

**FOR
AGENDA**

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To: Members of the Executive Board

From: The Secretary

Subject: **Republic of Croatia—Selected Issues and Statistical Appendix**

This paper provides background information to the staff report on the 2004 Article IV consultation discussions with the Republic of Croatia and its request for a Stand-By Arrangement (EBS/04/101, 7/19/04). At the time of circulation of this paper to the Board, the Secretary's Department has received a communication from the authorities of the Republic of Croatia indicating that they consent to the Fund's publication of this paper.

Questions may be referred to Mr. Eskesen (ext. 34033) and Mr. Konuki (ext. 8085) in EUR; and Mr. Čihák, MFD (ext. 38931).

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INTERNATIONAL MONETARY FUND

REPUBLIC OF CROATIA

Selected Issues and Statistical Appendix

Prepared by the staff team for the 2004 Article IV Consultation
with the Republic of Croatia

Approved by the European Department

July 16, 2004

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I. MONETARY TRANSMISSION IN CROATIA¹

A. Introduction and Summary of Conclusions

1. **The widespread euroization and the openness of the Croatian economy restrict the scope for autonomous monetary policy.** The high degree of trade and financial integration and euroization underpins the importance of exchange rate stability in the authorities' monetary policy framework. The focus on maintaining a broadly stable kuna-euro exchange rate, combined with a relatively open capital account, limits the scope for autonomous monetary management.
2. **There are good reasons, however, to study the effectiveness of monetary transmission in Croatia in greater depth.** Monetary policy could still play a role provided that the domestic and the international capital markets are not perfectly integrated. Moreover, the exchange rate is not fixed, even though it is closely managed, and the fluctuations in the kuna-euro exchange rate might provide some maneuvering room for monetary policy.²
3. **Empirical studies on monetary transmission in Croatia are few and inconclusive.** This largely reflects the short time series with numerous structural breaks. Erjavec and Cota (1999), using multivariate Granger causality tests, found that the interest rate and the nominal exchange rate are econometrically exogenous variables. Billmeier and Bonato (2002) found that the Croatian economy, despite being highly euroized, had a low exchange rate pass-through, which they interpreted as possible evidence that strict exchange rate targeting might not be the best option. Recently, Lang and Krznar (2004), using a structural VAR model, found that monetary policy in Croatia was pro-cyclical—it eased when growth was high and tightened when growth was low—and suggested that there might be a benefit in an active monetary policy for correcting external imbalances. However, they also noted that strong capital inflows might render such policy ineffective and therefore concluded that keeping the existing monetary framework was probably the optimal choice for Croatia.
4. **The evidence analyzed in this chapter supports the view that monetary policy in Croatia is not an effective tool for aggregate demand management.** One of the main conclusions is that financial conditions in the economy are only weakly correlated with the monetary policy stance. Monetary policy can exercise some control over money market interest rates, but its influence on lending rates is uncertain and comes with long lags. The link between these variables was weak even before 2001, under a regime of extensive capital controls, and it has further weakened since then. The ineffectiveness of

¹ Prepared by M. Čihák and T. Konuki.

² Actual daily fluctuations were in the range of ± 4.5 percent in 1999–2003 and ± 7.5 percent in 1996–2003 (but no explicit fluctuation band was in place).

monetary policy is also illustrated by the experience with the credit controls in place during most of 2003.

B. Monetary Policy and Financial Conditions

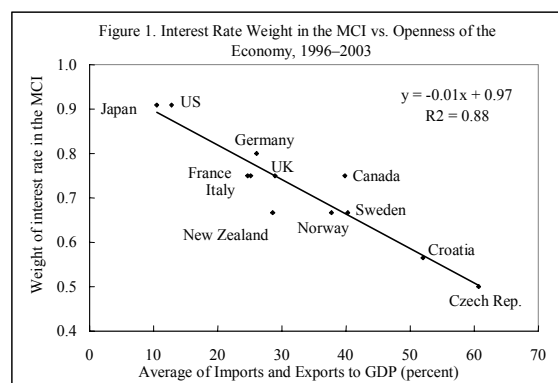
5. **This section makes a first pass at the issue of monetary transmission in Croatia by constructing and comparing indices of monetary and financial conditions.** A *monetary conditions index* (MCI) is an approximate measure of the degree of restrictiveness of monetary policy. The index is a summary indicator characterizing the monetary tightness in an economy based on several key variables, typically the interest rate and the exchange rate. MCIs became subject of increased interest in 1990s, when a number of researchers and central banks started calculating and publishing them. A *financial conditions index* (FCI) measures the financial conditions actually faced by economic agents. This index expands on the MCI by including indicators of the tightness of financial conditions that economic agents face and are affected—but not necessarily determined—by monetary policy. While MCIs typically use short-term interest rates, FCIs also include long-term rates and even introduce other variables approximating the financial conditions of economic agents.³ The relationship between the two can provide an indication of the strength of monetary policy transmission.

6. **The key parameters of the MCIs (and FCIs) are the relative weights of the exchange rate and the interest rate.** The ratio of the two weights is sometimes referred to as the MCI ratio. For example, the Bank of Canada uses weights of $\frac{3}{4}$ on the interest rate and $\frac{1}{4}$ on the exchange rate (an MCI ratio of 3:1), indicating that the effect on demand of a one percentage point interest rate increase can be offset by a three percent depreciation of the exchange rate (Freedman 1996). While exchange rate depreciation typically means a loosening of monetary conditions, it could theoretically lead to a tightening (increase in MCI), depending on the relative sizes of price and income effects. However, the empirical literature reviewed in this paper overwhelmingly finds a positive relationship.⁴

³ Methods of designing MCIs are discussed, e.g., in Hansson and Lindberg (1994), Freedman (1996), Dennis (1997), Eika et al (1996), and Reserve Bank of New Zealand (1996). Gauthier et al. (2004) survey the literature on FCIs.

⁴ In pegged exchange rate regimes that allow for some exchange rate fluctuation, depreciations are likely to lead to monetary tightening indirectly, as they prompt foreign exchange interventions. This indirect effect is captured in the MCI, because the impact of the intervention is likely to be reflected in higher short-term interest rates. However, the direct impact of the exchange rate is likely to be positive and can be substantial in pegged regimes, if economic agents are not well-hedged against exchange rate changes.

7. **The MCI ratio for Croatia can be calibrated by using estimates for other countries and adjusting for the openness of the Croatian economy.** Ideally, the MCI ratio should be based on a macroeconomic model of the Croatian economy. However, this is not feasible, given short time series and numerous structural breaks. Therefore, the method of calibration used here is based on the fact that open economies have a relatively lower weight assigned to the interest rate. To illustrate this point, Figure 1 plots interest rate weights in MCIs reported in the literature for various economies against the degree of openness of these economies.⁵ The degree of openness is measured as the average of exports and imports in percent of GDP. For Croatia, this ratio is about 52 percent, the second highest in the sample.⁶ The regression estimate presented in Figure 1 implies an interest rate weight of 0.57—an MCI ratio of 1.3:1—for Croatia, meaning that the effect on demand of a 1.3 percentage point of exchange rate appreciation can be offset by a 1 percent decline in interest rates.⁷



8. **Illustrative MCIs and FCIs for Croatia can be calculated using the above MCI ratio.** The MCI, as a measure of the monetary policy stance, incorporates interest rates that are closely influenced by policies. The FCI, as a measure of the overall financial conditions and a broader measure, is based on interest and exchange rates relevant for economic decisions by enterprises and households. As mentioned above, the degree of correlation between the two provides prima facie evidence on the strength of policy transmission.

9. **The calculated MCI is closely correlated with the money market interest rate.** The MCI is defined as a weighted average of a kuna-euro nominal exchange rate index and a money market interest rate index (in both cases 2002 average=100). Both series are

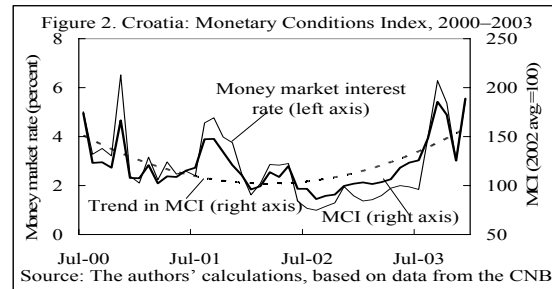
⁵ The MCI weights are from IMF (1998) (France, Italy, Germany, Japan, UK, and US); Freedman (1996) (Canada); Eika et al. (1996) (Sweden and Norway); Dennis (1997) (New Zealand); and Čihák and Holub (2000) (Czech Republic). Import and export to GDP ratios are from the World Bank Atlas and relate to 1998 (the data for Croatia are from the CNB and relate to 2003). The regression line and the implied MCI weight for Croatia was calculated by the authors.

⁶ The definition of openness can be adjusted for openness to capital flows, but such adjustments do not change the quantitative result substantially.

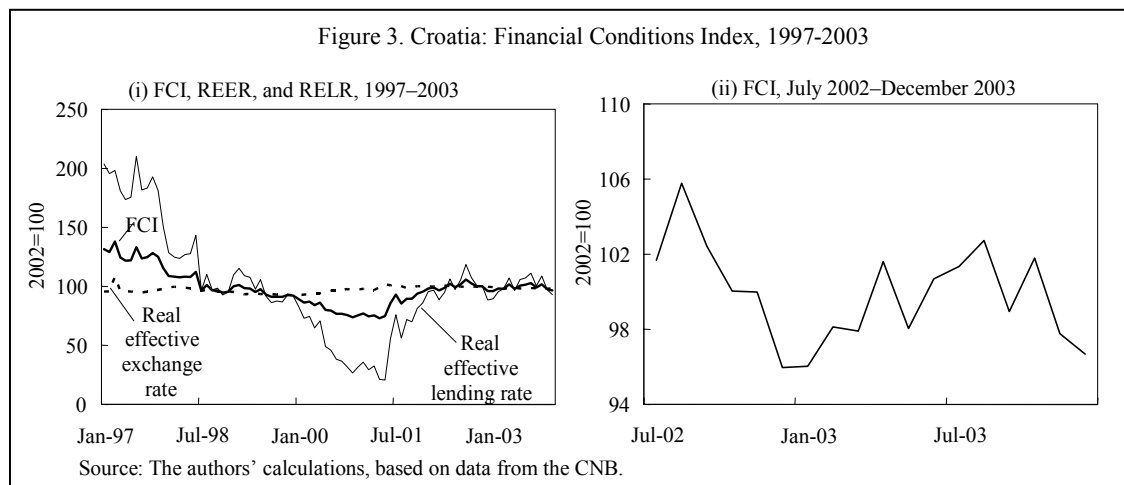
⁷ The 2002 Article IV staff report (IMF Country Report No. 02/178) showed, for illustration, a monetary condition index based on an assumed MCI ratio of 2:1. Figure 1 suggests that such ratio could have been putting too low a weight on the exchange rate.

adjusted for seasonality. These two indices are then combined into the MCI, using the 1.3:1 ratio derived above. The resulting MCI is strongly correlated with the money market interest rate, reflecting the much lower volatility in the kuna-euro exchange rate. This observation is consistent with Lang and Krznar (2004), who find, using a structural VAR model, that since mid-2000, the monetary policy stance in Croatia is closely related to money market interest rates.

10. **The calculated MCI suggests that monetary policy was loosening during mid-2000 to mid-2002 and tightening since then** (Figure 2). The MCI shows substantial volatility in the last four years (despite the fact that it is based on seasonally adjusted variables). To detect the underlying trend, a Hodrick-Prescott filter was applied to the data.



11. **The FCI is a weighted average of indices of the real effective exchange rate and the real effective lending rate.** If the FCI is to measure financial conditions faced by economic agents, it needs to be based on the real effective exchange rate (REER) and the real interest rate. This is the prevalent approach in the surveyed literature on FCIs. A similar approach can be applied to Croatia, using the trade-weighted REER (based on consumer price indices) and the real effective lending rate (RELRL). The RELRL is calculated as a weighted average of the interest rates on domestic and foreign borrowing—the weight being the share of external debt in total private sector debt—adjusted for price developments using the CPI. Both the REER and the RELRL are seasonally adjusted using the X-12 method, assuming multiplicative seasonality, and normalized into an index (2002 average=100). These two indices are then combined into the FCI, using the 1.3:1 ratio derived above. Figure 3 shows the REER, RELRL, and FCI in 1997–2003.



12. **According to the calculated FCI there were no major changes in the financial conditions during 2002–03.** Financial conditions were loosening during 1997 to early 2001, followed by a tightening from mid-2001 to mid-2002. Since then, financial conditions have been relatively stable (Figure 3 (i)). A closer look at the mid-2002–2003 period reveals that a mild loosening in the second half of 2002 was followed by a mild tightening during the first half of 2003 and by another loosening at the end of 2003 (Figure 3(ii)).

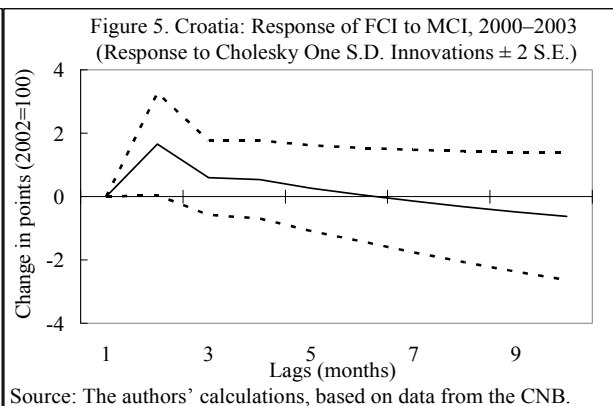
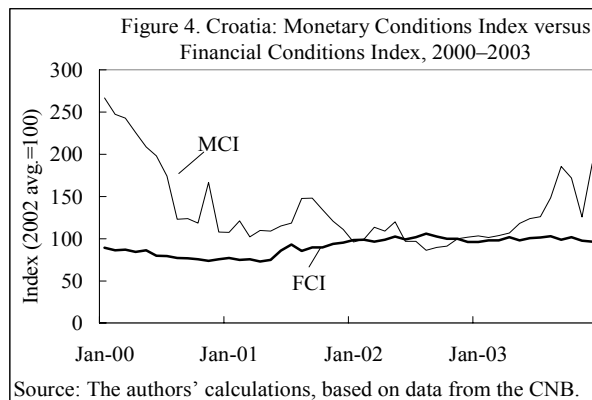
13. **Financial conditions are only weakly correlated with the monetary policy stance.** Figure 4 illustrates that the MCI (and the money market rate) showed a much higher volatility than the FCI. Also, the two series do not seem to be moving together (their correlation is +0.38 for the whole period 1997–2003 but slightly negative for the last three years). This is confirmed by a more detailed analysis, in particular by bivariate Granger causality tests and impulse-response functions based on a VAR model between the MCI and the FCI. Both methods suggest that the impact from the MCI to the FCI is weak in general and insignificant in the period since 2000 (Table 1 and Figure 5).⁸

Table 1. Granger Tests of MCI Versus FCI, 1997–2003
(F-statistics, p-values in parentheses)

| | Period | 3 lags | 6 lags | 9 lags |
|------------------|----------------|-------------------|------------------|--------------------|
| d(MCI) to d(FCI) | 1997:1–2003:12 | 1.785 (0.079)* | 1.516 (0.187) | 2.154 (0.040)** |
| d(MCI) to d(FCI) | 2000:1–2003:12 | 0.198 (0.897) | 0.711 (0.643) | 0.970 (0.489) |

Source: The authors' calculations, based on data from the CNB.

Notes: */** denotes significance at 10/5/1 percent level, respectively. "d" stands for difference. Granger tests from FCI to MCI were insignificant at the 10 percent level for all the above lags.



⁸ The same analysis was carried out also with the money market rate instead of the MCI, with similar results.

14. **The calculated MCI and FCI are relatively robust to changes in the weights.** For reasons well-documented in the literature—in particular model dependency, ignored dynamics, parameter inconstancy, and nonexogeneity of regressors—the MCI and the FCI are only rough indicators of the monetary and financial conditions (e.g., Eika et al, 1996). However, the results presented here are not very sensitive to changes in the weights of the interest rate and exchange rate. For example, varying the weight on interest rate from the chosen number of 0.57 to 0.50 or even 0.40 creates indices with pair-wise correlations of about 0.99. Therefore, if the exchange rate has a somewhat higher weight in the transmission mechanism than suggested by the cross-country regression in Figure 1 (e.g., because Croatia is more euroized than the other countries), it would not lead to substantially different conclusions about the developments in the monetary conditions and the policy stance.

C. Interest Rate Channel of Monetary Transmission

15. **This section shifts the focus on the transmission of monetary policy through the interest rate.** The MCI and the FCI developed in the previous section are based on the two traditional channels of monetary policy, the interest rate channel and the exchange rate channel. We have argued that the exchange rate has a potentially larger weight in Croatia than in other countries but its direct impact on monetary conditions is limited. Due to the pegged exchange rate regime, a substantial part of the monetary transmission works through changes in money market rates (which can therefore be used as a proxy variable for the monetary policy stance). This section follows up by examining in more detail the interest rate channel of monetary policy, i.e., the transmission from policy rates to lending rates. The next section will examine other channels of monetary policy, in particular the credit channel.

16. **The CNB has some control over money market rates, since overnight rates tend to respond to changes in bank liquidity.** Money market interest rates are negatively linked to excess liquidity in the system. Econometric estimates based on daily data suggest that excess liquidity in the system is a leading indicator for money market interest rates. Excess liquidity, measured as the daily deviation from a 30-day moving average, shows a weakly negative correlation with the overnight money market rate. Table 2 shows the correlation pattern between excess liquidity and money market rates from January 2001-February 2004.

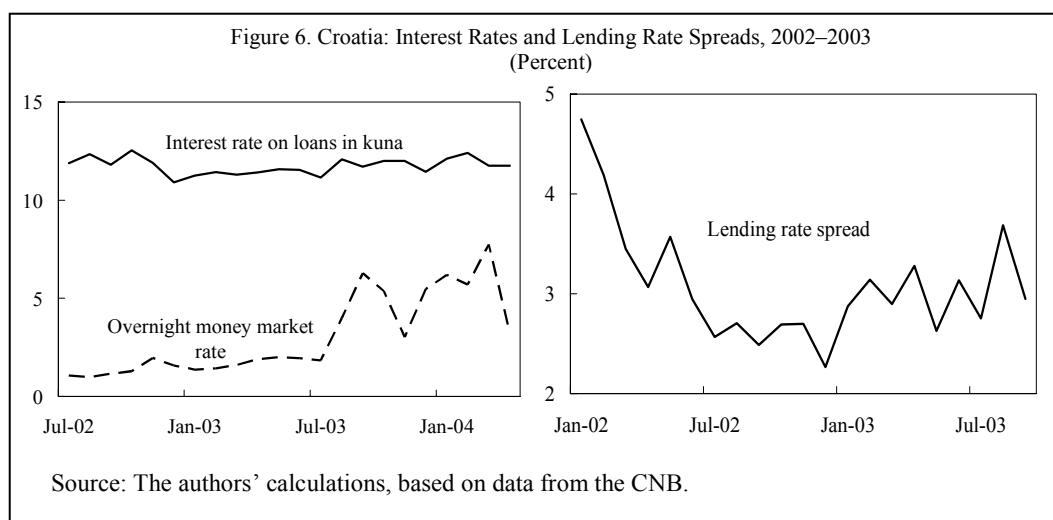
Table 2. Excess Liquidity Versus Money Market Interest Rates, 2001-04
(Correlation coefficient of liquidity and interest rate based on daily data)

| Excess liquidity defined as | Zagreb Interbank Offer Rate (ZIBOR) | | | | | |
|-----------------------------|-------------------------------------|-------|-------|-------|-------|-------|
| | overnight | 1W | 2W | 1M | 3M | 6M |
| Daily minus 30-day MA | -0.20 | -0.20 | -0.18 | -0.15 | -0.12 | -0.23 |
| 30-day MA minus 12-month MA | -0.16 | -0.20 | -0.24 | -0.33 | -0.35 | -0.34 |

Source: The authors' calculations, based on data from the CNB.

Note: "W" stands for week, "M" stands for month, and "MA" stands for moving average. Excess liquidity is defined as departure from a trend of currency in circulation plus government deposits.

17. **However, the transmission from money market rates to bank lending rates is weak.** Although money market interest rates rose during 2003 in response to several hikes in the kuna portion of required reserves (from 25 to 42 percent), the effective lending rate of domestic banks remained largely unaffected and so did the spread between this and foreign interest rates (Figure 6). This can be assessed more formally by using Granger causality tests and an unrestricted VAR model for these variables.



- *Granger tests* indicate only a weak link between lagged money market rates and the effective lending rate (Table 3). There appears to be a link between the two variables in the period 1997–2003. However, this includes a period before the liberalization of capital flows in 2001, when such transmission was more likely. The link disappears if only the period since 2001 is taken into account.

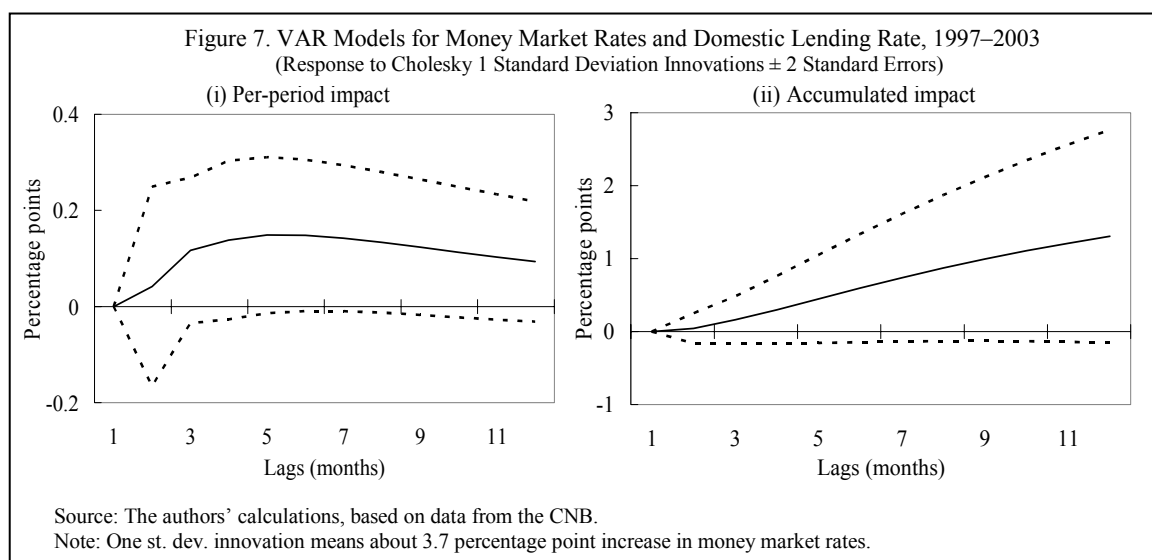
Table 3. Granger Tests of Money Market Rate Versus Domestic
Lending Rate, 1997–2003
(F-statistics, p-values in parentheses)

| | Period | 3 lags | 6 lags | 9 lags |
|--|----------------|-------------------|-------------------|---------------------|
| money market rate to lending rate | 1997:1-2003:12 | 2.411 (0.074)* | 1.907 (0.093)* | 2.831 (0.008)*** |
| d(money market rate) to d(lending rate) | 1997:1-2003:12 | 1.893 (0.138) | 1.632 (0.153) | 2.189 (0.037)** |
| money market rate to lending rate | 2001:1-2003:12 | 0.219 (0.882) | 0.847 (0.545) | 1.038 (0.440) |

Source: The authors' calculations, based on data from the CNB.

Note: */**/** denotes significance at 10/5/1 percent level, respectively. "d" stands for difference.

- *The VAR model* suggests that changes in policy rates do get transmitted to lending rates but the transmission is very weak. For the Euro Area, Angeloni and Ehrmann (2003) estimate that the maximum impact on lending rates is reached in about 5 months and the maximum impact is about 0.8 of the original shock to money market rates. In comparison, the VAR for Croatia suggests that in 5 months, the impact of money market rates on lending rates is only about 0.15 of the original shock, (Figure 7). Similarly to the Granger tests, if the impulse-response functions are re-estimated for the period since 2001, the response of domestic lending rates is virtually zero.



18. **These findings are supported also by the analysis of short-term capital flows and interest rate differentials.** The degree of correlation of interest rate differentials and short-term capital flows has been weak and insignificant in 1997–2003 (Table 4).⁹ This is consistent with the previous finding that there might have been an interest rate transmission channel in this period. However, as in the case of the previous findings, it should be noted that during a large part of the sample period, short-term flows were restricted. In particular, Chilean-type capital controls had been in effect in 1998 and it was only from mid-2001 that the corporate sector was allowed full access to the foreign exchange markets. As a result, the correlation between the two variables was close to nil before the removal of restrictions in 2001 and about $\frac{1}{4}$ since then (Table 4). Even though this change is insignificant at the 10 percent level, it suggests that these two series may have become more strongly correlated, and therefore the role of the domestic interest rate

⁹ As medium or long-term capital flows are not likely to be interest rate-sensitive, we focused on short-term capital flows.

channel in the transmission mechanism may have weakened further. This finding will need to be verified as more data become available.

Table 4. Croatia: Interest Rate Differentials and Short-Term Capital Flows, 1997–2003

| Sample | Correlation coefficient |
|---------------|-------------------------|
| 1997:1–2003:4 | 0.11 |
| 1997:1–2001:2 | 0.03 |
| 2001:3–2003:4 | 0.24 |

Source: The authors' calculations, based on data from the CNB.

Note: Interest rate differentials defined as a difference between domestic lending rate and euro-area lending rate.

D. Other Channels and Credit Controls

19. **Monetary transmission may operate through other channels.** The discussion has so far focused on the traditional channels of monetary policy, the interest rate and the exchange rate channel. However, other channels may also play a role in the monetary transmission, in particular: (i) the equity price channel, playing a role through the impact of valuation changes on investment and consumption decisions; (ii) the credit channel, working through a reduction in the supply of bank credit; and (iii) the balance sheet channel, resulting from the fact that the external finance premium facing borrowers depends on the borrowers' financial position (e.g., a monetary restriction leads to a decline in real estate prices, which decreases the effective demand for credit by reducing the value of borrowers' collateral).¹⁰

20. **The importance of these channels in Croatia is likely to be lower compared to the interest and exchange rate channels.** Given the small size of the equity market in Croatia, the equity price channel is not likely to play an important role in monetary policy transmission. The real estate market plays a more important role, but the real estate prices have so far been driven largely by factors not determined by monetary policy.¹¹ The credit channel could be substantial, given the dominant role of banks in the financial sector, but it could operate only if banks did not have the capability to react to restrictive monetary policy by finding funding sources abroad. Preliminary bank-by-bank calculations presented by Lang and Krznar (2004) and in Chapter II of this paper suggest that banks—especially foreign-owned banks—have such capability. Therefore, the credit channel does not seem to play a very substantial role in Croatia, even though more research on this issue is warranted.

¹⁰ Mishkin (1996) surveys the literature on monetary policy channels. Bernanke and Gertler (1995) focus on the credit and balance sheet channels.

¹¹ However, as better data become available, the real estate prices and the related balance sheet effects will become an important area for future research.

21. **The experience with credit controls, imposed by the CNB in 2003, also illustrates the weakness of the credit channel in Croatia.** In January 2003, faced with booming credit and a mounting external imbalance, the CNB introduced credit controls (EBS/03/99). Even though the controls were abolished at the end of 2003, the experience can provide interesting lessons for monetary policy both in Croatia and in other countries. It should be noted that the analysis presented here, while illustrative, cannot fully distinguish the impact of the credit controls from other factors (such as the liquidity rules, which were changed at about the same time). To distinguish that, we would need to use more sophisticated econometric techniques, for which there are not sufficient data.

22. **The credit controls may have contributed to slowing household consumption but did not affect enterprises.** Bank credit decelerated in 2003 (Table 5), possibly affecting spending by households that do not have easy access to foreign borrowing. Enterprises, however, were able to switch their borrowing from domestic to foreign banks (local banks typically directed corporate customers to their parent banks abroad) and use leasing and other forms of financing. As a result, external borrowing in 2003 was about 2.5 times higher than in 2002, and the share of external debt in financing corporate investment rose in 2003. Although the CNB abolished the credit controls at the beginning of 2004, credit growth has not bounced back: seasonally adjusted credit growth for the first five months of 2004, after adjusting for exchange rate movements, indicates an annualized rate of 14½ percent, about the same as in 2003. This indicates that the credit growth deceleration since the spring of 2003 is likely to have been largely demand-driven.

Table 5. Croatia: Credit Growth Before and After the Controls, 2000–03

| | 2000 | 2001 | 2002 | 2003 |
|---|------|------|------|------|
| Total lending (% change y/y) 1/ | 5.7 | 20.8 | 24.6 | 20.3 |
| <i>of which</i> (contribution in % points): | | | | |
| Domestic bank borrowing | 5.7 | 15.9 | 20.8 | 10.7 |
| Foreign borrowing (without leasing) | 5.6 | -3.8 | 2.3 | 5.1 |
| Leasing | 0.2 | 2.6 | 1.9 | 3.8 |
| Adjustment for write-offs | -5.9 | 6.1 | -0.5 | 0.6 |
| Corporate sector lending (% change y/y) | 3.9 | 14.0 | 17.4 | 16.2 |
| <i>of which</i> (contribution in % points): | | | | |
| Domestic bank borrowing | 1.0 | 10.7 | 11.9 | 2.4 |
| Foreign borrowing (without leasing) | 7.3 | -5.1 | 3.2 | 7.7 |
| Household sector lending (% change y/y) | 11.4 | 41.7 | 42.1 | 28.5 |
| <i>of which</i> (contribution in % points): | | | | |
| Domestic bank borrowing | 21.0 | 31.8 | 42.5 | 27.6 |
| Foreign borrowing (without leasing) | 0.2 | 0.1 | 0.2 | 0.0 |
| Memorandum items: | | | | |
| Composition of corporate financing (in %) | | | | |
| Domestic borrowing (net flow) | 2.8 | 25.8 | 24.4 | 4.8 |
| Foreign borrowing (net flow) | 20.2 | -4.1 | 12.1 | 27.1 |
| Other (e.g., reinvested profits) | 77.0 | 78.3 | 63.5 | 68.1 |

Source: Authors' calculations based on data from CNB and the Central Statistics Bureau.

1/ Total domestic and external borrowing by the non-government sector in Croatia.

23. **The limits also had a negative impact on the soundness of the financial sector.** Some of domestic banks' best corporate clients were redirected to foreign banks. The limits encouraged a rapid growth of unsupervised and unregulated leasing companies (which were growing rapidly since mid-1990s, but their contribution to overall lending growth increased in 2003). Finally, transparency of monetary and banking statistics deteriorated, as banks engaged—especially in early 2003—in some activities designed mainly to circumvent the limits, such as asset swaps, collateralization, and accelerated write-offs of nonperforming loans. The calculations in Table 5 attempt to approximate the impact of the write-offs on the total credit data.

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II. THE DETERMINANTS OF LENDING RATES AND DOMESTIC SPREADS IN CROATIA¹²

A. Introduction and Summary of Conclusions

24. **Understanding the determinants of banks' lending rates is important for macroeconomic and financial sector surveillance.** Perceived profit opportunities in lending—which reflected high interest rates on lending and relatively low default rates—were the driving factor behind a rapid increase in bank credit to the private sector in Croatia in the last three years. The rapid expansion of bank credit has become one of the most prominent macroeconomic and financial sector developments.¹³ An analysis of interest rate spreads is therefore important for designing and assessing macroeconomic and prudential policies to address the issues related to the rapid growth in credit.

25. **An analysis of factors behind lending rates and lending spreads is also important for understanding the monetary transmission mechanism.** If lending spreads are high and are determined mostly by factors other than money market rates, transmission of changes in money market rates into lending rates is likely to be weak. This was observed in 2003, when the effective lending rate of domestic banks remained unaffected, despite a substantial increase in money market interest rates. Preliminary analysis based on aggregate data suggest that the relationship between lagged policy rates and the effective lending rate is relatively weak in Croatia.¹⁴ An analysis of the determinants of the lending rates and spreads makes it possible better to assess the factors that influence the interest rates at which banks lend.

26. **This chapter addresses the following issues:** how lending rates and spreads in Croatia compare to other countries and how they vary across banks; what explains the differences; what it means for the future developments in the banking sector; and what are the policy implications. These issues are addressed first by accounting decompositions based on aggregate balance sheet and income statement data and then—because there is a large bank-by-bank variability of interest rates and spreads in Croatia—also by panel regressions based on individual bank data. These two alternative methods provide two complementary assessments of the factors underlying interest rate spreads in Croatia.

27. **The chapter finds a number of factors that can explain lending rates and spreads within Croatia and draws a number of policy conclusions.** Interest rate spreads in Croatia have been declining but are still somewhat higher than in other

¹² Prepared by Martin Čihák, with inputs from Tomislav Galac and Danijela Mladinović.

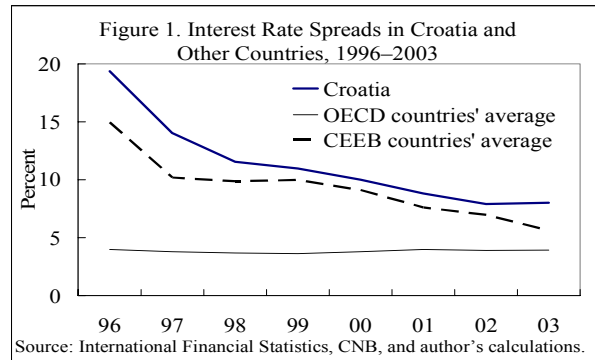
¹³ Cottarelli et al. (2003) discuss what drives the rapid credit growth in Central and Eastern Europe and the Balkans. Their study, however, does not explicitly analyze the determinants of lending rates or spreads.

¹⁴ See Chapter I of this Selected Issues paper.

Central, Eastern European, and Balkan (CEEB) countries. Lower spreads are generally seen for foreign greenfield banks, banks with a lower share of NPLs, banks that are more liquid and have higher capital adequacy, and in large banks (even though there is also some evidence that interest rate spreads increase with market share, other things being equal). The impact from NPLs underscores the need for credit information sharing and strong prudential regulations. Moreover, competition policy should, while ensuring strict enforcement of competition laws, allow banks to take advantage of economies of scale.

B. Decomposition of Interest Rate Spreads in Croatia

28. **Similarly to other CEEB countries, spreads between lending and deposit rates in Croatia are higher than in advanced economies.** Since the 1990s, they have declined towards the advanced economy levels (Figure 1)¹⁵. Throughout this adjustment period, interest rate spreads in Croatia have been somewhat (about 2–4 percentage points) above the CEEB average.¹⁶



29. **The factors underlying interest rate spreads can be assessed through a decomposition of the spreads into corresponding cost factors.** This decomposition is based on the accounting identity

$$i^L - i^D \equiv o + l + i^D r / (1 - r) + d + p + \tau [p - o - l - i^D r / (1 - r) - d], \quad (1)$$

where i^L is the average interest rate on loans, i^D is the average interest rate on deposits, o are the overhead costs relative to loans, l are loan loss provisions net of recoveries relative to loans, r is the reserve requirement rate, d is the deposit protection premium relative to loans, p is the profit margin (pre-tax profit relative to loans), and τ is the tax rate on profits. Profit margins are calculated as a residual after accounting for the other components.

¹⁵ Interest rate spread is defined as the difference between average interest rates on non-bank client loans and deposits. For Croatia, the officially reported data have a methodological break in 2002. To present consistent time series, pre-2002 figures are the author's estimates based on the impact of the 2002 break.

¹⁶ CEEB countries are defined here to include Albania, Bosnia and Herzegovina, Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, FYR Macedonia, Moldova, Poland, Russia, Slovak Republic, Slovenia, and Ukraine.

30. **The accounting decomposition of spreads was carried out using aggregate balance sheets and income statements for the Croatian banking sector in 2001–2003** (Table 1). The calculation leads to the following observations:

- ***Overhead costs were substantial***, accounting for about 2.5 percentage points, or more than a third, of the spread in 2003. This is above the advanced-economy average of about 2 percentage points and somewhat above the emerging market average. The higher overhead costs reflect the fact that the productivity of Croatian banks (measured by per-employee levels of assets, loans, deposits, and net interest income) is still below the emerging market average (Table 2). However, with cost-cutting and rapid credit growth, the ratio of overhead costs to loans declined by about 1 percentage point between 2001 and 2003 (Table 1).
- ***Loan loss provisioning expenses account for a small part of the spread*** (0.4 percentage points in 2003), reflecting the relatively low percentage of nonperforming loans (NPLs).
- ***The impact of reserve requirements on the interest rate spreads is about 0.2 percentage points***. This reflects low interest rates on deposits and positive remuneration rate (set at 25 basis points below the EURIBOR rate).
- ***The deposit protection premia account for about 0.4 percentage points of the spread***, which is relatively high compared with other countries. The high premia reflect the high cost of the past bank failures.
- ***The profit margin on lending declined between 2001 and 2003***. In 2003, the pre-tax profit on enterprise lending was substantially lower than the average return on banks' assets, making further enterprise lending relatively unattractive. In contrast, the pre-tax return on household lending was more than 4 times the average pre-tax return on assets.
- ***Greenfield foreign-owned banks have somewhat lower interest rate spreads and lower profit margins***. This most likely reflects their specialization on lower risk corporate clients (such as subsidiaries of large foreign corporations).

Table 1. Croatia: Decomposition of Interest Rate Spreads, 2001–03
(In percentage points)

| | 2001 | | | 2003 | | | | | |
|------------------------|-----------|-------------------------|-------------|-----------|-------------------------|-------------|-----------------------|---------------|-------|
| | All loans | of which (by borrower): | | All loans | of which (by borrower): | | of which (by lender): | | |
| | | Enter-prises | House-holds | | Enter-prises | House-holds | Green-field | Other foreign | Other |
| Interest rate spread | 9.6 | 4.8 | 13.7 | 7.2 | 4.9 | 10.1 | 6.4 | 7.0 | 9.0 |
| Overhead costs | 3.5 | 3.5 | 3.5 | 2.5 | 2.5 | 2.5 | 2.4 | 2.5 | 3.8 |
| Loan loss provisioning | 0.1 | 0.1 | 0.1 | 0.4 | 0.4 | 0.4 | 0.6 | 0.2 | 1.0 |
| Reserve requirement | 0.0 | 0.0 | 0.0 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.1 |
| Deposit protection | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.3 | 0.4 | 0.4 |
| Pre-tax profit | 5.6 | 0.8 | 9.7 | 3.7 | 1.4 | 6.6 | 2.8 | 3.8 | 3.6 |
| Tax | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 |
| Profit margin | 5.4 | 0.6 | 9.5 | 3.6 | 1.3 | 6.5 | 2.6 | 3.7 | 3.5 |
| Memorandum item: | | | | | | | | | |
| ROA (after-tax) | 1.3 | | | 1.3 | | | | | |

Source: CNB and author's calculations.

Table 2. Croatia: Bank Productivity in International Comparison, 2002
(In thousands of U.S. dollar)

| | Assets per Employee | Loans per Employee | Deposits per Employee | Net Interest Income per Employee |
|------------------|---------------------|--------------------|-----------------------|----------------------------------|
| Croatia | 1,413 | 762 | 1,002 | 24 |
| Emerging markets | 2,040 | 910 | 1,620 | 60 |

Source: CNB, BankScope, and author's calculations.

C. Bank-by-Bank Regressions of Lending Rates, Spreads, and Credit Growth

31. **Interest rates and spreads vary widely among banks in the Croatian banking system.** In September 2003, for example, local currency deposit rates in individual banks varied from 0.4 to 5.9 percent and their lending rates ranged from 6.1 to 26.8, with spreads varying from 4.7 to 21.0 percent. This wide variability of interest rates within the system reflects different features and strategies of individual banks. The calculations in the previous section, which were based on aggregate banking sector data, can therefore be viewed only as a first approximation.

32. **To analyze the factors behind the variability of lending rates, spreads, and credit growth, panel regressions of individual bank data on interest rates were estimated.** Compared with the decomposition of the previous section, the regressions make it possible to look beyond the accounting relationships and analyze the underlying factors that may explain differences in interest rates. In particular, the lending rate is estimated as a function of the deposit rate, other variables characterizing the bank (such as bank size, ownership, asset quality, and profit margins), and variables characterizing the environment (such as the money market rate). A similar regression was then run for

the spread between the lending and deposit rates. Finally, another regression is run for credit growth as a function of the lending rate and a number of other factors.

33. **The estimates can explain a major part of the bank-by-bank variability in lending spreads** (Table 3). The regressions, carried out on a panel of monthly data for 46 Croatian banks from July 1999 to December 2003 (roughly 2,100 observations in 54 cross-sections), used two methods for dealing with heteroscedasticity in the data: seemingly unrelated regressions (SUR) and feasible generalized least squares assuming the presence of cross-section heteroscedasticity and using estimated cross-section residual variances (GLS). The columns in Table 3 correspond to the individual estimates, which differ from each other by the choice of dependent variables (lending rate, lending spread, and credit growth in non-financial sector), estimation methods (GLS vs. SUR), and choice of explanatory variables. The Appendix describes the input data, the definitions of the variables used, and the estimation methods. The estimates account for about 90 percent of bank-by-bank variability in lending spreads (the rest is likely to reflect different bank specialization and other factors and shocks). The main results are as follows:

- ***Larger banks have generally lower lending rates and lending spreads, reflecting economies of scale.*** If a bank's balance sheet doubles, the estimates suggest that its lending rates are typically lower by about 0.3–0.6 percentage points, other things being equal.¹⁷ At the same time, however, there is some evidence that lending rates and spreads increase with market share. This means that banks with higher market share try to use their market power to achieve higher interest spreads. This finding needs to be treated with some degree of caution, however, as the estimated coefficient is significant only in some of the regressions.
- ***Lending rates and spreads increase with the NPL ratio.*** This finding is consistent with the result of the accounting decomposition: higher NPLs mean higher loan loss provisioning, which increases costs for banks and is reflected in higher lending rates and spreads.
- ***Banks with more liquidity have lower lending rates and spreads.*** The impact of liquidity on banks' lending rates and spreads is somewhat less significant than the impact of NPLs, but the results across the estimates generally point towards a negative impact of liquidity on lending rates and spreads.
- ***The impact of capital adequacy is different for lending rates and spreads.*** Banks with higher capital adequacy have lower lending rates, but they have even lower deposit rates, so that their spreads are higher than in banks with lower capital adequacy.

¹⁷ This figure is obtained as 0.69 times the slope coefficient in Table 3, using the fact that $\log(2x) = \log 2 + \log x \approx 0.69 + \log x$.

Table 3. Croatia: Lending Rates, Spreads, and Credit Growth, 1999–2003
(Estimated coefficients and standard errors)

| Dependent Variable | Lending rate | Lending rate | Lending rate fx indexed | Lending rate fx indexed | Lend. rate – deposit rate | Lend. rate – deposit rate | Credit growth |
|------------------------------|------------------------------|-------------------|-----------------------------|------------------------------|---------------------------|-----------------------------|-----------------------------|
| Estimation method | GLS | SUR | GLS | SUR | GLS | SUR | GLS |
| Bank specific factors | | | | | | | |
| Lending rate | - | - | - | - | - | - | -0.15** (0.02) |
| Deposit rate | 0.04 (0.05) | 0.05** (0.02) | 0.07 (0.04) | 0.14** (0.02) | - | - | - |
| Log (assets) | -0.40 ⁺ (0.21) | -0.84** (0.14) | -0.86** (0.10) | -0.68** (0.05) | -0.13 (0.18) | -0.85** (0.11) | -0.19** (0.06) |
| Market share | 0.03 (0.05) | 0.04 (0.03) | 0.07** (0.02) | 0.03** (0.01) | 0.00 (0.04) | 0.04 ⁺ (0.02) | 0.02* (0.01) |
| NPLs in total loans | 5.78** (1.60) | 2.76** (0.97) | 6.17** (1.13) | 5.39** (0.41) | 3.97** (1.48) | 4.21** (0.92) | -5.97** (0.83) |
| Liquidity | 0.03 (0.16) | -0.47** (0.10) | 0.06 (0.15) | -0.16 ⁺ (0.09) | -0.15 (0.15) | -0.44** (0.09) | 0.27 (0.36) |
| Capital adequacy | - | -0.98** (0.46) | - | -0.01 (0.32) | 1.70* (0.75) | 1.48** (0.30) | - |
| Greenfield bank | -3.02** (0.32) | -2.18** (0.26) | -0.60** (0.15) | -0.53** (0.08) | -3.38** (0.27) | -2.31 (0.22) | 1.53** (0.15) |
| Privatized bank | 0.77 ⁺ (0.32) | 0.89** (0.26) | 0.48 ⁺ (0.28) | 0.50** (0.12) | 1.25** (0.39) | 2.17** (0.22) | 0.16 ⁺ (0.09) |
| General factors | | | | | | | |
| EURIBOR money rate | - | 0.30** (0.01) | - | - | - | - | - |
| Domestic T-bill rate | 0.11** (0.02) | - | 0.08** (0.01) | 0.07** (0.02) | 0.12** (0.01) | 0.12** (0.15) | -0.12** (0.02) |
| AR (1) | 0.85** (0.01) | 0.82** (0.01) | 0.80** (0.02) | 0.55** (0.02) | 0.82** (1.26) | 0.79** (0.01) | 0.11** (0.02) |
| Constant | 13.08** (1.62) | 16.19** (1.01) | 15.02* (0.84) | 13.60** (0.39) | 8.18** (1.26) | 12.26** (0.73) | 105.10** (0.76) |
| R ² weight. | 0.91 | - | 0.94 | - | 0.86 | - | 0.99 |
| R ² unweig. | 0.76 | 0.76 | 0.75 | 0.69 | 0.71 | 0.70 | 0.03 |
| No. of obs. | 2,140 | 2,140 | 2,109 | 2,109 | 2,144 | 2,144 | 2,144 |

Source: CNB's data, author's calculations.

* significant at 1 percent level

** significant at 5 percent level

⁺ significant at 10 percent level

- **Foreign greenfield banks have generally lower interest rate spreads than domestic banks.** This finding is in line with findings in earlier empirical literature for Croatia, but is based on newer data and a formal panel regression estimate. Galac and Kraft (2000), based on interviews with bankers, concluded that the impact of foreign banks on the domestic system has been positive, even though competition has increased only mildly. Jemrić and Vujčić (2002), using the data envelopment analysis, found that foreign-owned banks were on average most efficient and that new banks were more efficient than old ones. Kraft et al. (2002),

using balance sheet data, found that new private and privatized banks are not the most efficient banks, but that foreign banks are substantially more efficient than all categories of domestic banks. Kraft (2002) concluded—using results of written and oral interviews and balance sheet data—that the entry of foreign banks had a substantial positive impact on competition in the domestic banking sector. All these studies included only data up to 2000, while the present one covers the recent period of rapid credit growth.

- ***The credit growth is lower for banks with higher lending rates.*** This finding is consistent with the notion that the demand for credit is a negatively sloping function of the interest rate. The credit growth is also lower for larger banks (suggesting that smaller banks are relatively more aggressive in lending) and those with higher NPL ratios (because the costs related to the stock of past NPLs prevent them from growing faster). There is a significant relationship between credit growth on the one hand and bank liquidity and capital adequacy on the other. Greenfield banks have been growing faster than other banks, after taking all the other factors into account. Higher treasury-bill rates are also related to lower credit growth.
- ***Changes in lending rates are positively related to changes in money market and deposit rates.*** However, the interest rate transmission operates with lags, which is reflected in the significant coefficient of the AR(1) factor. This reflects the fact that the relationship between money market (or treasury-bill) rates and lending rates, and the relationship between lending rates and credit growth operates with substantial lags.

D. Policy Implications

34. **The analysis in this chapter provides some guidance for what could be done to support a further increase in the efficiency of intermediation.** The finding that banks with high NPLs have higher lending rates can be used to underscore the need for improved credit information sharing (as an important prerequisite for achieving better asset quality) and stronger prudential supervision. The latter is also in line with the finding that banks with low liquidity and low capital adequacy have higher lending rates. In addition, the calculations offer two interesting findings:

- ***Competition policy.*** The estimates suggest that Croatian banks operate in an environment with significant economies of scale. Growth in bank size is likely to lead to declines in spreads through savings in overhead costs (which account for the largest part of the spreads). Competition policy that allows banks to grow, including through mergers and acquisitions, is likely to help decrease lending rates and spreads. At the same time, there is some evidence that banks with large market shares exert market power to enjoy a higher profit margin. The permissive merger and acquisition policy should therefore be accompanied by a strict enforcement of existing rules against behavior that limits or distorts competition (such as the abuse of dominant position).

- ***Reserve requirements.*** The reserve requirement rate is high at 19 percent. However, lowering reserve requirements, even though it could have an important signaling effect, would not have a major impact on lending rates (only about 0.2 percentage points), reflecting the fact that the reserves are remunerated (the remuneration rate being 25 basis points below the EURIBOR rate at present).

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DATA DESCRIPTIONS, DEFINITIONS, AND ESTIMATION METHODS

The following are definitions of the key variables used in the regressions in Table 3:

- *Lending rate* is the nominal interest rate charged by a bank on its total new lending (measured in percent). The advantage of this variable is that it covers all loans; its disadvantage is that the methodology for its calculation changed in the beginning of 2002. This was addressed in two ways: first, by including a dummy variable to account for the change in the methodology; second, by using an alternative definition of lending rates, namely those for new kuna loans linked to foreign currency (*lending rate fx indexed*). This narrower definition does not have this break and still covers about 60 percent of total lending by banks.
- *Deposit rate* is defined as the average interest rate paid by a bank on its total deposits (measured in percent).
- *Spread* is defined as the difference between a bank's lending rate (i^L) and deposit rate (i^D). More exactly, it is defined as $[(1+i^L)/(1+i^D)]-1$, which can be approximated as (i^L-i^D) if i^D is small.
- *Non-financial sector credit growth rate* is defined as a bank's month-on-month rate of growth of credit to the non-financial private sector (in percent).
- Bank size was approximated by the logarithm of total assets in HRK million, $\log(\text{assets})$.
- *Market share* equals the bank's assets divided by total commercial bank assets. The reason for using this variable is that a bank that dominates the national market may enjoy a larger net interest income than a bank that does not control much of the market even after controlling for bank size. In other words, a bank with a large market share may exert market power to enjoy a higher net interest margin. The meaning of this variable is different from the bank size, because bank size can grow without an increase in market share (if the other banks grow at the same rate) and vice versa (if the other banks' total assets decrease).
- Asset quality was approximated by the share of gross NPLs in gross total loans (*NPLs in total loans*), measured in percent. NPLs are defined as the sum of substandard, doubtful, and loss loans (category C, D, and E in CNB's classification).
- *Liquidity* is measured by the L4 indicator used by the CNB, defined as non-borrowed excess reserves over the deposit base. (More exactly, the numerator includes cash (+), vault (+), required reserve deposits with the CNB (+), T-bills, CNB bills (+), net money market placements up to 1 week (+), and required reserves (-). The denominator are total deposits.) This indicator is used to control for differences in

bank assets. Banks with high levels of liquid assets in cash and government securities may receive lower interest income than banks with less liquid assets. If the market for deposits is reasonably competitive, then greater liquidity will tend to be negatively associated with deposit rates.

- *Capital adequacy* equals the regulatory capital divided by risk weighted assets (in percent).
- Ownership was expressed by dummy variables for greenfield foreign owned banks (*Greenfield*) and privatized banks (*Privatized*).
- *Domestic T-bill rate*. This rate is used to approximate the development in the market for short-term liquidity. In an alternative estimate, the monthly average of the overnight rate money market rate is used to approximate movements in domestic policy rates. (The disadvantage of an overnight rate was its higher volatility, but it was used because the overnight market has higher liquidity—and much higher information content—than those for longer maturities.)
- *EU money market rate*. The EURIBOR 12-month rate is used to approximate movements in foreign interest rates.

The following conventions were used to deal with banks that disappeared from the sample during the period under observation:

- *Failed banks* were kept in the sample, with missing observations in the period after the failure.
- For *mergers*, there are three series: two for the banks before the merger (with missing observations after the merger) and one for the merged bank (with missing observations before the merger).
- For *acquisitions*, there was one series with data for the acquiring bank and one with those for the acquired bank (with missing observations after the acquisition).

The following two estimation methods were used:

- *Generalized least squares (GLS)*. A feasible GLS estimation method was estimated, assuming the presence of cross-section heteroscedasticity. The presented standard errors are based on variances and covariances that are robust to general heteroskedasticity. This form of heteroskedasticity is more general than the cross-section heteroskedasticity, since variances within a cross-section are allowed to differ across time.
- *Seemingly unrelated regressions (SUR)*. The regression was estimated using feasible GLS specification correcting for both cross-section heteroskedasticity and

contemporaneous correlation. This specification is sometimes referred to as the Parks estimator (see Beck and Katz, 1995 for a discussion of advantages and disadvantages of this method)

III. EMPLOYMENT PROTECTION IN CROATIA¹⁸

A. Introduction and Summary of Conclusions

35. **This chapter discusses the economic implications of employment protection in Croatia.** Labor market performance in Croatia has been relatively poor, even compared with other Central and Eastern European countries (CEECs). Recent studies, such as Rutkowski (2003), attribute this poor performance, among other factors, to the strict employment protection in Croatia. Schneider and Dominik (2000) point out that stringent employment protection could also provide an incentive for firms to move to or remain in the informal sector in order to lower labor costs. A large informal sector could have a number of unwanted implications. Tax collections could be lower (indeed the Croatian Ministry of Finance has repeatedly blamed the size of the grey economy for unsatisfactory tax collections). Moreover, it could lower the productivity of the overall economy, as a recent study by Farrell (2004) suggests: firms in the unofficial sector tend to be small, and their small scale limits their ability to fully utilize new technology and business practices, which drags down the productivity of the overall economy. This chapter presents the main stylized facts about employment protection and labor market performance in Croatia and examines the link between employment protection and the shadow economy.

36. **The main conclusion is that the strict employment protection in Croatia is likely to have negative economic implications.** Circumstantial evidence suggests that employment protection may have played an important role in explaining Croatia's poor labor market performance. Also, empirical tests indicate that employment protection is correlated with the size of the shadow economy. The policy implications of these findings are that Croatia could enhance employment in the official sector, expand the tax base, and boost productivity by relaxing employment protection. Labor law amendments implemented at the beginning of this year, which lowered Croatia's employment protection legislation (EPL) index by 23 percent,¹⁹ are an important step in this direction.

B. Employment Protection and Labor Market Performance in Croatia: Stylized Facts

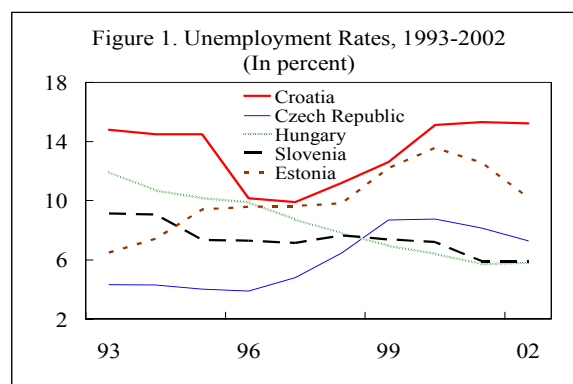
37. **Stringent employment protection may be significant in explaining the poor labor market performance in Croatia.** There is no consensus in the literature on the overall effect of employment protection on the aggregate level of employment and unemployment over the economic cycle. However, it is widely agreed that stringent employment protection increases the incidence of long-term unemployment (Blanchard 2000), as it makes labor turnover

¹⁸ Prepared by Tetsuya Konuki.

¹⁹ EPL index is a weighted average of 22 indicators which represents the degree of restrictions to hire and dismiss workers. It takes values from one to six, and the higher the value the stricter the employment protection regulations.

difficult in the course of economic cycles. This issue becomes relevant in particular when the economy is hit by a severe negative shock, such as the transition from a planned to a market economy or a war, both of which Croatia experienced in the 1990s.

38. **The labor market in Croatia has not performed well.** In the early 1990s, economic restructuring and privatization significantly increased redundancies. The war between 1991 and 1995 worsened the situation. While labor shedding by many firms led to improved productivity, it also contributed to massive inflows to unemployment. Although economic growth has been brisk since the mid-1990s, outflows from unemployment, including outflows to jobs, have not accelerated, and have been falling short of inflows until 2000.²⁰ The labor force survey-based unemployment rate has been hovering around 15 percent for the past five years, which is relatively high even among CEECs (Figure 1). In addition, the share of long-term unemployment in total unemployment has been significantly higher in recent years (hovering around 55 percent) than in major CEECs, such as the Czech Republic, Hungary, and Poland (averaging around 45 percent). Finally, the labor force participation rate has remained low at around 50 percent. In particular, unemployment is high and participation is low among the young. The overall low participation may reflect poor availability of job opportunities and mismatch problems.



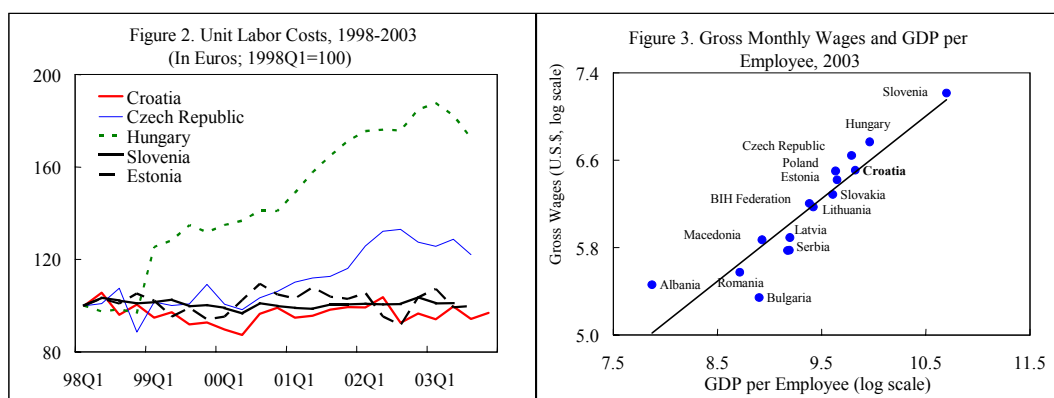
39. **Firm-level data reveal that the job reallocation in Croatia is sluggish.** Croatian firms yearly terminate about 5 percent of all jobs, compared with the job destruction rate of 10–11 percent in other CEECs.²¹ At the same time, the job creation rate in Croatia is only 3½ percent, compared with 7–11 percent in other CEECs. These figures point to the stagnant nature of Croatian labor market and indicate that the Croatian economy does not seem to undergo the same intensive enterprise restructuring as the leading reformers among CEECs.

40. **Labor costs cannot explain the stagnant job creation in Croatia.** A gross wage comparison in manufacturing sector among CEECs by the World Bank (2003) suggests that gross wages in Croatia are higher than in most of other CEECs. However, economy-wide unit labor cost comparisons show that Croatia has held a relatively strong position in recent

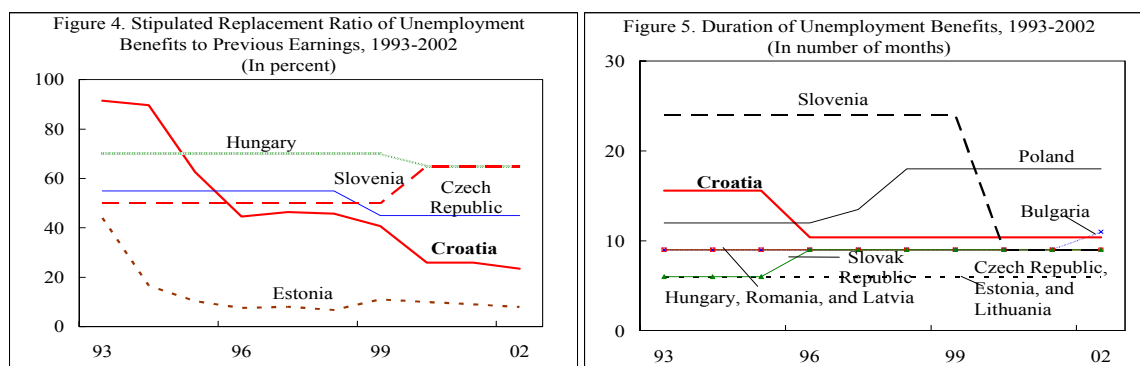
²⁰ See Rutkowski (2003) for detailed discussions on labor market performance in Croatia.

²¹ Rutkowski (2003) presents cross-country comparison of job creation and destruction among the CEECs.

years among CEECs (Figure 2). Furthermore, the gross wage in relation to GDP per employee indicates that Croatian workers are not overpaid compared with those in other CEECs (Figure 3).



41. **Moreover, the unemployment benefit system in Croatia is not particularly generous.** The unemployment benefit in Croatia is a flat rate benefit and the fixed maximum amount is only about one-fourth of the average wage. Figure 4 compares the replacement ratios of unemployment benefits in CEECs for the past 10 years, measured as the stipulated unemployment benefits in percent of previous year's earnings. The comparison reveals that the replacement ratio in Croatia is relatively low. Also, relatively few unemployed receive the unemployment benefit in Croatia and the duration of the benefit payment is capped at 312 days, which is not out of line compared with other CEECs (Figure 5). The benefit coverage rate has been below 20 percent since the mid-1990s, reflecting two factors: (i) the unemployment rate is highest among new entrants to the labor market, who do not qualify for the unemployment benefit; and (ii) a large proportion of the unemployed are long-term unemployed, who are no longer eligible for the benefit. All these characteristics—low replacement rate, moderate duration of the benefit payment, and limited coverage—suggest that the labor supply disincentives related to the unemployment benefit system are likely to be modest in Croatia.



42. **However, employment protection in Croatia is among the strictest in CEECs.** According to the estimated value of the EPL index, employment protection in Croatia is even stricter than in most of the EU-15 and other CEECs (Table 1). Individual dismissals are costly due to the long advanced notice period and high severance pay. Collective dismissals are even more difficult mostly because of the overly inclusive definition of collective redundancy. Although fixed-term employment is a way of circumventing the high costs of terminating regular employment contracts, the labor law until recently restricted its use by requiring that fixed-term contracts were signed only on an exceptional basis.

| Table 1. Employment Protection Legislation Index (EPL) of Selected CEECs | |
|---|------------|
| Croatia | 3.6 |
| Hungary | 1.7 |
| Poland | 2.0 |
| Czech | 2.1 |
| Slovakia | 2.4 |
| Estonia | 2.6 |
| Slovenia | 3.0 |
| EU average 1/ | 2.4 |
| Italy | 3.4 |
| Portugal | 3.7 |
| Spain | 3.1 |
| UK | 0.9 |
| United States | 0.7 |
| Japan | 2.0 |
| Sources: World Bank (2002) and OECD Employment Outlook 1999. | |
| 1/ Does not include Greece and Luxemburg. | |

43. **Strict employment protection is also likely to have discouraged entry or expansion of new businesses in Croatia,** which have been the engine of job creation in other CEECs.²² According to World Economic Forum's "Quality of the National Business Environment Rank", which ranks almost 100 countries based on survey scores of various factors affecting the business environment, Croatia ranks significantly behind the major CEECs, such as the Czech Republic, Hungary, and Poland. Croatia ranks worst in "cooperation in labor-employer relations", which could be explained by the strict employment protection. The share of employment by small and medium-sized enterprises (SMEs), a proxy for new businesses, is 46 percent in Croatia, compared to well over 50 percent in major CEECs.

44. **With a view to making the labor market more flexible, the labor law was amended in July 2003.** The amended labor law, which entered into effect at the beginning of 2004, has lowered Croatia's EPL index by 23 percent. The main changes include: (i) relaxing restrictions on the use of fixed-term contracts; (ii) easing the pre-conditions for valid dismissals; (iii) shortening the advanced notice period from 6 to 3 months; (iv) reducing the amount of severance pay from half to one-third of the monthly pay; and (v) relaxing the definition of mass lay-offs.

C. Employment Protection and the Shadow Economy

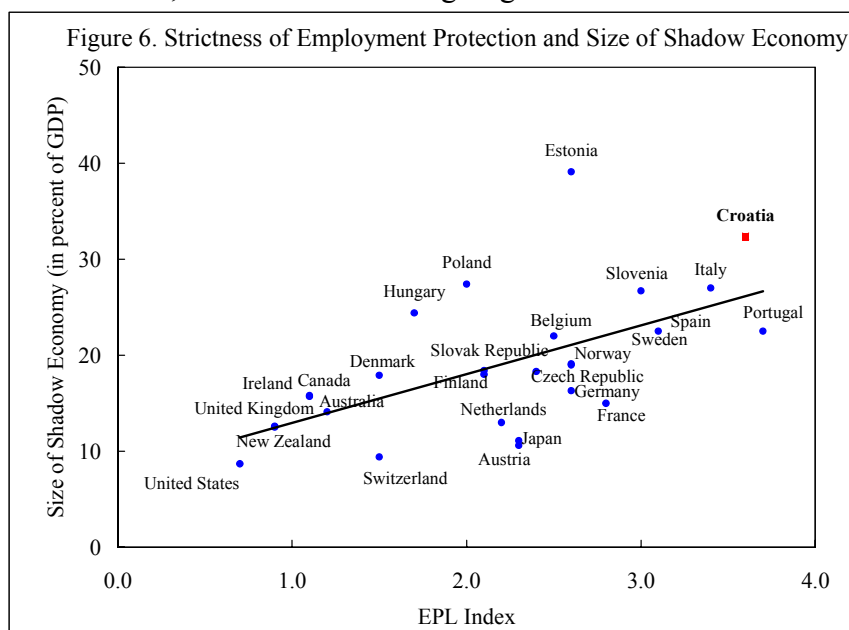
45. **This section analyzes in more detail the role of employment protection in explaining the size of the shadow economy** using cross-country data on selected OECD countries and CEECs. Although there is disagreement about the definition of shadow

²² See Jurajda and Terrell (2002) and Rutkowski (2003).

economy and estimation procedures of its size,²³ many studies in this field find a growing trend in the share of the shadow economy relative to the official economy among the majority of OECD countries during the past 10 to 20 years.

46. **Stringent employment protection leads to increased labor costs in the official economy.** It provides an incentive for firms to move or remain in the informal sector in order to lower labor costs. Since labor costs can be shifted onto employees, it could also provide workers with an incentive to work in the shadow economy. Schneider and Pöll (1999) present some empirical evidence of this using firm-level data in Germany.

47. **Cross-country comparisons indicate that strict employment protection is correlated with a large shadow economy.** Figure 6 plots the size of the shadow economy in percent of GDP and the EPL index of 20 OECD countries and 7 CEECs and shows a clear positive correlation. As mentioned above, different methodologies give rise to different estimates of the size of a country's shadow economy.²⁴ This study uses the estimations provided by Schneider (2002) because the study covers a large variety of countries and reports the most recent estimates (average of 2000/01 on 22 transition economies and average of 2001/02 on 21 OECD countries). As the EPL index only exists for a smaller number of countries, the sample size is limited to 27 countries.



48. **However, other factors also affect the size of the shadow economy and have to be controlled for to assess the impact of employment protection.**²⁵ Almost all studies point

²³ The feature "Controversy: On the Hidden Economy" in *Economic Journal* (Vol. 109, No. 456, June 1999) documents the differing opinions of, e.g., Tanzi (1999), Thomas (1999), and Giles (1999).

²⁴ See Schneider and Enste (1999) and Feige and Urban (2003) for illustrative examples.

²⁵ Schneider and Enste (2000) provide an illustrative survey on this issue.

out that the tax and social security burden is one of the most important factors in explaining the size of the shadow economy. The bigger the tax wedge in the official economy, the greater the incentives to work in the shadow economy. Business regulations also affect the size of the shadow economy. Finally, it is widely recognized that the quality of infrastructure and effectiveness of public services improve as a country becomes richer. This indicates that the incentives to work in the unofficial sector become weaker as a country develops and per capita income grows.

49. **Even after controlling for the tax wedge, business regulations, and per capita income, employment protection is still significant in explaining the size of the shadow economy.** Table 2 reports the results of OLS regression of the size of the shadow economy on the log of per capita GDP, the EPL index, the tax wedge on labor income, and a business regulation index.²⁶ As expected, the coefficient of per capita income is significantly negative, while the EPL coefficient is positive and highly significant: evidence that less employment protection is correlated with a lower share of the shadow economy even after controlling for other factors. This is consistent with a strand of literature (including Tokman 1990 and Loayza 1996) suggesting that labor regulation is a major factor behind the dynamics of the unofficial economy. However, it is in contrast with the findings of Johnson, et al (1998), who did not find significant evidence of a positive relation between labor regulation and the size of the shadow economy. Finally, contrary to a lot of existing studies, neither the tax wedge on labor income or business regulation index is significant. These results suggest that the strictness of employment protection plays a more important role in explaining the cross-country difference in the size of the shadow economy than the tax burden on labor income or business regulations.

| Table 2: OLS Estimation on the Impact of EPL on Shadow Economy | | | | |
|--|-------------|----------------|---------|---------|
| Dependent variable: Shadow Economy as a percent of GDP | | | | |
| Regressor | Coefficient | Standard Error | T-Ratio | Prob. |
| Constant *** | 56.814 | 16.338 | 3.477 | [0.002] |
| Log GDP per capita *** | -6.017 | 1.443 | -4.171 | [0.000] |
| EPL *** | 4.234 | 1.387 | 3.052 | [0.006] |
| Tax wedge on labor income | 0.046 | 0.099 | 0.466 | [0.646] |
| Business regulations | 1.477 | 1.294 | 1.142 | [0.266] |
| R-Bar-Squared=0.607 | | | | |
| Number of Observations=27 | | | | |
| Note: *** Indicates significance at 1 percent level. | | | | |

²⁶ Business regulation index as of 2001, compiled by the Economic Freedom Network, is used as a measure of strictness of business regulations. It takes into account price controls, time required for new business entry, and the extent of irregular payments to business regulators. It ranges from 1 (most strict) to 10 (most liberalized).

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Table A1. Croatia: GDP by Expenditure Category, 2000-05

| | 2000 | 2001 | 2002 | 2003 | 2004 Proj. | 2005 Proj. |
|---|---------|---------|---------|---------|---------------|---------------|
| (Percentage changes) | | | | | | |
| Real GDP | 2.9 | 4.4 | 5.2 | 4.3 | 3.7 | 4.1 |
| Domestic demand | -0.3 | 5.4 | 10.6 | 2.0 | 3.7 | 3.2 |
| Consumption | 3.6 | 2.0 | 5.4 | 3.2 | 2.9 | 3.3 |
| Private 1/ | 4.2 | 4.4 | 7.5 | 4.1 | 3.5 | 4.5 |
| Government 2/ | 2.0 | -4.2 | -0.3 | -0.4 | 0.6 | -1.4 |
| Gross fixed capital formation | -3.8 | 7.1 | 12.0 | 16.8 | 5.8 | 5.4 |
| Private 1/ | 10.0 | 5.3 | 12.4 | 11.5 | 8.6 | 8.7 |
| Government 2/ | -32.9 | 13.1 | 10.9 | 42.2 | -4.9 | -8.6 |
| Exports | 12.0 | 8.6 | 3.1 | 18.2 | 3.9 | 4.5 |
| Imports | 3.7 | 10.1 | 13.9 | 11.0 | 3.8 | 2.8 |
| (Percentage contributions) | | | | | | |
| Real GDP | 2.9 | 4.4 | 5.2 | 4.3 | 3.7 | 4.1 |
| Domestic demand | -0.3 | 5.7 | 11.3 | 2.2 | 4.0 | 3.5 |
| Consumption | 3.0 | 1.7 | 4.4 | 2.5 | 2.3 | 2.5 |
| Private 1/ | 2.5 | 2.7 | 4.5 | 2.5 | 2.2 | 2.7 |
| Government 2/ | 0.5 | -1.0 | -0.1 | -0.1 | 0.1 | -0.2 |
| Gross fixed capital formation | -0.9 | 1.5 | 2.7 | 4.0 | 1.5 | 1.5 |
| Private 1/ | 1.6 | 0.9 | 2.1 | 2.3 | 1.8 | 1.9 |
| Government 2/ | -2.5 | 0.6 | 0.6 | 1.7 | -0.3 | -0.4 |
| Change in inventories 3/ | -2.4 | 2.5 | 4.2 | -4.3 | 0.2 | -0.5 |
| Net foreign demand | 3.2 | -1.3 | -6.1 | 2.1 | -0.3 | 0.6 |
| Exports | 5.1 | 4.0 | 1.5 | 8.5 | 2.1 | 2.4 |
| Imports | -1.9 | -5.2 | -7.6 | -6.5 | -2.4 | -1.8 |
| (Percentage change in implicit deflators) | | | | | | |
| GDP | 4.7 | 4.0 | 2.9 | 3.2 | 2.7 | 3.0 |
| Consumption | 4.7 | 3.8 | 1.8 | 2.3 | 2.6 | 3.0 |
| Private | 5.5 | 4.7 | 1.9 | 1.4 | 2.2 | 2.8 |
| Government | 2.8 | 1.7 | 1.3 | 5.7 | 4.1 | 3.7 |
| Gross fixed capital formation | 4.8 | 3.8 | 6.5 | 3.2 | 3.0 | 3.1 |
| Exports | 10.9 | 3.3 | 0.2 | 1.5 | 2.2 | 2.4 |
| Imports | 10.1 | 3.2 | -0.2 | 0.9 | 2.0 | 2.3 |
| Nominal GDP | 152,519 | 165,639 | 179,390 | 193,067 | 205,747 | 220,636 |

Sources: Croatian National Bank, Ministry of Finance, Central Statistics Bureau, and staff estimates

1/ Includes public enterprises.

2/ Due to the switch from GFS1986 to GFS2001, there is a break in series between 2002 and 2003.

3/ Includes statistical discrepancy.

Table A2. Croatia: Trends in Industrial Production, 1996-2004
(Industrial production by main industrial groupings, 2000=100)

| | Total Industry | Energy | Intermediate Goods, Except Energy | Capital Goods | Durable Consumer Goods | Nondurable Consumer Goods |
|------|-------------------|--------|---|------------------|------------------------------|---------------------------------|
| 1996 | 90.0 | 77.3 | 95.6 | 91.2 | 73.6 | 90.0 |
| 1997 | 96.2 | 90.5 | 93.8 | 97.2 | 96.4 | 100.6 |
| 1998 | 99.7 | 93.8 | 97.4 | 98.5 | 94.7 | 104.9 |
| 1999 | 98.3 | 102.5 | 96.4 | 93.3 | 103.9 | 98.8 |
| 2000 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2001 | 105.8 | 100.7 | 104.7 | 117.9 | 101.7 | 107.7 |
| 2002 | 109.4 | 99.9 | 110.4 | 121.9 | 97.8 | 112.1 |
| 2003 | 114.8 | 104.3 | 115.5 | 121.1 | 102.4 | 121.1 |
| 1996 | | | | | | |
| Q1 | 87.3 | 85.0 | 90.6 | 83.8 | 71.3 | 85.3 |
| Q2 | 89.4 | 69.3 | 97.1 | 98.7 | 71.0 | 86.4 |
| Q3 | 88.5 | 69.9 | 96.8 | 92.7 | 76.3 | 89.3 |
| Q4 | 94.9 | 85.1 | 98.0 | 89.6 | 75.5 | 99.0 |
| 1997 | | | | | | |
| Q1 | 89.7 | 98.6 | 85.3 | 87.4 | 90.8 | 90.8 |
| Q2 | 95.4 | 83.0 | 95.8 | 98.3 | 108.4 | 100.2 |
| Q3 | 94.1 | 77.7 | 87.8 | 93.3 | 90.1 | 105.6 |
| Q4 | 105.3 | 102.5 | 106.2 | 109.6 | 96.3 | 105.8 |
| 1998 | | | | | | |
| Q1 | 95.4 | 101.9 | 92.6 | 95.4 | 93.5 | 94.7 |
| Q2 | 100.3 | 78.0 | 104.1 | 106.9 | 96.5 | 104.0 |
| Q3 | 102.4 | 87.3 | 96.2 | 99.8 | 95.5 | 115.7 |
| Q4 | 100.9 | 107.8 | 96.8 | 92.2 | 93.5 | 105.0 |
| 1999 | | | | | | |
| Q1 | 92.0 | 120.5 | 84.9 | 81.7 | 91.1 | 89.5 |
| Q2 | 99.9 | 92.8 | 103.3 | 93.0 | 100.9 | 100.7 |
| Q3 | 97.7 | 87.5 | 96.1 | 97.3 | 100.8 | 102.2 |
| Q4 | 103.7 | 109.0 | 101.7 | 101.3 | 122.6 | 102.9 |
| 2000 | | | | | | |
| Q1 | 95.4 | 118.1 | 94.5 | 79.3 | 99.8 | 87.8 |
| Q2 | 101.9 | 88.3 | 106.0 | 110.9 | 106.5 | 103.0 |
| Q3 | 100.2 | 87.9 | 96.3 | 111.9 | 91.9 | 107.2 |
| Q4 | 102.5 | 105.7 | 103.3 | 97.9 | 101.8 | 101.8 |
| 2001 | | | | | | |
| Q1 | 100.6 | 114.6 | 97.8 | 104.2 | 110.5 | 95.4 |
| Q2 | 107.9 | 88.9 | 111.2 | 131.2 | 108.9 | 111.1 |
| Q3 | 106.1 | 90.3 | 102.3 | 123.5 | 90.4 | 114.9 |
| Q4 | 108.7 | 108.9 | 107.6 | 112.7 | 96.8 | 109.5 |
| 2002 | | | | | | |
| Q1 | 102.4 | 109.4 | 101.7 | 109.0 | 97.8 | 99.0 |
| Q2 | 110.2 | 87.9 | 115.5 | 130.8 | 103.0 | 114.5 |
| Q3 | 110.4 | 91.4 | 107.8 | 130.2 | 89.9 | 119.6 |
| Q4 | 114.5 | 110.7 | 116.5 | 117.4 | 100.7 | 115.5 |
| 2003 | | | | | | |
| Q1 | 107.2 | 116.0 | 106.7 | 105.4 | 101.8 | 106.4 |
| Q2 | 116.8 | 92.7 | 121.1 | 134.9 | 107.9 | 125.0 |
| Q3 | 116.1 | 95.2 | 113.1 | 128.8 | 93.8 | 129.6 |
| Q4 | 119.2 | 113.5 | 121.2 | 115.5 | 106.0 | 123.5 |
| 2004 | | | | | | |
| Q1 | 113.2 | 115.3 | 116.2 | 117.1 | 110.5 | 110.2 |

Source: Central Bureau of Statistics.

Table A3. Croatia: Price Developments, 1996-2004

| | Consumer Prices | | | Producer Prices | | |
|------|------------------------|--------------------|-----------------------------|------------------------|--------------------|-----------------------------|
| | Index Dec. 1994=100 | Rate of Growth | | Index Dec. 1994=100 | Rate of Growth | |
| | | Previous Period | Same Month Previous Year | | Previous Period | Same Month Previous Year |
| 1996 | 105.6 | 3.5 | ... | 101.5 | 1.4 | ... |
| 1997 | 109.4 | 3.6 | ... | 104.0 | 2.5 | ... |
| 1998 | 115.6 | 5.7 | ... | 102.8 | -1.2 | ... |
| 1999 | 120.4 | 4.1 | ... | 105.5 | 2.6 | ... |
| 2000 | 127.9 | 6.2 | ... | 115.7 | 9.6 | ... |
| 2001 | 134.2 | 4.9 | ... | 119.8 | 3.6 | ... |
| 2002 | 136.5 | 1.7 | ... | 119.4 | -0.4 | ... |
| 2003 | 138.9 | 1.8 | ... | 121.6 | 1.9 | ... |
| 2001 | | | | | | |
| Jan | 132.1 | 0.41 | 6.75 | 121.9 | 0.91 | 8.20 |
| Feb | 132.8 | 0.51 | 6.88 | 120.9 | -0.84 | 8.30 |
| Mar | 132.5 | -0.20 | 6.05 | 120.4 | -0.43 | 5.50 |
| Apr | 134.4 | 1.42 | 6.81 | 120.6 | 0.21 | 5.10 |
| May | 135.6 | 0.90 | 7.25 | 120.7 | 0.10 | 5.20 |
| Jun | 135.3 | -0.20 | 4.94 | 120.7 | -0.01 | 4.50 |
| Jul | 134.0 | -0.99 | 3.82 | 120.1 | -0.49 | 4.00 |
| Aug | 134.9 | 0.70 | 4.86 | 118.9 | -1.00 | 3.40 |
| Sep | 135.2 | 0.20 | 3.84 | 119.5 | 0.48 | 3.00 |
| Oct | 134.5 | -0.50 | 3.21 | 119.5 | 0.06 | 2.10 |
| Nov | 134.4 | -0.10 | 2.76 | 117.8 | -1.48 | -2.00 |
| Dec | 134.9 | 0.40 | 2.55 | 117.1 | -0.62 | -3.10 |
| 2002 | | | | | | |
| Jan | 136.2 | 1.00 | 3.15 | 118.7 | 1.43 | -2.60 |
| Feb | 136.1 | -0.10 | 2.53 | 117.5 | -1.05 | -2.80 |
| Mar | 136.1 | 0.00 | 2.74 | 117.6 | 0.09 | -2.30 |
| Apr | 136.5 | 0.30 | 1.60 | 118.9 | 1.13 | -1.40 |
| May | 137.2 | 0.49 | 1.19 | 119.3 | 0.30 | -1.20 |
| Jun | 136.4 | -0.59 | 0.79 | 119.5 | 0.19 | -1.00 |
| Jul | 136.0 | -0.30 | 1.50 | 120.4 | 0.71 | 0.20 |
| Aug | 135.8 | -0.10 | 0.70 | 119.7 | -0.51 | 0.70 |
| Sep | 136.4 | 0.40 | 0.89 | 121.0 | 1.07 | 1.30 |
| Oct | 136.6 | 0.20 | 1.60 | 120.3 | -0.64 | 0.60 |
| Nov | 136.9 | 0.20 | 1.90 | 119.5 | -0.60 | 1.50 |
| Dec | 137.5 | 0.39 | 1.89 | 119.7 | 0.16 | 2.30 |
| 2003 | | | | | | |
| Jan | 138.1 | 0.49 | 1.38 | 122.2 | 2.03 | 2.90 |
| Feb | 138.4 | 0.19 | 1.68 | 120.7 | -1.24 | 2.70 |
| Mar | 139.1 | 0.48 | 2.17 | 123.1 | 2.03 | 4.70 |
| Apr | 138.7 | -0.29 | 1.57 | 122.2 | -0.70 | 2.80 |
| May | 139.1 | 0.29 | 1.37 | 121.4 | -0.67 | 1.80 |
| Jun | 138.5 | -0.39 | 1.57 | 121.5 | 0.09 | 1.70 |
| Jul | 138.7 | 0.10 | 1.97 | 122.0 | 0.42 | 1.40 |
| Aug | 138.8 | 0.10 | 2.17 | 122.1 | 0.08 | 2.00 |
| Sep | 139.1 | 0.19 | 1.97 | 122.5 | 0.28 | 1.20 |
| Oct | 139.1 | 0.00 | 1.77 | 120.3 | -1.81 | 0.00 |
| Nov | 139.3 | 0.19 | 1.76 | 120.6 | 0.30 | 0.90 |
| Dec | 139.7 | 0.29 | 1.66 | 120.9 | 0.26 | 1.00 |
| 2004 | | | | | | |
| Jan | 141.1 | 0.96 | 2.14 | 123.1 | 1.83 | 0.80 |
| Feb | 140.9 | -0.14 | 1.80 | 120.8 | -1.93 | 0.10 |
| Mar | 141.0 | 0.09 | 1.40 | 122.5 | 1.42 | -0.50 |
| Apr | 141.3 | 0.20 | 1.90 | 123.8 | 1.09 | 1.30 |
| May | 142.4 | 0.78 | 2.40 | 126.8 | 2.37 | 4.40 |

Source: Croatian National Bank.

Table A4. Croatia: Indices of Real Net Wages and Salaries Per Employee, 1999-2003 1/
(1997=100)

| | 1999 | 2000 | 2001 | 2002 | 2003 |
|--|-------|-------|-------|-------|-------|
| Total | 116.6 | 117.0 | 118.9 | 120.4 | 122.7 |
| A. Agriculture, hunting and forestry | 108.0 | 111.4 | 104.8 | 108.0 | 106.1 |
| B. Fishing | 104.0 | 78.0 | 85.3 | 87.2 | 93.8 |
| C. Mining and quarrying | 106.4 | 116.3 | 125.9 | 122.7 | 125.3 |
| D. Manufacturing | 109.3 | 113.3 | 119.5 | 122.1 | 125.1 |
| E. Electricity, gas and water supply | 115.5 | 111.4 | 110.8 | 110.4 | 114.4 |
| F. Construction | 107.6 | 102.0 | 107.5 | 116.8 | 121.6 |
| G. Wholesale and retail trade | 102.7 | 106.8 | 111.0 | 116.9 | 120.1 |
| H. Hotels and restaurants | 111.2 | 115.6 | 120.3 | 122.9 | 127.6 |
| I. Transport, storage and communication | 115.9 | 118.9 | 123.8 | 128.4 | 133.0 |
| J. Financial intermediation | 117.0 | 115.1 | 119.3 | 123.3 | 121.7 |
| K. Real estate, renting and business activities | 116.7 | 112.9 | 112.6 | 111.8 | 114.8 |
| L. Public administration; social security | 135.3 | 134.0 | 124.7 | 122.3 | 125.7 |
| M. Education | 129.1 | 131.6 | 132.6 | 130.8 | 133.5 |
| N. Health and social work | 129.9 | 133.0 | 130.6 | 126.5 | 127.1 |
| O. Other community, social and personal service activities | 110.4 | 110.0 | 111.1 | 111.7 | 115.3 |

Source: Central Bureau of Statistics.

1/ Excludes persons employed in crafts and trades, free-lancers, police and defense, as well as private farmers.

Table A5. Croatia: Composition of Employment, 1999-2003
(In thousands)

| | 1999 | 2000 | 2001 | 2002 | 2003 |
|--|-------|-------|-------|-------|-------|
| Total | 1,349 | 1,339 | 1,352 | 1,363 | 1,398 |
| A. Agriculture, hunting and forestry 1/ | 123 | 110 | 106 | 100 | 94 |
| Active insured persons - private farmers | 91 | 79 | 76 | 70 | 65 |
| B. Fishing | 1 | 1 | 1 | 1 | 2 |
| C. Mining and quarrying | 8 | 8 | 8 | 7 | 8 |
| D. Manufacturing | 264 | 256 | 252 | 247 | 248 |
| E. Electricity, gas and water supply | 27 | 27 | 28 | 27 | 27 |
| F. Construction | 71 | 65 | 66 | 72 | 78 |
| G. Wholesale and retail trade | 153 | 154 | 159 | 165 | 177 |
| H. Hotels and restaurants | 40 | 41 | 41 | 40 | 39 |
| I. Transport, storage and communication | 82 | 82 | 82 | 81 | 81 |
| J. Financial intermediation | 28 | 29 | 29 | 29 | 30 |
| K. Real estate, renting and business activities | 49 | 50 | 52 | 54 | 58 |
| L. Public administration and defense; social security | 120 | 122 | 121 | 118 | 116 |
| M. Education | 80 | 82 | 84 | 85 | 87 |
| N. Health and social work | 74 | 72 | 72 | 71 | 73 |
| O. Other community, social and personal service activities | 29 | 31 | 31 | 33 | 36 |
| P. Private households with employed persons | ... | ... | ... | ... | ... |
| Q. Extra-territorial organizations and bodies | ... | ... | ... | ... | ... |
| R. Other 2/ | 199 | 207 | 220 | 232 | 246 |

Source: Central Bureau of Statistics.

1/ Includes active insured persons - private farmers measured mid-year. For 1999 and 2000 data are measured by end-year.

2/ Refers to persons employed in crafts and trades as well as free-lancers during mid-year. For 1999 and 2000 data are measured by end-year.

Table A6. Croatia: Exports by Destination, 1996-2003 1/
(In millions of U.S. dollars)

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Total | 4,512 | 4,171 | 4,541 | 4,302 | 4,432 | 4,666 | 4,904 | 6,164 |
| Developed countries | 2,478 | 2,272 | 2,381 | 2,448 | 2,663 | 2,879 | 2,849 | 3,797 |
| EU countries | 2,303 | 2,074 | 2,161 | 2,110 | 2,416 | 2,526 | 2,584 | 3,363 |
| Austria | 198 | 223 | 247 | 276 | 292 | 268 | 366 | 480 |
| Belgium | 41 | 38 | 40 | 31 | 43 | 42 | 51 | 43 |
| Denmark | 4 | 6 | 5 | 7 | 10 | 11 | 11 | 17 |
| France | 84 | 80 | 102 | 108 | 126 | 163 | 159 | 175 |
| Italy | 949 | 787 | 802 | 775 | 989 | 1,105 | 1,114 | 1,628 |
| Netherlands | 69 | 62 | 53 | 50 | 50 | 47 | 42 | 49 |
| Germany | 839 | 746 | 767 | 676 | 632 | 690 | 612 | 733 |
| Sweden | 13 | 16 | 19 | 22 | 36 | 28 | 23 | 46 |
| Great Britain | 70 | 67 | 71 | 80 | 76 | 67 | 63 | 72 |
| Other | 35 | 49 | 54 | 85 | 162 | 105 | 145 | 121 |
| EFTA countries | 41 | 49 | 80 | 148 | 44 | 49 | 38 | 50 |
| Norway | 3 | 4 | 36 | 113 | 4 | 6 | 5 | 8 |
| Switzerland | 37 | 41 | 41 | 34 | 38 | 42 | 31 | 39 |
| Other | 1 | 4 | 3 | 1 | 2 | 2 | 2 | 3 |
| Other developed countries | 135 | 149 | 136 | 189 | 203 | 303 | 227 | 384 |
| Australia | 4 | 5 | 7 | 5 | 4 | 4 | 6 | 7 |
| Japan | 2 | 6 | 7 | 6 | 15 | 36 | 46 | 74 |
| Canada | 8 | 9 | 8 | 10 | 10 | 9 | 7 | 9 |
| U.S.A. | 89 | 97 | 89 | 87 | 90 | 107 | 86 | 164 |
| Turkey | 13 | 9 | 8 | 9 | 38 | 9 | 10 | 21 |
| Other | 19 | 23 | 17 | 72 | 45 | 139 | 72 | 109 |
| Developing countries | 2,034 | 1,899 | 2,165 | 1,855 | 1,769 | 1,787 | 2,055 | 2,367 |
| Countries of former SFRY | 1,219 | 1,253 | 1,167 | 1,091 | ... | 1,189 | 1,364 | 1,665 |
| Bosnia and Herzegovina | 549 | 649 | 654 | 546 | 495 | 561 | 704 | 892 |
| FYR of Macedonia | 59 | 77 | 64 | 64 | 59 | 52 | 59 | 70 |
| Slovenia | 611 | 506 | 432 | 454 | 480 | 426 | 428 | 511 |
| Yugoslavia | ... | ... | 17 | 27 | 107 | 149 | 172 | 191 |
| Other and unclassified | 0 | 21 | ... | ... | ... | ... | ... | ... |
| Countries of the former USSR | 172 | 198 | 190 | 89 | 75 | 113 | 114 | 112 |
| Other developing European countries | 191 | 223 | 247 | 235 | 563 | 644 | ... | ... |
| Czech Republic | 40 | 46 | 39 | 31 | 29 | 34 | 40 | 46 |
| Hungary | 55 | 49 | 52 | 40 | 60 | 57 | 83 | 80 |
| Poland | 56 | 47 | 46 | 40 | 22 | 20 | 20 | 30 |
| Slovakia | 22 | 22 | 22 | 13 | 13 | 15 | 16 | 23 |
| Other | 17 | 59 | 88 | 113 | ... | ... | ... | ... |
| Developing Middle East countries | 64 | 11 | 35 | 24 | 24 | 27 | 34 | 50 |
| Developing Asian countries | 54 | 30 | 88 | 119 | 31 | 71 | 70 | 51 |
| Developing countries of North Africa | 39 | 29 | ... | ... | ... | ... | ... | ... |
| Developing other African countries | 270 | 130 | 376 | 210 | 262 | 168 | 214 | 128 |
| Developing countries in the Americas | 24 | 24 | 48 | 85 | 46 | 17 | 66 | 16 |
| Developing countries of Oceania | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Sources: Central Bureau of Statistics and the Fund staff estimates.

1/ Data have not been revised in line with the 1998 balance of payments compilation methodology.

2/ Countries of the former USSR includes 14 countries. It does not include Belarus.

3/ Developing Middle East countries refer to the OPEC countries excluding Indonesia and Venezuela.

Table A7. Croatia: Tourism—Overnight Stays, 1996-2004

(In thousands)

| | Overnight Stays | | |
|------|-----------------|----------|---------|
| | Total | Domestic | Foreign |
| 1996 | 21,455 | 4,909 | 16,546 |
| 1997 | 30,314 | 5,617 | 24,697 |
| 1998 | 31,287 | 5,285 | 26,002 |
| 1999 | 26,563 | 5,215 | 21,348 |
| 2000 | 38,406 | 5,099 | 33,307 |
| 2001 | 43,404 | 5,021 | 38,384 |
| 2002 | 44,692 | 4,981 | 39,711 |
| 2003 | 46,647 | 5,321 | 41,326 |
| 2001 | | | |
| Jan | 257 | 163 | 94 |
| Feb | 254 | 140 | 114 |
| Mar | 353 | 177 | 176 |
| Apr | 1,213 | 246 | 967 |
| May | 2,064 | 349 | 1,714 |
| Jun | 5,826 | 538 | 5,288 |
| Jul | 13,185 | 1,209 | 11,976 |
| Aug | 14,242 | 1,327 | 12,915 |
| Sep | 4,521 | 367 | 4,154 |
| Oct | 918 | 223 | 696 |
| Nov | 301 | 148 | 153 |
| Dec | 271 | 134 | 137 |
| 2002 | | | |
| Jan | 238 | 154 | 85 |
| Feb | 274 | 154 | 120 |
| Mar | 523 | 176 | 347 |
| Apr | 1,021 | 249 | 772 |
| May | 2,892 | 373 | 2,519 |
| Jun | 5,603 | 514 | 5,088 |
| Jul | 13,257 | 1,179 | 12,077 |
| Aug | 14,613 | 1,263 | 13,350 |
| Sep | 4,587 | 372 | 4,216 |
| Oct | 1,106 | 239 | 867 |
| Nov | 304 | 168 | 136 |
| Dec | 275 | 140 | 134 |
| 2003 | | | |
| Jan | 236 | 154 | 82 |
| Feb | 273 | 161 | 113 |
| Mar | 382 | 183 | 198 |
| Apr | 1,283 | 253 | 1,030 |
| May | 2,588 | 426 | 2,162 |
| Jun | 6,599 | 565 | 6,034 |
| Jul | 13,022 | 1,242 | 11,780 |
| Aug | 15,734 | 1,343 | 14,391 |
| Sep | 4,667 | 393 | 4,274 |
| Oct | 1,220 | 257 | 963 |
| Nov | 304 | 168 | 136 |
| Dec | 308 | 155 | 153 |
| 2004 | | | |
| Jan | 267 | 175 | 93 |
| Feb | 319 | 181 | 138 |
| Mar | 488 | 213 | 275 |
| Apr | 1,310 | 284 | 1,026 |
| May | 2,871 | 399 | 2,471 |

Source: Central Bureau of Statistics.

Table A8. Croatia: Imports by Origin, 1996-2003 1/
(In millions of U.S. dollars)

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|--------------------------------------|-------|-------|-------|-------|-------|-------|--------|--------|
| Total | 7,788 | 9,104 | 8,383 | 7,799 | 7,887 | 9,147 | 10,722 | 14,199 |
| Developed countries | 5,262 | 6,261 | 5,822 | 5,199 | 5,104 | 6,036 | 6,920 | 9,284 |
| EU countries | 4,625 | 5,412 | 4,980 | 4,415 | 4,368 | 5,224 | 5,984 | 8,032 |
| Austria | 597 | 709 | 612 | 558 | 529 | 631 | 710 | 940 |
| Belgium | 100 | 96 | 110 | 114 | 115 | 128 | 155 | 179 |
| Denmark | 48 | 62 | 61 | 65 | 63 | 73 | 92 | 117 |
| France | 199 | 293 | 401 | 393 | 436 | 398 | 555 | 749 |
| Italy | 1,421 | 1,705 | 1,500 | 1,240 | 1,311 | 1,657 | 1,850 | 2,581 |
| Netherlands | 176 | 170 | 161 | 142 | 130 | 164 | 201 | 273 |
| Germany | 1,602 | 1,841 | 1,616 | 1,441 | 1,298 | 1,583 | 1,742 | 2,219 |
| Sweden | 117 | 147 | 109 | 116 | 112 | 110 | 130 | 193 |
| Great Britain | 225 | 189 | 176 | 187 | 180 | 226 | 218 | 290 |
| Other | 139 | 200 | 232 | 160 | 195 | 254 | 330 | 490 |
| EFTA countries | 179 | 244 | 231 | 201 | 186 | 193 | 211 | 258 |
| Norway | 27 | 21 | 39 | 34 | 31 | 39 | 41 | 73 |
| Switzerland | 144 | 213 | 181 | 158 | 151 | 150 | 166 | 182 |
| Other | 8 | 10 | 11 | 9 | 4 | 5 | 4 | 3 |
| Other developed countries | 457 | 605 | 611 | 583 | 550 | 618 | 726 | 994 |
| Australia | 17 | 12 | 11 | 6 | 8 | 13 | 14 | 19 |
| Japan | 104 | 139 | 146 | 138 | 135 | 143 | 164 | 245 |
| Canada | 17 | 49 | 18 | 53 | 36 | 13 | 16 | 40 |
| U.S.A. | 213 | 266 | 278 | 241 | 239 | 297 | 309 | 366 |
| Turkey | 27 | 31 | 26 | 30 | 23 | 42 | 68 | 124 |
| Other | 79 | 108 | 133 | 116 | 110 | 111 | 156 | 200 |
| Developing countries | 2,526 | 2,844 | 2,561 | 2,600 | 2,782 | 3,112 | 3,802 | 4,915 |
| Countries of former SFRY | 866 | 942 | 953 | 808 | 794 | 941 | 1,113 | 1,434 |
| Bosnia and Herzegovina | 63 | 137 | 156 | 117 | 82 | 127 | 166 | 231 |
| FYR of Macedonia | 34 | 42 | 56 | 52 | 55 | 63 | 67 | 74 |
| Slovenia | 769 | 756 | 722 | 616 | 627 | 712 | 826 | 1,051 |
| Yugoslavia | ... | ... | 19 | 23 | 31 | 39 | 53 | 77 |
| Other and unclassified | ... | 7 | | | | | | |
| Countries of the former USSR | 253 | 498 | 407 | 711 | 672 | 654 | 114 | 112 |
| Other developing European countries | 571 | 640 | 572 | 511 | 892 | 933 | ... | ... |
| Czech Republic | 207 | 208 | 181 | 148 | 179 | 209 | 266 | 353 |
| Hungary | 193 | 239 | 212 | 174 | 184 | 238 | 318 | 424 |
| Poland | 50 | 59 | 63 | 73 | 94 | 111 | 149 | 213 |
| Slovakia | 84 | 81 | 65 | 47 | 61 | 51 | 97 | 141 |
| Other | 38 | 53 | 50 | 68 | ... | ... | ... | ... |
| Developing Middle East countries | 106 | 186 | 119 | 86 | 236 | 163 | 23 | 86 |
| Developing Asian countries | 301 | 213 | 250 | 274 | 303 | 472 | 739 | 1,067 |
| Developing countries of North Africa | 269 | 169 | | | ... | ... | ... | ... |
| Developing other African countries | 17 | 21 | 98 | 50 | 62 | 45 | 92 | 56 |
| Developing countries in the Americas | 143 | 174 | 134 | 152 | 94 | 121 | 153 | 179 |
| Developing countries of Oceania | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Source: Central Bureau of Statistics.

1/ Data have not been revised in line with the 1998 balance of payments compilation methodology.

Table A9. Croatia: External Debt, 1996-2004 1/
(In millions of U.S. dollars, unless otherwise stated)

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 March |
|---|-------|-------|-------|-------|--------|--------|--------|--------|---------------|
| 1. Portfolio Investments | 1,462 | 1,955 | 2,057 | 2,571 | 3,180 | 3,732 | 4,525 | 6,124 | 6,296 |
| Bonds | 1,462 | 1,955 | 2,048 | 2,554 | 3,170 | 3,704 | 4,525 | 6,083 | 6,252 |
| Of which: London Club | 1,462 | 1,428 | 1,405 | 1,381 | 1,255 | 1,106 | 957 | 796 | 715 |
| Money Market Instruments | 0 | 0 | 9 | 17 | 9 | 27 | 0 | 42 | 45 |
| 2. Other Investments | 3,845 | 5,497 | 7,626 | 7,407 | 7,875 | 7,585 | 10,897 | 17,445 | 17,903 |
| 2.1 Currency and Deposits | 499 | 790 | 615 | 538 | 433 | 634 | 1,976 | 3,745 | 3,772 |
| 2.2 Long Term | 2,935 | 4,168 | 6,541 | 6,443 | 6,782 | 6,769 | 8,745 | 13,172 | 13,566 |
| A) Public Creditors | 1,890 | 1,867 | 2,306 | 2,158 | 2,269 | 2,230 | 2,606 | 3,284 | 3,227 |
| 1. International financial organizations | 673 | 851 | 1,067 | 1,033 | 1,129 | 1,166 | 1,377 | 1,765 | 1,728 |
| a) IMF | 208 | 232 | 233 | 197 | 159 | 122 | 0 | 0 | 0 |
| b) IBRD | 188 | 295 | 345 | 396 | 418 | 469 | 611 | 773 | 776 |
| c) IFC | 0 | 0 | 31 | 29 | 72 | 86 | 132 | 109 | 103 |
| d) EBRD | 108 | 171 | 251 | 219 | 297 | 319 | 375 | 482 | 468 |
| e) EUROFIMA | 33 | 43 | 72 | 78 | 86 | 83 | 109 | 125 | 108 |
| f) EIB | 131 | 108 | 133 | 98 | 74 | 52 | 85 | 158 | 158 |
| g) CEB | 4 | 2 | 1 | 15 | 24 | 36 | 64 | 118 | 115 |
| 2. Governments and Government Agencies | 1,217 | 1,016 | 1,239 | 1,125 | 1,141 | 1,064 | 1,229 | 1,519 | 1,499 |
| a) Paris Club | 1,014 | 853 | 885 | 772 | 687 | 622 | 630 | 632 | 593 |
| b) Other | 202 | 164 | 354 | 353 | 453 | 442 | 600 | 887 | 906 |
| B) Private Creditors | 1,045 | 2,301 | 4,235 | 4,285 | 4,513 | 4,539 | 6,138 | 9,888 | 10,339 |
| 1. Banks | 736 | 1,833 | 3,302 | 3,367 | 3,398 | 3,478 | 4,680 | 8,022 | 8,419 |
| Of which: Guaranteed by government agencies | 192 | 167 | 198 | 441 | 635 | 734 | 686 | 630 | 609 |
| 2. Other Sectors | 309 | 468 | 933 | 918 | 1,115 | 1,061 | 1,458 | 1,866 | 1,920 |
| Of which: Guaranteed by government agencies | 22 | 18 | 28 | 18 | 14 | 10 | 6 | 4 | 4 |
| 2.3 Short Term | 411 | 539 | 471 | 426 | 661 | 182 | 176 | 528 | 566 |
| A) Public Creditors | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B) Private Creditors | 411 | 539 | 471 | 426 | 661 | 182 | 176 | 528 | 566 |
| 1. Banks | 279 | 370 | 289 | 247 | 486 | 62 | 44 | 269 | 285 |
| Of which: Guaranteed by government agencies | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. Other Sectors | 133 | 168 | 182 | 180 | 174 | 120 | 132 | 259 | 280 |
| Of which: Guaranteed by government agencies | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total (1+2) | 5,308 | 7,452 | 9,683 | 9,978 | 11,055 | 11,317 | 15,421 | 23,570 | 24,199 |

Sources: Croatian National Bank; and Fund staff estimates.

1/ Excludes nonreported principal payments. Includes short-term credits and currency and deposits.

Table A10. Croatia: Consolidated General Government Fiscal Operations by Economic Category, 1998-2003 1/
(In percent of GDP, GFS 1986 basis)

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|---|------|------|------|------|------|------|
| Revenue and grants | 51.1 | 48.4 | 46.2 | 44.0 | 44.5 | 44.3 |
| Current revenue | 50.9 | 48.3 | 46.1 | 43.9 | 44.5 | 44.3 |
| Tax revenue | 46.9 | 44.1 | 42.1 | 40.5 | 40.5 | 40.2 |
| Personal Income tax | 5.9 | 5.3 | 4.9 | 3.9 | 4.0 | 3.7 |
| Social Security contributions | 14.1 | 13.8 | 13.3 | 13.0 | 12.3 | 12.4 |
| Profits tax | 2.5 | 2.4 | 1.6 | 1.7 | 2.1 | 2.2 |
| Real Estate Transactions tax | 0.6 | 0.5 | 0.5 | 0.4 | 0.3 | 0.3 |
| Taxes on goods and services | 20.5 | 18.7 | 19.1 | 19.3 | 20.4 | 20.4 |
| Value-added tax | 14.7 | 14.0 | 14.0 | 14.0 | 14.5 | 14.6 |
| Excises | 4.3 | 4.4 | 4.8 | 5.0 | 5.5 | 5.4 |
| Customs duties | 3.0 | 3.0 | 2.5 | 1.9 | 1.1 | 0.9 |
| Other | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.2 |
| Non-tax revenue (incl. own revenues) | 4.0 | 4.2 | 4.0 | 3.4 | 4.0 | 4.1 |
| Capital revenue | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grants | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 |
| Expenditure and net lending | 54.6 | 56.6 | 52.7 | 50.7 | 49.6 | 50.6 |
| Expenditure | 53.8 | 55.5 | 51.9 | 50.0 | 49.1 | 50.3 |
| Current expenditure | 45.8 | 48.0 | 47.0 | 44.6 | 43.3 | 42.9 |
| Expenditure on goods and services | 26.3 | 25.1 | 24.5 | 22.0 | 20.5 | 20.1 |
| Wages excl. employer's contributions | 11.9 | 12.8 | 12.9 | 11.6 | 10.8 | 10.9 |
| Other purchases of goods and services | 14.3 | 12.3 | 11.6 | 10.4 | 9.7 | 9.2 |
| Interest payments | 1.6 | 1.7 | 2.0 | 2.2 | 2.1 | 2.1 |
| Subsidies and other current transfers | 18.0 | 21.1 | 20.5 | 20.5 | 20.7 | 20.7 |
| Subsidies | 2.9 | 2.9 | 2.9 | 2.7 | 2.8 | 3.3 |
| Current transfers | 15.1 | 18.2 | 17.6 | 17.8 | 17.9 | 17.4 |
| Capital expenditure | 7.9 | 7.5 | 4.9 | 5.3 | 5.9 | 7.3 |
| Lending minus repayments | 0.9 | 1.1 | 0.8 | 0.7 | 0.6 | 0.3 |
| Consolidated general government balance | -3.5 | -8.2 | -6.5 | -6.7 | -5.2 | -6.3 |
| Primary balance | -1.9 | -6.5 | -4.5 | -4.5 | -3.1 | -4.2 |

Sources: Ministry of Finance and staff estimates.

1/ On a GFS 1986 basis and with subnational government consisting of the 53 largest local governments.

2/ In 2000, includes 0.5 percent of GDP in back taxes.

Table A11. Croatia: Consolidated General Government
Financial Operations by Economic Category, 2002-03 1/
(In percent of GDP, GFS 2001 basis)

| | 2002 | 2003 Prel. |
|--|------|---------------|
| REVENUE | 46.3 | 46.4 |
| Taxes | 28.2 | 27.9 |
| Taxes on income, profits, and capital gains | 6.1 | 6.0 |
| Payable by individuals | 4.0 | 3.7 |
| Payable by corporations and other enterprises | 2.1 | 2.2 |
| Taxes on property | 0.3 | 0.3 |
| Taxes on goods and services | 20.4 | 20.5 |
| o/w VAT | 14.5 | 14.6 |
| Excises | 5.5 | 5.4 |
| Taxes on international trade and transactions | 1.1 | 0.9 |
| Other taxes | 0.3 | 0.2 |
| Social security contributions | 14.0 | 14.2 |
| Other revenue and grants | 4.0 | 4.2 |
| EXPENSE | 46.4 | 46.5 |
| Compensation of employees | 12.4 | 12.7 |
| Use of goods and services | 5.5 | 4.9 |
| Interest | 2.1 | 2.1 |
| Subsidies | 2.8 | 3.3 |
| Grants | 0.1 | 0.0 |
| Social benefits | 20.1 | 19.8 |
| Other expense | 3.4 | 3.7 |
| Acquisition of non-financial assets (investment) | 4.4 | 5.9 |
| Net lending | 0.6 | 0.3 |
| <i>OVERALL BALANCE</i> | -5.0 | -6.3 |

Sources: Ministry of Finance and staff estimates.

1/ On a GFS 2001 basis. There may be differences from historical data, which were on a GFS 1986 basis.

Table A12. Croatia: HBOR Operations by Economic Category, 1999-2003 1/
(In percent of GDP, GFS 1986 basis)

| | 1999 | 2000 | 2001 | 2002 | 2003 |
|---------------------------------------|------|------|------|------|------|
| Revenue and grants | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 |
| Revenue | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 |
| Current revenue | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 |
| Tax revenue | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Non-tax revenue | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 |
| Capital revenue | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grants | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Expenditure and net lending | 0.5 | 0.6 | 0.9 | 1.0 | 1.4 |
| Expenditure | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Current expenditure | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Expenditure on goods and services | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Wages and employer's contributions | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Wages and salaries | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other purchases of goods and services | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Interest payments | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 |
| Lending minus repayments | 0.4 | 0.5 | 0.8 | 0.8 | 1.3 |
| Balance | -0.3 | -0.3 | -0.6 | -0.7 | -1.1 |
| Financing | 0.3 | 0.3 | 0.6 | 0.7 | 1.1 |
| Foreign borrowing | 0.1 | 0.5 | 0.4 | 0.6 | 0.6 |
| Domestic borrowing | 0.2 | -0.1 | 0.2 | 0.1 | 0.5 |

Sources: Ministry of Finance, HBOR, and staff estimates.

1/ Unconsolidated before corrections for central budgetary transactions.

Table A13. Croatia: Debt Stock of Consolidated General Government, 1997-2003
(In percent of GDP)

| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|--|------|------|------|------|------|------|------|
| Debt Stock | 26.7 | 25.7 | 33.0 | 39.3 | 40.1 | 39.8 | 41.5 |
| Domestic | 12.5 | 11.0 | 12.5 | 14.7 | 15.8 | 16.7 | 17.1 |
| External | 14.1 | 14.7 | 20.6 | 24.5 | 24.3 | 23.2 | 24.3 |
| Guarantees Stock | 1.5 | 6.2 | 7.0 | 9.7 | 10.2 | 10.5 | 11.4 |
| Domestic | 0.9 | 0.0 | 0.0 | 2.2 | 3.6 | 2.5 | 3.0 |
| External | 0.6 | 6.2 | 6.9 | 7.4 | 6.6 | 8.0 | 8.2 |
| Arrears Stock | 3.4 | 5.0 | 5.7 | 1.5 | 0.5 | 0.4 | 0.3 |
| Total debt and contingent liabilities | 31.6 | 36.9 | 45.7 | 50.4 | 50.8 | 50.7 | 53.2 |

Sources: Croatian Central Bank, Ministry of Finance, and staff estimates.

Note: Guarantees stock prior to 2002 based on data provided by Croatian Central Bank and stock from 2002 based on data provided by the Ministry of Finance with smaller differences in total stock and larger differences in distribution between domestic and external guarantees.

Local government debt stock prior to 2002 was provided by Croatian Central Bank and from 2002 by the Ministry of Finance registering a generally higher level of local government debt.

Table A14. Croatia: Selected Public Enterprises, 2000-03 1/
(In thousands of kuna unless otherwise specified)

| | 2000 | 2001 | 2002 | 2003 |
|--|---------|---------|---------|---------|
| Croatian Railways | | | | |
| Operating balance | -304211 | -426025 | -836546 | -779568 |
| Net indebtedness | 343550 | 852276 | 876112 | 1992647 |
| Number of employees | 19182 | 18428 | 16345 | 15375 |
| Croatian Electricity Company | | | | |
| Operating balance | -439660 | -440758 | -12313 | 89209 |
| Net indebtedness | 655180 | 371057 | 1146105 | 1415915 |
| Number of employees | 15905 | 15849 | 15025 | 14931 |
| Croatian Forrest | | | | |
| Operating balance | 12262 | 34290 | -6443 | -31195 |
| Net indebtedness | 95254 | 182871 | 228276 | 240528 |
| Number of employees | 9908 | 9386 | 9698 | 9234 |
| Jadrolinija Shipping Company | | | | |
| Operating balance | 16344 | 8152 | 26126 | 19326 |
| Net indebtedness | 40994 | 85028 | 52653 | 87175 |
| Number of employees | 1661 | 1693 | 1714 | 1759 |
| Croatian Post | | | | |
| Operating balance | -69579 | 87512 | 125691 | |
| Net indebtedness | 43166 | 31402 | 21299 | 10865 |
| Number of employees | 12551 | 12262 | 11934 | |
| Croatian Airlines | | | | |
| Operating balance | -17058 | 93433 | 143112 | 133250 |
| Net indebtedness | 31786 | 20020 | 12256 | 8377 |
| Number of employees | 838 | 901 | 992 | 1032 |
| Croatian Radio and Television Company | | | | |
| Operating balance | -106316 | 1010948 | 66707 | |
| Net indebtedness | 58721 | 11548 | 57019 | 40996 |
| Number of employees | 3505 | 3487 | 3159 | |
| Croatian Insurance | | | | |
| Operating balance | 444855 | 906984 | 958345 | 1074045 |
| Net indebtedness | 0 | 0 | 0 | 0 |
| Number of employees | 2252 | 2224 | 2136 | 2146 |
| Total | | | | |
| Operating balance | -463363 | 1274536 | 464679 | |
| In percent of GDP | -0.3 | 0.8 | 0.3 | |
| Net indebtedness | 1268651 | 1554202 | 2393720 | |
| In percent of GDP | 0.8 | 0.9 | 1.3 | |
| Number of employees | 65802 | 64230 | 61003 | |

Sources: Ministry of Finance and staff calculations.

Table A15. Croatia: Deposit Money Banks' Accounts, 1996-2004 1/
(In millions of kuna; end-of-period)

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | | | 2004 | |
|---|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | | | | | | | Mar. | Jun. | Sep. | Dec. | Mar. |
| Assets | | | | | | | | | | | | |
| 1. Reserves | 4,410 | 5,046 | 5,908 | 8,988 | 10,589 | 15,003 | 20,373 | 19,993 | 21,492 | 23,679 | 26,784 | 30,014 |
| 1.1. In f/c | 4,410 | 5,046 | 4,240 | 4,353 | 5,098 | 9,306 | 13,340 | 12,439 | 13,516 | 16,845 | 20,103 | 20,040 |
| 1.1. In kuna | - | - | 1,668 | 4,635 | 5,491 | 5,697 | 7,034 | 7,555 | 7,976 | 6,834 | 6,680 | 9,975 |
| 2. Foreign assets | 12,550 | 16,186 | 12,763 | 12,400 | 19,710 | 32,808 | 25,978 | 26,951 | 27,101 | 31,466 | 35,383 | 35,176 |
| 3. Claims on central government 2/ | 16,693 | 15,239 | 14,864 | 16,264 | 19,055 | 20,060 | 21,918 | 22,935 | 23,243 | 22,509 | 21,544 | 21,096 |
| 3.1 Bonds arising from blocked f/c deposits | 8,291 | 6,714 | 5,802 | 5,420 | 4,484 | 3,420 | 2,473 | 2,047 | 1,999 | 1,518 | 1,532 | 994 |
| 3.2 Big bonds | 2,438 | 2,292 | 2,103 | 1,322 | 1,476 | 1,659 | ... | ... | ... | ... | ... | ... |
| 3.3 Other claims | 8,402 | 8,524 | 9,062 | 10,845 | 14,571 | 16,640 | 19,444 | 20,888 | 21,244 | 20,991 | 20,012 | 20,102 |
| 4. Claims on other domestic sectors | 33,690 | 48,592 | 59,597 | 55,400 | 60,364 | 74,284 | 96,218 | 101,018 | 102,609 | 105,689 | 110,374 | 111,940 |
| 4.1 Claims on local government | 145 | 309 | 654 | 906 | 1,175 | 1,280 | 1,422 | 1,307 | 1,279 | 1,274 | 1,563 | 1,580 |
| 4.2 Claims on enterprises | 26,929 | 35,487 | 41,225 | 35,244 | 35,891 | 42,882 | 51,723 | 53,023 | 52,021 | 52,172 | 53,810 | 54,823 |
| 4.3 Claims on households | 6,615 | 12,796 | 17,717 | 19,250 | 23,298 | 30,122 | 43,073 | 46,687 | 49,309 | 52,243 | 55,001 | 55,537 |
| 5. Claims on other banking institutions | - | - | 0 | 45 | 69 | 170 | 219 | 214 | 209 | 456 | 432 | 600 |
| 6. Claims on other financial institutions | 140 | 247 | 194 | 154 | 162 | 281 | 915 | 1,364 | 1,145 | 941 | 762 | 652 |
| Total (1+2+3+4+5+6) | 67,483 | 85,309 | 93,326 | 93,251 | 109,949 | 142,606 | 165,622 | 172,475 | 175,799 | 184,739 | 195,278 | 199,479 |
| Liabilities | | | | | | | | | | | | |
| 1. Demand deposits | 7,007 | 8,424 | 7,809 | 7,891 | 11,386 | 15,181 | 21,166 | 19,973 | 22,188 | 22,071 | 23,315 | 21,559 |
| 2. Savings and time deposits | 3,387 | 5,599 | 5,684 | 5,398 | 7,651 | 10,213 | 13,001 | 15,057 | 15,826 | 18,263 | 18,371 | 19,678 |
| 3. Foreign currency deposits | 21,817 | 31,278 | 37,971 | 36,966 | 46,902 | 71,837 | 72,055 | 74,069 | 71,104 | 75,416 | 76,035 | 74,070 |
| 4. Bonds and money market instruments | 128 | 134 | 154 | 437 | 478 | 318 | 216 | 154 | 263 | 643 | 598 | 396 |
| 5. Foreign liabilities | 12,467 | 13,807 | 16,177 | 17,209 | 17,810 | 21,858 | 35,023 | 37,457 | 40,456 | 41,442 | 49,932 | 52,252 |
| 6. Central government and funds' deposits | 1,721 | 6,875 | 7,298 | 5,829 | 6,730 | 5,635 | 6,095 | 5,516 | 5,253 | 5,269 | 5,283 | 5,219 |
| 7. Credit from central bank | 268 | 34 | 1,049 | 1,139 | 329 | 17 | 18 | 14 | 14 | 343 | 969 | 14 |
| 8. Restricted and blocked deposits | 8,224 | 5,852 | 4,196 | 3,434 | 2,550 | 1,601 | 1,680 | 1,786 | 1,858 | 1,939 | 1,709 | 2,037 |
| Of which: Households' blocked f/c deposits | 7,171 | 4,574 | 3,419 | 2,743 | 1,695 | 770 | 319 | 258 | 242 | 177 | 168 | 111 |
| 9. Capital accounts | 15,441 | 17,027 | 19,786 | 21,975 | 24,953 | 25,455 | 26,323 | 26,526 | 26,120 | 26,809 | 27,390 | 27,493 |
| 10. Other items (net) | -2,977 | -3,720 | -6,797 | -7,026 | -8,839 | -9,508 | -9,956 | -8,076 | -7,283 | -7,456 | -8,324 | -3,239 |
| Total (1+2+3+4+5+6+7+8+9+10) | 67,483 | 85,309 | 93,326 | 93,251 | 109,949 | 142,606 | 165,622 | 172,475 | 175,799 | 184,739 | 195,278 | 199,479 |

Source: Croatian National Bank.

1/ From 1999 onwards, excludes assets and liabilities of banks declared bankrupt in April 1999. Changes in the statistical reporting system introduced a break in the data in July 1999.

2/ Includes all central government agencies and funds, and the Croatian Bank for Reconstruction and Development (HBOR).

Table A16. Croatia: Deposit Money Banks' Credit and Deposit Rates, 1996-2004 1/
(Monthly weighted average; in percent, annualized)

| | On CNB Bills 35 days (In percent) | Interest Rates on Credits in Kuna | Interest Rates on Credits in Kuna Indexed to f/c | Interest Rates on Credits in f/c | Interest Rates on Deposits in Kuna | Interest Rates on Deposits in Kuna Indexed to f/c | Interest Rates on Deposits in f/c |
|----------|---|--------------------------------------|--|-------------------------------------|---------------------------------------|---|--------------------------------------|
| 1996 Dec | 8.0 | 18.46 | 18.97 | 19.50 | 4.15 | 9.46 | 5.09 |
| 1997 Dec | 8.0 | 14.06 | 14.40 | 13.61 | 4.35 | 7.63 | 4.77 |
| 1998 Dec | 9.5 | 16.06 | 13.04 | 6.95 | 4.11 | 7.47 | 3.98 |
| 1999 Dec | 10.5 | 13.54 | 12.53 | 6.75 | 4.27 | 6.62 | 4.23 |
| 2000 Jan | 10.5 | 15.32 | 12.76 | 6.65 | 4.32 | 4.02 | 4.18 |
| Feb | 10.5 | 11.67 | 12.85 | 6.63 | 4.27 | 6.19 | 3.95 |
| Mar | 10.4 | 12.94 | 12.17 | 6.93 | 4.10 | 6.81 | 3.96 |
| Apr | 9.8 | 14.59 | 12.28 | 5.32 | 4.03 | 6.36 | 3.81 |
| May | 9.1 | 12.52 | 12.18 | 6.98 | 3.91 | 6.00 | 3.83 |
| Jun | 8.0 | 13.48 | 11.69 | 7.26 | 3.59 | 6.75 | 3.83 |
| Jul | 7.8 | 11.46 | 11.30 | 5.72 | 3.34 | 6.40 | 3.78 |
| Aug | 6.9 | 9.90 | 11.21 | 6.03 | 3.42 | 6.43 | 3.77 |
| Sept | 6.8 | 10.73 | 11.64 | 6.53 | 3.47 | 6.67 | 3.59 |
| Oct | 6.7 | 10.92 | 11.60 | 6.23 | 3.48 | 5.77 | 3.53 |
| Nov | 6.7 | 10.90 | 11.34 | 6.57 | 3.57 | 5.64 | 3.51 |
| Dec | 6.7 | 10.45 | 10.74 | 7.70 | 3.40 | 5.54 | 3.47 |
| 2001 Jan | 6.6 | 10.81 | 10.26 | 7.83 | 3.45 | 5.19 | 3.13 |
| Feb | 6.6 | 10.89 | 10.27 | 6.48 | 3.60 | 5.22 | 3.27 |
| Mar | 6.6 | 8.98 | 9.82 | 6.80 | 3.60 | 5.64 | 3.26 |
| Apr | 6.4 | 8.99 | 9.81 | 6.83 | 3.54 | 5.40 | 3.13 |
| May | 6.3 | 9.32 | 10.34 | 7.15 | 3.32 | 5.94 | 3.09 |
| Jun | 5.5 | 9.88 | 10.15 | 6.80 | 3.18 | 5.69 | 2.98 |
| Jul | - | 9.39 | 9.31 | 6.50 | 3.04 | 5.29 | 2.93 |
| Aug | 4.1 | 9.27 | 9.64 | 6.51 | 3.11 | 4.63 | 2.96 |
| Sept | 5.0 | 9.46 | 9.81 | 6.44 | 3.10 | 4.98 | 2.83 |
| Oct | 5.0 | 8.53 | 9.37 | 5.93 | 3.06 | 4.58 | 2.75 |
| Nov | 4.5 | 9.56 | 9.68 | 5.61 | 2.99 | 4.40 | 2.59 |
| Dec | 3.4 | 9.51 | 9.29 | 5.94 | 2.76 | 4.58 | 2.60 |
| 2002 Jan | 3.7 | 15.28 | 9.55 | 8.26 | 2.48 | 2.99 | 2.72 |
| Feb | 3.4 | 14.28 | 9.28 | 7.76 | 2.32 | 3.32 | 2.62 |
| Mar | - | 13.47 | 9.21 | 6.20 | 2.02 | 2.89 | 2.62 |
| Apr | 3.0 | 13.42 | 8.19 | 6.38 | 1.94 | 3.76 | 2.60 |
| May | 2.7 | 13.44 | 8.63 | 7.48 | 1.97 | 2.78 | 2.57 |
| Jun | 2.2 | 12.78 | 8.21 | 6.71 | 1.91 | 3.39 | 2.58 |
| Jul | 1.9 | 11.89 | 8.12 | 6.48 | 1.75 | 3.59 | 2.59 |
| Aug | 2.0 | 12.35 | 7.99 | 6.55 | 1.77 | 3.44 | 2.59 |
| Sep | 2.0 | 11.81 | 8.54 | 5.79 | 1.71 | 3.39 | 2.56 |
| Oct | 2.0 | 12.54 | 8.04 | 6.18 | 1.67 | 3.62 | 2.52 |
| Nov | 2.1 | 11.91 | 8.29 | 6.46 | 1.58 | 3.58 | 2.54 |
| Dec | 2.1 | 10.91 | 8.25 | 5.91 | 1.55 | 2.92 | 2.55 |
| 2003 Jan | 2.1 | 11.26 | 8.09 | 6.19 | 1.61 | 3.61 | 2.54 |
| Feb | 2.1 | 11.43 | 8.55 | 6.33 | 1.64 | 3.30 | 2.50 |
| Mar | 2.2 | 11.30 | 8.41 | 5.70 | 1.44 | 3.61 | 2.37 |
| Apr | 2.2 | 11.41 | 8.03 | 6.55 | 1.40 | 3.52 | 2.36 |
| May | 2.3 | 11.58 | 8.07 | 4.60 | 1.35 | 2.98 | 2.26 |
| Jun | 2.4 | 11.55 | 7.68 | 5.84 | 1.37 | 3.61 | 2.24 |
| Jul | 2.5 | 11.15 | 8.05 | 4.74 | 1.36 | 3.25 | 2.22 |
| Aug | 2.5 | 12.08 | 7.96 | 6.19 | 1.50 | 3.14 | 2.17 |
| Sep | 2.6 | 11.71 | 8.12 | 4.77 | 1.79 | 3.40 | 2.22 |
| Oct | - | 12.00 | 8.09 | 5.73 | 1.70 | 3.37 | 2.20 |
| Nov | - | 12.00 | 7.39 | 5.58 | 1.50 | 3.25 | 2.14 |
| Dec | - | 11.45 | 7.07 | 5.62 | 1.66 | 3.48 | 2.22 |
| 2004 Jan | - | 12.12 | 7.00 | 5.26 | 1.77 | 3.67 | 2.46 |
| Feb | - | 12.42 | 7.99 | 6.00 | 1.89 | 3.78 | 2.38 |
| Mar | - | 11.76 | 7.48 | 4.58 | 1.98 | 3.70 | 2.38 |

Source: Central Bureau of Statistics.