The Croatian Banking System

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This paper provides an analysis of the stability of the Croatian banking sector. After the banking crisis of 1998, the Croatian banking system underwent a deep transformation process; foreign investors gained a dominating market share of more than 90% of total assets, with Austrian banks holding 43% thereof. Compared to other Central and Eastern European countries (CEECs), the degree of banking intermediation is relatively high in Croatia. In recent years, lending to the private sector and in particular to households has risen whereas lending to the general government has declined. Foreign currencies continue to play an important role in the Croatian banking sector, in particular on the liabilities side of banks' balance sheets. While maintaining a large negative net foreign currency position on their balance sheets (with an increasing portion of net liabilities to nonresidents), Croatian banks' overall net foreign currency position seems to be marginally positive. Still, foreign currency(-indexed) lending represents a credit risk as it entails an indirect exchange rate risk. Asset quality, by contrast, has improved significantly over the past five years, the capital adequacy ratio is on a relatively high – albeit declining – level, and real return on equity (ROE) is now as high as the profitability levels observed in other CEECs.

1 Introduction

This study gives a comprehensive overview of the Croatian banking sector with a special focus on banking sector stability. For this purpose, the authors analyze the current structure of, and recent developments in, the banking sector with a view to the risks involved (e.g. direct and indirect exchange rate risk, credit risk and liquidity risk) as well as to the sustainability of these developments. Moreover, the paper analyzes banking sector profitability. After a brief review of the turbulent history of the Croatian banking sector, this study also presents the sector's current main features (ownership structure, market concentration, interest rate spread). The in-depth analysis of the structure of assets and liabilities is followed by an investigation of the role of foreign exchange in the Croatian banking sector. After that, the authors explore the development of asset quality, capital adequacy and profitability. A special section devoted to the role of Austrian banks in Croatia concludes this study.

2 A Brief History of the Croatian Banking System

Unlike in other CEECs, a two-tier banking system was already established in Croatia at the beginning of the transition process from socialism to capitalism, but the banking system had to be revamped and market-based banking practices had to be introduced.

In 1990, 26 banks were operating in the country. In accordance with the Yugoslav variant of socialism, state-owned enterprises owned the banks, and when these enterprises were privatized, banks were transferred into private ownership as a side effect. As a result, banks majority-owned by private investors held almost 60% of total banking sector assets as early as in 1997 even though there had been no bank privatizations in the narrower sense.

Owing to very liberal bank licensing regulations with low minimum equity capital requirements and given the relatively liberal supervision framework, the number of banks grew substantially during the 1990s and reached 60 by 1997. However,

Refereed by
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[1] *The authors would like to thank Peter Breyer for his valuable comments on this paper. This study represents a follow-up on a paper prepared by Stephan Barisitz (OeNB) in 2000. It constitutes the final part of a series of studies on the banking sectors of the EU candidate countries (see also the analyses of the Bulgarian and Romanian financial sectors presented in the previous two issues of the OeNB's Financial Stability Report).*

the overall level of concentration in the Croatian banking sector was high: in 1995, the four largest banks had a market share in total assets of almost 70%. The Herfindahl-Hirschman index[2] (1995: 1597) also suggested a rather concentrated marketplace.

During the 1990s, the banking system was confronted with several inherited problems that had to be solved, among them the issue of households' foreign currency savings which had been redeposited with the National Bank of Yugoslavia. When the latter seized all foreign exchange reserves after the dissolution of Yugoslavia, the Croatian government assumed responsibility for these bank claims. Since its foreign exchange reserves were not sufficient, the government issued German mark-indexed bonds to the banks in late 1991 to prop up their assets as a countervalue of the foreign exchange deposits. At the same time, households' foreign exchange deposits were frozen by the government for a period of three years in order to ease the liquidity pressure on banks, to be gradually unfrozen at a minimum rate of 20 semiannual instalments. By end-2004, these deposits had been paid back almost completely.

Debt owed by insolvent large state-owned enterprises represented another inherited problem. To remedy the situation, the government issued so called "big bonds" in 1991–92, which enterprises used to repay the nominal value of their overdue obligations to banks. These bonds had a maturity of 20 years and were indexed to the producer price index (PPI), but paid no interest and were not tradable; thus, they did not provide banks with fresh liquidity.

Both solutions helped ease banks' solvency strains (at the combined cost of around 23% of annual GDP), but they failed to address several key issues, among them the counterproductive cross-ownership structures which had been institutionalized by the early indirect bank "privatizations," the weak capital base of many newly established banks or the fact that many banks were set up by nonfinancial corporations for the sole purpose of collecting cheap deposits. Bad management, inaccurate credit risk monitoring and cost inefficiency also ranked high in the list of deficiencies.

Given the problems of the country's four largest banks, interbank interest rates were persistently high during the first half of the 1990s; combined with the assumption that these four banks would be prevented from going bankrupt, the high interest rates rendered interbank lending a prosperous business. However, interbank rates came down sharply soon after liquidity was injected into three of the four banks and their assets and liabilities were cleaned in 1995–96 in the course of a bank rehabilitation program (at combined costs of around 6% of annual GDP).

The decline of interbank rates combined with strong economic growth, a stable exchange rate, a low inflation rate and strong capital inflows resulting from the repatriation of foreign currency assets forced banks to expand their business with nonbank cus-

[2] *The Herfindahl-Hirschman index is calculated as the sum of the squared market shares (in percentage points) of individual banks. It can take values between near zero and 10,000, with values below 1,000 suggesting nonconcentration, values between 1,000 and 1,800 indicating moderate concentration and values above 1,800 suggesting a highly concentrated market.*

tomers. During the ensuing credit boom, banks' risk management was often weak, their credit processes were poorly controlled – related-party lending and single-client exposure were common practices – loan loss provisioning was inadequate and the competition for deposits was often irresponsible. Bank failures began to occur when loans were not repaid in time as the economic growth slowed down because of tightened fiscal and monetary policies, which were implemented in 1998 in response to a sharp deterioration in the external balances. The difficulties were exacerbated by adverse external factors (e.g. the Asian financial crisis in 1997, the Russian crisis in 1998 and the Kosovo war) and peaked in a banking crisis in 1998–99, which affected 16 banks; 12 of these banks exited the market, 2 were merged with other banks and only 2 were rehabilitated. As a result of this consolidation process and several bank mergers, the number of banks declined from 60 by end-1998 to 43 by end-2000.

Table 1

Banking Institutions in Croatia

	1997	1998	1999	2000	2001	2002	2003	end-Sept. 2004
Number of banks	60	60	53	43	43	46	41	39
Share of private banks in total assets in %	58.1	56.9	54.4	94.3	95.0	96.0	96.6	96.6
Share of foreign banks in total assets in %	4.0	6.7	39.9	84.1	89.3	90.2	91.0	91.0
Number of employees	18,084	17,318	16,858	16,193	16,051	17,126	17,086	. .

Source: Hrvatska Narodna Banka.

One major outcome of the crisis was the government's decision to sell the remaining state-owned banks to foreign strategic investors who had been deterred from entering the Croatian market by the military conflicts in the region in the early 1990s; the first foreign bank entered Croatia in 1994, i.e. before the Dayton Accord in 1995, and several others followed suit after the peace agreement. In 1998, there were still no more than ten foreign-owned banks operating in Croatia with a share of 6.7% in total banking sector assets. The situation tipped in late 1999 and early 2000 when the government stepped up its privatization efforts, selling the country's second-, third- and fourth-largest banks (as measured by total assets) to foreign strategic investors and placing the majority of shares in the largest bank with foreign investors through the London Stock Exchange. This step and the sale of smaller banks to foreign investors as well as the establishment of new banks by foreigners led to an increase in the number of foreign-owned banks to 24; by 2001, they accounted for 89.3% of total bank assets. By September 2004, their number was reduced to 17 as a result of several mergers, but their share in total banking sector assets had increased to 91%.

3 Structure of the Croatian Banking System

By end-September 2004, 39 banks operated in Croatia, with privately-owned banks accounting for approximately 97% of total banking sector assets and the share of banks majority-owned by foreign investors amounting to 91% (one of the highest shares in the region). Italian and Austrian banks are among the largest foreign investors in the Croatian banking industry.

Banking sector concentration was reduced between 1995 and 1997; however, the four largest banks (Zagrebacka Banka, Privredna Banka, Erste & Steiermärkische Bank and Raiffeisenbank Austria) managed to strengthen their position again after the banking crisis of 1998–99. They accounted for 64.3% of total assets by end-September 2004, up from 53.1% by end-1997. As a result of this high concentration, the soundness of the largest systemic banks has an enormous impact on the overall stability of the banking system. However, risks are mitigated by foreign strategic ownership.

The Herfindahl-Hirschman index of banking sector assets shows a decrease in concentration until 1997, thus substantiating the concentration ratios measured on the basis of the four largest banks' asset shares. The index figure increased between 1998 and 2000 as a result of the bank mergers, before falling back to 1,237 in 2002 and rising again to 1,358 by end-September 2004.

Table 2

Concentration and Competition

	1997	1998	1999	2000	2001	2002	2003	end-Sept. 2004
Market share of the two largest banks in total assets in %	40.3	40.5	43.6	48.1	46.3	44.1	42.7	44.1
Market share of the four largest banks in total assets in %	53.1	53.3	58.1	62.0	60.0	58.6	61.6	64.3
Herfindahl-Hirschman Index	1,016	1,018	1,190	1,368	1,315	1,237	1,270	1,358
Interest rate spread (rate on loans less rate on total deposits)	9.7	12.0	9.3	7.1	6.8	9.4	9.8	9.6

Source: Hrvatska Narodna Banka, OeNB calculations.

The development of the interest rate margin (i.e. the difference between the interest rates on loans to enterprises and households and those on their deposits) also serves as an indicator of the development of competition. Before the banking crisis of 1998–99, this margin was at a double digit level (except in 1997). It declined until the end of 2001 following a decrease in the interest rate level. Changes in the computation method as from January 2002 led to a jump in the credit rate and consequently also in the interest rate margin. The 2003 rise in the interest rate margin probably reflects the tightening of monetary policy of early 2003, which prompted banks to raise credit rates while maintaining low deposit rates.

4 Structure of Banks' Assets and Liabilities

By end-2004, the level of financial intermediation (as measured by total banking sector[3] assets in percent of GDP) stood at 110.8%, which is significantly higher than in the eight new EU Member States in CEE (75% on average). Following a sharp contraction caused by the asymmetric impact of hyperinflation on banks' assets and on GDP from 121% of GDP in 1993 to 62.5% of GDP in

[3] *In this paper, the banking sector is defined as "other monetary financial institutions" (i.e. excluding the central bank). Total banking sector assets also comprise claims of the banking sector (i.e. excluding the central bank) on domestic monetary financial institutions including the central bank, whereas total banking sector liabilities comprise, inter alia, liabilities of the banking sector (i.e. excluding the central bank) to domestic monetary financial institutions including the central bank.*

1994, the level of financial intermediation stagnated at 60–70% of GDP between 1994 and 1999. After the banking crisis and the privatization of the largest banks, the level of financial intermediation gradually went up again.

By end-2004,[4] domestic claims[5] (i.e. loans, securities and repurchase agreements) on the general government, nonmonetary financial institutions, the corporate sector and households accounted for approximately two thirds of total assets, or almost 73% of GDP, with claims on households and nonfinancial corporations being the largest items. Claims on households increased rapidly over the past few years, overtaking claims on nonfinancial corporations, which declined slowly but steadily.

Table 3

Structure of Claims on Domestic Sectors

in HRK million

	1997	1998	1999	2000	2001	2002	2003	2004
Domestic claims on general government	15,548	15,518	17,170	20,230	21,340	23,340	23,107	22,839
of which bonds for blocked foreign exchange deposits	*6,714*	*5,802*	*5,420*	*4,484*	*3,420*	*2,473*	*1,532*	*532*
Domestic claims on nonmonetary financial institutions	247	194	154	162	281	915	762	894
Domestic claims on nonfinancial companies	35,487	41,225	35,244	35,891	42,882	51,723	53,810	58,643
Domestic claims on households	12,796	17,717	19,250	23,298	30,122	43,073	55,001	65,277
Domestic claims, total	64,078	74,655	71,818	79,581	94,625	119,051	132,680	147,653
Domestic claims in % of GDP	51.8	54.3	50.7	52.2	57.1	66.4	68.7	72.5

Source: Hrvatska Narodna Banka, OeNB calculations.

The share of claims on the general government declined from end-2000 onward, which reflects the government's fiscal consolidation efforts as well as the fact that the budget deficit continued to be predominantly financed by nonresidents. The development of government bonds for blocked foreign exchange deposits plays a significant role in this context: During the past decade, the volume of these bonds dropped gradually from 38% of GDP in 1993 to 0.3% of GDP in 2004, whereas the share of claims on the general government excluding these bonds fell less dramatically. The increasing ratio of domestic claims to GDP (from 51.8% by end-1997 to 72.5% by end-2004) and the shift toward lending to the nongovernment sectors over the past few years can be taken as an indicator of increasing financial intermediation to the private sector.

Domestic claims are dominated by loans (87%). With a share of 9.8% of total domestic claims by end-2004, holdings of debt securities have so far played a limited role in the Croatian banking sector. Their weight had been much higher (almost 50%) during the early 1990s given the huge volume of bonds for blocked foreign currency deposits (37% of domestic

[4] *Data expressed as a percentage of GDP for 2004 is related to the sum of quarterly GDP between Q4 2003 and Q3 2004.*

[5] *In this paper, the terms "credit(s)" and "loan(s)" are used synonymously, as opposed to "claims," which comprise credits and/or loans, securities and repurchase agreements.*

claims and 31% of bank assets in 1993). However, the significance of debt securities excluding these special-purpose bonds has also diminished in recent years, thus reflecting, above all, the decline in holdings of central government debt since 2001. Holdings of shares currently play a negligible role for Croatian banks.

Table 4

Structure of Bank Assets

HRK million

	1997	1998	1999	2000	2001	2002	2003	2004
Domestic claims	64,078	74,655	71,818	79,581	94,625	119,051	132,680	147,653
Claims on MFIs (incl. the central bank)	5,046	5,908	9,033	10,658	15,173	20,593	27,215	34,342
Foreign assets	16,186	12,763	12,400	19,710	32,808	25,978	35,383	43,551
Total assets	85,309	93,326	93,251	109,949	142,606	165,622	195,278	225,546
Total assets in % of GDP	68.9	67.8	65.9	72.1	86.1	92.3	101.1	110.8

Source: Hrvatska Narodna Banka, OeNB calculations.

Claims on monetary financial institutions increased from 5.9% of total assets by end-1997 to 15.2% of total assets by end-2004. This rise from 1997 onward was almost exclusively attributable to higher claims on the central bank (i.e. mandatory reserves, cash in vault and holdings of central bank securities) and may be explained by changes in the mandatory reserve requirements.

During the past decade, the share of banks' foreign assets in percent of total assets and GDP fluctuated within a relatively wide range; by end-2004 it amounted to 19.3% of total assets. Since the exchange rate of the Croatian kuna against the euro has been relatively stable, these fluctuations cannot be explained by exchange rate developments alone, even though foreign assets are almost exclusively held in foreign currencies.

On the liabilities side, domestic sectors' deposits accounted for almost 60% of total liabilities by end-2004. This share has declined significantly in recent years concurrent to the increasing weight of foreign liabilities. Households were the major depositors with Croatian banks (66% of total deposits), followed by nonfinancial corporations (25%).

Table 5

Structure of Deposits

in HRK million

	1997	1998	1999	2000	2001	2002	2003	2004
Deposits by general government	7,573	8,017	6,456	7,697	7,016	8,525	7,874	9,414
Deposits by nonmonetary financial institutions	1,111	1,312	1,489	1,894	3,033	3,280	3,021	2,531
Deposits by nonfinancial companies	10,904	10,035	9,490	15,262	20,191	26,548	31,003	33,566
Deposits by households	32,779	39,579	38,600	47,776	72,532	73,794	80,852	88,630
Deposits, total	52,368	58,944	56,034	72,629	102,772	112,146	122,750	134,140

Source: Hrvatska Narodna Banka, OeNB calculations.

In the years under review except 2001, banks maintained a positive total net position (claims less deposits[6]) against domestic sectors (excluding monetary financial institutions). In 2001, this balance turned temporarily negative, as households deposited huge amounts of foreign exchange holdings with Croatian banks before the cash changeover in the euro area at the beginning of 2002. The net position against households has traditionally been negative (albeit to a decreasing extent in recent years), and nonmonetary financial institutions have also been net depositors. Thus, the overall net lender position emanates from Croatian banks' lending to nonfinancial corporations and the general government.

Table 6

Structure of Liabilities

HRK million

	1997	1998	1999	2000	2001	2002	2003	2004
Deposits, total	52,368	58,944	56,034	72,629	102,772	112,146	122,750	134,140
Foreign liabilities	13,807	16,177	17,209	17,810	21,858	35,023	49,932	61,164
Debt securities issued	134	154	437	478	318	216	598	1,163
Restricted deposits	1,199	701	691	854	831	1,361	1,541	2,015
Blocked foreign exchange deposits	4,653	3,495	2,743	1,695	770	319	168	40
Liabilities to MFIs (incl. the central bank)	–159	867	1,188	369	110	188	1,224	904
Capital and reserves	17,027	19,786	21,975	24,953	25,455	26,323	27,390	28,666
Other liabilities (net)	–3,720	–6,797	–7,026	–8,839	–9,508	–9,956	–8,324	–2,546
Total liabilities	85,309	93,326	93,251	109,949	142,606	165,622	195,278	225,546

Source: Hrvatska Narodna Banka, OeNB calculations.

Similar to the volatility of banks' foreign assets, their foreign liabilities as a percentage of total liabilities have also fluctuated within a relatively wide range over the past decade. The share had been relatively stable between 1996 and 2001 before rising by around 10 percentage points to 27.1% of total liabilities by end-2004. This led to a significant deterioration in banks' net foreign asset position from 7.7% of total assets by end-2001 to –7.8% of total assets by end-2004. Since this deterioration coincided with the strengthening of banks' net lending position with domestic nonbanks (which resulted mainly from the improvement of their net position toward households), a foreign-financed domestic lending boom (in particular to households) seems to be responsible for this development. If this trend were to continue, it would be hardly sustainable and it would probably undermine the financial stability of the Croatian banking sector.

5 The Role of Foreign Exchange

Despite increased confidence in the Croatian banking system after the consolidation efforts of the late 1990s, probably supported by the long-term exchange rate stability, foreign currencies have continued to play an important role.

Foreign currency assets (including DEM-linked bonds for blocked foreign currency deposits) accounted

[6] *The net position is defined as claims less standard deposits, which means that repurchase agreements, debt securities issued, credits received, blocked foreign exchange deposits, restricted deposits and equity are not taken into account on the liability side.*

for 67.9% of total assets by end-1993. This gradual decline to 32.6% over the following six years was not only caused by the outstanding volume of special purpose DEM-linked bonds, but also by that of other foreign currency assets. In 2000 and 2001, the share of foreign currency assets in total assets increased temporarily to approximately 36.5% (mainly as a result of the additional volumes of households' foreign currency deposits being redeposited abroad ahead of the euro cash changeover), and dropped again to 31.5% by end-2004.

At the end of 2004, the share of foreign currencies in total lending to domestic sectors stood at 11.4%, down from 62% in 1993. There are differences between sectors, however: The share of foreign currency-denominated loans in total lending was highest for the general government (almost 40%) and for nonmonetary financial institutions (31.4%), even though these two sectors accounted for only one quarter of total foreign currency loans. The share was lower for nonfinancial corporations (19.7%) and households (0.5%). However, the significance of foreign currency loans is actually higher than the above figures suggest: In fact, according to Hrvatska Narodna Banka (2005), slightly more than 70% of kuna-denominated loans are indexed to foreign currencies, so that the total share of foreign currency loans plus foreign currency-indexed kuna loans amounts to around 75% of total lending.

Foreign currencies play a more significant role on the liabilities side of banks' balance sheets: including blocked foreign currency deposits and restricted deposits in foreign currency, they accounted for 67.4% of total liabilities by end-1993. This share went down slightly to 61.3% by end-2004. However, this decline was driven by a decrease in the outstanding amount of blocked foreign currency deposits and restricted deposits in foreign currency, whereas the share of other foreign currency liabilities increased continuously from 37.4% in 1993 to 61% in 2004. This movement clearly suggests that most of the deblocked foreign exchange deposits were transformed into regular foreign exchange deposits and that additional regular foreign exchange deposits were placed with banks. Moreover, foreign liabilities accounted for 39.4% of total foreign currency liabilities by end-2004, up from 22.3% by end-2001.

As with loans, the weight of foreign currencies in total deposits (61.8% by end-2004) varied significantly across sectors. It was highest for households (77.1%), followed by nonfinancial corporations (38.1%) and nonmonetary financial institutions (21.9%), whereas the general government holds only approximately 13% of its deposits in foreign currencies. Unlike loans, kuna deposits indexed to foreign currencies play an insignificant role, as their share in total deposits is less than 2%.

Since 1994, Croatian banks have maintained a negative net foreign currency asset position, which amounted to 7.6% of total assets (including bonds for blocked foreign currency deposits, blocked foreign currency deposits and restricted deposits in foreign currency) by end-1994 and peaked at 35.9% of total assets in 2002 before falling back to 29.8% by end-2004.

The structure of this position also changed significantly. At the end of 1994, banks' net foreign currency liabilities resulted exclusively from net foreign currency liabilities against nonresidents. From then on, the share of net foreign currency liabilities against residents in total liabilities began to increase significantly as a result of the continuous redemption of DEM-linked bonds (which had been issued for blocked foreign currency deposits) and of the progressive conversion of blocked foreign currency deposits into regular ones. However, in recent years the share of net foreign currency liabilities against residents in total liabilities has decreased, since total domestic deposit growth remained below the growth level of total liabilities as foreign liabilities jumped. Simultaneously, in recent years the net foreign currency position against nonresidents tipped from positive to again negative values.

A breakdown of net foreign currency liabilities against residents (24.9% of total liabilities by end-2004) shows that net foreign currency liabilities against households amounted to 30.2% of total liabilities, whereas the net position against nonfinancial corporations was nearly balanced and the net position against the central bank was positive.

If we include foreign currency-indexed kuna-denominated domestic loans in the above figures, the total net foreign currency liability position turns into a net foreign currency asset position of around 7% of total assets at end-2004.

It is essential to distinguish between this balance sheet position and banks' overall net open foreign exchange position, as the latter may be influenced also by off-balance sheet items. According to data provided by Hrvatska Narodna Banka, banks had a long overall net foreign exchange position (including off-balance sheet items) of 16.7% of regulatory capital at end-2003, which corresponded to approximately 1.6% of total assets and represented an increase from a long position of 4.6% of regulatory capital in 2001 (0.5% of total assets). On the basis of this information, the direct exchange rate risk has to be assessed as being rather modest, and banks would be affected negatively only in the event of an appreciation of the kuna. This view is also supported by the IMF's Financial System Stability Assessment of Croatia in 2002. However, Croatian banks face an indirect foreign exchange risk in the event of a kuna depreciation (see section 7) given the high share of foreign currency- denominated and foreign currency-linked loans in banks' credit portfolio.

6 Monetary Policy and the Banking Sector

Excessive developments in banks' net foreign assets and domestic loans have repeatedly caused concern to Hrvatska Narodna Banka over the past few years (e.g. in 1998, 2001 and 2003). As foreign currencies are a major factor in banks' assets and liabilities, interest rate management plays a rather subordinate role in the Croatian monetary policy framework. Instead, the central bank relies heavily on mandatory reserve regulations, foreign currency asset/liability ratios, quantitative measures such as temporary limits on lending or on selected liability items.

Thus, the development of the level and composition of net foreign currency assets was not only influenced by macroeconomic factors that affected banks' net foreign asset development, but also by central bank regulations.

Amendments to mandatory reserve regulations not only referred to the level of reserve ratios and to the range of liabilities to be covered by the minimum reserves (a cumulative broadening of the mandatory reserve base was implemented, especially with regard to foreign currency liabilities), but also to the range of instruments eligible for holding reserves: Before mid-1998, banks had been allowed to hold all foreign currency-denominated mandatory reserves for foreign currency liabilities with foreign banks with an acceptable rating. The amended regulation obliged them to hold at least half of these reserves in a foreign exchange account with the central bank; this helps explain the sharp decline in foreign assets in 1998. Similarly, the rise in the maximum allocation of foreign currency-denominated reserves for foreign currency liabilities outside the central bank (from 50% to 60%) in 2000 may have contributed to driving up the share of foreign currency-denominated foreign assets in total foreign currency assets in the same year. In December 2003, the maximum allocation of foreign currency-denominated reserves outside the central bank was reduced to 40%.[7]

Moreover, starting from September 2001, banks had to gradually raise the share of reserves required for foreign currency liabilities which had to be allocated in kuna (instead of foreign currencies). The prescribed level of that share was initially set at 10% and stood at 42% by end-2004. In May 2005, this share was hiked to 50%.This adjustment was motivated by the aim to achieve a unification of the minimum reserve regulations for domestic and foreign currency liabilities. Together with the gradual reduction of the reserve requirement rate, this effort led to a stable level of banks' foreign currency-denominated mandatory reserve holdings in nominal terms and has supported a decline in foreign currency assets in percent of total assets since then.

In addition to mandatory reserve requirements, Croatian banks have traditionally had to maintain a minimum coverage of their foreign currency liabilities by holding short-term foreign currency assets. As from the beginning of February 2003, Hrvatska Narodna Banka extended the basis for calculating this coverage and required that the coverage should be maintained on a daily basis (rather than on the last day of each month) and lowered the coverage ratio from 53% to 35%. These adjustments implied a net tightening. It should be noted that mandatory reserves held in foreign currencies may form part of the short-term foreign currency assets required to fulfill this coverage ratio. In February 2005, the central bank lowered the coverage ratio again from 35% to 32% with the intention to improve banking sector liquidity ahead of the maturity of government Eurobonds at the end of March 2005. Refinancing these Eurobonds domestically seemed preferable to issuing a new Eurobond given Croatia's commitment towards the IMF to stabilize or reduce its foreign indebtedness.

In 2003, the Croatian central bank imposed credit limits in order to contain high domestic lending growth financed by external borrowing by banks. Since this measure did not prevent banks' foreign liability position from deteriorating further, the central

[7] *This ceiling applies to foreign currency-denominated reserves for foreign currency liabilities to residents while all foreign currency-denominated reserves for foreign currency liabilities to non-residents have to be held with the central bank.*

bank introduced a so called marginal reserve requirement in July 2004. It requires banks to deposit a specified percentage of the net increase in their foreign liabilities above the level registered in June 2004 free of interest with the central bank. This ratio stood at 24% between July 2004 and January 2005 and was raised to 30% in February and further to 40% in May 2005.

The changes in these instruments have helped to achieve monetary policy objectives such as to reduce the current account deficit and they have improved the prudential situation of the banks. But they have also had some adverse side effects: Changes in the mandatory reserve ratio do not only influence lending behavior, but also directly affect banks' profitability. Despite several cuts over the past few years, the mandatory reserve ratio remained high at 18% in October 2004 in Croatia (for both domestic and foreign currency liabilities), with a relatively modest remuneration rate. In addition, the requirement on banks to allocate an increasing part of their mandatory reserves for foreign currency liabilities in kuna may have contributed to the currency mismatch on their balance sheets. Moreover, the requirement to maintain a minimum coverage of their foreign currency liabilities by holding short-term foreign currency claims on a daily basis has also had a direct negative side effect on profitability since it reduced the scope for more attractive investments.

In addition to the positive macroeconomic effects and the negative side effects on banks, such administrative measures also increase the risk of circumvention. Hrvatska Narodna Banka observed that banks made use of synergy effects, allocating financial assets among group members in a way that gave them better control over lending growth after the introduction of credit limits in 2003. Lending was shifted to leasing companies, housing savings banks and asset management companies, and trading in loans and loan portfolios among banks was intensified. Furthermore, doubtful loans were increasingly written down to make room for new lending without violating the imposed credit limits. Similar circumvention strategies in other cases may have been the reason why Hrvatska Narodna Banka tried to respond to adverse economic developments in the past through measures affecting banks' assets or measures affecting their liabilities. Finally, given that banks majority-owned by foreign investors dominate the Croatian banking sector, limitations on domestic lending may channel the demand for domestic loans abroad. After developing along a stable path for several years in all sectors except monetary financial institutions and the general government, net foreign debt has been surging since late 2002, which may be attributed to the reduced availability of domestic credit. Thus, imposing credit limits may have led to an increase in the corporate sector's foreign exchange mismatch in excess of the natural hedge (from exports earnings); this may translate into an additional credit risk for the banking sector. By contrast the introduction of credit limits may to some extent have served its purpose of dampening – ceteris paribus – kuna-denominated lending funded by foreign liabilities, thus limiting the banking sector's on-balance foreign exchange mismatch.

7 Asset Quality

The rising level of banking intermediation and the increased share of lending to the domestic private sector have occurred along with an improvement in banks' asset quality over the past five years. The 1998 banking crisis and the subsequent write-off of bad loans as well as the intensified entry of foreign investors and Croatian banks' improved management skills have strongly contributed to this development.

As a result, the share of standard assets in total assets rose from 85.1% in 1998 to 92.2% in 2002, before falling back slightly to 91.8% by end-2003. Between 1998 and 2003, the steepest decline in percentage points was registered for the share of substandard assets, followed by watch assets. After peaking at 3.2% in 1999, the share of doubtful assets declined sharply to 1.3% in 2003, while the share of loss assets decreased from 2.1% (1998) to 1.6% (2003) of total assets. In sum, nonperforming assets[8] accounted for 5.1% of total assets by end-2003, down from 9.3% in 1998, and classified assets amounted to 8.2% of total assets, down from 14.9% in 1998. This development is in line with that of other CEECs.

In parallel to this asset quality improvement, the share of reserves and provisions in percent of total assets has declined over the past few years to reach 4.1% by end-2003. At the same time, however, the coverage of nonperforming assets by reserves and provisions improved from 71.8% in 1998 to 85.1% in 2002. More recent developments suggest that the decline in this coverage ratio to 79.4% in 2003 should be assessed against the backdrop of an increase in banks' (watch and) substandard credit ratios (the percentage share of doubtful and loss assets, by contrast, decreased further). If the quality of these assets should deteriorate further, it would incur additional risk provisioning costs and burden banks' future profits to the same extent.

Table 7

Asset Quality

%	1997	1998	1999	2000	2001	2002	2003
Standard assets ratio	88.8	85.1	85.5	87.5	90.5	92.2	91.8
Watch assets ratio	5.3	5.6	4.2	3.0	2.2	1.9	3.0
Substandard assets ratio	3.3	4.9	3.5	2.5	2.1	2.0	2.3
Doubtful assets ratio	0.8	2.4	3.2	3.1	2.3	1.5	1.3
Loss assets ratio	1.8	2.1	3.6	3.9	2.8	2.3	1.6
Reserves and provisions ratio	4.9	6.7	8.8	8.2	6.2	5.0	4.1

Source: Hrvatska Narodna Banka, OeNB calculations.

The assessment of asset quality is further complicated by the high share of foreign currency-denominated claims in total domestic claims. Unhedged debt denominated in foreign currencies or linked to foreign currencies (in particular to households) makes borrowers' debt servicing ability susceptible to a potential large depreciation of the kuna. This translates into an indirect foreign exchange risk for banks. However, given the household sector's large positive net foreign exchange position against the

[8] *Nonperforming assets are defined as substandard, doubtful and loss assets. Classified assets are defined as watch assets plus nonperforming assets.*

banking sector (i.e. deposits in excess of loans), the risk of household loan losses depends on the degree to which the holders of foreign currency(-indexed) loans and the holders of foreign currency deposits are different entities. With respect to the total corporate sector – which does not have a very sizeable net foreign exchange exposure against the domestic banking sector, either – the additional credit risk emanating from foreign exchange exposure as a result of direct cross-border lending has to be taken into account.

It is difficult to estimate the magnitude of the exposure to credit risk stemming from indirect foreign exchange rate risk. However, IMF calculations in the framework of Croatia's Financial System Stability Assessment 2002 suggest that an assumed depreciation of the kuna in the range of 15 to 25 percentage points would result in a declining capital adequacy ratio (CAR) from 18.8% to approximately 7% to 12%, depending on the selection of assumed default and recovery rates.

With regard to banks' intensified lending to households over the past few years, it should be noted that the share of (relatively less risky) housing loans in total loans to households fell from 39% in 1999 to 31% by 2001 and has been stable ever since.

8 Capital Adequacy and Liquidity

The overall capital adequacy ratio (CAR) of Croatian banks fell from 21.3% at the end of 2000 to 14.5% by end-September 2004. However, this value is still in line with other CEECs and well above the value recorded in 1998 (12.7%). The decline in CAR since 2000 may be entirely attributed to stronger dynamics in banks' risk component, which has been growing at a faster rate than regulatory capital. The development of the risk component has been driven by the shift in banks' business orientation away from lending to the general government toward lending to the (more risky) private sector.

Table 8

Capital Adequacy and Liquidity

%	1997	1998	1999	2000	2001	2002	2003	end-Sept. 2004
Capital adequacy ratio	16.4	12.7	20.6	21.3	18.5	17.2	16.2	14.5
Short-term assets/short-term liabilities	. .	. .	88.9	91.6	106.7	111.8	115.2	. .
Credit-to-deposit ratio (excl. blocked and restricted deposits)	86.6	95.7	95.9	81.5	70.9	86.9	92.5	95.8
Credit-to-deposit ratio (incl. blocked and restricted deposits)	77.9	89.4	90.3	78.7	69.9	85.6	91.3	94.4
Open foreign exchange position as a percentage of regulatory capital	. .	. .	43.3	29.9	4.3	14.3	16.7	. .

Source: Hrvatska Narodna Banka, OeNB calculations.

With regard to short-term liquidity, the ratio between short-term assets and short-term liabilities improved steadily between 1999 (88.9%) and 2003 (115.2%). The high liquidity ratio is supported by prudential requirements, such as a relatively high mandatory reserve ratio (18%) and the requirement to maintain a certain ratio (35%) between banks' short-term foreign currency claims and foreign currency liabilities.

Parallel to the decline in the capital adequacy ratio, the (domestic) credit-to-deposit ratio increased between 2002 and 2004, thus reversing a trend that had occurred between 1999 and 2001 as a result of disproportionate deposit growth, which had been linked to increased households' foreign currency deposits in the run-up to the euro cash changeover.

9 Banking System Profitability

The profitability of Croatian banks improved significantly after the banking crisis in 1998. While return on assets (ROA) and return on equity (ROE) were in deeply negative ranges in 1998, they rose to 1.3% and 14.5% in 2003. Given the declining inflation rate over this period, real ROE hit 12.4% in 2003, which was in line with the average development in the CEECs.

Despite the broad stability of the interest rate spread over the past few years, net interest income as a percentage of total average assets has declined. The development of banks' overall net position against all domestic sectors (including MFIs)[9] and their net foreign asset position suggest that this decline may be attributed to the declining share of net interest-bearing assets in total assets. In comparison, the share of net interest income in total operating income has trended modestly higher since 1999.

Table 9

Profitability Indicators

	1998	1999	2000	2001	2002	2003
Net interest income/total assets average	4.4	3.9	4.2	3.6	3.3	3.4
Operating income/total assets average	6.1	6.0	6.1	4.5	4.6	4.5
Cost/income ratio	58.5	54.2	56.7	65.6	59.3	57.3
Net costs of loan loss provisioning/operating income	86.8	32.0	20.6	13.7	6.6	7.0
Return on Assets (ROA)	–2.9	0.7	1.3	0.7	1.3	1.3
ROA deflated by CPI	–8.4	–3.5	–4.9	–4.1	–0.4	–0.5
Return on Equity (ROE)	–16.1	4.8	10.7	6.6	13.7	14.5
ROE deflated by CPI	–20.8	0.4	4.0	1.5	11.8	12.4

Source: Hrvatska Narodna Banka, OeNB calculations.

A lower level of net interest income (as a percentage of total average assets) and of noninterest income caused a decline in operating income (as a percentage of total assets). Following deterioration between 1999 and 2001, the cost-income ratio improved in 2002 and 2003. This, together with a sharp decline in the cost of loan loss provisioning, has been the main driving force behind the improvement in Croatian banks' profitability over the past few years.

10 Austrian Banks in Croatia

Over the past few years, all major Austrian banking groups have bought stakes in existing Croatian banks or established their own subsidiaries in Croatia. The following banks are currently active on the Croatian market: Erste Bank, Bank Austria Creditanstalt, Hypo Alpe-Adria-Bank, Raiffeisen International and Volksbank. According to data provided by Hrvat-

[9] *Net claims are defined as domestic claims excluding bonds for blocked foreign exchange deposits less deposits by domestic sectors excluding blocked foreign exchange deposits and restricted deposits.*

Table 10

Selected Indicators of Austrian Banks' Subsidiaries in Croatia in 2004

	Total assets HRK million	Share in total assets in %	Asset growth in %	Pre-tax income (loss) HRK million	Core capital HRK million	ROE (pre-tax) in %	Capital adequacy ratio in %
Erste & Steiermärkische Bank d.d.	25,822	11.2	32.3	364.1	1,387	26.3	12.3
HVB Splitska Banka d.d.	21,460	9.3	12.7	241.0	1,209	19.9	11.1
Hypo Alpe-Adria-Bank d.d.	17,143	7.4	21.9	287.1	1,162	24.7	18.7
Slavonska Banka d.d.	5,553	2.4	19.4	54.4	702	7.8	25.1
Raiffeisenbank Austria d.d.	24,404	10.6	31.2	208.3	1,012	20.6	11.3
Volksbank d.d.	3,620	1.6	35.2	19.1	181	10.5	12.3
Total	98,002	42.6	×	1,173.9	5,653	20.8	×
All Croatian banks	230,292	100.0	12.8	3,692.8	16,452	22.4	14.1

Source: Hrvatska Narodna Banka.

Note: Slavonska Banka d.d. is a subsidiary of Hypo Alpe-Adria-Bank.

ska Narodna Banka, the total assets of Austrian banks' subsidiaries amounted to almost EUR 13 billion at the end of 2004, securing them a market share in total banking sector assets of 42.6%. Their share in the combined pre-tax income of Croatian banks was somewhat lower (31.8% in 2004). However, the performance of Austrian banks' subsidiaries was in line with their competitors when measured by ROE (pre-tax income as a percentage of core capital by the end of 2004). Moreover, Austrian banks' subsidiaries belonged to the most dynamic banks in Croatia in 2004, most of them recording an above-average growth in their assets.

By end-September 2004, Austrian banks' subsidiaries in Croatia accounted for approximately 13% of the combined assets of Austrian banks' subsidiaries in the CEE region, coming fifth (out of 14) after those in the Czech Republic, Poland, Hungary and Slovakia. In terms of profitability (as measured by after-tax earnings), subsidiaries in Croatia rank fifth and account for 10.1% of the total earnings of CEE subsidiaries of Austrian banks. As a result of this combination (a higher share in total assets and a somewhat lower share in total earnings), the subsidiaries in Croatia occupy rank eight of twelve in the CEE ranking of return on assets.

In addition to the presence of their subsidiaries, Austrian banks also provide cross-border lending to the Croatian nonbank sector. By end-2004, the total volume of such cross-border lending (including securities) amounted to EUR 4.1 billion (almost 20% of Croatia's total gross foreign debt), representing 2.6% of Austrian banks' total cross-border lending, but approximately 12% of their cross-border lending to CEECs.

11 Summary

After the banking crisis of 1998, which caused several banks to exit from the market, the Croatian banking system has undergone a deep transformation process in the course of which the remaining state-owned banks have been privatized and foreign investors have gained a dominating market share of more than 90% of total banking sector assets. The degree of banking intermediation is relatively high in Croatia compared to other CEECs, but a comparison with the euro area average still suggests a huge growth potential for the future. Banking sector assets are dominated by claims on domestic sectors; in recent years, the importance of lending to the private sector (mostly to households), has risen whereas lending to the general government has declined. Domestic claims are dominated by loans, whereas securities continue to play a subordinate role. Even after the outstanding volume of special-purpose government bonds decreased, debt securities holdings are almost exclusively holdings of central government debt. While Croatian banks maintained a positive net position (claims less deposits) against the domestic sectors, their net foreign asset position has varied over time (reflecting the economic cycle and the credit cycle, funding costs and changes in central bank regulations aimed at limiting excessive foreign-financed domestic loan growth). Despite all efforts to substitute foreign currencies by domestic currency in business activities, the former continue to play an important role for Croatian banks, in particular for the liabilities side of the banks' balance sheets. Banks maintain a positive net foreign currency position on their balance sheets (with increasing net liabilities to nonresidents), and also in overall (on-balance and off-balance) terms. Still, foreign currency(-indexed) lending is highly significant as it represents a credit risk in the form of an indirect exchange rate risk. By contrast, asset quality has improved significantly over the past five years, despite the reorientation of banks toward lending to the riskier private sector. Despite a decline in the capital adequacy ratio owing to a stronger increase in the risk component than in the capital base, Croatian banks seem to be well capitalized and are in a satisfactory liquidity position. The profitability of banks has improved significantly since the 1998 banking crisis, and real ROE in Croatia is now in line with that observed in other CEECs. This improvement was primarily caused by a decrease in the cost of loan loss provisioning and a decline in the cost-income ratio in 2002 and 2003. Austrian banks play a prominent role in the Croatian banking sector, not only through their subsidiaries but also because of their cross-border lending activity.

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