model was largely based on domestic demand and financed by large-scale capital inflows. These inflows were driven by both pull factors (e.g. privatization, financial liberalization, favorable economic prospects) and push factors (e.g. low global interest rates). According to a new HNB paper, the monetary policy conduct of the Croatian central bank also contributed indirectly to additional capital inflows.<sup>1</sup> While these capital inflows helped finance the country's convergence and catching-up process, they also entailed widening external imbalances, which were easy to finance as long as favorable global liquidity conditions prevailed. The general setting changed considerably with the outbreak of the global financial crisis, though. In fact, the limited availability and increasing cost of capital did not only take a toll on real economic activity, but also exposed Croatia's substantial refinancing needs.

Against this background, this box aims to provide a comprehensive picture by analyzing capital flows based on balance of payments data, external debt and BIS statistics (i.e. claims and liabilities of BIS reporting banks).<sup>2</sup> These different sources provided largely consistent data.

Croatia has been affected by the global financial crisis *inter alia* through the tightening of global credit conditions, resulting in a slowdown in (or the temporary reversal of) capital inflows.

First, according to balance of payments data, total net capital inflows dropped considerably until and including the third quarter of 2008, when they even turned negative, but picked up considerably in the final quarter of the year. This was not an unusual development but rather one that followed seasonal developments, as, in general, huge tourism-related current account surpluses in the third quarter of a year imply less need for external financing. Hence, developments in 2009 largely mirrored the general pattern of total capital inflows seen in previous years, despite some moderation in volumes (in particular in the first half of 2009). However, the composition of capital flows changed considerably in line with the spillovers of the global crisis and the HNB's monetary policy measures taken in response to these spillovers.

In more detail, developments in the first three quarters of 2008 were largely driven by FDI inflows (which were already decelerating in the face of an increasingly uncertain global environment) and banking inflows (which were also losing momentum following restrictive HNB measures). The picture changed in the final quarter of 2008, when Croatia recorded considerable portfolio investment outflows triggered by the collapse of Lehman Brothers and the subsequent deepening of the global financial market turbulences. At the same time, FDI inflows and other private investment inflows picked up considerably. While the former was due to the public bid of Hungary's oil company MOL for a 31% stake in its Croatian counterpart INA in a deal worth some EUR 1.3 billion, the latter can be attributed to increased banking inflows, which most likely accelerated on the back of parent bank support during the height of the crisis. Other public investment flows remained negligible throughout 2008.

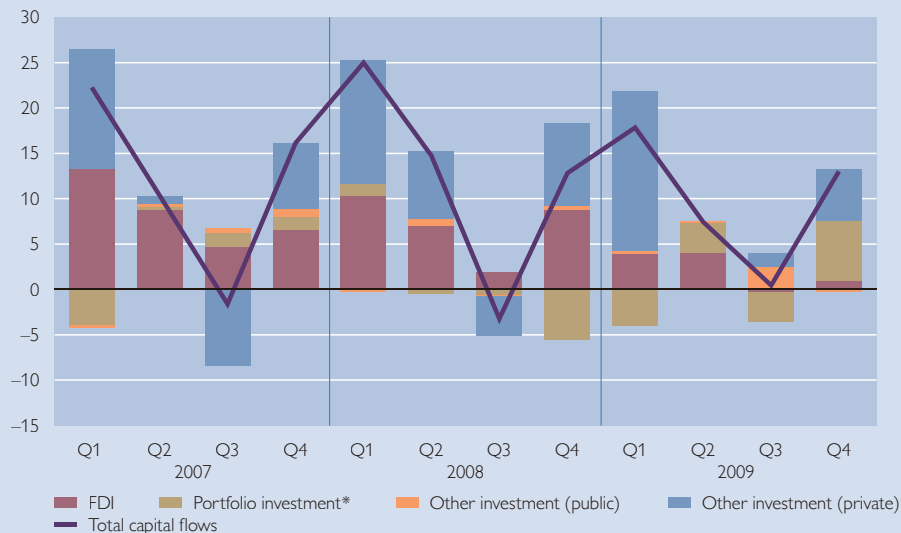
In the first quarter of 2009, portfolio investment outflows continued in a still adverse global environment, but they were by far compensated for by substantial banking inflows, which grew strongly as HNB measures (relaxation of foreign exchange liquidity regulations) allowed banks to repatriate parts of their foreign assets to remedy domestic liquidity pressures. In the second quarter of 2009, portfolio investments turned positive, a development which was largely driven by the government's EUR 750 million Eurobond issue in May; this suggests that private portfolio investment flows remained negative also in the second quarter of 2009. Among the most striking developments in the third quarter of 2009 was, on the one hand, the relatively strong increase in other public investment inflows, which was driven by Croatia accepting the IMF's general and special SDR allocation (amounting to EUR 330 million), and,

<sup>1</sup> For further details, see Ljubaj, Martinis and Mrkalj (2010).

<sup>2</sup> When analyzing capital flows it is important to differentiate between flows (balance-of-payments data) and changes in stocks (external debt statistics and BIS data on claims and liabilities of BIS reporting banks), as the latter also comprise exchange rate effects, reclassifications and other adjustments, as well as revaluation adjustments (e.g. write-offs of loans, price changes of securities).

## Capital Flows

Net flows in % of GDP based on BOP data



Source: IFS.

\*Including financial derivatives.

on the other hand, the negative net FDI flows, which were a result of relatively large FDI outflows related to equity investments of INA in oil exploration in Syria and round-tripping transactions<sup>3</sup> related to the takeover of a Croatian company by a foreign owner. At the same time, portfolio investment outflows turned again negative following the repayment of a EUR 450 million bond by Zagrebacka banka.

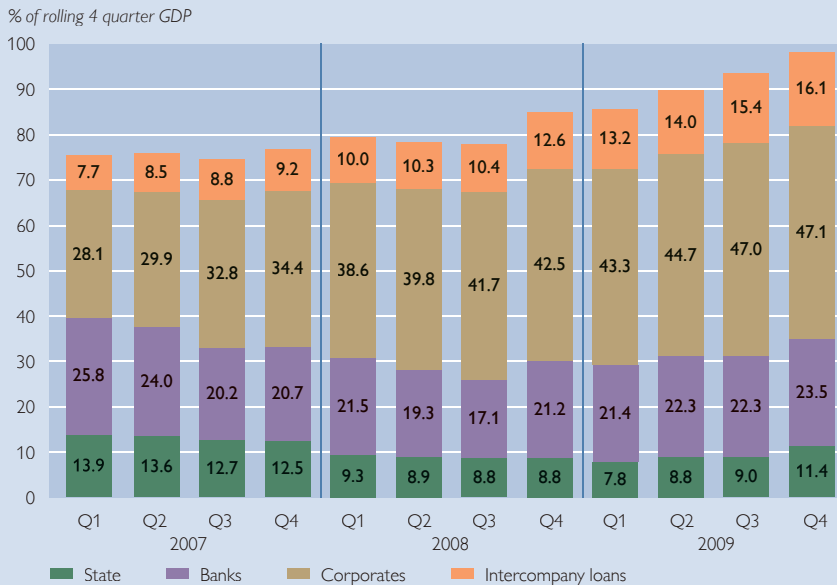
The final quarter of 2009 brought about another substantial pick-up in portfolio investment inflows, which was largely driven by the government's EUR 1.1 billion Eurobond issue in financial markets. FDI inflows turned again positive in the final quarter of 2009, but remained rather moderate in comparison to developments seen in 2007 or 2008.

Second, external debt statistics show that Croatia's gross external debt continued to increase over the last two years. In 2008, gross foreign debt increased from 76% of GDP to 85% of GDP. In particular during the first three quarters of 2008, the corporate sector heavily borrowed from abroad, thereby circumventing HNB credit restrictions on domestic lending. However, nonfinancial corporations' foreign borrowing slowed markedly in the final quarter of 2008, when direct access to foreign funding became more limited and costly. By contrast, in the context of HNB restrictions, banks gradually reduced their foreign liabilities over the first three quarters of 2008, but markedly stepped up foreign borrowing in the final quarter of 2008 to compensate for the decrease in domestic funding sources (partly related to temporary deposit withdrawals). Similarly, intercompany loans picked up in the last quarter of 2008 (partly to be explained by round-tripping transactions) while public foreign debt levels decreased in the first half of 2008 and stabilized at 8.8% of GDP in the second half of the year.

Croatia's gross foreign debt levels increased further by some 13 percentage points in 2009, reaching some 98% of GDP at year-end. Besides the strong fall in GDP in 2009 (which explains an increase in total external debt of some 4 percentage points), this can largely be attributed to resuming foreign borrowing of the corporate sector starting from the second quarter of 2009, when global liquidity pressures subsided in the wake of considerable monetary easing in industrial countries, inter- and supranational coordinated support measures and

<sup>3</sup> For further details, see issue No. 154 of HNB (2009e).

### External Debt Structure by Debtors

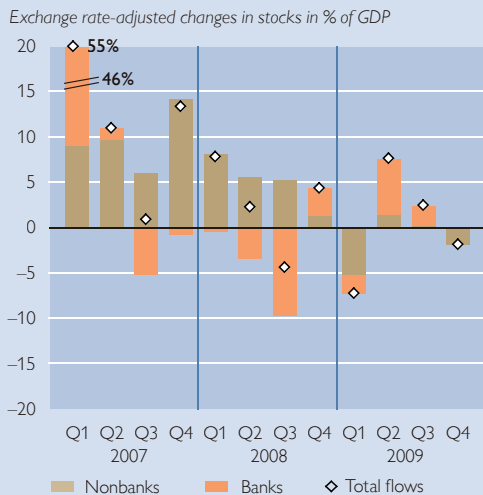


Source: HNB, OeNB.

investors' normalizing risk appetite. Similarly, foreign debt related to intercompany loans increased considerably over 2009, suggesting that parent companies continued to provide financing to their subsidiaries during the crisis (even when adjusted for round-tripping). Moreover, in an improving global environment the public sector also contributed to an increase in foreign debt. Banks' foreign indebtedness increased, however, more moderately in 2009, given sluggish domestic credit demand and thus less need to secure external funding.

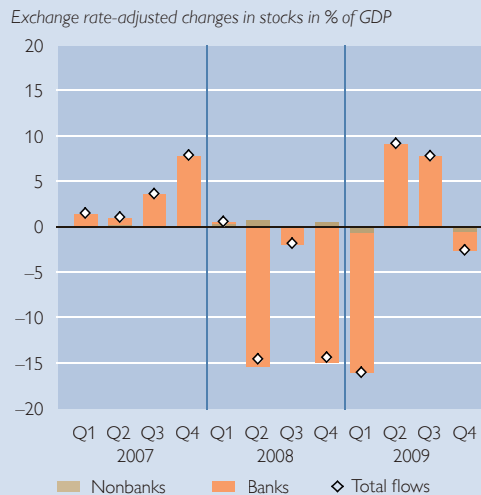
Third, according to BIS data, changes in the claims of BIS reporting banks show that total capital inflows to Croatia started to decelerate from the first quarter of 2008 and even turned negative in the third quarter of 2008, a development which was largely driven by banking

### Claims of BIS Reporting Banks



Source: BIS, OeNB.

### Liabilities of BIS Reporting Banks



flows and was in line with the aforementioned HNB measures and seasonal factors. In the final quarter of 2008, however, banking inflows accelerated again, implying that foreign bank presence may have provided some shelter during times of heightened global liquidity pressures (see also Mihaljek, 2009). The claims of BIS reporting banks vis-à-vis Croatian nonbanks (albeit gradually decelerating toward year-end) increased over the whole year 2008. However, over the first quarter of 2009, BIS reporting banks reduced their positions vis-à-vis all sectors in Croatia, most likely responding to liquidity pressures in home markets. Although capital flows rebounded in the second quarter of 2009, they remained at rather moderate levels thereafter, given subdued credit demand due to unfavorable economic conditions.

The liabilities of BIS reporting banks vis-à-vis Croatia decreased strongly in the second and last quarters of 2008 as well as the first quarter of 2009, an indication that in particular at the turn of 2008–09, tight global liquidity conditions and limited access to foreign funding induced Croatian banks to repatriate parts of their foreign assets. This was supported or driven by HNB measures, as the relaxation of minimum reserve requirements and the easing of foreign currency liquidity regulations (with the aim of alleviating the government's financing needs) facilitated banks' recourse to foreign assets. With the stabilization of global financial markets and waning liquidity pressures from the second quarter of 2009, Croatian banks again started to rebuild foreign assets.

Overall, the global crisis seems to have had a rather limited impact on the general pattern of capital flows to Croatia, which was largely in line with previously observed (partly seasonally-determined) developments, although the crisis did change the composition of capital flows. Accordingly, Croatia did not experience a major meltdown in cross-border capital flows during 2008 and 2009, as parent banks and corporations cushioned large-scale reversals of capital flows, while corrective central bank action (aimed at liquidity easing by relaxing regulatory requirements) largely helped offset the crisis-related slowdown (or temporary reversal in certain sub-segments) of capital inflows.

## 4 Nonbank Financial Institutions and Financial Markets

Similar to the financial system of other CESEE countries, Croatia's financial system is dominated by banks, which continue to represent the main channel for financial intermediation. After rapidly gaining ground in the early and mid-2000s, nonbank financial intermediation lost again in relative importance during the crisis years 2008 and 2009, making up for some 23.4% of total financial sector assets at end-2009, down from 26.2% in 2007. Developments within individual market segments were heterogeneous though. While investment funds have suffered substantial losses in market share, insurance and leasing companies as well as compulsory pension funds strengthened their market positions. Despite continued positive developments in many market segments, nonbank financial intermediation in Croatia still holds further catch-up potential, in particular when taking the EU as a long-run convergence benchmark. The pace of catching-up will largely depend on the speed of economic recovery, the magnitude of debt restructuring in individual economic sectors as well as foreign investors' risk appetite in the wake of the global crisis and Croatia's ongoing EU integration process.

### 4.1 Nonbank Financial Institutions

Following several years of rapid expansion, developments in Croatia's nonbank financial sector took a hit in 2008 and 2009 in the face of less favorable global economic and financial developments. Thus, the nonbank financial sector lost some market share to the banking sector over the last two years in terms of total

financial sector assets (see table 13). Adverse movements in global and local stock markets in 2008 and the first quarter of 2009 entailed substantial asset losses in particular at open-end (but also closed-end) investment funds, which had a fairly strong bias toward equity investments before the crisis. In fact, in 2007, around 50% of open-end investment funds' total assets consisted of equity funds and an additional 30% of balanced funds (which contain a more or less large equity part). Thus, driven by the global stock market slump following the demise of Lehman Brothers, their share in total financial sector assets has contracted by more than two-thirds since 2007. By contrast, (compulsory) pension funds' assets continued to grow buoyantly, as they are invested to a large extent (some 75%) in less risky domestic and foreign government bonds. Similarly, insurance companies' assets rose further, with the life segment outperforming the nonlife segment, where in line with the economic downturn in particular the demand for insurance of land motor vehicles, insurance of goods in transit and credit insurance had fallen considerably. Leasing companies also gained some ground over the last two years, driven mainly by strong growth in finance leasing (machines and equipment, real estate). Given the relatively limited size of the sector (at some 33% of GDP at end-2009) in comparison with the banking system, the risks related to the nonbank financial sector seem rather limited at present and are unlikely to erode financial system stability. However, some segments' strong dependence on stock market developments (suggesting higher risks in case of further adverse shocks) and the potential for regulatory arbitrage by (parent) banks (which very often also own nonbank financial intermediaries) are calling for a cautious policy stance and close cooperation between the HNB, which is in charge of banking supervision, and the Croatian Financial Services Supervisory Agency (HANFA), which supervises nonbank financial institutions.

Table 13

### Financial Sector Structure

	2003	2004	2005	2006	2007	2008	2009
<i>Share in total financial sector assets in %</i>							
Banks, nonconsolidated assets (net) <sup>1</sup>	84.0	81.7	79.0	76.6	73.8	77.7	76.6
Open-end investment funds, net assets	1.2	1.6	2.7	4.0	6.4	2.1	2.4
Closed-end investment funds, net assets	0.4	0.4	1.1	1.4	1.6	0.4	0.4
War Veterans Fund <sup>2</sup>	..	..	..	..	..	0.5	0.4
Insurance companies	5.2	5.1	5.0	4.9	5.2	5.6	5.8
Housing savings banks, nonconsolidated assets (net) <sup>1</sup>	1.4	1.9	1.9	1.6	1.4	1.5	1.4
Compulsory pension funds, net assets	1.9	2.8	3.6	4.0	4.5	4.7	5.9
Voluntary pension funds, net assets	0.0	0.0	0.1	0.1	0.2	0.2	0.3
Savings and loan cooperatives <sup>3</sup>	0.6	0.5	0.5	0.5	0.4	..	..
Savings banks	..	..	..	..	..	0.0	0.0
Leasing companies	5.2	5.9	6.2	6.8	6.5	7.3	6.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: HNB, HANFA and Ministry of Finance of the Republic of Croatia.

<sup>1</sup> Supervisory data (figures may differ from monetary statistics because of consolidation).

<sup>2</sup> War Veterans Fund members have been able to withdraw their shares from the fund freely since April 14, 2008. This fund is therefore excluded from closed-end funds.

<sup>3</sup> These intermediaries are in the process of liquidation and were required to transform into banks or credit unions. Latest available data refer to June 2007.

## 4.2 Bond Market Developments

The dynamic development of Croatia's domestic bond market from 2004 to 2007 took a hit in the wake of the global financial crisis, as issuing activity nearly came to a halt in 2008 and 2009 (see chart 3). Sluggish issuing activity coupled with the repayment of maturing bonds and early repayments led to a marked decrease in bond market capitalization both in absolute and relative terms compared to pre-crisis levels (see chart 4). The share of corporate bonds in total bond market capitalization remained fairly low at some 11%.

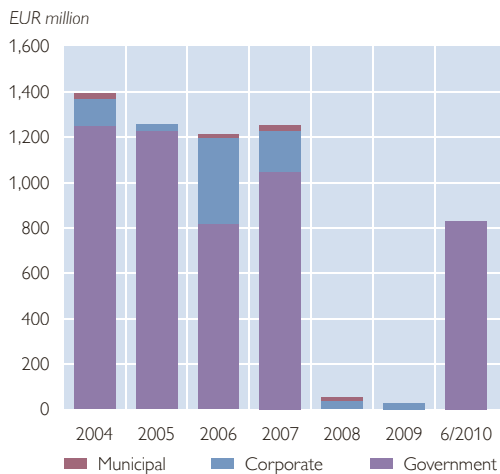
In more detail, the government, which used to borrow heavily via the domestic bond market in order to substitute for foreign borrowing and to avoid further increases in the country's external debt levels, did not tap domestic bond markets over the last two years, but rather opted for refinancing via the domestic banking

sector (syndicated loans) and international financial markets (see section 2). Similarly, against the background of a rather small number of issues in 2008 and 2009 (four altogether) the total volume of corporate bond issues decreased markedly, driven on the one hand by lower demand for financing in a weak economic environment, but on the other hand also by increased funding costs given higher risk premiums. This is in contrast to the years before when corporations had become increasingly interested in tapping the domestic bond market, inter alia to counter restrictive HNB measures, which limited the availability of bank credit.

In this context, it is important to note that no government, corporate or municipal bonds were listed in the domestic market for a year, i.e. from the final quarter of 2008 to the third quarter of 2009, and that issuing activity started to resume only from the final quarter of 2009 on, with two smaller corporate bond issues. In the first quarter of 2010, issuing activity seemed to have gained further momentum, with the government tapping domestic bond markets with a kuna-denominated bond issue amounting to HRK 3.5 billion (some EUR 480 million) and a euro-denominated issue worth EUR 350 million. Looking forward, Croatia's ongoing EU integration process (with prospective EU accession – depending

Chart 3

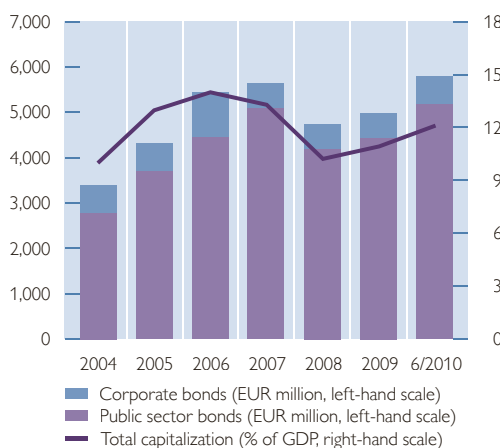
### Bond Issues in the Domestic Market



Source: Zagreb Stock Exchange.

Chart 4

### Bond Market Capitalization

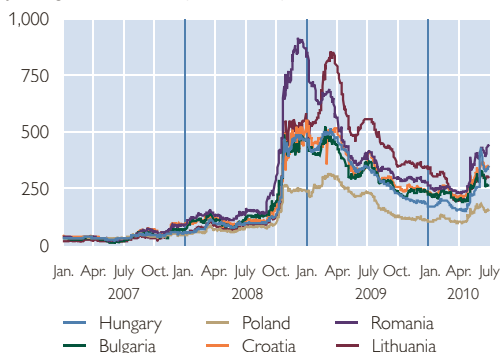


Source: Zagreb Stock Exchange.

Chart 5

### Eurobond Yield Spread Developments

JP Morgan Euro-EMBIG spreads, basis points

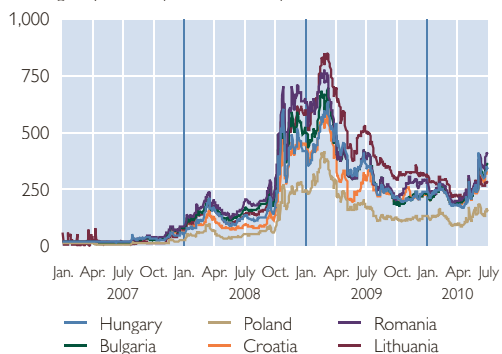


Source: Bloomberg.

Chart 6

### Credit Default Swap Developments

Sovereign 5-year CDS premiums, basis points



Source: Datastream.

also on the length of the ratification process in all the EU Member States – in 2012 or 2013),<sup>23</sup> the related prospect of upcoming rating upgrades coupled with higher interest on the part of foreign investors in the domestic bond market, improving economic fundamentals, municipalities' need to co-finance EU-funded projects, the government's budgetary financing needs and the increasing role of institutional investors (e.g. pension funds) are all factors which are expected to underpin the growth potential of the domestic bond market.

Turning to international bond markets, starting from historically low levels, Croatia's long-term government bond yield spreads versus the euro area picked up substantially in the aftermath of the collapse of Lehman Brothers, in line with developments seen in many of Croatia's CESEE peers (see chart 5). Likewise, risk premiums (measured in terms of sovereign 5-year credit default swap spreads) increased markedly during the height of the crisis at the turn of 2008–09, but by March 2010 had come down considerably, while still remaining twice as high as before Lehman's bankruptcy (see chart 6). As global financial market conditions improved from the second quarter of 2009 and

bond yield spreads and risk premiums decreased, the government tapped international financial markets with one euro-denominated and one U.S. dollar-denominated bond issue in May and November 2009, respectively. In line with global developments, in the second quarter of 2010, risk premiums and bond yield spreads picked up again on increasing global sovereign default risk concerns, which led the government to postpone a planned international bond issue to the second half of 2010.

### 4.3 Stock Market Developments

After the stock market rally in 2006 and 2007, when Croatia belonged to the best performers worldwide, Croatian stock markets took a severe hit in 2008, in particular in the aftermath of the collapse of Lehman Brothers. Croatia's main stock index CROBEX fell by 67% in 2008 on the back of investors' sharply increasing risk aversion and continued to do so in the first quarter of 2009 as

<sup>23</sup> By the end of June 2010, Croatia had opened all 35 EU negotiation chapters and provisionally closed 20 of them.

recession fears took hold and profit expectations deteriorated, when the CROBEX bottomed out at 1,263 points (75% below end-2007 levels) in early March. However, the subsequent improvement in global investor sentiment brought about the stabilization and then some recovery of Croatian stock markets in the remainder of 2009. Nevertheless, at year-end 2009, the CROBEX was still some 60% down on its end-2007 level. Due to falling equity prices, stock market capitalization (which at 112% of GDP was roughly at par with Croatia's bank intermediation levels in 2007) fell markedly over the crisis years, reaching some 40% of GDP at year-end 2009 (see table 14). Given uncertainties regarding the magnitude of the impact of the global crisis on the real economy, falling stock market capitalization went in tandem with strongly decreasing market turnover and liquidity. Driven by a rather favorable global environment, stock market indicators improved further in the first quarter of 2010, but the second quarter saw a correction against the background of resurfacing global risk aversion, which pushed Croatia's leading stock market index some 7.5% below its year-end 2009 level.

2009 also entailed some regulatory and structural changes on the Zagreb Stock Exchange. The new Capital Market Act came into force on January 1, 2009, aiming to increase market transparency and to align Croatian legislation more closely with EU standards. Also, in July 2009, a Multilateral Trading Platform (MTP) was created, which complements trading in the official and regulated markets, and led to a considerable drop in the number of listed shares. Finally, a new equity index was introduced in September 2009, the CROBEX 10, which comprises 10 blue chip companies with the largest market capitalization and turnover.

Given Croatian households' relatively elevated indebtedness and more muted income prospects, as well as corporations' frequent recourse to alternative forms of financing (e.g. bank finance, direct external borrowing), no major local stimuli can be identified for the Croatian stock market for the time being. Consequently, in the short run, equity market developments will largely be shaped by sentiment swings in global markets. However, improving macroeconomic conditions, reaccelerating structural reforms (including privatization) and resuming foreign (equity) capital inflows encouraged by Croatia's ongoing EU integration process offer a rather favorable medium-term outlook.

Table 14

### Stock Market Indicators

	2003	2004	2005	2006	2007	2008	2009	6/2010 <sup>2</sup>
Crobex stock market index	1,185	1,566	1,998	3,210	5,239	1,722	2,004	1,855
Number of listed shares	175	183	194	202	383	377	280	268
Market capitalization (EUR million) <sup>1</sup>	4,856	8,048	10,945	22,014	48,086	19,396	18,557	17,316
Market capitalization (% of GDP) <sup>1</sup>	16.4	25.1	30.5	56.5	112.1	41.5	40.6	35.9
Regular turnover (EUR million) <sup>1</sup>	198	349	639	1,428	2,999	2,331	1,013	372
Regular turnover (% of GDP) <sup>1</sup>	0.7	1.1	1.8	3.7	7.0	4.9	2.2	1.6

Source: Zagreb Stock Exchange.

<sup>1</sup> Equities.

<sup>2</sup> Figures expressed as a percentage of GDP are based on AMECO 2010 GDP forecast.

## 5 Concluding Remarks

The previous macrofinancial stability assessment on Croatia (Gardó, 2008) identified 1) a rapid pace of financial deepening based on strong growth of credit to the private sector, 2) a widespread use of foreign currency-denominated or –indexed loans and the existence of related indirect credit risk, 3) high and rising external imbalances and 4) upward inflationary pressures as the main risk factors to financial stability in Croatia.

The international environment has changed considerably since then, as the deepest financial and economic crisis for decades hit the global economy in 2008 and 2009. Against this background, the global crisis put the resilience of Croatia's economic and financial system to a severe test, which the country has mastered for the time being, and to some extent also altered the country's risk profile. In fact, the crisis itself and the adjustment measures implemented by the authorities to cope with the spillovers of the global crisis reduced some of the existing risks, whereas other risks were intensified by or materialized during the crisis.

In more detail, Croatia was hard hit by the global economic and financial crisis especially in 2009, when the economy slid into its deepest recession since early transition. The current account improved considerably during the crisis but the country's external position remains an important source of vulnerability, given high (and in 2008 and 2009 further increasing) external debt levels and substantial roll-over needs, with the spillovers of the global financial crisis also revealing temporary financing strains in early 2009. Yet, in contrast to other countries in the CESEE region, Croatia managed to weather the global financial turbulences without recourse to international support. Still, the country may have benefited from the positive spillover effects of international support measures in other CESEE countries as well as the stabilization and recovery of global financial markets starting from March 2009. Nevertheless, Croatia's major macrofinancial challenges relate first and foremost to alleviating the country's external vulnerabilities, in particular on the financing side. In this context, it is crucial to prevent a further deterioration in Croatia's external debt position. This is a challenging task given corporations' increasing reliance on direct foreign borrowing and Croatia's obligation to fully liberalize capital flows in accordance with the *acquis communautaire*.<sup>24</sup>

As in other CESEE countries, inflationary concerns quickly became a non-issue in Croatia in the context of the global crisis, which gave the HNB the leeway to focus on other and partly newly-emerging priorities. In fact, the HNB successfully managed to preserve financial and exchange rate stability during the turbulent times by employing a wide set of measures, ranging from verbal interventions and standard monetary policy measures (mainly related to regulations on reserve and

<sup>24</sup> According to Croatia's Stabilization and Association Agreement (SAA) with the EU, from the fourth year after the SAA's entry into force (i.e. by February 1, 2009), Croatia has to ensure free movement of capital relating to portfolio investment and financial loans and credits with maturities of less than one year. However, in line with the SAA provisions and due to exceptional circumstances (i.e. in order to facilitate coping with the spillovers of the global economic and financial crisis), Croatia agreed with the European Commission on an extension of the deadline. Accordingly, the liberalization of short-term loans to nonresidents with maturities from 3 months to 1 year was postponed until January 1, 2010, while short-term loans with maturities of up to 3 months shall be liberalized as of July 1, 2010. Now, as these provisions have entered into force, the only restriction in place is related to deposit transactions of residents abroad, which – under Article 78 of the Foreign Exchange Law – will be liberalized as of January 1, 2011.

liquidity requirements) to outright foreign exchange market operations. However, the HNB's limited room for maneuver against the background of the tightly managed float and the still high external imbalances highlights the continued need for fiscal prudence with a view to lasting macrofinancial stabilization. In fact, in light of deteriorating public finances, fiscal reform and consolidation are imperative, all the more so as public finances are still burdened with subsidies for various industries (e.g. shipping), high health and pension commitments as well as substantial quasi-fiscal expenditure. Therefore, ensuring lasting fiscal consolidation, mainly through spending restraint, remains an important challenge.

Croatia's largely bank-based financial system remained stable and profitable over the last two years, despite less favorable financial and economic conditions and temporary confidence problems (as was the case in some other CESEE countries). Although financial deepening largely came to a halt during the financial crisis, the Croatian banking system is relatively advanced in a CESEE context, both as regards the degree of financial intermediation and the institutional setting. In the wake of the global financial crisis, credit growth decelerated sharply, driven by both supply- and demand-side factors. Consequently, the HNB's fight against overly high credit growth based on banks' foreign borrowing paled in comparison to previous years' priorities. Still, the management of credit risk remains the most important financial stability challenge for Croatia's banking sector. In fact, like in other CESEE countries and advanced economies, households and corporations in Croatia have increasingly encountered problems in servicing their debt burden (which ranks among the highest in the CESEE region) in the face of weak economic conditions. Credit risk is additionally compounded by the dominant role of foreign currency positions, which – in a worst-case scenario of a substantial depreciation of the domestic currency – would imply substantial foreign exchange risks for unhedged borrowers. Banks' exposure to market risks seems to be subdued; by shifting foreign exchange and interest rate risk to clients, banks to a large extent transformed market risk into credit risk. Again, this reinforces the need for carefully monitoring credit risk.

At the same time, it is also important to stress the banking system's shock-absorbing capacity. Up to now, the sector's still fairly high profitability, its strong capitalization and the strategically-oriented presence of foreign banks have helped absorb losses stemming from credit risk. Moreover, banks' good liquidity positions before the crisis, which gave the central bank enough room for maneuver to carry out liquidity-easing operations during the turbulent times, also allowed banks to weather the global liquidity pressures. Banks' sizeable net foreign liabilities continue to represent a potential vulnerability factor, though, and require cautious monitoring, even if the main external financing source of the Croatian banking sector are parent banks, which have shown a strong commitment to the CESEE region and have proven their readiness to support their CESEE subsidiaries in times of crisis.

The HNB's main challenge continues to be safeguarding both financial and monetary stability in a still uncertain global economic and financial environment, while also contributing to economic recovery. How successful this will be hinges not only on external factors, such as the short- to medium-term global economic prospects and the financial position of parent banks, but also on local determinants like the magnitude and speed of debt restructuring by different economic sectors,

the pace of banks' resolution of the nonperforming loan problem and their willingness to re-ignite lending activity as well as the degree of support provided by other policy areas.

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