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CROATIA

Selected Issues and Statistical Appendix

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Approved by the European I Department

February 24, 1997

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[1]Mr. Dorsey transferred to PDR in November 1996.

Statistical Appendix

PREFACE

Preceding the statistical appendix, this background document starts with three papers and then contains three summary annexes.

In Chapter I, the first paper deals with the data interpretation problems in the Croatian balance of payments and discusses in detail the overestimation of the size of the external current account deficit in the official statistics. The paper reflects the staff's discussions with the authorities over the past year, and it has therefore been in the works for a while. It also responds to comments from Executive Directors during the Executive Board's consideration of the last Article IV consultation.

In Chapter II, the second paper tries for the first time to examine the behavior of the monetary aggregates in Croatian using econometric methods. The inherent problems encountered in estimating correctly the behavior of the demand for money comes out clearly from the analysis. Because of these problems, it would have been difficult to pursue a money-based approach to stabilization policy. The analysis also provides empirical support for the notion that "dollarization" in the sense of the currency substitution literature is not a major concern, notwithstanding the large share of broad money held in the form of foreign currency deposits.

In Chapter III, the structure and performance of the banking sector is analyzed, including the effects of competition and ownership structure on profitability and interest rate spreads so far. It would appear from this analysis that more would be required in the banking sector than the new entrants and privatization experienced so far to bring about a reduction in interest rate spreads (and by implication interest rates on lending). Bank rehabilitation efforts and entry by foreign banks that are only now starting to enter the Croatian market are hopeful avenues. An earlier version of this paper was prepared in June 1996, as part of a larger study with authors from the National Bank of Croatia for the Second Dubrovnik Conference on Economies in Transition, which focussed on capital markets and banking sector reform in these economies.

The authorities were keenly interested in these three subjects. The content of the papers informed well the policy discussions as the main findings of the papers could be drawn on even while work was in progress.

The three annexes contain the usual summaries of the tax system and the exchange and trade system. In addition, an annex on Croatia's pension system summarizes both the operations of the current system and issues for reform. Reform would seem to be unavoidable, although the most serious pressures from demographic trends are unlikely to arise until the next decade. Care will need to be taken to ensure that the transition costs incurred by the budget because of moving from a pay-as-you-go to a funded pension system are manageable.

I. THE BALANCE OF PAYMENTS IN CROATIA: RECENT DEVELOPMENTS, DATA INTERPRETATION PROBLEMS, AND SUSTAINABILITY ANALYSIS[2]

A. Introduction and Overview

1. This chapter aims to shed some light on balance of payments (BOP) data problems and trends with a view to helping better interpret and analyze external sector developments and to evaluate against this background external sustainability.

2. Important conclusions from the first part of the chapter are that: (i) the size of the current account deficit—which surged from near balance in 1994 to over 10 percent of GDP in 1995 before declining to about 7 percent in 1996—has likely been overestimated in the official statistics by significant margins; and (ii) errors and omissions, which jumped to 8 percent of GDP in 1995, are likely to have peaked in that year.

3. Two main reasons are offered for the overestimation of the current account deficit. The first is that part of errors and omissions have likely reflected sustainable current earnings. It is estimated that this factor contributed at least 1½ percentage points of GDP to the overstatement of the current account deficit in 1995. The second reason is that most of the foreign exchange inflows of unknown origin have been recorded as capital inflows when more of these inflows should in fact have been registered as current receipts. It is estimated that this could have resulted in biasing upward the 1995 current account deficit by about 1½ percentage points of GDP, although the extent of overestimation could be as high as 3 percentage points of GDP.[3] This overestimation is likely to continue until data from a comprehensive package of surveys become available to replace those on unidentified foreign exchange inflows in the compilation of the BOP.

4. The main identified components of errors and omissions are expected to decline rapidly due to a mixture of exogenous developments (such as increased use of the banking system for remittances and a diminution of unregistered trade credit) and statistical improvements (especially regarding the measurement of foreign direct investment (FDI). The decline in errors and omissions as shown in the most recent available data (through September 1996) is in line with these expectations. Declining errors and omissions on account of improved measurement of current earnings will tend to reduce the corresponding overestimate of the current account deficit.

5. The key conclusion of the second part of the chapter is that reasonably plausible medium-term projections and various alternative scenarios point to a sustainable balance of payments in Croatia, notwithstanding the high current account deficit and negative export

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[2]Prepared by Christian Mulder.

[3]Estimates for the first half of 1996 indicate somewhat higher numbers.

growth registered in the official statistics in 1996. In addition to the overestimation of the current account deficit, this conclusion mainly reflects favorable prospects in the tourism sector, which should more than offset any expansion in the trade deficit.[4] It is also important to note that export performance in 1996 was, for several special reasons, significantly better than the data on face value would indicate. The various alternative scenarios suggest that the BOP could remain manageable in the presence of adverse shocks, including resumption of limited regional hostilities that would severely impact tourism and private capital inflows.

6. The rest of the chapter is organized as follows. The first part discusses the main data interpretation problems related to errors and omissions and the arbitrary allocation of foreign exchange inflows. The second part focuses on interpreting important recent developments and prospects in key BOP components and presents alternative external sector scenarios.

B. How to Interpret the BOP Data[5]

7. The extraordinary size of net errors and omissions makes the Croatian BOP unusually hard to interpret. From a relatively modest US$0.1 billion in 1994, errors and omissions increased sharply in 1995 to reach US$1.3 billion, equivalent to about 20 percent of imports or 8 percent of GDP. This increase coincided with a sharp deterioration in the officially-recorded current account from near balance in 1994 to a deficit of over 10 percent of GDP in 1995, and therefore served to "finance" a large part of the recorded current account deficit in the latter year. Significant problems also arise in interpreting the BOP because of the somewhat arbitrary approach to assigning the large flows of foreign exchange cash and checks sold and deposited by residents to various categories of the current and capital accounts for purposes of estimating line items. Gross inflows into these foreign currency accounts amounted to about US$4 billion in 1995, with net inflows totaling about US$0.8 billion.

Errors and omissions

8. An important data source for the BOP is the International Transactions Reporting System (ITRS). Transactions involving international payments are recorded comprehensively by all banks and compiled in the ITRS. If the ITRS were the only data source used, errors and

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[4]Some of the financing for higher imports of consumer durables and investment goods in 1995 and for sustaining them in 1996 appeared to be in errors and omissions and resulted from a drawdown of foreign savings held abroad. As declines in this form of capital inflows could be expected to be associated with an offsetting decline in imports, there may also be a self-correcting element to BOP adjustment.

[5]This section builds on the "Report on the Balance of Payments Statistics Mission, February 15–29, 1996" by Ricardo Puig and Elizabeth Sumar (June 3, 1996) and on "Republic of Croatia Balance of Payments Compilation Manual," draft version and non-official translation (April 5, 1996).

omissions would by definition not arise because the balance sheets of banks must always be in balance. However, the balance of payments relies on other sources of information for a number of important categories, notably for trade, transportation, and short-term credit.

9. As shown in Table 1, the discrepancy in net import data between (i) payments data from the ITRS and (ii) the customs data compiled by the Central Bureau of Statistics (CBS) and used for the BOP, coincides markedly with the direction of movement in errors and omissions in the period 1994–1996. Note that the difference reported by the two sources in export data has gradually narrowed, but ballooned in import data by about US$1.2 billion in 1995. The substantially higher imports from customs data than from payments data point to unrecorded import financing as one of the main reasons for errors and omissions.[6] Such sources of finance that are inadequately captured with existing statistical systems could include unregistered trade credit, unregistered foreign direct investment, and underreported workers' remittances (including income earned abroad that is not repatriated but instead used to pay for imports by drawing down balances held abroad). Accordingly, four main potential sources of errors and omissions have been identified and are discussed below.

- ***Unrecorded trade financing in the form of delayed payments for imports and trade credit with a maturity of under 3 months***

10. In view of security risks, trading partners often required advanced payments for exports to Croatia in its early years (1992–94). When the situation normalized, exporters gradually allowed the usual practice of requiring payment within a short period (mainly 30 days) after receipt of the product. To provide an indication of the significance of these developments, one month of delayed payments for imports amounts to US$625 million of trade credit. A rough estimate based on parameters derived from surveys is that unrecorded

[6]Customs data are quite comprehensive and appear to be well recorded–with the exception of small scale trade–and thus the main source of errors and omissions relating to the use of customs data must be sought in the financing of imports. One indication of the sizable underestimation of small scale exports is that the number of passenger cars entering Croatia far exceeds the number of cars exiting (CBS, transportation and communications survey).

Table 1. Croatia: Difference Between ITRS and Customs Data on Trade in Comparison with Total Errors and Omissions, 1994-1996
(In millions of U.S. Dollars)

	ITRS		Customs		Difference			Errors and
	Exports	Imports	Exports	Imports	Exports	Imports	Total	Omissions
QI 94	594	620	627	729	33	109	77	-17
QII 94	687	795	932	1,122	245	327	82	-14
QIII 94	771	1,059	1,364	1,432	593	373	-220	-157
QIV 94	786	1,058	1,337	1,946	552	888	337	289
Total 1994	2,838	3,532	4,260	5,229	1,423	1,698	275	101
QI 95	848	1,084	1,166	1,735	318	651	333	387
QII 95	938	1,182	1,199	1,978	261	795	535	340
QIII 95	925	1,218	1,177	1,906	252	688	435	231
QIV 95	987	1,146	1,090	1,891	104	745	641	343
Total 1995	3,698	4,630	4,633	7,510	935	2,880	1,945	1,301
QI 96	950	1,163	1,082	1,662	132	499	367	387
QII 96	982	1,113	1,080	1,893	98	780	682	340

Sources: Customs Office and National Bank of Croatia

trade credit increased by US$300 million in 1995 and a further US$100 million in 1996, and thus contributed these amounts to errors and omissions.[7] [8]

• ***Underestimation of FDI***

11. An improved ITRS was introduced on July 1, 1996, which has provided more accurate data and has indicated that FDI has been underestimated. For July, August, and September 1996 (the first three months for which improved data are available), FDI is reported to have been US$138 million, compared with US$111 million for the first six months of 1996 and US$81 million for 1995. While the high inflows in the first half of 1996 are in line with expectations (reflecting the flotation of shares in Pliva and Zagrebačka Banka on the London Stock Exchange),[9] the surge under the improved ITRS suggests, along with anecdotal evidence, that there have been large numbers of small-scale FDI transactions which were previously misreported or underreported.

• ***Payments made from foreign accounts, using hoarded cash, and from unreported foreign earnings***

12. There is ample evidence that Croatians hold large savings abroad. A 1994 survey of Austrian banks put these savings at about US$2 billion in Austria alone. Hoarding had reportedly become widespread during the period of hyperinflation. Foreign earnings that do not flow though the banking system also appear very sizable. Noteworthy in this respect is the surge in workers' remittances in 1996 by an estimated US$230 million (or 1½ percentage points of 1995 GDP) which cannot be explained by an increase in the number of foreign workers, and therefore points to increased use of the banking system for formerly nonreported cash remittances. These pools of money may constitute important sources of funds to finance imports for which payments are not registered.[10] In so far as such imports are measured by

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[7]A survey conducted for the first eight months of 1995 indicated an average payment delay of about 30 days for imports that accounted for over two thirds of total imports. A repeat survey for the first six months of 1996 indicated a further increase in the share of imports for which delayed payment was allowed to 72 percent in the first quarter of 1996 and to 75 percent in the second quarter of that year.

[8] The amount of trade credit extended for less than three months, which is not registered with the National Bank of Croatia and thus not part of the reported short-term financing, is also estimated to have increased rapidly—broadly in line with the increase in trade credit extended for three months or more but less than one year.

[9]Pliva is a large pharmaceutical concern; Zagrebačka Banka is a large commercial bank.

[10]With retail margins in Croatia still relatively high, import taxes substantive, and distances

(continued...)

customs officials, this could explain a substantial part of the residual errors and omissions. This explanation is in line with the surge in errors and omissions in 1995, which saw an increased demand for consumer durables and investment goods following an improvement in the economic and security outlook and enhanced confidence that the government and the banks would ensure that frozen foreign exchange savings accounts held in Croatia would be protected.[11]

• ***Advance payments for exports***

13. It is likely that payments for exports have been advanced as confidence in Croatia's ability to deliver contracted exports has increased in line with the improved security situation. This could explain why payments for exports have grown more rapidly than actual exports. Especially in the shipbuilding sector, advance payments play an important role and contribute to positive errors and omissions when orders result in advance payments that outpace actual exports. Thus, for example, customs records in the first half of 1996 show exports of US$101 million. With payments in the first half more in line with annual exports of US$400 million—consistent with the customs data showing exports of ships of about US$200 million in the second half of the year—this factor may have contributed about US$100 million to errors and omissions in the first half of 1996.

14. In sum, these four sources of errors and omissions all point to underestimation of capital inflows. In addition, evidence suggestive of unreported foreign earnings used to finance recorded imports points to an underestimation of current inflows, perhaps on the order of 1½ percent of GDP in 1995 because of unrecorded workers' remittances alone. Importantly, it is not expected that errors and omissions will continue at the pace registered in 1995 and the first half of 1996. According to survey results, the float from delayed import payments and the stock of credit with an under three-month maturity appears to have reached a more normal size, implying that these sources of finance can now be expected to stay broadly in line with imports and therefore contribute only about US$50 million annually to future errors and omissions. The earlier improvements and the results from an FDI survey to be introduced in the first quarter of 1997 should also help to significantly reduce errors and omissions from underreported FDI. In addition, the payments for imports from foreign saving accounts will decline to the extent that this source of funds is being depleted and that the demand to restore stocks of durable consumer and investment goods has been satisfied. Finally, workers' remittances through the banking system seem to be replacing previously underreported remittances in cash. Data for the third quarter of 1996 and estimates for the

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[10](...continued)
short, there is substantial cross-border shopping. About 55,000 cars crossed the various borders per day in 1995, carrying a total of about 28 million passengers round-trip (6 times the population).

[11] Foreign currency savings accounts were frozen in 1992.

remainder of the year already suggest that errors and omissions will continue to decline from the very high level recorded in 1995.

15. If errors and omissions nevertheless persist at a high level and in line with a continued large difference between registered payments for and actual imports, the source of unrecorded payments is likely to be a more continuous one, such as import financing from workers' remittances and small scale exports that go unrecorded. Additional survey work in these areas would need to be undertaken.

Foreign Currency Inflows

16. In addition to the issue of errors and omissions, the other key factor that complicates the interpretation of the Croatian BOP concerns the arbitrary allocation in the present methodology of large foreign currency inflows and outflows in the form of cash and checks sold to/bought from and deposited at/taken out of Croatian banks (Table 2). The primary source of inflows consists of deposits in the foreign exchange accounts of residents, followed by purchases of cash and checks from residents, remittances from abroad to resident accounts, and purchases of cash and checks from nonresidents. The gross inflows, at a sizable US$2.8 billion in the first half of 1996, exceeded export earnings over this period. Foreign currency outflows were also large, with cash and check withdrawals the main item, followed by purchases of foreign currency and travelers' checks, for a total of US$1.9 billion over the same period. Nevertheless, the net flows were quite significant: annualized about 11 percent of GDP.

17. As the origin of and underlying reason for most of these inflows is not well known, they are somewhat arbitrarily allocated under the methodology currently used to construct the BOP: about a quarter of the cash, check, and deposit inflows from residents are allocated to current services (travel credits or tourist earnings), and the rest to capital inflows. Remittances from abroad to residents' accounts and cash and checks purchased from nonresidents are fully treated as current earnings. Circumstantial information and some survey evidence supports the notion that the sizable net inflows reflect in particular the five sources discussed below.

Table 2. Main Foreign Currency Flows, 1995-96

ITRS code	Description	Allocation to current account in official methodology	Amounts in millions of dollars	
			1995	I-VI 1996
781	Forex remittances from abroad to resident forex accounts	100 % workers remittances	486	343
701	Forex cash and checks sold by residents to banks	25 % tourism	1061	480
797	Deposits of forex cash to forex accounts of residents	25 % tourism	2955	1930
700	Forex cash and travel checks sale to residents	25 % tourism	-746	-345
897	Forex cash/check withdrawals from forex accounts of residents	20 % tourism	-2426	-1519
	Memorandum item:			
796	Purchased forex and checks from non residents	100 % tourism	391	147

Source: National Bank of Croatia

- ***Nonresident spending in foreign currency***

18. Nonresidents (notably embassies, aid agencies, UNPROFOR, UNHCR and IFOR and their stationed personnel) undertake part of their expenditure in foreign currency cash, which is likely to show up in foreign currency deposits or foreign currency sales by residents. Expenditure by the U.N. alone is estimated to have been US$180 million in 1995, with amounts declining sharply in 1996. Preliminary data on changes in the stocks of nonresident accounts for 1996 indicate annual payments of about $600 million, many of which were probably for goods and services but were reflected in the capital account in the official statistics.[12]

[12]The balance of payments would greatly benefit if payments made from non-resident accounts to residents accounts and cash withdrawals by nonresidents were more accurately measured and recorded under service inflows. Refining procedures to this effect should be relatively straightforward and be accorded a high priority.

• ***Tourist earnings***

19. Based on overnight stays and survey data on tourist expenditure—which unfortunately is confined to the main tourist season and the traditional tourist resorts—overall expenditure is estimated to have been about US$700 million in 1994, falling to US$444 million in 1995 and rising again to about US$859 million in 1996.

• ***Unidentified export and transportation earnings***

20. With the open borders, notably to Bosnia and Herzegovina, it is likely that Croatian citizens earn substantial sums in unrecorded trade with this area. The main incentive to underreport export earnings is the significant income taxes in Croatia. The current BOP methodology also underestimates the earnings potential of the transport sector. At present, about 10,000 transport companies operate in Croatia, of which only about 100 are captured in the present transportation survey. Very crude estimates indicate that this sector generates US$200 million more in service earnings than reported.

• ***Workers' remittances in cash***

21. Croatia has a very large expatriate community, and workers often bring part of their earnings home in the form of cash during holidays, or more frequently for daily or weekly commuters. Some of the seasonality (notably during the Easter, Christmas, and summer seasons) in sales of cash by nonresidents and deposits of foreign exchange by residents is due to this factor. Workers' remittances through the banking system have increased rapidly from US$243 million in the first half 1995 to US$343 million in the first half of 1996. This trend is expected to continue, with the result that there should be a further reduction in (unrecorded) remittances in cash.

• ***Repatriation of foreign savings***

22. Finally, as discussed above, there is ample evidence that suggests that Croatians hold large amounts of savings abroad, including evidence from a survey of Austrian banks. Part of these savings may be repatriated because of the slightly more favorable terms offered in Croatia. Total foreign currency deposits in Croatia (including declining frozen foreign exchange deposits) increased at a very rapid pace, by about US$0.7 billion in 1995 and

US$0.8 billion in 1996, with banks placing about two-thirds of the increment with foreign banks.[13] [14]

23. The current BOP methodology records foreign currency inflows (summarized in Table 2) by treating 75 percent of the foreign exchange cash and checks purchased from residents (ITRS No. 701) and 75 percent of deposits into foreign currency accounts of residents (ITRS no. 797) as a capital account item (i.e., as "other capital inflows"). The remaining 25 percent of these receipts are treated as travel credits or tourism inflows. Foreign exchange remittances to resident accounts (ITRS no. 781) are fully treated as current transfers. Similarly, on the debit side, 75 percent of the foreign exchange sales (ITRS no. 700) and 80 percent of the foreign exchange withdrawals (ITRS no. 897) are treated as capital account items (that is, "other capital outflows"). The remaining 25 percent and 20 percent respectively, are treated as travel debits or tourism outflows.

24. There would appear to be two main problems with this methodology. First, the net inflows recorded as tourism receipts clearly reflect inflows other than those from tourist earnings. This issue came rather to the forefront in 1995, which was a poor year for tourism with a virtual halving in overnight stays by foreigners, although official statistics show a mere 11 percent decline in net tourism receipts. Secondly, the fixed percentages have a significant impact on the size of the officially-reported current account deficit, but make it very arbitrary. As Table 3 indicates, if all cash and check remittances (ITRS No. 701 and 797 on the credit side and 700 and 897 on the debit side) were regarded as current account items, the deficit would be about 3 percentage points of GDP smaller in 1995, and nearly 4 percent of GDP (annualized) smaller in the first half of 1996. With the trend in these cash and check items showing a gradual increase, they would appear to reflect mostly sustainable current earnings, rather than a finite repatriation of foreign-held savings in which case a hump or bell-shaped pattern would be expected.[15]

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[13]The sizable and mostly regulated net foreign assets of the banking system provides an important cushion against not only short-term outflows, but also against diminished inflows from the repatriation of savings held abroad.

[14]Croatians residing abroad for over 1 year are still usually registered as residents. A more exact registration for banking purposes would be helpful in order to assess appropriately the risks associated with the build-up of large short-term non-resident deposits. This is especially relevant because the community of foreign Croatians is large and relatively well to do.

[15]Notwithstanding some concentration in the summer and holiday seasons and a downturn during "Operation Storm" in the late summer of 1995, the monthly pattern of foreign currency inflows has been is remarkably stable. This also suggests substantial continuity in these flows, which could be explained by a constant earnings stream, rather than one-off events.

25. Estimates have been made (see attachment) to derive the trend part of the flows as a way of estimating the relative size of current earnings in the overall foreign exchange inflows. The results indicate that a larger part of inflows should be classified as current flows than in the methodology now used and imply that the current account deficit in 1995 is overestimated by about 1½ percent of GDP on this account.

Table 3. Impact of Alternative Allocations of Foreign Exchange Flows on the External Current Account, 1995, 1996 H I

	1995	1996 H I
Inclusion of resident cash and deposits items in the current account in the following proportions: 1/	(In millions of dollars)	
50 percent	90	60
75 percent	301	197
100 percent	512	333
Inclusion of resident cash and deposits items in the current account in the following proportions: 1/	(In percent of period GDP)	
50 percent	0.5	0.7
75 percent	1.8	2.3
100 percent	3.1	3.8

1/ The allocation under the existing BOP methodology is 20-25 percent. The allocation is to the category tourism (credits and debits).

26. A fundamental solution for these statistical problems would be to replace the data on the foreign exchange flows by estimates based on survey information on the five main items identified above, with the information on overall foreign exchange flows functioning as a check on overall accuracy. As a first step, and in line with recommendations by the Fund's Statistics Department, a more extensive tourism survey and extended transportation surveys will be undertaken, starting in early 1997. These will be used to provide more accurate estimates for tourism and transport income. Simultaneously, and making use of ITRS and banking sector information, more accurate estimates of non-resident expenditure by non-tourists need to be made, and improved criteria for non-resident accounts need to be developed. However, before more comprehensive information becomes available, it will be difficult to abandon foreign exchange flows as the core source of data.

C. BOP Sustainability

27. Medium-term projections for the BOP point to external sustainability. A first key reason is the solid prospect for growing tourist income since income from this source at present is still only a fraction of past income. A second key reason is that performance and

prospects of the export sector are better than they appear on the basis of U.S. dollar-denominated customs data for 1996. Finally, as noted above, the current account deficit is likely to have been overestimated by a substantial margin. This is reflected in a relatively modest debt build-up. And while the debt-to-GDP and debt service ratios are projected to increase again during the reconstruction phase, they do so after a recent decline and they are expected to remain well within reasonable bounds in the baseline outlook. Thus, external sustainability when evaluated in the context of the overall BOP, and not the trade sector alone, appears good. Following a brief discussion of the prospects for the main balance of payments categories (trade, tourism, current transfers, and capital flows), various scenarios indicate that Croatia's BOP is manageable in the presence of adverse shocks.

Merchandise trade

28. Export performance in 1996 was disappointing, with exports as measured by customs data declining by 2.6 percent in U.S. dollar terms. Several special factors contributed to this performance. First, the valuation effects of exchange rate movements, which tended to reduce export growth substantially when measured in the U.S. currency. The deutsche mark is a more representative unit of account for Croatian trade, and exports measured on that basis actually increased by 2.4 percent. Second, export shipments through customs have been substantially weaker than payments received for exports, with export payments rising by 8 percent in the first half of 1996 over the same period in 1995, in contrast to an 8 percent decline for customs-cleared exports. About one third of this difference reflects advance payments for ships, whose export in 1997 will therefore rise considerably. The remainder could reflect the substantive decline in reexports of processed goods observed in the data.[16] As there is no indication in the price data that profit margins have declined, re-exports may very well pick up in 1997. The relatively poor export performance in 1996 also reflected the slow growth in Croatia's export markets. According to data from the WEO, Croatia's export market expanded by only 1.5 percent in terms of U.S. dollars in 1996.[17]

29. It is anticipated that export performance will pick up over time, supported by the positive effects of structural reforms on competitiveness. In addition, the growth in Croatia's export market is expected to pick up significantly in 1997, reaching 6.6 percent based on

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[16] The customs office collects data on imports for processing, as well as data on the corresponding reexports. While imports for processing were unchanged, reexports fell by 3.5 percentage points of overall exports in the first ten months of 1996 compared to 1995.

[17] This figure is based on the export-weighted growth of imports of goods and services in countries that account for at least 95 percent of Croatia's trade.

WEO data. Exports should be raised further in 1997 by growing re-exports as well as the orders-indicated rise in exports of ships.[18]

30. Despite buoyant economic growth, imports increased only moderately in 1996, although growth was higher when imports are measured in deutsche mark instead of U.S. dollars. Imports of investment goods rose by 15 percent, while imports of intermediate and consumer goods combined inched ahead at about 2 percent. A key explanation behind the moderate import growth appears to be that the surge in imports experienced in 1995 (when imports jumped by 44 percent) satisfied at least part of the demand for replenishing stocks of retail and durable goods. This explanation is consistent with the observed decline in 1996 in short-term trade financing associated with stock building, and the decline in errors and omissions in the first nine months of the year which may have been associated with lower imports for consumer durables financed by drawing down savings held abroad.

31. Over the medium term, imports are assumed to resume growth in line with nominal GDP, with an elasticity modestly above unity. Meanwhile, export growth, which is assumed to be two percentage points below import growth in 1997, picks up only modestly thereafter, thus allowing for a widening trade deficit in the medium-term baseline projections.

Tourism

32. After a dismal and disappointing performance for tourism in 1995 following the shelling of Zagreb and the coast, and "Operation Storm" in late summer, tourism nearly doubled in 1996 to 16.5 million overnight stays by foreign tourists. This number is still a far cry from the pre-war peak of 60 million overnight stays and, with its renowned coast, Croatia's potential tourism growth is surely substantial. The baseline projection is for Croatia's tourism to grow at a rate which declines from about 30 percent in 1996 to 15 percent in 1997 and afterward, reaching about 80 percent of its former size over a period of 5 years. The upside potential mainly comes from the possibility of attracting more high-paying tourists; the downside risk stems from too-slow restructuring of partly state-owned tourist companies, and regional security difficulties.

Private and government transfers

33. At 1½ percent of GDP in 1995, Croatia received a relatively large inflow of Government transfers for a country with its per capita income. The main reason is cosmetic: in the official BOP classification, about sixty percent of the Government transfers in 1995 were

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[18]The restructuring of several industries (for example, finished textiles, textile fabrics, steel, and paper products) may also have had a negative effect on exports in 1996. This restructuring was partly in response to increased competition from the lifting of the economic embargo against the Republic of Yugoslavia, and the performance of these exports in 1997 is more uncertain.

actually pension payments received by Croatian residents who had worked abroad and which should thus be classified as private transfers. With the Croatian work force in other countries substantial and relatively old, such pensions are likely to continue to grow. In line with the trend, growth in real terms is projected at 5 percent. This contrasts sharply with the outlook for genuine government transfers, to aid the reconstruction of Croatia and to deal with the refugee problems. These transfers have diminished rapidly in 1996, and are expected to dry up after the reintegration of Eastern Slavonia has been completed, now scheduled for 1997.

34. The bulk of overall transfers consists of workers' remittances, which have been increasing rapidly and may continue to do so as a result of an improved banking network and confidence in the Croatia banking system. With unemployment high, with ongoing restructuring and the lay-offs it implies, and wages in several neighboring countries a multiple of those in Croatia, there is added reason to believe that the number of Croatians working abroad and their remittances will continue growing. Conservatively, the overall real growth is projected at a rate of 2 percent, giving very little weight to the unknown impact of a possible further increase in the use of the banking system to remit earnings.

Prospects for capital flows

35. Until recently, Croatia's access to international capital markets was very limited. Up to 1995, disbursements of medium- and long-term loans net of scheduled amortization were negative. Access then improved rapidly, but initially only with both the government and commercial banks taking loans from foreign banks at relatively short maturities (up to 2 years). The assessment of an investment grade rating for Croatia by three rating agencies (Moody's, Standard & Poor, and IBCA) in January 1997 paved the way for borrowing at more desirable maturities. Indeed, in February 1997, Croatia was able to tap the eurobond market with an oversubscribed issue of US$300 million in 5-year bonds, and a favorable spread of 80 basis points over comparable U.S. Treasury securities.

36. With access thus established, the overall size of foreign borrowing from private markets over the medium term should be primarily driven by the demand for foreign loans by the Government and the banking sector, provided the overall borrowing stays within reasonable limits, the macroeconomic and political situation remains stable, and the regional situation peaceful. Thus, following the successful Eurodollar bond issue, recourse to the international capital markets is set to increase markedly in 1997, with the budget deficit financed entirely through foreign loans (including those from the IBRD). This is projected to continue for a number of years, when reconstruction demands are still high. However, it would be desirable if foreign borrowing tapered off over the medium term in order to avoid a significant increase in the external debt burden.

37. Regarding other sources of foreign inflows, the prospects for FDI are also good. For example, discussions for major investments in oil and gas exploration are well underway, while plans for large scale investment in infrastructure (notably roads) have been developed. In addition there is further scope for portfolio investment in several large

enterprises—however, at this juncture, data on portfolio investment are not separately recorded.

38. With the pipeline of approved loans, especially from the EBRD and IBRD increasing, the scope for multilateral lending, including through fast disbursing structural adjustment credits, is set to increase further. The increase may taper off, however, once the need for adjustment credits diminishes. Suppliers' credits, guaranteed and non-guaranteed, also increased rapidly in 1995 and especially 1996 and have become an important source of financing. This latter source is not likely to fall as long as imports are growing and regional security risks remain within acceptable limits.

Sustainability analysis

39. In line with the prospects highlighted above, the baseline medium-term outlook is presented in Table 4. This outlook assumes an unchanged method of compiling the BOP, and projects a marked decline in the current account deficit over the medium term to about 3 percent of GDP by the year 2001. While the baseline allows for a further deterioration in the trade balance in absolute terms, this is more than offset by a growing service sector, notably on account of tourism. Errors and omissions are conservatively projected to fall to zero in 1997 (and stay there), and this drop is assumed to have only a minimal impact on either current earnings or imports. At the same time, net non-loan inflows are expected to moderate.[19] Reflecting these trends and those in other capital flows discussed above, financing is expected to shift from net non-loan claims to FDI and net medium- and long-term loan disbursements. The emphasis is initially on loans and gradually shifts to FDI.

40. In the baseline scenario, the ratio of total external debt to GDP peaks at about 30 percent, a figure well within a sustainable range. The debt service ratio is projected to increase to about 12 percent in 2001, as the average maturity is seen to decline with rescheduled Paris and London Club obligations being refinanced with loans of a shorter

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[19]One of the most difficult and largest items to project in the Croatian BOP is the foreign inflows in the form of cash and deposits by residents, which under current methodology are allocated to both tourism earnings (25 percent) and other sector non-loan inflows (75 percent). The impact on the overall BOP is, however, diminished by the large fraction of deposits which is redeposited abroad by banks. It is assumed in the baseline projection that the gross inflows remain broadly unchanged—thus the growth in tourism is only driven by the increase in nonresident inflows, in line with overnight stays as discussed above, and not by an increase in resident flows—but that net inflows decline as the percentage which banks redeposit abroad is conservatively projected to increase somewhat from the already high level estimated for 1996. It should be noted that an equivalent effect for the overall BOP can result if gross inflows decline and banks do not increase the percentage redeposited abroad.

maturity.[20] With exports of goods and non-factor services amounting to just over 40 percent of GDP, a stable debt service ratio of 15 percent would be achieved if the average maturity of loans were 5 years.

41. It is clear that there are substantial upside and downside risks in Croatia's medium-term balance of payments outlook. At the same time, there are a number of factors that cushion the impact of these risks. The downside risks relate to the speed in the response of the export and tourism sector to structural reforms and regional security. The upside risks include the considerable potential for tourism and uncertainties regarding the assumed drop to zero in errors and omissions since they may turn out to continue to be positive. The foreign exchange flows in the form of cash and deposits by residents pose both an upside and downside risk, which the baseline tries to evenly balance. An important cushion is the reserve position banks maintain abroad.

42. Below, two alternative scenarios are developed to illustrate the downside risk (Table 5). The first scenario features a delayed pick-up of export growth to 4 percent in 1997, climbing only gradually to the projected growth rate of 8 percent in 2001. This is offset in the scenario by a modest reduction in imports of on average 1½ percentage points during the coming 4 years. This reduction in imports is less than half the envisaged build-up in reserves over these years and the situation would be quite manageable through appropriate demand management. To ensure the eventual pick up of export growth there would be need for a significant strengthening of enterprise restructuring and labor market adjustment.

43. A second alternative scenario assumes a resumption of hostilities in the region, with the negative impact falling primarily on tourism and capital inflows. With tourism revenues falling back to the low levels experienced in 1995, gross inflows of loans drying up, net non-loan inflows unchanged, foreign direct investment falling back to about US$250 million, short-term trade financing declining, a substantial adjustment in the economy would be required. The budget deficit would need to be scaled back drastically in the absence of foreign financing. Imports would have to fall by about 18 percent before resuming growth to keep reserves unchanged from their 1996 level. However, imports would still remain about 22 percent above the levels observed in 1994. The required drastic adjustment in imports would come about mainly because of reduced income induced by lower tourism income and higher taxes (and possibly exchange rate adjustment). While the import compression under this scenario is manageable, moderation in foreign borrowing and prudence regarding the maturity structure of the foreign borrowing—notably the avoidance of short maturities—remains advisable as long as a scenario of regional insecurities can not be ruled out.

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[20]The debt service ratio projection is rather sensitive to the maturity structure assumed for new loans, especially the percentage of short-term loans.

Table 4. Baseline Medium-Term Balance of Payments, 1995-2001
(In millions of U.S. Dollars)

	1995	1996 Est.	1997	1998	1999	2000	2001
			Projections				
Merchandise trade balance	-2877	-3277	-3662	-3955	-4271	-4613	-4982
Exports (f.o.b.)	4633	4511	4827	5213	5630	6080	6567
(in percent change)	(8.7)	(-2.6)	(7.0)	(8.0)	(8.0)	(8.0)	(8.0)
Imports (c.i.f.)	-7510	-7788	-8489	-9168	-9901	-10693	-11549
(in percent change)	(43.6)	(3.7)	(9.0)	(8.0)	(8.0)	(8.0)	(8.0)
Services and transfers	1165	2013	2359	2713	3122	3611	4110
Transportation	60	118	127	137	148	159	172
Tourism	813	1313	1611	1960	2323	2777	3223
Other services	-260	-186	-208	-225	-243	-263	-284
Interest income (scheduled, net) 1/	-94	-50	-18	-34	-36	-50	-50
Government transfers	280	222	215	209	227	248	269
Private transfers	366	596	632	666	702	740	779
Current account balance	-1712	-1263	-1303	-1242	-1149	-1002	-872
Capital account	491	1054	1544	1461	1401	1369	1289
Foreign direct investment	81	287	337	387	437	487	537
Medium and long term loans	-137	310	941	868	827	774	643
Net non-loan claims	50	409	231	77	-4	-46	-56
Net short-term lending	497	49	36	130	142	154	165
Errors and omissions	1300	595	0	0	0	0	0
Overall balance	78	386	241	219	252	367	417
Gross reserves (US$m) (- = increase)	-490	-418	-400	-360	-366	-373	-380
Arrears (+ = increase)	315	-1405	0	0	0	0	0
Exceptional financing	98	1436	159	141	114	6	-37
Memorandum items:							
Current account as percent of GDP	-10.3	-7.2	-6.9	-6.1	-5.2	-4.2	-3.4
Gross reserves (US$m)	1895	2313	2713	3073	3439	3812	4192
Reserves in months of imports of goods and nonfinancial services	2.3	2.6	2.9	3.0	3.1	3.2	3.3
Outstanding debt (US$m) 1/ 2/	3802	4124	5121	5989	6816	7590	8233
Debt/GDP ratio 1/ 2/	22.0	22.7	24.6	27.2	29.0	30.2	30.7
Debt service paid/exports of goods and nonfinancial services 2/	8.2	10.1	9.4	8.5	8.5	10.5	11.9
GDP (US$m)	16630	17431	18898	20415	22053	23823	25735
Exchange rate (end of period)	5.316	5.535	...	...	...	...	...

Sources: Croatian authorities and staff estimates.

1/ Does not include debt that was excluded from London Club agreement, and claims on international reserves of the former Socialist Federal Republic of Yugoslavia.
2/ Excludes short-term trade related debt.

Table 5. Alternative Medium-Term Balance of Payments Scenarios, 1996-2001
(In millions of U.S. Dollars)

	1996 Est.	1997	1998	1999	2000	2001
		Projections				
Scenario I						
Slower export growth						
Exports in percent change	-2.6	4.0	5.0	6.0	7.0	8.0
Imports in percent change	3.7	6.8	6.1	6.8	7.4	8.1
Current account as percent of GDP	-7.2	-6.8	-6.0	-5.1	-4.2	-3.4
Reserves in months of imports of goods and nonfinancial services	2.7	2.7	3.0	3.1	3.3	3.4
Outstanding debt (US$m) 1/ 2/	4124	5121	5989	6816	7590	8233
Debt/GDP ratio 1/ 2/	22.7	24.6	27.2	29.0	30.2	30.7
Debt service paid/exports of goods and nonfinancial services 2/	10.1	9.6	8.8	8.9	11.1	12.6
Scenario II						
Regional secutrity problems						
Exports in percent change	-2.6	8.0	8.0	8.0	8.0	8.0
Imports in percent change	3.7	-18.0	9.3	8.8	6.2	7.8
Current account as percent of GDP	-7.2	0.9	0.4	0.1	0.5	0.4
Reserves in months of imports of goods and nonfinancial services	3.3	3.3	3.2	3.1	3.1	2.9
Outstanding debt (US$m) 1/ 2/	4124	3700	3296	3033	2718	2428
Debt/GDP ratio 1/ 2/	22.7	20.9	17.1	14.3	12.1	10.0
Debt service paid/exports of goods and nonfinancial services 2/	10.1	9.6	7.6	5.2	5.1	4.2
Scenario III						
Errors and omissions continue to be large						
Exports in percent change	-2.6	7.0	8.0	8.0	8.0	8.0
Imports in percent change	3.7	10.9	7.9	7.9	7.9	7.9
Current account as percent of GDP	-7.2	-7.6	-6.7	-5.8	-4.7	-3.8
Reserves in months of imports of goods and nonfinancial services	2.6	2.6	3.0	3.3	3.6	3.8
Outstanding debt (US$m) 1/ 2/	4124	5121	5989	6816	7590	8233
Debt/GDP ratio 1/ 2/	22.7	24.6	27.2	29.0	30.2	30.7
Debt service paid/exports of goods and nonfinancial services 2/	10.1	9.4	8.5	8.5	10.5	11.9
Baseline outlook						
Exports in percent change	-2.6	7.0	8.0	8.0	8.0	8.0
Imports in percent change	3.7	9.0	8.0	8.0	8.0	8.0
Current account as percent of GDP	-7.2	-6.9	-6.1	-5.2	-4.2	-3.4
Reserves in months of imports of goods and nonfinancial services	2.6	2.6	2.9	3.0	3.1	3.2
Outstanding debt (US$m) 1/ 2/	4124	5121	5989	6816	7590	8233
Debt/GDP ratio 1/ 2/	22.7	24.6	27.2	29.0	30.2	30.7
Debt service paid/exports of goods and nonfinancial services 2/	10.1	9.4	8.5	8.5	10.5	11.9

Sources: Croatian authorities and staff estimates.

1/ Does not include debt that was excluded from London Club agreement, and claims on international reserves of the former Socialist Federal Republic of Yugoslavia.
2/ Excludes short-term trade related debt.

44. A third scenario illustrates the upside risk that errors and omissions do not fall to zero by assuming this item will continue at about US$300 million annually and reflect in large part unrecorded current earnings. Higher errors and omissions on this latter account would imply income levels that are higher than envisaged in the baseline outlook, and thus also imply somewhat higher-than-projected imports. Assuming a high average propensity to import with roughly half of the initial impact leaking out, this would lead to an additional reserve build-up of about US$150 million annually. Alternatively, the program of import liberalization could be accelerated.

Estimation of the Permanent and Transitory Parts of Net Foreign Exchange Inflows

45. For the estimation below, a series of "non- tourism inflows" has been constructed which consists of monthly foreign exchange inflows in the form of resident cash and deposits, and non-resident sales of foreign currency minus an estimate of tourism inflows. This estimate of tourism inflows is constructed by multiplying the number of overnight stays of foreign tourists with an estimate of their expenditure based on survey information from 1994, and adjusted for the movement in the price level. It is assumed that expenditure by the first 100,000 stays—a minimum registered in virtually every month and outside the standard tourist season—is double the expenditure indicated by the survey. The motivation for this adjustment is that the survey evidence relates mainly to normal tourists, whereas the year round number reflects high expenditure businessmen, and U.N. and other officials.

46. The inflows show a relatively steady trend except for the period from late May to August of 1995, when the shelling of Zagreb and the coast occurred and "Operation Storm" was initiated. This is confirmed by regressing the non-tourism inflows on a combination of linear and non-linear trends, and a dummy for "Operation Storm" (Table 6). The trend component is, on average, US$69 million higher in the first half of 1996 compared with the whole of 1995. Similar specifications explain about 70 to 80 percent of the variation in the inflows. Such a percentage of the non-tourism inflows could be regarded as reflecting flows of a permanent nature, notably current earnings.

47. On this basis, it can be calculated that about 50 percent of cash and check purchased from and deposited by residents could represent current earnings that are over and above the share of inflows identified in the existing methodology for compiling current earnings in the BOP. Thus, about 75 percent of such flows should be registered as current earnings. As indicated in Table 3, this would entail an overestimation of the current deficit of about 1½ percent of GDP in 1995, and 2 percent in 1996 on this account.

Table 6. Regression Results for Non-Tourist Inflows

	Coefficients	*Standard Error*	*t Ratio*
Intercept	-2237.8	1429	-1.57
"Operation storm"	-50.0	14	-3.48
Time trend	21.1	15	1.43
1/Ln trend	7504.8	4359	1.72
1/time trend	-9721.4	5462	-1.78
1/time trend squared	1196.7	612	1.96

Dependent variable: Non-tourist inflows
Regression period: January 1995, through June 1996.
Regresion method: Ordinary Least Squares
Regression Statistics:

R square	0.63
Adjusted R square	0.48
Standard error	27.79
Observations	18

Source: staff estimates

II. An Analysis of the Behavior of Monetary Aggregates in Croatia[21]

A. Introduction

48. The monetary aggregates in Croatia have grown enormously in the period since end-1993 (Table 1). Nevertheless, inflation has stayed below 4 percent and the exchange rate has been fairly stable, trading between 3.5 and 3.8 kuna per deutsche mark since then. An additional point of interest is the high share of foreign currency in Croatian broad money, with foreign currency inflows so far showing only slight signs of abating. At first glance this high share of foreign currency might suggest that some form of "currency substitution" is taking place in Croatia. In fact, foreign currency appears to be held mainly as an asset (albeit an asset whose value has been depreciating over most of the period considered here), in an environment where there are few other options available for portfolio diversification.

49. In an effort to understand better the behavior of various monetary aggregates in Croatia, and to investigate their usefulness as intermediate targets for program purposes, this paper estimates various money demand functions. The main conclusion is that the monetary aggregates have not grown in a way that is predicted by standard theories of money demand with respect to the effects of changes in economic activity (the scale variable) or the opportunity cost of holding money (the interest rate). Demand equations with these variables do not appear to be satisfactory because of two main findings. First, although estimates of the elasticity of demand for real money balances with respect to activity are roughly consistent with evidence for other industrial countries, in general the results with respect to the interest rate elasticity are of the wrong sign—that is, the estimated demand for money is *positively* correlated with the opportunity cost of holding it. Second, deviations of estimated money demand from actual observations are highly serially correlated. This suggests that some other, perhaps unobservable, factor is driving movement in money demand.

50. A possible explanation, consistent with both findings, is that a substantial and sustained remonetization has been, and appears to still be, taking place in Croatia in the wake of decades of high and hyper-inflationary conditions. In such a situation, money demand could rise without a drop in the interest rate or a rise in the level of economic activity, resulting in spurious estimates of the output and interest rate elasticities. With poorly estimated and understood money demand, the usefulness of the corresponding monetary aggregates as intermediate targets is severely diminished.

51. The extremely short time period for which consistent data series are available unfortunately limits the econometric procedures which can reasonably be applied and necessitates the use of parsimonious time series models with fairly strong restrictions on the

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[21]Prepared by Sonal Desai.

Table 1. Croatia: Growth rates of monetary aggregates

	1994	1995	1996
	(percent change on an end-of-period basis, unless otherwise indicated)		
Monetary aggregates 1/ 2/			
Reserve money	110	43	17
Narrow money (M1)	112	25	28
Kuna-denominated broad money (M2)	87	20	33
Foreign currency denominated deposits	62	61	49
Broad money (M4)	74	40	42
Memorandum items			
Retail price inflation	-3.0	3.8	3.4
Exchange rate (Kuna/DM, end-of-period level)	3.632	3.710	3.560
Percentage share of foreign currency in M4	51	58	60

Sources: National Bank of Croatia

1/ Reserve money consists of the reserves of the National Bank of Croatia and currency.
Narrow money (M1) consists of kuna-denominated demand deposits and currency.
Kuna-denominated broad money (M2) consists of M1 plus kuna-denominated time and savings deposits (quasi money).
Broad money (M4) consists of M2 plus foreign currency denominated quasi money. Required reserves against foreign currency deposits are held abroad.
2/ Data for 1996 are for the first 11 months of the year.

lag structure.[22] Thus, this paper does not pursue the error-correction approach, which has been a popular model in the empirical money demand literature since it identifies both the long-run and short-run dynamics of money demand. On *a priori* grounds, it would be reasonable to expect that a long-run trend, as opposed to a cycle, could not be isolated with only two and a half years of data. In addition, application of this model requires that a stationary error term be obtained, but this was only the case in the empirical work undertaken when the parameters of the long-run money demand function were theoretically implausible.

52. In the second part to this paper, the sensitivity of the shares of various components in broad money (*M*4) to interest rate differentials is investigated directly and the results indicate that some fraction of their variation can be explained by changes in the relevant interest rate differentials. The findings do, however, also throw into question the validity of including foreign currency-denominated deposits in a measure of broad money. Including such deposits would be reasonable if they were a close substitute for similar deposits denominated in kuna. If this were the case, then the share of kuna deposits in M4 would be highly responsive to the interest rate differential between kuna- and foreign currency-denominated deposits. In fact this is not the case, suggesting that foreign currency deposits may be held primarily for asset diversification.

B. Money Demand: Theoretical Motivation and Empirical Estimates

53. The demand for real money balances is often modeled as a function of: (i) some measure of economic activity or a scale variable; (ii) the nominal interest rate or some measure of the opportunity cost of holding money; and (iii) exogenous shocks to money demand. When money balances bear no interest, the opportunity cost of holding money is given by the nominal interest rate on an alternative asset, say bonds.[23]

54. In Croatia, there are several factors which complicate the interest rate part of the story. First, almost all deposits are interest bearing, so only the opportunity cost of holding currency can be correctly modeled as a function of just nominal interest rates on other assets and activity. The opportunity cost of holding demand deposits is the differential between the interest rate on a less liquid asset, say savings deposits, and the interest rate on checking accounts. The opportunity cost of holding time or savings deposits, similarly, is the differential between the interest rate on those deposits and an even less liquid asset. In addition, a large fraction of the broad money aggregate is held in foreign currency, bearing different interest rates than kuna holdings. To compare these interest rates, those on foreign currency deposits must be converted into *ex ante* kuna interest rates. This involves computing expected

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[22]Monthly data is available for all series starting in June 1994 and ending in November 1996.

[23]Such an approach is often motivated by the Baumol-Tobin model of the transactions demand for money.

exchange rate changes against a basket which reflects the currency composition of the foreign exchange deposits.

55. An even more fundamental question to be interpreted in the context of the empirical results is whether the foreign currency component of what is called broad money in Croatia should be regarded as money at all, given that the characteristics of this component may be more like those of a financial asset. Even though foreign currency deposits satisfy the store of value role of money, the transactions role is far less certain. However, foreign currency deposits are only marginally less liquid than similar kuna-denominated deposits and they can be easily converted to liquid kuna, if desired.

56. Broad money (M4) is divided into four components for empirical analysis: (i) currency (C); (ii) demand deposits (DD); (iii) kuna-denominated savings and time deposits or kuna quasi-money (S_kD); and, (iv) foreign exchange time and savings deposits, or foreign currency-denominated quasi-money, (S_FD). The empirical analysis itself is divided in two parts: (a) an estimation of the money demand functions for three of the monetary aggregates; and (b) an estimation of the how the components of broad money demand are individually affected by interest rate differentials.

Estimating the demand for M4

57. Starting with the broadest monetary aggregate (M4), the basic model is:

$$M4/P=L(Y,\ i_L,\ i_M,\ \varepsilon),$$

where $M4= C+ DD+S_kD+S_FD$, P is the price level, Y is a scale variable, ε is an exogenous shock to money demand, i_L is the bank lending rate, and i_M is a weighted average of the interest rates on the components of $M4$, calculated as

$$\begin{aligned} i_M &= \theta_C i_C + \theta_{DD} i_D + \theta_{SKD} i_K + (1-\theta_C-\theta_{DD}-\theta_{SKD}) i_F \\ &= \theta_{DD} i_D + \theta_{SKD} i_K + (1-\theta_C-\theta_{DD}) i_F \end{aligned}$$

58. The θ's are weights, computed as the respective shares of each component of broad money in the total; i_c, i_D, i_K, and i_F are the interest rates on currency (trivially 0), demand deposits, kuna-denominated time and savings deposits, and foreign currency-denominated time and savings deposits respectively.

59. The opportunity cost of holding M4 instead of some alternative asset is measured using the return differential against the interest rate on borrowed funds (i_L, the bank lending rate) as the return on the alternate asset. This is justified in two ways: (i) the fact that the market for bonds and other financial instruments is so small and still sufficiently undeveloped that the interest rates on these instruments probably do not represent a good benchmark; and (ii) if firms (or households) which borrow funds fulfil the marginal condition that the return to

capital (or durables) is equated to the borrowing rate, then the bank lending rate represents the return to capital (durables) which is an alternate asset to holding broad money. However, rather than using the return differential itself as an explanatory variable, the individual components are allowed to enter the estimated equations separately. This is because the lending rate is only a proxy and imposing the restriction of equal coefficients on each interest rate generally gave a poorer fit, as well as less plausible parameter estimates.

60. The expected exchange rate depreciation that is needed to construct a proxy for the expected return on foreign currency deposits is calculated using a purely statistical, backward looking, time series model of the exchange rate. Such a model should do better than the theoretical restriction implied by uncovered interest parity, since, in the case of Croatia, this restriction implies that systematic and persistent forecast errors have been made over long periods of time: the differential between Croatian and foreign interest rates has consistently been positive, yet the kuna has rarely depreciated. The model that was eventually used measured the value of the kuna against a basket of dollars and deutsche mark assumed to be purchased at the average exchange rates of 1995, where dollars represent 30 percent of the basket at the time of purchase.[24] The forecasting model projected the current depreciation rate of the kuna on the lagged depreciation rate and one lag of the inflation rate. Further lags of these variables and lags of various nominal interest rates were found to have no additional forecasting power. Rather than factor the estimate of the expected depreciation directly into the interest rate on foreign currency deposits (i_F), it too was allowed to enter separately in the regression that follows. Specifications where the estimated expected depreciation was factored directly into the interest rate generally gave worse results overall.

61. In estimation, it is assumed that the money demand function is in log-linear form (so that coefficients on quantities represent elasticities and the coefficients on interest rates represent semi-elasticities), and that various lags of the left- and right-hand side variables may be important in explaining the current demand for money. Specifically, ignoring constants, and possible linear trends, it is assumed that

$$\ln(M4_t/P_t) = a(L)\ln(M4_{t-1}/P_{t-1}) + b(L)\ln(Y_t) + c(L)i_{Lt} + d(L)i_{M4t} + e(L)dep + \varepsilon_t$$

where $a(L)$, $b(L)$, $c(L)$, $d(L)$, and $e(L)$ are polynomials in the lag operator, and *dep* is the estimated expected depreciation.

62. An important empirical question is whether the money demand functions, so estimated, are stable. In this context, stability is not taken to mean parameter constancy but the existence of a stationary error term in the money demand function. The implication of such stability would be that as long as some linear combination of all the variables in the money demand equation were found to be stationary—even if not stationary individually—then a statistically

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[24]This split between deutsche mark and dollars has been roughly stable for several years.

reliable forecast of real balances could be obtained, based on independent forecasts of the right hand side variables.

63. In the event that the error terms from the estimated equation appear to be stationary and thus a stable money demand function can be estimated, a second question is whether the estimates are theoretically plausible. Plausibility affects the extent to which forecasts from the money demand equation can be considered reliable and useful.

M4 Demand—Empirical Results

64. Estimation of the demand function for M4 did not yield plausible results. Several different models were estimated, but the essence of the results was robust to these different specifications, and generally cast doubt on the existence of a stable and predictable demand function for M4. The basic problems with all the estimates can be illustrated by considering the simplest OLS specification that was used: the dependent variable was the log-level of real balances (*M4/P*), while the right-hand side variables were a scale variable (measured by an average of the indices of industrial production and real retail transactions), the relevant interest rates for *M4* deposits and bank credit, and the expected depreciation of the exchange rate.

65. The results were as follows:

Variable	Coefficient	Standard Error	T-Statistic	
Constant	-1.21	1.55	-0.78	
Activity	1.41	0.29	4.85	**
i_L	0.041	0.005	8.61	**
i_{M4}	-0.17	0.08	-2.13	*
Expected depreciation	0.001	0.006	0.84	

R^2=0.87
* significant at the 5% level
** significant at the 1% level

66. The elasticity with respect to activity (1.41) was very large and of the expected sign but it exceeded estimates typically found in other money demand studies. On the other hand, the interest rate elasticities on the alternate asset (i_L) and on M4 itself had the wrong sign and were significant, suggesting that the demand for M4 goes up when it becomes more costly to hold it and when the reward to holding it falls (a theoretically implausible finding). A further problem with this specification was that the estimated residuals were highly serially correlated.

67. Several alternative specifications were tried as summarized in the attachment to this chapter. However, the implausible finding vis-à-vis the interest rate on the alternate asset was robust across these specifications. The conclusion drawn from the regressions was that if broad money demand was a standard function of activity and interest rates, the results using

data in levels could be rationalized either by significant measurement error in the activity data being used, or by large, persistent, shocks to money demand (which would favor the first-differenced specification discussed in the attachment). With regard to the latter, the fluctuations in activity and interest rates have been relatively minor over the sample period in relation to the large observed changes in real balances. Absent autonomous shocks to money demand, and in the presence of plausible output and interest rate elasticities, these developments would be difficult to explain. Without such shocks, the price level would have needed to rise much faster than has been observed to achieve equilibrium in the money market.

68. Once we accept the notion of large autonomous shocks to money demand, it is natural to work with a trend, or a model in first differences. Unfortunately, the results using detrended and first-differenced data suggested insufficient high frequency variation in output and interest rates for identification of the demand function. Another possible source of misspecification across both types of models of *M4* is that using the interest rate on bank lending may not be the best measure of the opportunity cost of money. In the case of broad money, however, an alternate measure is not obvious, given the lack of developed financial markets.

69. It would not appear that the underlying model driving the behavior of M4 can be stylized into a simple money demand framework. More complicated influences related to portfolio balance considerations are likely to be at play.

M2 Demand—Empirical Results

70. Next, kuna-denominated broad money (*M2*) demand was estimated using similar specifications. The variables were the same as those used in the estimation of demand for *M4*, except with respect to the choice of an interest rate on a reasonable alternate asset, which in the case of *M2* was assumed to be holdings of foreign exchange denominated time and savings deposits. The empirical estimates for M2 were more in line with the money demand model than the results for M4: the own-interest rate elasticity had the correct sign and was statistically significant; the point estimate for the alternate asset-interest rate elasticity had the right sign, although it was small and insignificant.

Variable	Coefficient	Standard Error	T-Statistic
Constant	-2.9	1.1	-2.65 **
Activity	1.5	0.21	7.1 **
i_{M2}	0.12	0.03	4.0 *
i_F	-0.01	0.065	-0.17
Expected depreciation	0.008	0.006	1.4

R^2=0.74
* significant at the 5% level
** significant at the 1%

However, once again, serial correlation of the error term was a problem, which alternate specifications consistent with the model could not solve. In addition, the results were extremely sensitive to the precise time series representation of the right hand side variables with respect to lags, with neither the signs or the significance of coefficients being robust. Thus while more plausible than for M4, the results for M2 also presented a number of statistical difficulties.

M1 Demand—Empirical Results

71. The last aggregate to be considered was narrow money. In this case the alternate assets were considered to be kuna time and savings deposits *and* foreign currency deposits (i.e., all quasi-money). The return on quasi-money was calculated as a weighted average of interest rates on the two denominations. Here, as in the case of M4, the sign on the coefficient on the own-interest rate was of the wrong sign; however, it was not significant. The variables of significance were activity and the return on kuna-denominated quasi-money. The latter, however, also had the wrong sign.

Variable	Coefficient	Standard Error	T-Statistic
Constant	-0.99	1.42	-0.69
Activity	1.1	0.27	4.04 **
i_{M1}	-0.09	0.08	-1.07
i_K	0.04	0.009	4.9 **
i_F	-0.004	0.06	-0.06
Expected depreciation	0.009	0.006	1.58

R^2=0.80
*significant at the 5% level
**significant at the 1%

Estimating component shares in broad money

72. An alternative approach is tried in the second part of the analysis, which investigates the breakdown of M4 into its various components by modeling this breakdown as a function of the component-wise interest rate differentials. It is convenient to assume a recursive structure in how the different components of M4 produce liquidity services, that is, functional separability.[25] An example would be if liquidity services were generated by a recursive series

[25]In very general settings the relative demand for two goods cannot always be characterized as a function of only their relative price. For example, to model the relative demand for two components of a consumer's expenditure it is often necessary to assume some kind of separability in the utility function: either Hicksian or functional. For further discussion of this issue see Varian (1984), *Microeconomic Analysis.* New York: W.W. Norton and Co.

of constant elasticity of substitution (CES) functions of currency, demand deposits, kuna time and savings deposits, and foreign exchange deposits of the form:

$$S=f_0(C,f_1(DD,f_2(S,D,S,D)))$$

where each of the functions f_j is CES in its two arguments. This kind of structure motivates the following models of the breakdown of $M4$ into its components.

73. The fraction of $M4$ held as currency is modeled as a function of the average interest rate on noncurrency:

$$\theta_c \text{ a fn of } i_{M4-C}=[\theta_{DD}i_D+\theta_{SD}i_k+(1-\theta_c-\theta_{DD})i_f]/(1-\theta_c)$$

74. The fraction of $M4$ minus currency held as demand deposits is modeled as a function of the differential between the interest rate on demand deposits and the average interest rate on $M4$ minus currency and demand deposits (i.e. total quasi-money):

$$\theta_{DD}/(1-\theta_C) \text{ a fn of } i_{M4-C-DD}-i_D=[\theta_{SD}i_k+(1-\theta_c-\theta_{DD}-\theta_{SD})i_f]/(1-\theta_c-\theta_{DD})-i_D$$

75. Similarly the fraction of $M4$ minus $M1$ (quasi-money) held as kuna savings and time deposits is modeled as a function of the differential between the interest rate on these deposits and the interest rate on other quasi-money, namely foreign exchange deposits:

$$\theta_{SD}/(1-\theta_C-\theta_{DD}) \text{ a fn of } i_{M4-C-DD-SD}-i_k=i_f-i_k$$

76. This recursive structure is restrictive in the sense that the demands for each component of M4 may, in reality, be unrestricted functions of the corresponding interest rates on all other components as well as the bank lending rate (i_k). However, given limited data (and, therefore degrees of freedom) some strong restrictions are needed. It is also true that the overall demand for money could be a function of all the separate interest rates on the various monetary aggregates, as well as the credit rate, but also because of data limitations, it is convenient and standard to assume that the specification above is adequate.[26] Sahay and Végh (1996) construct a continuous time model in which the rate of "dollarization," which they define as the fraction of interest bearing assets held in foreign currency, is a similar function of the differential between nominal interest rates in the two currencies, and the rate of devaluation of the local currency.[27]

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[26]If the chosen model is misspecified the parameter estimates are likely to be inconsistent, as the coefficient on the interest differential will capture the covariance between that differential and the omitted variable.

[27]Ratna Sahay and Carlos A. Végh (1996) "Dollarization in Transition Economies: Evidence

(continued...)

77. The first regression run was of the share of *M4* held as currency on the weighted-average interest rate on non-currency. This regression is motivated by the assumption that the demand for currency relative to the other components of M4 should be inversely related to the interest premium on holding those components.[28] The coefficient in the estimated equation was significant and of the right sign: as the interest rate on demand deposits and quasi-money (in kuna and foreign currency) increased the share of currency in M4 declined.

Variable	Coefficient	Standard Error	T-Statistic
Constant	0.14	0.005	29.9 **
$i_{M4\text{-}C}$	-0.001	0.0007	-1.96 *

R^2=0.14
* significant at the 5% level
** significant at the 1%

78. Second, a regression was run of the share of demand deposits in interest-bearing *M4* (i.e. demand deposits plus quasi-money) as a function of the difference between the interest rate on quasi-money and the interest rate on demand deposits. Again the results show a significant coefficient on the interest rate premium which has the correct sign.

Variable	Coefficient	Standard Error	T-Statistic
Constant	0.28	0.006	43.24 **
$i_{M4\text{-}C\text{-}DD}$-$i_{DD}$	-0.004	0.001	-3.32 *

R^2=0.32
* significant at the 5% level
** significant at the 1%

79. Third, the share of kuna-denominated time and savings deposits in M4 was modeled as a function of the differential between the interest rates on foreign currency- and kuna-denominated quasi monies. The coefficient on the interest rate differential is not significant, though it is of the correct, negative, sign.

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[27](...continued)
and Policy Implications," in P. Mizen and E.J. Pentecost, eds., *The Macroeconomics of International Currencies: Theory, Policy and Evidence*. Cheltenham, U.K.: Edward Elgar.

[28]In this part of the empirical analysis, the interest rate on any monetary aggregate which foreign currency deposits is denominated in kuna and includes implicitly the constructed measure of expected kuna depreciation. Allowing expected depreciation to enter separately from the pure interest rate differential did not significantly improve the results.

Variable	Coefficient	Standard Error	T-Statistic
Constant	0.15	0.009	16.77 **
$i_{M4\text{-}CURR} - i_{RD}$	-0.0006	0.001	-0.43

R^2=.001
* significant at the 5% level
** significant at the 1%

80. If agents regarded kuna- and foreign currency-denominated deposits as good substitutes for one another this result would be surprising. One would expect that the share of kuna-denominated deposits would be significantly related, and highly sensitive, to the interest differential. The fact that neither of these features is present lends support to the view that agents do not hold foreign exchange primarily for transactions purposes, but rather as an asset for purposes of diversification.

C. Concluding Remarks

81. This study had two main parts. First, it estimated demand functions for various monetary aggregates which, had they been stable and theoretically plausible, would have been useful for understanding their behavior and for gauging monetary policy. Of the three aggregates, both the estimated demand for the broadest (M4) and the narrowest (M1) aggregate yielded implausible results. The only monetary aggregate which displayed some of the expected properties was the domestic component of broad money (M2), but even here statistical problems were present and the results obtained were not especially robust. One possible explanation for the relative implausibility of the results for *M*4 is that demand for foreign currency deposits are not transactions based as in a standard money demand framework, bearing out the notion that the main function of such deposits relates more to portfolio diversification.

82. The second part of the study investigated the behavior of the relative shares of the different components of broad money. In this regard, the relative shares of some of its components are related in a statistically significant way to interest rates. The exception, the lack of sensitivity in the share of kuna deposits to the interest rate on these deposits relative to that on foreign exchange deposits, suggests that these two kinds of deposits may not be close substitutes. This argues against the presence of any kind of pervasive "currency substitution" in the sense of a movement away from domestic currency into foreign currency for the purpose of transacting. Indeed, while the demand for foreign currency has been growing, the demand for domestic currency has also been growing, in a non-inflationary manner.

83. Avenues for further research are severalfold. This chapter has focused on the demand for money, and has assumed that comovements among real balances, output and interest rates can be attributed to, or identified with, the money demand function. However, absent

monetary policy which *exogenously* targets the money supply, some of these comovements are due to the nature of the money supply rule and money supply shocks. To formally deal with this problem, a structural vector autoregression (VAR) approach might be useful. The VAR would separately identify money demand, and money supply, and would facilitate an assessment of how monetary policy's effectiveness in offsetting autonomous shocks to money demand, but such an approach must await a longer data series. A second, interesting, extension of this work would be an assessment of money demand more along the lines of Cagan's analysis of hyperinflations, in which the expected inflation rate is taken to be the main determinant of money demand. This would be especially relevant to studying the historical period that predates the sample used in this chapter.

Alternative Specifications of M4 Demand

84. This attachment details results for estimating M4 using four alternate specifications. The equation estimated is the same basic money demand equation presented in the main text:

$$\ln(M4_t/P_t) = a(L)\ln(M4_{t-1}/P_{t-1}) + b(L)\ln(Y_t) + c(L)i_{Lt} + d(L)i_{M4t} + e(L)dep + \varepsilon_t$$

where $a(L)$, $b(L)$, $c(L)$, $d(L)$, and $e(L)$ are polynomials in the lag operator, and *dep* is the estimated expected depreciation.

85. First, the equation above was estimated using two-stage least squares, and lagged values of real balances, activity, and the interest rates, as well as a constant and a trend as instruments. This might be preferred to the method presented in the main text, given that money demand shocks (the errors in the equation) are likely to be correlated with output and interest rates if they have real effects. Only if the shocks are stationary and these latter variables are nonstationary can OLS yield consistent estimates. Of course, the instrument set described above, may be misspecified, if there is correlation between the money demand shocks and lagged right-hand side variables. The results were similar to those obtained using OLS. For example, the estimated semi-elasticity with respect to the bank lending rate using this method was 0.041 (again positive) and was significant at the 1 percent level. Furthermore, the residuals from this equation were not highly serially correlated.

Variable	Coefficient	Standard Error	T-Statistic
Constant	-5.81	3.13	-1.85
Activity	2.29	0.57	4.02 **
i_L	0.041	0.007	5.64**
i_{M4}	-0.04	0.14	-0.3
Expected depreciation	0.017	0.027	0.67

R^2=0.77
* significant at the 5 percent level
** significant at the 1 percent level

86. The second specification included the lag of real balances on the right-hand side, but the results were, for the most part, qualitatively and quantitatively unchanged. The implied elasticity with respect to activity became insignificant, while the credit rate elasticity was robustly positive and the deposit rate elasticity was negative. This specification led to a very good fit, since real balances resemble a unit root process: the coefficient on lagged real balances was 0.91 with a standard error of 0.04.

Variable	Coefficient	Standard Error	T-Statistic
Constant	1.26	0.4	3.16 **
Activity	-0.10	0.1	-1.0
Lagged Activity	0.91	0.04	20.8 **
i_L	0.005	0.002	2.48 *
i_{M4}	-0.08	0.02	-3.9 **
Expected depreciation	0.001	0.001	1.03

R^2=0.99

* significant at the 5 percent level

** significant at the 1 percent level

87. The above specifications were motivated by the possibility that the error term in the money demand equation might be stationary, even though real balances and activity might be nonstationary or close to non-stationary. Another possibility is that the money demand shock, is, in fact, nonstationary, in which case the money demand equation should be estimated in first differences. When this third specification was used, log first-differences of real balances were found to closely resemble a random walk with drift: none of the differenced variables entered significantly into the equation. Adding lags of the dependent and right hand side variables to the specification did not significantly alter the fit or the point estimates. Put differently, there is insufficient information in the high frequency components of the data to identify money demand functions.

Variable	Coefficient	Standard Error	T-Statistic
Constant	0.031	0.005	5.96 **
Activity	-0.14	0.1	-1.36
Δi_L	-0.00	0.004	-.13
Δi_{M4}	-0.059	0.004	-1.38
ΔExpected depreciation	0.0017	0.0011	1.55

R^2=0.21

* significant at the 5 percent level

** significant at the 1 percent level

88. A further possibility is that the money demand shocks are trend stationary. This motivated the inclusion of a trend in the levels regression in the fourth specification used, but did not change the sign of the coefficients on the interest rates while leaving the credit rate insignificant. It also drove activity out of the equation. The trend appeared to explain almost all of the significant movement in money demand, the deposit rate being the only other variable with a significant coefficient (robustly of the wrong sign). Thus, deviations from trend were found to have little useful informational content.

Variable	Coefficient	Standard Error	T-Statistic
Constant	5.1	0.6	8.56 **
Activity	-0.018	0.12	-0.15
i_L	0.001	0.003	0.49
i_{M4}	-0.05	0.024	-2.21 *
Expected depreciation	0.003	0.002	1.99
Trend	0.03	0.002	17.86**

R^2=0.99

* significant at the 5 percent level

** significant at the 1 percent level

89. All these specifications confirmed the basic implausibility of the earlier results obtained in the main text with respect to M4.

III. Ownership, Competition, and Efficiency in the Croatian Banking Sector[29]

A. Introduction

90. This paper attempts to assess the relationship between the nature of bank ownership, age, conditions of competition, and bank size on interest rate spreads, bank profitability, and measures of bank operating costs and bank asset growth. The specific issues to be examined are (i) the extent to which privatized banks are distinct in their behavior from either new private banks or the remaining state-owned banks and (ii) whether regional differences in competition conditions are a significant determinant of overhead cost or bank interest rate spreads. Finally, the paper will briefly review the implications of its findings for the likely results of continued banking system entry by new private banks and for policies to lower interest rate spreads in Croatia.

91. Descriptive statistics on the variables used in this study are presented in a discussion of general trends and measurement issues in Section B. This is followed by some cross section regression estimates that attempt to test narrower hypotheses of bank behavior through examination of the relationships among these variables. The hypotheses are laid out in Section C and the empirical results appear in Section D. The paper concludes with a brief discussion of the implications of the results for banking system evolution and policy in Croatia.

92. The Croatian banking system before the transition was characterized by two national banks and roughly twenty regional banks, each competing in largely non-overlapping regional markets. All banks were controlled by socially-owned (effectively state-owned) entities rather than private owners. Banks were owned and controlled by major borrowers to varying degrees. Starting in 1989, new private banks were allowed to enter the market. Two dozen new private banks entered the market by the end of 1994, mostly in the capital, Zagreb. Simultaneously, older Croatian banks and enterprises began a gradual process of privatization in which banks sought new private owners directly through new share issues at the same time as state-owned shareholders of banks also sought to privatize themselves. As a result of both processes, the new private banks were joined by eight privatized banks by the end of 1994. Eighteen other banks were in majority-state ownership at the end of 1994[30]. New entry into banking was very heavily concentrated in Zagreb, while privatization of older banks occurred in both Zagreb and the other regions. At end-1995, Zagreb customers were served by twenty banks while customers in various regions of Croatia were generally served by one or two

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[29]Prepared by Thomas Dorsey. This paper is an extension of a part of a larger paper prepared for the Second Dubrovnik Conference on Economies in Transition: Velimir Šonje, Evan Kraft, and Thomas Dorsey, "Monetary and Exchange Rate Policy, Capital Inflows, and the Structure of the Banking System in Croatia," June 1996.

[30]Five additional majority state-owned banks entered the market between end-1991 and end-1995. Most were new subsidiaries of older majority state-owned banks.

older regional banks, which may or may not have been privatized, and two national banks, one of which was privatized. In some cases, generally the more populous regions, a new private bank was also in the market.

93. Most of the descriptive statistics and almost all of the statistical analysis are based on balance sheet data for end-1995 and cash flows for the year 1995. This choice of data is driven by availability of useful information. Prior to 1994, Croatia was characterized by very high inflation and a unresolved situation regarding bank privatization. Although 1994 cash flow data were available, the very recent and sudden end of high inflation raises some question as to whether 1994 cash flows would be representative of "normal" conditions.[31]

94. Nominal magnitudes from bank balance sheets are presented as ratios to total assets in order to come up with measurements independent of scale as in other papers on banking system competition, structure, and performance.[32] Two sources of data sometimes used in other analyses that were not available for this study are line of business cash flow data and stock market data.[33] Data on costs and revenues by line of business (e.g., household versus government deposit-taking or commercial versus consumer loans) were not available at all. Information on the market valuation of assets exists but is quite limited; only a few banks have shares that are actively traded in Croatian stock markets and only one bank is fully listed on the Zagreb Stock Exchange. Therefore, this paper relies primarily on balance sheet data because of the absence of alternatives.

B. Competitive Structure and Financial Differences Among Croatian Banks

95. Tables 1 and 2 below show the share of banking system assets classified by type of bank ownership and regional competition conditions. Both classifications require some explanation, particularly in the case of the ownership classification. To capture the relationship, if any, between ownership and bank behavior, three categories of ownership are

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[31]Retail price inflation in Croatia fell from 38.7 percent in October 1993, to 1.4 percent in November 1993, and to 0.5 percent in December 1993. The first five months of 1994 were all characterized by falling prices.

[32]This scaling is done to focus on the proportional effect of asset and liability allocation, not to offset heteroskedasticity (although it may serve that function as well). As these data are drawn from balance sheets, the total assets (or equivalently total liabilities) should not be interpreted as asset market values. This approach has been used even in cases in which the banks under consideration were failed banks. See in this regard David C. Wheelock and Paul W. Wilson, "Explaining Bank Failures: Deposit Insurance, Regulation, and Efficiency," *Review of Economics and Statistics*, 1995.

[33]See for example, Mary S. Schranz, "Takeovers Improve Firm Performance: Evidence from the Banking Industry," *Journal of Political Economy*, 1993.

employed in the tables and estimates: "new private" banks are those private banks established since 1989 with a private ownership structure; "privatized" banks are those older banks with mixed but majority private ownership structures; and "state" banks, a majority of the shares of which are owned by majority-state enterprises.[34]

96. While the ownership of the new private banks is straightforward, the ownership of the older banks, whether privatized or not, requires some understanding of banking system ownership in the former Yugoslavia.

97. As noted above, the banks inherited from the old regime were owned by groups of socially-owned enterprises. This ownership structure was initially continued during the privatization process although sales of new bank shares to household or other buyers diluted the original ownership in many cases. In addition, enterprise privatization has been an ongoing process throughout the period under consideration with enterprises becoming majority privately owned through a gradual process of share sales from the Croatian Privatization Fund. As a result of both processes, the ownership structure of almost all of the old banks has been constantly changing, and the measurement of private bank ownership is dependent upon the measurement of privatization of the enterprises that own bank shares.

98. Privatized banks are those banks with a majority of shares owned by originally private firms, fully-privatized firms, majority-privatized firms, or private individuals as of end-1994.[35] These banks include the largest bank measured by deposits (the second largest measured by assets) as well as seven other banks (see Tables 1 and 2). Only a single observation is used for this measure: thus there is no change in the composition of the privatized banks over time; the same eight banks contribute to the "privatized" data for all years. As a result, changes in the asset shares of this group over time reflect only the relative performance of these eight banks as they proceeded on the path to privatization and not changes in the composition of the group as banks move from "state" to "privatized" categories.[36]

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[34]There are "new" state banks, but these are generally subsidiaries of, or successors to, other state banks that represent a continuation rather than a transformation of the ownership structure.

[35]The measurement of privatization for banks existing at end-1994 is taken from an inventory of banks published in the Croatian financial journal *Banka International*, December 1995, pp. 38-43. Although the process of privatization began years earlier, these banks had not formally become majority private until 1994. Given that financial flow data was for 1995, end-1994 and end-1995 privatization data would be equally relevant. However, even though two additional banks had become majority privately-owned by end-1995, changing the definition of "privatized" to reflect end-1995 ownership status to add these two banks to the privatized category status did not substantially affect the empirical results.

[36]The number of privatized banks based on ownership structure at the time of measurement was zero through 1993, 8 at the end of 1994, and 10 at the end of 1995.

Table 1. Banking System Assets by Ownership and Region: end-1991 through end-1995[1]

	Share of Assets				
	1991	1992	1993	1994	1995
	(in percent)				
Ownership					
State	62.1	67.0	65.0	62.3	58.9
Private					
New Private	2.1	3.5	3.8	7.7	10.0
Privatized	35.8	29.5	31.2	30.2	31.3
Region					
National	55.0	55.3	59.2	54.7	54.7
Regional	42.9	42.7	38.2	40.5	38.5
Zagreb	2.1	2.0	2.6	5.9	7.8

[1]Data for 1993 are end-September rather than end-December observations.

Table 2. Number of Banks by Ownership and Region: end-1991 through end-1995

	1991	1992	1993	1994	1995
Ownership					
State	13	17	17	18	18
Private					
New Private	8	13	18	24	27
Privatized	8	8	8	8	8
Region					
National	2	2	2	2	2
Regional	20	25	28	31	33
Zagreb	7	11	13	17	18
Total	29	38	43	50	53

99. The regional categories used to proxy competition conditions also require some explanation. Competition in the Croatian banking system may be characterized as follows: each regional bank competes primarily only with the two national banks and does not compete significantly with other regional banks or Zagreb-based banks other than two national banks. New entry has changed this situation to some degree, but the new entrants have been heavily concentrated in Zagreb—the largest market in Croatia but one which has between one-fourth and one-fifth of the country's population. This has tended to make Zagreb a more competitive banking market than other regions of the country. Ideally, information on business activity by bank for each region could be used to better measure the degree of sub-market competition, but such data are unavailable and the Zagreb/regional distinction is used as a proxy for markets with relatively strong versus relatively weaker bank competition.

100. The relative average size of the banks and several other characteristics of banks in the various sectors are shown in Table 3 (end-1994 data). New private banks are on the order of one-tenth the size of state and privatized banks respectively. Capital among new banks of all sorts is remarkably high.[37] We will see below that capital to a great extent plays the role of deposits for these banks. Old banks, whether privatized or state-owned, have much lower levels of capital adequacy. Note that capital adequacy levels in general seem acceptable, even for the old state banks. Although, at least for the worst banks, potential loan losses may in fact exceed existing capital.

Table 3. Capital and Employee Productivity at end-1994

	Average Assets per Bank, in thousands of HrK	Capital Asset ratio, in percent	Assets per employee, in thousands of HrK	Personnel expense/ assets, in percent	Reserves/ gross loans, in percent
New Private	237,359	65	3,099	2.28	7.82
Privatized	2,747,445	35	2,759	2.22	9.01
State	2,279,218	18	2,935	1.71	11.76
All banks	1,226,108	47	3,003	2.09	10.37

101. Efficiency measurement in banking is a complicated issue. As a practical matter, cost ratios and similar input-based measures of efficiency are all that can be readily calculated from balance sheet data. Costs and inputs can be measured in a relatively straightforward manner

[37]Money assets such as reserve deposits with the NBC have been removed from total assets to approximate risk-weighted capital ratios (since these items are zero-weighted) for this table only. All other references to asset ratios use total book value of all assets.

and compared to assets of various types (as is done below); quality of services is harder to measure. Therefore, what is described here as efficiency refers to a narrow cost efficiency concept and not to a broad concept of economic efficiency that correctly accounts for service quality. Evidence from other economies suggests that this might not be appropriate. For example, Berger, Kashyip, and Scalise (1995) found that non-interest expenses relative to assets were rising in the United States in recent years *as a result of* increased competition and innovation; bank competition for customers took the form of an increased range of financial services and increased provision of customer services such as automatic teller machines and electronic banking.[38] In spite of the increase in non-interest expenses relative to assets, one would not necessarily want to describe such an outcome as a decrease in "true" efficiency in a normative sense given the clear indications of increased service in this case.

102. Two personnel-based measures of banking overhead costs are assets per employee and personnel cost relative to assets. Data from 1994 on both employee productivity measures appear in Table 3. The evidence is mixed: new private banks have lower costs by the assets per employee measure but state banks have lower cost by the personnel costs to assets measure. It seems that the new private banks tend to pay higher wages, possibly to attract experienced personnel away from older banks or to provide greater employee incentives.

103. Data on broader cost measures appears in Table 4. All ownership categories have almost identical ratios of administrative costs to assets while new private banks have slightly higher ratios of total non-interest cost to asset than state or privatized banks. One item that does stand out in table 4 is the much lower administrative and non-interest cost ratios of the two national banks (one privatized and one still in state ownership). These data point to the fact that special attention should be given to the problem of economies of scale.

104. There are marked differences between various classes of banks in terms of interest rates and interest rate spreads. It may be seen in Table 4 that national banks have much lower interest rate spreads than either regional or Zagreb banks and that new private banks have higher spreads than state banks with privatized banks falling in between. Data show that new private banks held an advantage in net interest income as a ratio of total income. Table 5 presents data on interest income, interest rates, and profitability. New private banks tend to charge higher interest rates on short-term loans.

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[38]Allen M. Berger, Anil K. Kashyip, and Joseph M. Scalise, "The Transformation of the US Banking Industry: What a Long Strange Trip It's Been," *Brookings Paper on Economic Activity 1995:2*, 1995.

Table 4. Banking System Cost/Asset Ratios and Interest Rate Spreads by Market Type, Age, and Ownership in 1995

Type	Non-Interest Expense/Assets	Administrative Costs/Assets	Interest Rate Spreads[39]	Interest Income/ Assets
		(In percent)		
Regional	8.4	4.6	7.6	8.5
Zagreb	9.4	5.2	7.8	9.4
National	4.7	2.4	3.6	5.0
New Private	9.0	4.7	10.8	10.8
Privatized	8.3	4.7	8.7	7.7
State	8.3	4.7	6.6	7.7

Table 5. 1994 Interest and Return on Assets Indicators

	Short-term loan rates[40]	Return on capital	Return on assets
		(in percent)	
New Private	24.34	5.10	1.28
Privatized	18.33	7.41	0.68
State	21.13	-18.83	-1.45
All banks	21.73	-5.48	-0.57

105. The structure of profitability is largely consistent with the interest rate levels. Both new private and privatized banks are profitable by all measures. New private banks are the most profitable by the return on assets measure, but are less profitable by the return on capital measure due to high capital holdings of new private banks. It can be quite difficult for these new private banks to develop a retail deposit base. Opening up a branch network requires large initial investment in both equipment and personnel. Furthermore, the short-run

[39]The spread is calculated as the ratio of interest income to assets less the ratio of interest expenses to deposits. Three banks for which the interest rate spread is not meaningful (e.g., because of near zero deposits) are excluded from the calculation.

[40]Announced interest rates are taken from the financial weekly *Privredni Vjesnik*.

opportunity cost of such a business strategy during 1995 was high. In the short run, it was more profitable for the new, capital-rich banks to lend at high interest rates through the inter-bank money market than to invest in branch networks.

C. Relationships Between Profitability, Efficiency, Competition, and Ownership

106. There are competing influences in the relationship between profitability, interest rate spreads, growth, and overhead cost structure on one hand and ownership, age, competitive environment, and scale on the other hand. The nature of bank ownership structures might be expected to be particularly important. New private banks might be expected to perform better than old, state-owned banks. This superior performance might be thought of as having a variety of causes. The new banks would not be burdened by an existing portfolio of suspect loans inherited from the former regime. Their private ownership would establish incentives that would make it less likely that they would engage in money-losing new lending for political reasons or reasons related to moral hazard inherent in their ownership structure. They would also be expected to avoid excessive overhead costs in the form of over-staffing, excessive wages or real estate or other "empire-building" activities divorced from profitable banking. Older banks that have been privatized might be thought of as an intermediate case, performing better than old, majority state-owned banks because of the improved incentives associated with the transformed ownership but less well than new private banks. Competing influences about the behavior of the new or private banks can be categorized in terms of three stylized types.

107. One hypothesis, combining several relationships might be characterized by describing the new or private banks as "lean and mean". Support for this hypothesis would be finding a tendency for new private or privatized banks to have higher profits, lower interest rate spreads, and lower overhead-to-assets ratios. Conversely, the hypothesis suggests that older and majority state-owned banks might be expected to be relatively unprofitable, exhibit higher spreads, and have higher overhead cost ratios under this hypothesis. This is arguably the mainstream stereotype of banks (or other economic enterprises) in transition economies: the old regime is characterized by bloat and inefficiency for which cost control and aggressive pricing brought about through privatization and new private entry are the remedy.

108. A second hypothesis would have it that new private banks (but not necessarily privatized banks) are exploiting a niche to engage in what might be characterized as "cream skimming"—taking the most profitable customers on both the deposit and lending sides of the balance sheets by providing higher quality services (and therefore incurring higher costs). These banks might also be expected to be relatively profitable, but, unlike banks under the first hypothesis, they might be expected to have higher interest rate spreads and perhaps modest growth rates reflecting the preference for high rates of return over aggressive expansion. This hypothesis would be consistent with the view that existing bank ownership links have channeled excessive credit to bank shareholders while pushing otherwise creditworthy customers to the margins of the banking system where they would face higher rates due to greater competition for funds. Support for this hypothesis would be finding a

positive relationship between new private banks on one hand and higher profits, and relatively high interest rate spreads, on the other.

109. A third hypothesis, closely related to the "cream skimming" hypothesis, might be characterized as "aggressive full service banks" also taking the most profitable customers on both the deposit and lending sides of the balance sheets by providing higher quality (and therefore incurring higher costs). These banks might also be expected to be relatively profitable, but they might be expected to have higher overhead-cost-to-assets ratios. However, unlike banks under the cream skimming hypothesis, they would be expected to have *lower* interest rate spreads and high rates of asset growth reflecting the preference for aggressive expansion over high rates of return. Such banks might typically be foreign banks (largely absent from Croatia in 1995) or domestic banks seeking low risk foreign or domestic "blue chip"clients. Support for this hypothesis would be finding a positive relationship between new or privatized banks and higher profits, higher overhead-to-assets ratios, and relatively low interest rate spreads.

110. Independent of the differences between these three hypotheses, two factors that need to be controlled for are the influence of economies of scale and competitive environment. First, Croatia is a middle income country with less than five million people but more than fifty banks of widely varying sizes; it is not obvious that all are at or above the minimum efficient scale. Absent a control variable for economies of scale, large but inefficient banks could have their inefficiency masked by the effect of the scale economies. Second, competition in the more competitive banking markets could result in an equilibrium with lower profits, spreads, and overhead cost relative to other markets independent of ownership and age effects. The regional variables described above are used as proxies to capture the effects of regional differences in competition.

D. Empirical Examination of Competition, Scale Economies, and Efficiency

111. This section presents the results of regressions that attempt to assess some of these hypotheses. Two measures of profitability (profits to assets and profits to capital), two cost ratios (non-interest expenses-to-assets and administrative expenses-to-assets), the ratio of interest income to total assets less the ratio of interest expenses to deposits (the "spread" for the purposes of these regressions), and rate of growth are the dependent variables. The independent variables are the natural log of total assets (to capture the influence of economies of scale), the ratio of non-interest expenses to assets, a dummy variable for new private banks (established in 1989 or later), a dummy variable for older privatized banks, and a dummy variable for banks operating in Zagreb. All regressions use 1995 flows and end-1995 stocks for all variables.

112. The sample used for the regressions reported on below excluded those banks with deposits-to-asset ratios under 0.2. Because these banks are not taking significant amounts of deposits relative to their assets, concepts such as interest rate spreads are of questionable relevance and cost ratios need to be considered in the light of having few of those costs associated with depositor services. Some of these banks operating with little or no deposits

are in a very early phase of their start-up while others appear to be engaged in something more like investment banking than intermediation between depositors and borrowers. Another anomalous bank, one created to manage the Croatian assets and liabilities inherited from a bank based in Serbia, was also excluded due to its anomalous nature. These deletions reduces the total sample from 53 banks to 48 banks. However, these omitted banks are relatively small and account for a small share of Croatian banking assets.

Profitability

113. The first measure of profitability employed is the ratio of 1995 profits to end-1995 assets. This measure of profitability was regressed on the logarithm of total assets to capture the effect of economies of scale, the ratio of deposits to total assets (to capture the effect of dependence on borrowed resources) and dummy variables for local banks based in Zagreb, new private banks, and privatized banks (Table 6). A second regression was run on the same variables but with the profit to capital ratio as the dependent variable (Table 7). In both cases, restricted regressions were run excluding the least statistically significant variables. The restrictions were statistically insignificant (as measured by the F-statistics) in both cases and the new private dummy variable became positive and significant (by conventional t-statistic measures) while the privatized dummy variable remained positive but fell short of the traditional t-statistic levels for statistical significance.[41]

[41] Although somewhat subjective, the general criteria for the variables excluded from the restricted regressions shown in the table are the omission of variables with very low t-statistics and, in the case of the highly correlated Zagreb and New Private dummies, the omission of the less significant variable of the two when both are marginally significant.

Table 6. Determinants of Profitability
Dependent Variable: Profits/Assets

	(t -statistics in parentheses)	
Constant	0.0032 (0.68)	0.030 (1.65)
Natural log of Assets	0.0003 (0.08)	
Deposits/Assets	-0.046 (-1.35)	-0.034 (-1.28)
New Private	0.015 (1.25)	0.020 (1.95*)
Privatized	0.018 (1.29)	0.015 (1.07)
Zagreb	0.013 (1.05)	
F(2,42)=0.5595		

* indicates statistical significance at the five percent level

Table 7. Determinants of Profitability
Dependent Variable: Profits/Capital

	(1)	(2)	(3)
	(t -statistics in parentheses)		
Constant	-0.013 (0.68)	0.021 (1.65)	0.029 (1.29)
Natural log of Assets	0.005 (0.38)		
Deposits/Assets	-0.046 (-0.44)		
New Private	0.052 (1.41)	0.052 (1.57)	0.068 (2.16*)
Privatized	0.059 (1.35)	0.055 (1.33)	0.047 (1.14)
Zagreb	0.056 (1.46)	0.050 (1.44)	
F(2,42)= 0.11	for comparison of (1) and (2)		
F(1,44)= 2.07	for comparison of (2) and (3)		
F(3,42)= 0.74	for comparison of (1) and (3)		

* indicates statistical significance at the five percent level

114. These regressions indicate that private banks, particularly new private banks, are more profitable than state banks when scale effects and the influence of deposit-to-asset ratios are taken into account. Three features of the insignificant variables are worthy of note. First, differences in profitability between new private and privatized banks, which should have been picked up by the new bank dummy, do not appears to be substantial given that the coefficient is low relative to the standard error. Second, the dummy variable for Zagreb, although of a low level of significance, has the opposite of the expected sign. Rather than suppressing profits, the more intensely competitive Zagreb market appears to be associated, albeit weakly, with higher profits. The third feature worth noting is the economic significance of the coefficients on these new private and privatized dummy variables. The dummy on new private banks suggests an additional profit effect for new private banks equal to 2.0 percent of assets and 6.8 percent of capital, almost exactly the size of the mean profit to assets and profit to capital ratios for all banks (2.1 percent and 6.7 percent respectively). The estimated profit

effects for privatized banks (1.5 percent relative to assets and 4.7 percent relative to capital) are smaller and statistically insignificant but are also large in economic terms. This suggests that the low statistical significance may be more the result of low sample size rather than small economic effect.

Non-interest expense and administrative cost ratios

115. Conventional wisdom about the banking system in Croatia suggests that the newer private banks are relatively efficient due to low overhead expenses (arguably too low for effective loan evaluation according to some), while the older banks, particularly those that have not yet been privatized are burdened with excessive overhead. The information in Tables 4 and 5 provides some limited support for that view, but the differences across ownership types are small and some measures show higher costs for the new private banks. The apparent lack of difference across ownership types may reflect the offsetting effects of economies of scale tending to reduce the costs of the generally larger state-owned and privatized banks while poor cost control in those banks raises costs.

116. Two dependent variables (non-interest expenses to assets and administrative costs to assets) are regressed on the natural log of total assets (to capture the influence of economies of scale), the ratio of deposits to assets (to capture the higher costs associated with retail banking), a dummy variable for banks operating from Zagreb (other than the two national banks), a dummy variable for new private banks established in 1989 or later, and a dummy variable for older privatized banks.

117. In the case of both non-interest expense and administrative cost ratios, the results are similar. Both regressions show significant economies of scale, and a weaker but positive relationship between the ratio of deposits to assets.[42] The regressions on administrative expenses showed a marginally significant positive relationship between both new private banks and location in Zagreb on one hand and higher costs on the other (perhaps reflecting either a need to provide more services in a more competitive environment or higher wages in Zagreb). Otherwise, the ownership, age and locations dummies showed little relationship to the cost ratios in the presence of the other independent variables.

118. These results tend not to support the idea that new private banks or more competitive banking markets will reduce costs in the Croatian case or that older or state-owned banks are suffering from bloated overhead costs. The new entrants may be more efficient in the sense that they are providing a higher level of service with the same cost ratios as other banks. However, it does not seem to be the case that the new private or privatized banks are providing lower cost banking services once the influences of scale and dependence upon deposits are taken into account.

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[42]The deposit-to-assets ratio is included in the restricted regression for non-interest expenses in spite of its low t-statistic to maintain parallel treatment to the restricted regression for administrative expenses.

Table 8. Determinants of Non-Interest and Administrative Expenses

	Dependent variable: Non interest expenses/ assets		Dependent variable: Administrative Expenses/ assets	
	(t-statistics in parentheses)			
Constant	0.244 (4.00**)	0.247 (5.46**)	0.165 (5.06**)	0.155 (5.58**)
Log Assets	-0.015 (-3.31**)	-0.015 (-3.63**)	-0.011 (-3.86**)	-0.011 (-4.17**)
Deposits/ Assets	0.036 (0.84)	0.058 (1.63)	0.041 (1.71)	0.054 (2.47**)
New Private	0.012 (0.88)		-0.010 (-1.18)	
Privatized	-0.001 (-0.07)		0.001 (0.11)	
Zagreb	0.012 (0.80)		0.013 (1.47)	
F (3,42) = 0.543 for non-interest expense to assets ratio F (3,42) = 0.885 for administrative expense to assets ratio				

** indicates statistical significance at the one percent level

Interest rate spreads

119. Regressions with interest rate spreads as the dependent variable (Table 9) suggest that the regional variables do not have much explanatory power for this variable and the economies of scale is only marginally significant. Nevertheless, it is noteworthy that the relationship between bank size (log of assets) and spreads is positive once other factors are controlled for by the regression in spite of the generally lower spreads at the very large national banks and the relatively high spreads at the small new private banks (see Table 4 above). There is also a positive, albeit statistically marginal, relationship between higher interest rate spreads and privatized banks. However, the size of the coefficient on non-interest expenses gives a strong hint as to why the non-interest expenses variable had no strong correlation with profit ratios: the restricted regression suggest that more than 89 percent of

these costs are passed on to customers in the form of lower deposits rates or higher credit rates[43].

120. Similar results, although with weaker statistical significance were obtained with the administrative costs ratio as the independent variable in place of the non-interest expense ratio. These regressions also suggested that there was a strong relationship between private ownership and higher spreads and that most of the non-interest costs were passed on through interest rate spreads. As with the non-interest and administrative cost ratios, it is worth distinguishing between the marginal statistical significance of the ownership dummy variable coefficients and the economic significance of the coefficient values. The parameter values in the restricted regression for both the new private and privatized dummy variables suggest that the effect of either ownership status is in excess of one fourth of the mean interest rate spread.

[43]Ideally, the potential interdependence between non-interest costs and interest rate spreads arising from accounting identities should be addressed through simultaneous equations methods. Broadly similar results were obtained with three-stage least squares estimates of a system similar to the second columns of tables 8 and 9. However, the usefulness of such estimates is severely limited because of the lack of truly exogenous instruments other than ownership and regional dummies (e.g., variables not included in balance sheet or profit-and-loss identities) and the attendant need for very strong assumptions behind the identifying restrictions.

Table 9. Determinants of Interest Rate Spreads
(Dependent variable: interest rate spread)

	(t- statistics in parentheses)	
Constant	-0.080 (-1.12)	-0.008 (-0.53)
Log Assets	0.0049 (1.02)	
Non interest expenses/assets	0.938 (5.64**)	0.893 (6.02**)
New Private	0.025 (1.64)	0.025 (1.89*)
Privatized	0.025 (1.39)	0.023 (1.30)
Zagreb	0.019 (1.22)	
F(2,42) = 1.48		

* indicates statistical significance at the five percent level
** indicates statistical significance at the one percent level

Growth in assets

121. Regressions on asset growth in 1995 produced only one significant variable, the dummy variable for new private banks. The growth variable is calculated as the change in assets from end-1994 to end 1995 relative to the average of end-1994 and end-1995 assets. The coefficient on the dummy variable for new private banks suggests an additional 49 percent growth in assets for these banks in both the restricted and unrestricted regressions.

Table 10: Determinants of 1995 Asset Growth
(Relative to the Average of end-1994 and end-1995 assets)

	(t- statistics in parentheses)	
Constant	0.985 (1.55)	0.984 (1.59)
Log Assets	-0.064 (-1.37)	-0.063 (-1.40)
New Private	0.492 (2.96**)	0.494 (3.44**)
Privatized	0.014 (0.07)	
Zagreb	0.017 (0.11)	
F(2,42) = 0.31		

** indicates statistical significance at the one percent level

E. Concluding Remarks

Characterizing the private banks

122. These results suggest that Croatian private banks, particularly new private banks, are more profitable, faster growing, and probably have higher spreads than those remaining in state hands. Profits of private banks tend to be higher by an amount roughly equal to median profitability regardless of whether profits are measured relative to assets or capital. The estimates of the effect of ownership status on growth suggest that new private banks grow at a rate that is an additional 49 percent higher than other banks. There was no significant relationship between ownership status, age, or market location in terms of non-interest or administrative expenses once other variables were controlled for, although there were strong diseconomies of scale which would fall heavily on the new private banks because they tend to be smaller than other banks.

123. In terms of the three hypotheses about the behavior of private banks laid out above, the "lean and mean" hypothesis seems clearly inconsistent with these results with its implications of lower administrative and non-interest costs, and lower interest rate spreads. Similarly, the lower spreads argue against the "aggressive full service bank" hypothesis. The "cream skimming" hypothesis looks most consistent with the data; private banks do have substantially higher profits and interest rate spreads than their state-owned competitors.

124. The results on growth suggest that the higher spreads have not prevented growth of the new private banks, although perhaps growth would be still faster if new private banks were to switch to an "aggressive full service" approach. However, as noted above, such an approach may not be cost effective given the costs and time needed to build a retail banking network that could fund faster growth.

Implications for the Croatian banking system

125. New entry by either new private banks or by foreign banks might be thought of as a source of competitive pressure that could reduce the high interest rate spreads observed in Croatian banking. In Croatia, this new entrant role would potentially fall on new private banks as foreign banks were largely absent in Croatia during the sample period. However, it does not seem to be the case in Croatia that new entrants were putting downward pressure on interest rates by undercutting the incumbent banks on pricing; new private banks in Croatia appeared to have higher spreads.

126. Their profitability and rapid growth both suggest that new private banks are successful and aggressive competitors in some sense (particularly notable given their high concentration in Zagreb, Croatia's most competitive banking market). However, given that they have higher spreads and no lower overhead cost ratios than other banks, their competitiveness would appear to be founded on providing more or better services or serving previously under served

markets rather than gaining customers through more aggressive pricing and better cost control.

127. A reduction in interest rate spreads does not seem likely to be the direct, near-term result of new entry by new private banks thus far. However, the absence of a direct effect of new entry in the sense of having new entrants undercutting the spreads of incumbent banks isn't to say that there has been no indirect effect on spreads as a result of new entry. Older banks may have reduced their spreads relative to what they would be otherwise in order to prevent an even faster erosion of market share.

128. If the new private banks or privatized banks exhaust the high return potential of under-served clients willing to pay high interest rates, their own business strategy might change. Absent a different strategy on the part of new private banks, other influences would seem to be called for in order to reduce interest rate spreads. Bank rehabilitation of problem banks is one possibility; this is already underway but results are not yet evident. The recent rehabilitation and possible future breakup of the largest state-owned bank and the recent rehabilitation of two other large state-owned banks could substantially change the structure of the Croatian banking market and the financial structure of its major participants. The first stages of bank rehabilitation in early 1996 have already reduced interbank interest rates, and it is certainly possible that spreads and lending rates will fall as rehabilitation proceeds. Moreover, foreign banks are only just now starting to enter the Croatian market. Their entry could reduce concentration in the banking sector and bring down interest rate spreads through greater competition. The horizontal breakup of the larger state-controlled banks, for example through privatization, could further invigorate competitive forces in ways that had not been apparent before.

SUMMARY OF THE CROATIAN EXCHANGE AND TRADE SYSTEM (POSITION AS OF DECEMBER 31, 1996)

Exchange Arrangement

129. The currency of Croatia is the Kuna, the external value of which is determined in the interbank market. The exchange rates in the interbank market are determined by authorized banks that transact with each other at freely negotiated rates. The National Bank of Croatia (NBC) may set intervention exchange rates at which it will transact with banks outside the interbank market for purposes of smoothing undue fluctuations in the exchange rate. On December 31, 1996, the average interbank market rate for the U.S. dollar was HrK 5.5396 per US$1.

130. There are no taxes or subsidies on purchases or sales of foreign exchange.

131. Croatia accepted the obligations of Article VIII, Sections 2, 3, and 4 of the Articles of Agreement on May 29, 1995.

Administration of Control

132. Foreign exchange transactions are governed by the Law on the Foreign Exchange System, Foreign Exchange Operations, and Gold Transactions, which was enacted on October 7, 1993. The NBC formulates and administers exchange rate policy and may issue foreign exchange regulations under this law. A Trade Law (codifying domestic trade and foreign trade legislation in a comprehensive law) was passed on January 31, 1996, and came into force on February 17, 1996. Companies wishing to engage in foreign trade must register with the commercial courts. The representative offices of foreign companies must be registered with the Ministry of Economy.

133. Foreign exchange transactions must be conducted through authorized banks; currently 52 commercial banks in Croatia are licensed to conduct foreign exchange transactions. Restricted licenses are given to banks that may open accounts for resident natural persons and may buy and sell banknotes and checks (currently 8 banks).

Prescription of Currency

134. Settlements between residents and nonresidents may be effected in any convertible currency. Croatia does not maintain any bilateral payments agreements involving exchange restrictions.

Resident and Nonresident Accounts

135. Resident natural and juridical persons may, in principle, open and operate foreign exchange accounts only in Croatia. However, the NBC has the authority to allow resident juridical persons to keep foreign exchange in accounts with foreign banks in order to cover the costs of business operations and meet the requirement of regular foreign trade activities abroad.

costs of business operations and meet the requirement of regular foreign trade activities abroad. The law also makes specific provisions for resident juridical persons engaged in capital project construction abroad to maintain accounts with foreign banks, subject to a license issued by the NBC.

136. Nonresidents may open foreign exchange accounts with fully licensed banks in Croatia. These accounts may be credited freely with foreign exchange and debited for payments abroad or conversion into domestic currency; reconversion of domestic currency into a foreign currency is permitted. Juridical persons may credit these accounts with foreign banknotes up to a limit of US$20,000 without special permission from the NBC.

137. Nonresident natural and juridical persons may open accounts in domestic currency with the proceeds from sales of goods and services or with foreign exchange transferred from abroad. They may purchase foreign exchange with funds held in these accounts without restriction.

Imports and Import Payments

138. Croatia does not maintain any import quotas--the existing quotas were abolished by decree of July 12, 1996, although such quotas are in principle allowed for under the Trade Law under conditions similar to WTO rules. All imports except a list of products whose importation is controlled by international agreement for noneconomic reasons (such as, arms, gold, illegal drugs and narcotics, and artistic and historic work) are free from licensing requirements, and a small number of other products (notably iron tubes and bars). The importation of these items is allowed on a case-by-case basis.

139. Imports are subject to a customs tariffs of up to 25 percent, with a few exceptions. The exemption for duty-free imports by travelers is US$100. Goods imported by travelers and postal shipments up to the value of US$500 are subject to a simplified customs procedure with a unified tariff rate of 8 percent. For imports exceeding that value, the regular import tariffs and taxes are applied. Returning citizens may bring into the country household effects duty free in an amount related to the period spent abroad for household effects and for private business purposes without restrictions, but on a case-by-case basis, under the approval of Ministry of Finance. Under certain conditions, goods imported by nonresidents for investment purposes are exempt from import duties. Also, raw materials and intermediate products used in the production of exports are exempt from all import duties and taxes, provided that the value added of the export product is at least 30 percent of the value of the imported items and that export proceeds are received in convertible currency. Payments for legal imports are not restricted.

140. Advance payments for imports are permitted, where down payments are required by suppliers, in accordance with customary international practices.

Payments for invisibles

141. Payments for invisibles related to legal imports by juridical persons may be made freely. Payments of leasing fees are permitted provided that temporary imports have been registered with the Customs Office. Natural persons may also purchase foreign exchange in the interbank market for the payment of goods and services abroad and for deposit in a foreign exchange account for the purpose of future payments. Resident juridical persons (including tradesmen and natural persons engaging in independent activities) may purchase foreign exchange only for authorized payments abroad, except to make payments for activities related to scientific, humanitarian, cultural, or sport events. Payments of royalties, insurance, and legal obligations and contracting of life and casualty insurance policies with foreign companies are also permitted.

142. Resident natural persons may take out of the country foreign currency equivalent to DM 1,000, including for short cross-border trips. There exist no restriction on the frequency with which such amounts can be taken out. An additional amount equivalent up to DM 2,000 may be taken out, provided that it is withdrawn from foreign currency accounts or purchased from banks for travel expenses. In both cases the NBC may allow higher amounts to be taken out on a case-by-case basis. The exportation of Croatian currency by both residents and nonresidents is limited to HrK 2,000 a person.

Exports and Export Proceeds

143. Exports are free of restrictions except for certain products for which permits must be obtained (list D products: e.g., weapons, drugs, and art objects); several basic foodstuffs to ensure adequate domestic supplies; unrenewable resources (oil and natural gas); hides and wood.

144. Export proceeds must be collected and repatriated in full to Croatia within 90 days of the date of exportation; this period may be extended with the permission of the NBC. If payment terms in excess of 90 days have been agreed with foreign importers, the credit arrangement must be registered with the NBC.

Proceeds from Invisibles

145. Proceeds from services are, in principle, subject to the same regulations as those applying to merchandise exports. The importation of Croatian currency by both residents and nonresidents is limited to HrK 2,000 a person.

Capital

146. Resident juridical persons, including commercial banks, may borrow abroad. They are required to register the loans contracted, including commercial credits, with the NBC. Financial credits may be extended to nonresidents by resident juridical persons, only in accordance with the provisions of the Law on Foreign Trade Credit Operations. Natural persons are permitted to obtain loans from nonresidents in domestic or foreign currency. The foreign exchange positions of commercial banks are subject to a limit (maximum up to 30% of the bank capital).

147. Foreign direct investment by nonresidents may take the form of joint ventures or full ownership and must be registered with the commercial courts. Repatriation of capital and transfers abroad of profits are not restricted. In principle, domestic and foreign investment is treated equally (e.g. "national treatment"). If the foreign equity capital participation exceeds 20 percent, inputs used in the project are exempt from import duties. The profit tax rate is uniform and amounts to 35 percent. Foreign direct investment abroad by residents must be registered with the Ministry of Economy within a 30-day period commencing from the signature of the contract. Such investment must generally be undertaken through loans abroad or through reinvestment of profits. Inward portfolio investment is not restricted, except in central bank short-term securities on the primary market. In general, outward portfolio investment is restricted.

148. Nonresident natural persons may acquire real estate in Croatia through inheritance as long as their country of residence extends reciprocal treatment to residents of Croatia. Nonresident natural persons not engaged in economic activities in Croatia may purchase real estate only under the same conditions. Nonresident natural or juridical persons engaged in economic activities in Croatia may also purchase real estate under these conditions and may sell it to resident or nonresident juridical persons. Residents may acquire real estate abroad on the basis of reciprocity of treatment, but they are not permitted to purchase foreign exchange in the exchange market for this purpose; the use of balances in foreign exchange accounts for this purpose is also prohibited.

Gold

149. The National Bank of Croatia may export gold and gold coins without any restrictions. Unprocessed gold may be exported under the approval of the National Bank of Croatia.

150. Gold coins may be exported by authorized commercial banks, under the approval of the National Bank of Croatia.

151. Importation of gold is subject to the approval of Ministry of Economy.

Changes From July 1, 1995 through December 31, 1996

152. *December 14, 1995* the Law on Issuance and Sale of Securities was passed and came into force on January 1, 1996.

153. *December 14, 1995* the Law on Investment Funds was passed and came into force on January 3, 1996.

154. *February 17, 1996* the Trade Law became effective.

155. *June 8, 1996* the Law on Foreign Credit Operations became effective.

156. *July 1, 1996,* the Law on Customs Tariffs (including unification of various and tariffs in a single tariff structures) became effective.

157. *July 12, 1996,* a Decree Law Export Quotas (including abolition of import quotas) became effective.

158. *July 31, 1996* an exchange of bonds in the context of an agreement with London Club creditors was effected.

SUMMARY OF THE CROATIAN PENSION SYSTEM: CURRENT FEATURES AND ISSUES FOR REFORM[45]

A. Introduction

159. Pension reform is high on the agenda of several industrialized and transition countries. One route that countries are taking is a rationalization of the existing pay-as-you-go (PAYG) pension system through selected parametric adjustments on either the revenue or the expenditure side or both, such as the contribution rate and the pension benefits formula. Croatia has been considering a broader approach, encompassing a more fundamental systemic reform of its pension system by (a) downsizing and rationalizing the existing PAYG system and (b) introducing privately-managed, obligatory and voluntary funded pension schemes.

160. Under an unfunded regime like the PAYG system, current revenue of the pension plan is expected to finance current obligations, and the rate of the payroll tax—the standard financing source for public pension plans—is adjusted periodically to ensure that revenues and expenditures match. Such an approach formalizes an implicit intergenerational contract for younger working generations to pay for the older generations' retirement benefits. The existing commitments to current and future retirees is an unfunded debt.

161. Under a funded regime, workers save in and invest for retirement via pension accounts. Reserves could be accumulated with a view to equaling the expected benefits payable after retirement to those who work and save in the pension plan now. Contributors, upon retirement, would get back only what they put in plus the return on their investment.

162. Croatia—with the help of the World Bank—envisages a possible switch to a multiple pillar system, under which (1) the current PAYG pension system (first pillar) would be both downsized and rationalized, and complemented by (2) a compulsory, privately-managed savings scheme in which current workers invest for their retirement (second pillar), and (3) an additional voluntary pension scheme under which workers could invest additional amounts for their retirement (third pillar). Under the three pillar concept: the compulsory savings scheme (second pillar) would have the primary responsibility for handling the retirement savings of the workers; the downsized publicly-managed and tax-financed first pillar would have the primary goal of redistribution (to keep old people out of poverty); and voluntary saving plans (third pillar) would exist for people who want more protection than what is offered by the first and second pillars of the pension system.

163. As soon as the two funded pillars have been established, the working population would have to provide for the already retired population under the PAYG system and, at the same time, save in their individual retirement accounts. Put differently, with unchanged pension contributions, a transitional financing gap would emerge in the PAYG system, because individual contributions would be diverted from the PAYG system to the compulsory and voluntary individual retirement accounts. Until the transition from a single pillar PAYG

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[45] Prepared by Christian Schiller with Heliodoro Temprano-Arroyo.

system to the three pillar pension system is completed, the PAYG pension system would be faced with the obligation of having to meet pension obligations that exceed the reduced availability of payroll tax revenues. This transitional gap depends on a number of factors, including the size of the second and third pillar relative to the PAYG system and the speed at which the funded pension schemes are phased in.

164. This paper provides an overview of the Croatian pension system in terms of its current features and issues for reform in light of the multi-pillar reform proposals currently under consideration. Section B contains a description of the starting point, the existing PAYG pension system. Section C highlights the effect of aging on the existing PAYG pension system. Section D discusses some issues related to the envisaged downsizing and rationalization of the PAYG system. Section E provides a short overview of issues related to the establishment of compulsory and voluntary funded pension schemes which will be privately managed. Sections F and G shed some light on issues related to the transition from the single-pillar PAYG pension system to the multi-pillar pension system being considered in Croatia. Sections H and I briefly review the role of privatization proceeds in the reform process and the impact on government and private savings. Section J contains concluding remarks.

B. The Existing Pension System

165. The PAYG system is managed by the pension and disability fund ("the pension fund" hereafter), which comprises three subfunds: the workers' fund (771,000 beneficiaries in 1996); the fund of self-employed (18,000 beneficiaries in 1996); and the farmers' insurance funds (55,000 beneficiaries in 1996). These three subfunds provide three types of benefits: retirement pensions (450,000 beneficiaries in 1996), disability pensions (197,000 beneficiaries in 1996), and survivor pensions (196,000 beneficiaries in 1996).

166. The average monthly retirement pension paid out by the workers' fund in September 1996 was HrK 887, the average disability pension was HrK 905, and the average survivor pension was HrK 747. The benefits paid out by the fund of the self-employed were about 25 percent below those of the workers' fund. The benefits paid out by the farmers's insurance fund were considerably lower, with the average old age pension for former farmers at HrK 153 in September 1996.

167. The pension fund is not allowed to run deficits except to the extent that it can finance them by drawing down bank deposits that were accumulated because of previous surpluses. In 1995, the pension fund had a small deficit equivalent to 0.2 percent of GDP: its total revenues amounted to 12.1 percent of GDP and total benefits to 12.3 percent of GDP. In 1996, the pension fund is estimated to have run a surplus of 0.1 percent of GDP, with revenues and expenditures reaching 12.9 and 12.8 percent of GDP, respectively.

168. The pension fund obtains the bulk of its revenues from employee and employer contributions. The percentage of its revenues raised from contributions, however, declined from 93 percent in 1995 to 88 percent in 1996, reflecting an increase in transfers from the

central government from HrK 280 million to HrK 1,200 million. Transfers are budgeted to increase again in 1997, so that the share of contributions in total revenues is expected to decline to 83 percent in 1997. Contribution rates are set at 12.75 percent of wages for both workers and employers in the case of the workers' fund, and at 25.5 percent of the self-employed's insurance base in the case of the self-employed fund. Individual farmers contributing to the farmers' fund pay 12.27 percent of the insurance base plus 0.76 percent of their annual cadastral income plus 0.76 percent of their average cadastral income. A small percentage of the revenues of the pension fund also accrues from its portfolio of shares in enterprises.

169. In terms of benefits, old age pensions are currently determined by the ten highest consecutive years of earnings. For the calculation of the pension base, earnings are adjusted upward by average wage growth in the years up to the one preceding the year in which the entitlement is established. The accrual factor is set in such a way that it aims to produce an 85 percent replacement rate for a full career worker. For men, the pension base is multiplied by a coefficient of 0.35 plus an additional 0.02 per each year of contribution up to a maximum of 0.85. For women, the initial coefficient is 0.40 plus an additional 0.03 per each year of contribution or other qualifying periods, also up to a maximum of 0.85. The standard retirement age for men is 60 and for women 55, but one can choose early retirement. For example, men can retire at 55 (with reduced benefits) after 35 years of work, while women can retire at 50 after 30 years of contributions. Under the early retirement option, the pension benefit is assessed in the same way as the regular old age pension, but a reduction factor of 1.33 percent is applied for each year of early retirement. Farmers are not entitled to early retirement.

170. There is a guaranteed minimum pension, provided that neither the retiree nor other members of their household have other sources of income sufficient to support them. In 1995, about 1/6 of the total retirees were entitled to a supplement to reach this minimum guaranteed threshold, which was increased to HrK 615 per month in early 1996. Certain groups of people—such as former members of the Yugoslav army, retired Parliamentarians, World War II veterans, invalids and families of victims of the last war, and refugees from other republics of the former Yugoslavia—also receive so-called beneficiary pensions. These beneficiaries receive pensions either without having contributed to the system or beyond the amount that would result from the application of the above-described arrangements. Starting in 1997, these beneficiary pensions are to be fully financed by transfers from the state. The increase in the minimum guaranteed pension in 1996, the decision to fully finance beneficiary pensions by state transfers, and the sharp increase in beneficiary pensions related to the last war explain the bulk of the increase in transfers from the central government budget in 1996 and 1997.

C. Aging Population

171. The PAYG pension system is particularly sensitive to demographics. Croatia has a relatively old population. In 1990, the percentage of the population over 60 years of age stood at 17.8 percent (see table 1). This percentage, which was only slightly below the average of 18.2 percent seen in the OECD countries, made Croatia one of the transition countries with the oldest populations. Moreover, as is the case with many other European countries, Croatia is undergoing a demographic transition. If current projections prove to be correct, Croatia's population will experience significant aging in the next few decades as a result of declining fertility rates and the convergence of life-expectancy to the higher levels observed in most middle to upper income countries.

172. Based on the most recent world population projections published by World Bank, the Croatian old age dependency ratio (measured as the ratio of the population of normal retirement age to the working-age population) is expected to increase from 36 percent in 1990 to 41 percent in the year 2000, 49 percent in the year 2010 and almost 68 percent in 2035 (see chart 1). [45] Fortunately, the rate of increase in the dependency ratio is projected to slow down somewhat between 1995 and the beginning of the next century, thus providing some short-term breathing space to the pension system. However, the rate of increase in the dependency ratio is projected to accelerate in the first half of the next decade, and growth in this ratio will then remain at a substantially higher level until the year 2020. Under current pension arrangements, this would require a dramatic increase in the contribution rate.

173. If the average pension is B, the payroll tax rate t, the number of contributors L, the contributions base (the average wage) W, and the number of pensioners P, balancing the cash-flow of a PAYG plan requires the following: $B*P = t*W*L$; or $t = (P/L)*(B/W)$. Thus, the required contribution varies directly with (P/L), a variable that can be proxied with the old age dependency ratio, and the average replacement rate (B/W). Application of this equation to Croatia—assuming unchanged average retirement ages, replacement rates, and the increases in (P/L) implied by the World Bank's population projections—indicates that the required contribution rate will have to be about 5, 25 and 70 percent higher than now in the years 2000, 2010 and 2035, respectively, to preserve the balance of the PAYG pension system. Based on current law, it would thus have to be raised from 25.5 percent to 26.7 percent by 2000, to 32 percent by 2010 and to about 44 percent by 2035. These calculations clearly suggest that the contribution rates required to balance an unreformed pension system would start to become untenable from about 2005 onwards.

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[45]International Bank for Reconstruction and Development, 1994, *World Population Projections 1994-95*, (Baltimore: The Johns Hopkins University Press).

Table 1: Percentage of the Population Over Sixty, 1990-2150

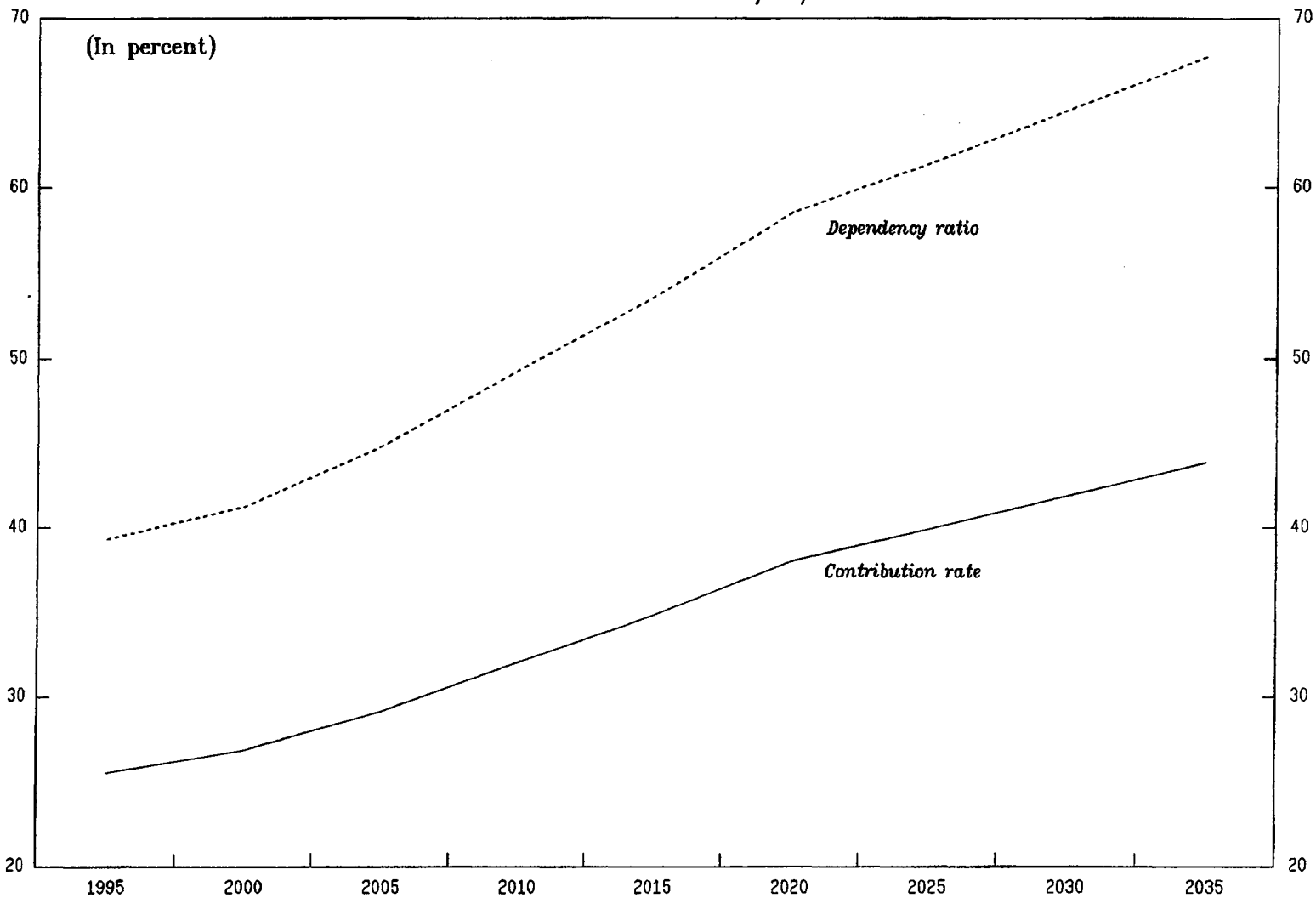
Economy	1990	2000	2010	2020	2030	2050	2075	2100	2125	2150
Croatia	17.8	21.2	23.9	26.9	28.7	30.0	29.7	30.1	30.6	30.9
OECD countries 1/	18.6	20.0	23.2	26.9	30.8	31.3	30.2	30.4	30.7	30.9
Eastern Europe and former Soviet Union 1/	13.8	15.6	16.9	20.2	22.2	26.6	28.8	29.8	30.4	30.8
Latin America and Caribbean 1/	8.2	8.8	9.6	12.0	16.4	23.7	27.9	29.4	30.2	30.6
Middle East and North Africa 1/	5.7	6.0	6.5	8.0	9.8	14.5	21.6	27.3	29.5	30.3
Sub-Saharan Africa 1/	5.2	5.0	4.9	5.5	6.8	11.2	20.0	26.1	28.3	29.5
Asia 1/	6.3	7.3	8.6	11.6	15.0	20.7	25.9	28.3	29.6	30.3

Source: International Bank for Reconstruction and Development (1994).

1/ Simple average.

CHART 1

Croatia: Old Age Dependency Ratio and Contribution Rate 1/ 2/



Sources: International Bank for Reconstruction and Development (1994) and staff calculations

1/ The old age dependency ratio is defined as the population of normal retirement ages (60 for men and 55 for women) as a percentage of the working-age population (men aged 15-59 plus women aged 15-54).
2/ The pension contribution rate is calculated as described in section C of the paper.

174. The necessity to pay for old age, disability and survivors pensions would eventually become a major burden for the economy. As the pace of privatization and the role of private sector firms increases, the negative effects on labor supply engendered by ever higher contribution rates would aggravate the tensions already emerging in the PAYG pension system's financial situation. Therefore, the government's decision to overhaul the current pension system is welcome. It also appears that the government would be getting an early start as near-term estimates by the World Bank suggest that the aging of the Croatian population would start to put the most serious pressure on an unreformed pension system around 2005.

D. Reform of the PAYG System

175. Under the reform proposal, a one-pillar PAYG system would be replaced by a three-pillar system. The first pillar would not vanish, but would be reduced in size and rationalized. Thus, workers would continue to contribute to the mandatory and public PAYG system and benefits would continue to be received under the PAYG system at the time of retirement, but they would be less generous. Accordingly, the accrual factor of the PAYG plan would need to be adjusted.

176. Measures that are being considered in the context of a rationalization of the PAYG system in Croatia—or elsewhere for that matter—have one thing in common: the choice is between cutting benefits (of the pensioners) and increasing the contributions (of workers). In line with the general approach of downsizing the role of the PAYG system, the reform options enumerated below are all based on the former. One advantage of concentrating on expenditure-cutting rather than revenue-raising measures is that it avoids increases in contributions which, by increasing the indirect cost of labor, may have a negative impact on employment. With Croatia already suffering from a relatively high rate of unemployment, this consideration is particularly relevant.

177. The main reform options are discussed below.

- *Increasing the retirement age*. Under the current pension regime, the normal retirement age in Croatia of 60 and 55 years for men and women, respectively, which is low for a country with a population almost as old as that of the OECD countries. For comparison, average normal retirement ages in the OECD countries in 1990 were 64.4 and 62.9 years for men and women respectively, with several countries having retirement ages of 67 for both men and women[47]. Although life-expectancy in OECD countries is also significantly higher than in Croatia, these figures clearly suggest that there is substantial room for increasing the retirement age in Croatia. In this respect, recent simulations conducted by the IMF staff for industrial countries suggest that relatively moderate extensions in the retirement ages can have powerful positive

[47]See the statistical appendix of International Bank for Reconstruction and Development, 1994, *Averting the Old Age Crisis*, (New York: Oxford University Press).

effects on the financial position of pension systems.[48] Recognizing this, the Croatian authorities have been considering an increase in the retirement age to 65 years for men and to 60 years women. A rapid increase has obvious advantages from a financial perspective, but political and social considerations advice a more gradual approach to raising retirement ages.

- *Linking benefits to lifetime earnings.* In general, a lengthening of the earnings period applied for calculating the pension base (of currently a worker's best ten consecutive years) should result in a reduction of the pension base.

- *Changing the benefits adjustment formula.* If pensions are linked to wages, they will probably grow faster than if they were linked to prices. Linking pensions to prices protects the real value of pensions, but would probably exclude pensioners from participating in the growth of the economy and, as a consequence, the replacement rate would probably fall. To address the problem of a drop in the replacement rate, a review, say every five years, could take place to allow for a supplementary adjustment if this were felt to be warranted by the increase in wages and salaries. An alternative option (and one that has been considered by the Croatian authorities) would be to adopt a mixed system of indexation, such as the Swiss one, whereby pensions are linked to both wages and prices through a formula. With this intermediate option, pensions would grow over the medium-term less rapidly than wages but faster than prices, allowing pensioners to thereby benefit partially from productivity growth in the economy. Basically, the question of price versus wage indexation of pensions is centered on the issue of the extent to which pensioners should also enjoy the benefits of growth in labor productivity taking place after they have left the labor force.

- *Curtailing pension credits for years spent in child rearing, higher education and others.*

- *Reducing the accruals rate*. Unless the change is retroactive, it will effect pension benefits and the finances of the PAYG pension system only very gradually.

- *Increasing the actuarial decrement for early retirement.* The size of the actuarial decrement for early retirement is a key variable in a worker's retirement decision. If the factor is too small, individuals will be encouraged to retire early because the discounted value of their expected pensions with early retirement is larger than with normal retirement. The 1991 reform in Germany introduced a 3.6 percent factor per year, which is being considered in Croatia, representing a marked increase compared to the 1.33 percent decrement under the current PAYG pension system.

178. In addition to these parametric changes that aim at rationalizing the benefits of the current PAYG system, the Government of Croatia has also focused on the collection side. In

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[48] Sheetal K. Chand and Albert Jaeger, 1996, *Aging Populations and Public Pension Schemes*, Occasional Paper 147, (Washington: International Monetary Fund).

1996, efforts to improve the collection of contributions owed to the pension fund included: strengthening the Institute for Payments system of collections such that social security contributions are in fact deducted before wage payments can be executed; legal characterization of social contributions as tax due and owed to the central government, with the same penalties as would apply to failure to pay income and profit taxes; enforcement of social security contributions by the dedicated unit within the Ministry of Finance; and late interest charges on delinquent payments that are significantly higher than commercial bank credit rates. In addition, means-testing provisions have been enforced.

E. The Two Funded Pillars

179. The PAYG system could be complemented by two funded pillars. The second pillar would be an obligatory funded and privately-managed pension scheme that would be based on individual accounts that are supervised and regulated by public authorities. Upon retirement, the payments out of the individual accounts would be in the form of annuities according to life tables. The third pillar would be a voluntary retirement savings scheme in the form of higher contributions to individual accounts, also supervised by public authorities.

180. One critical prerequisite for moving toward funded pension schemes is the existence of an adequately developed financial infrastructure, offering a basic set of financial instruments in a reasonably efficient way. Besides bank instruments, this should include government debt instruments allocated by a well-functioning, competitive market. The existence of independent pension fund management companies and life insurance companies associated with the pension system can improve the functioning of the financial market and, more generally, help facilitate financial market development. At the same time, private pension funds' ability to earn reasonable rates of return is enhanced with well functioning financial markets, while ensuring that pension savings can be invested in financial instruments which are adequately regulated and appropriately safe.

F. The Transition

181. As soon as the two funded pillars have been established, the working population—for a number of years—would have to provide for the pensions of the already retired population under the PAYG pension system and, at the same time, save in their compulsory retirement accounts as well as, if desired, in the voluntary retirement accounts. They would have to pay, from current income, both for their own pension plan investments and the (unfunded) benefits promised to current retirees. In other words, with an unchanged rate of pension contributions, a fiscal gap would be created by diverting individual contributions from the PAYG system to compulsory and voluntary retirement accounts. This gap would change over time, but eventually disappear.[49]

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[49] The fiscal deficit of the transition to a new pension arrangement in reality reflects the financial materialization of the outstanding implicit debt of the PAYG system. Holzmann has estimated, for a number of countries and for a reasonable range of parameter assumptions,

(continued...)

182. Croatia is envisaging only a partial shift towards a funded system. The PAYG pension system would stay, but would be scaled down. There are various options in terms of the speed at which the role of the current PAYG system could be diminished and the funded pension plans be phased in. The key factors are (1) the size of the pensions to be provided under the new PAYG pension system and thus the share of pension contributions that will remain with this system and (2) at which age a switch to the funded pension scheme would take place.

183. Under a very gradual approach, only new labor market entrants would be required to make contributions both to the PAYG system and to the funded system. Under this scenario, contributions for new labor market entrants could be, for example, 15.5 percent of wages to the first pillar and 10 percent to the second pillar.[50] Everybody else would continue to contribute the full 25.5 percent to the PAYG pension system. The total contribution rate would therefore remain at 25.5 percent. It would take about 45 years until all workers would be contributing under the multi-pillar system.[51] Upon retirement, those who had contributed to the funded pension schemes would receive the basic pension under the new PAYG system and additional annuities based on the savings accumulated in their retirement account. Those who had not contributed to the funded scheme, but only to the PAYG system, would receive the basic pension under the new PAYG system plus transition benefits under the PAYG system. Over time, those who receive a transition benefit would diminish and disappear (after some 85 years).

184. For a more rapid shift, a plan could be adopted under which, for example, all workers below a cut-off age (say 40 years) would be included in the multi-pillar system. This plan would be along the lines of the proposal currently under consideration in Croatia. Under this scenario, contributions for workers below the age of 40 could be 10 percent of wages to the second pillar and 15.5 percent to the first pillar. For those currently above the age of 40, contributions would continue to be made in an amount of the full 25.5 percent of wages to the PAYG pension system. Within 20 years (assuming that retirement ages are kept at their present levels), all workers would be contributing under the multi-pillar system. Transition

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[49](...continued)
that the present value of the total unfunded future liabilities of PAYG systems is 15 to 25 times current annual pension expenditures. With pensions in Croatia currently running at about 11 percent of GDP, applying these results to Croatia would imply an unfunded debt of the PAYG pension system in Croatia on the order of 160 percent to 275 percent of GDP in present value terms. See R. Holzmann, 1993, "Reforming Old-age Pension Systems in Central and Eastern European Countries in Transition", *Journal of Economics*, pp. 191-218.

[50] Recall the total contributions are 12.75 percent of wages from workers, matched by employers to give a total of 25.5 percent.

[51] This would be the time needed for the normal retirement of the youngest men already working at the time of the introduction of the pension reforms, assuming no change in retirement ages and assuming that workers enter the labor force from the age of 16 onwards.

benefits under the PAYG system, however, would need to be paid for as long as under the previous scenario because of the rights that those under 40 of age at the time of the start of the reform would have accumulated from the previous PAYG system.

185. Under the most rapid approach, all workers would start contributing to the multi-pillar system from the beginning of the reforms. Again, transition benefits would need to be paid for the same length of time as under the two previous scenarios, i.e., until the last pensioner who entered the labor force before the reform process started, and has thus accumulated rights from the previous PAYG system, dies off.

F. Transition Costs

186. The calculations that follow are meant to be helpful as illustrations of the magnitude of the possible fiscal consequences of various transition scenarios.

187. In 1996, the Croatian pension fund had budgeted for payroll tax collections equivalent to 11 percent of GDP. Diverting 1 percentage point of today's 25.5 percent contribution rate for every worker from the PAYG system to individual retirement accounts would result in a revenue decline for in PAYG system of about 0.4 percent of GDP. Assuming a cut-off age of 40, about half of the total wage bill would be affected by the switch[52], and the budgetary costs of diverting 1 percentage point of today's 25.5 percent contribution rate would be 0.2 percent of GDP. Consequently, 10 percentage points would probably "cost" about 2 percent of GDP.

188. During the transition, the fiscal gap of the PAYG system would change according to the speed of the switch to the three-pillar pension system. The dynamics depend on two factors: the speed at which the transition benefits paid out by the PAYG system disappear; and the extent to which pension contributions are diverted from the PAYG system to the funded pension plans. These two elements are in fact interrelated.

189. Under the very gradual approach, where part of the contributions for only new entrants to the labor market are sent to the funded pension schemes, the revenue shortfall in the PAYG system would be small in the beginning, but increase over time. At the same time, pension obligations under the PAYG system would remain unchanged for some time and start to decline only after the first worker retires under the multi-pillar system and begins to draw a pension from his individual accounts (after some 40 years).

190. On the other hand, if all workers were to switch immediately, the PAYG pension system would suffer the full revenue loss right from the beginning of the transition period, but pension obligations under the PAYG system would also start to decline early. Assuming contributions for all workers to the funded pension system were equal to 10 percentage points

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[52] Information on the distribution of wages by age was not available. A cut-off age of 40 is assumed to affect about half of the total wage bill: the World Bank population projections indicate that 56.4 percent of the working age population was below 40 in 1995. However, the average wage of workers below 40 is usually less than the wage of the more senior workers.

of the total of 25.5 percentage points, a deficit of 4 percent of GDP would immediately emerge in the PAYG pension system. The fiscal gap would begin to decline as retirees start to draw a pension from their funded pension schemes, accompanied by a fall in transition benefits paid out by the PAYG pension system. The gap reaches zero when the last transition benefit under the PAYG system is paid out (after some 85 years).

191. Recent discussions between the Croatian authorities and the World Bank, in the context of a possible Public Sector Adjustment Loan, have focused on a transfer to the second pillar funds, from the beginning of the reforms, of between 5 and 8 percentage points of the 25.5 percent contribution paid by workers aged 40 or below. If, for example, 8 percentage points of the contribution were transferred to the second pillar, the initial fiscal gap in the PAYG system would be equivalent to about 1¾ percent of GDP. This gap would increase during the years after pension reform is introduced because more and more workers would divert their contributions to their individual account; at the same time, PAYG benefits would remain unchanged. The effect on the fiscal deficit would peak in 20 years because, at that time, all workers would have moved to the multiple pillar system and the new pensioners would begin to draw a pension from their individual retirement accounts. Thus, the revenue shortfall in the PAYG system would stop growing; and benefits paid out by the PAYG system would start to decline.

G. Using Privatization Proceeds

192. Croatia is contemplating the use of privatization proceeds to help cover the financial burden resulting from the transition to a multi-pillar pension system. To finance the transition costs by earmarking these proceeds for the pension system could be done in a direct and an indirect way. In the second case, assets of the privatization fund would be sold and the proceeds used to close the initial financing gap. Alternatively, the assets owned by the privatization fund could be handed over directly to the obligatory pension plans.

H. Private and Government Savings

193. During the transition, when a financing gap would emerge in the public PAYG pension system, the private pension funds would, concurrently, run a surplus. Thus, if the Government decides to raise resources to cover the temporary gap in the PAYG system by issuing debt, there could be strong demand for this debt by the pension funds, since they need to invest in long-term instruments.[52] At the same time, saving by the private sector would, ceteris paribus,

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[52] In Chile, for example, when the new fully funded pension scheme was introduced in 1981, the pension funds were required to invest virtually all their portfolio in government paper. In the meantime, these restrictions have been eased somewhat.

rise in line with the pension funds' surplus that results from introducing the second and third pillar. Thus, the deficit created in the government PAYG pension system and the consequent reduction in government saving would be offset by an increase in saving by the private sector.

194. The implications for national saving would, however, become more uncertain once the ceteris paribus assumption is relaxed. The final effect of pension reform on national saving would depend on its effect on the private sector's perception of its future tax liabilities, on whether or not the private sector shows some degree of Ricardian behavior, on the extent to which the government takes fiscal measures to offset the temporary gap in the PAYG system, and on the particular form those measures take.[53]

I. Concluding Remarks

195. Population aging is a widespread phenomenon and will—as in many other countries—contribute to fiscal stresses on Croatia's existing PAYG pension system. A substantial reform of Croatia's pension system is unavoidable, although the most serious pressures from these demographic trends are unlikely to arise until about the middle of the next decade.

196. One route that a number of countries have taken is a reform through selected parametric adjustments of the PAYG system on either the revenue or the expenditure sides or both.

197. Croatia is considering a different approach. It plans to downsize, but not eliminate, the PAYG system, and complement it with fully funded pension schemes. Such an approach should significantly reduce the vulnerability of Croatia's pension system to the aging phenomenon. However, there would also be significant temporary fiscal costs from shifting to a multi-pillar pension system, in the form of a transition gap in the public PAYG pension system that would need to be dealt with. In this regard, a large part of the transition costs could be covered by privatization proceeds if the privatization process were to gather sufficient momentum. Further, the temporary gap of the PAYG system would have as a corollary temporary surpluses of the funded pension schemes. A key question is the extent to which pension reform could generate an increase in private saving and how to channel it towards the financing of the deficit of the PAYG system.

198. Generally, pension measures take a long time to mature in the sense that their full financial implications may take more than a generation to become apparent. It is, therefore,

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[53] A comprehensive list of the main references in the literature on the impact of pension systems on saving can be found in the bibliographic notes (p. 400) of *Averting the Old Age Crisis*, referenced in footnote 3.

welcome that Croatia is giving attention now to how to cope with the aging phenomenon; but care will need to be taken to ensure that the transition costs to a new pension system are manageable.

SUMMARY OF THE CROATIAN TAX SYSTEM AS OF DECEMBER 31, 1996

Tax	Nature of Tax	Deduction and Exemptions	Rates	Remarks
1. Taxes on income, profits and capital gains				
1. Individual Income	The unified tax is levied on all personal income and includes income from employment, small-business activity and self-employment, farming and forestry, and property and property rights. The tax base for residents is both income earned domestically and abroad; foreigners are taxed for income earned in Croatia.	There is an exempt tax threshold of HrK 800 per month (as of Jan. 1, 1997). This amount increases if the taxpayer has a dependent spouse or other close or disabled family members and/or children. As of January 1, 1995, allowances for food, and travel are included in the tax base. Capital gains are tax exempted. Tax exemptions granted under the former Direct Taxes Act continue to be valid until they expire.	20 percent on taxable income up to three annual minimum salaries (decreased as of January 1, 1997 from 25 percent); 35 percent on taxable income exceeding three annual minimum salaries.	Income Tax Act became effective January 1, 1994. Taxes which are paid abroad for activities in Croatia can be deducted from the tax liability up to the overall liability in Croatia.
1.2 Profit Tax	The tax is levied on legal entities as well as natural persons who engage in regular and for-profit business activity, and who are required to keep business books and have to submit financial statements. Natural persons who engage in small business activities that are covered by the income tax can choose to pay profit taxes and keep accounting books instead. The taxable base is the difference between the value of assets and liabilities at the beginning and the end of the tax period. The tax is imposed on both residents and non-residents operating a business in Croatia.	Exemptions and tax relief can be granted to enterprises which invest in war affected regions. Taxes which are paid abroad for activities in Croatia can be deducted from the tax liability. Exemptions that were granted under the Direct Taxes Act continue to be valid until they expire.	As of January 1, 1997, the rate was increased from 25 to 35 percent of the assessed taxable base.	The Profit Tax Act became effective January 1, 1994. As of January 1, 1997, the tax base is reduced by a "normal" rate of return on equity which is defined as 5 percent increased by the change in the producer price index published by the National Institute for Statistics.

Tax	Nature of Tax	Deduction and Exemptions	Rates	Remarks
1.3 Surcharge on Income Tax	Towns and cities of more than 40,000 inhabitants can impose a surcharge to be collected by the cities on the income tax of the central government.		Up to 30 percent. City of Zagreb up to 60 percent.	
1.4 Gaming Tax	The tax is levied on individuals who realize profits from gambling.			
2. Social security contributions				
2.1 Employees 2.1.1 Pension fund 2.1.2 Health insurance 2.1.3 Employment fund 2.1.4 Child benefits	The tax is levied on individuals who receive wages and salaries for work performed in the country or abroad if they have been assigned to a job by a Croatian employer. The tax takes the form of a Central Government payroll tax. The funds are in principle obliged to balance their budgets, and benefits are financed on a pay-as-you-go basis.	No exemptions are provided.	**Standard rates**: Pension: 12.75 percent Health: 7.00 percent Employment: 0.85 percent Children: 2.20 percent	
2.2 Employers 2.2.1 Pension fund 2.2.2 Health insurance	Same tax base as for employees' contributions.	No exemptions are provided.	Pension: 12.75 percent Health: 7.00 percent Employment: 0,85 percent	

Tax	Nature of Tax	Deduction and Exemptions	Rates	Remarks
3. Tax on property				
3.1 Tax on real property transactions	The tax is paid by individuals selling property and by persons taking part in exchange transactions.	Certain exemptions are envisaged by statute.	5 percent.	
3.2 Inheritance and gift tax	The tax is paid by those who inherit property or receive it as a gift. The rate is set and collected by the counties.		Up to 5 percent.	
3.3 Tax on motor vehicles	The tax is levied on owners of motor vehicles and collected by the counties. It is based on both engine power and age of the vehicle.		Automobiles DM 30 to DM 200 per year. Motorcycles DM 20 to DM 100 per year.	
3.4 Tax on watercraft	The tax is paid by owners of watercraft and collected by the counties. It is based on the age of the boat, equipment and length.		DM 30 to DM 550 per year.	
3.5 Tax on firms	The tax is paid by legal and natural persons who own a business but do not pay income and profit tax. The fee is set and collected by the municipality.		Up to DM 500 per year.	
3.6 Tax on weekend houses	The tax is paid by legal and natural persons who own weekend houses. The fee is set and collected by the municipality.		Up to DM 3 per square meter.	

Tax	Nature of Tax	Deduction and Exemptions	Rates	Remarks
4. Domestic taxes on goods and services				
4.1 Sales tax on goods	The tax is paid on goods intended for final consumption. The tax is paid by legal entities and natural persons that engage in the activity of selling goods and raw materials. The tax base is the sales price of the good.		Standard rate: 15 percent	
4.2 Sales tax on services	The tax is paid on the sale of services by legal entities and natural persons who provide these services for a nominal fee, in kind or in form of reciprocal services.		Standard rate: 10 percent	
4.3 Excise taxes	Specific unit taxes paid by producers and importers.			The excise taxes became effective July 1, 1994.
4.3.1 Tax on oil derivatives			HrK 0.30 to 1.90 per liter.	
4.3.2 Tax on tobacco			HrK 2.50 to 8.50 per package of cigarettes.	Effective August 15, 1995
4.3.3 Tax on beer			HrK 80.00 to 120.00 per hectoliter.	
4.3.4 Tax on high percentage alcohol			HrK 30.00 to 60.00 per liter per absolute alcohol content.	
4.3.5 Tax on soft drinks			HrK 40.00 to 80.00 per hectoliter.	
4.3.6 Tax on car imports			75-90 kw engine power - HrK 7,000; 90-110 kw engine power - HrK 15,000; more than 110 kw engine power -HrK 30,000.	

Tax	Nature of Tax	Deduction and Exemptions	Rates	Remarks
4.3.7 Tax on imported coffee			DM 1.00 to DM 4.00 per kilogram.	
4.4 Ticket tax	The tax is paid by the organizers of sports events and levied on the ticket price. It is collected by the counties.		Up to 5 percent.	
4.4 Ticket tax	The tax is paid by the organizers of sports events and levied on the ticket price. It is collected by the counties.		Up to 5 percent.	
4.5 Sales surcharge	A general surcharge on goods based on the after sales tax retail price.	Certain items such as cigarettes and oil derivatives are exempted.	10 percent.	
4.6 Special consumption tax	The tax is paid by restaurant owners and levied on the sales price of beverages sold. Municipalities collect the revenues and set the rates.		Up to 3 percent.	
4.7 Tax on advertizing	The tax is paid by legal and natural persons who advertize in public places. The tax is set and collected by the municipalities.		Up to DM 300 per year.	

Tax	Nature of Tax	Deduction and Exemptions	Rates	Remarks
5. Taxes on international trade and transactions				
5.1 Import duties				
5.1.1 Customs duties	Paid by the importer of a wide range of goods and services	A large number of items are not considered customs goods (e.g., movable property owned by Croatian citizens, enterprises, and other legal persons; certain foreign personal investments in domestic enterprises and retail shops; imports which will be used mainly for production of goods for exports).	Most tariff rates are in the 5-25 percent range.	

Table 1. Croatia: Quarterly GDP at Constant 1990 Prices

	GDP in million kunas	Index 1990 = 100
1989		
Q1	71.2	103.1
Q2	74.7	108.2
Q3	78.5	113.6
Q4	72.2	104.6
Total	296.6	107.4
1990		
Q1	68.6	99.3
Q2	69.0	99.9
Q3	72.2	104.6
Q4	66.4	96.2
Total	276.2	100.0
1991		
Q1	59.2	85.7
Q2	60.7	88.0
Q3	53.3	77.2
Q4	48.3	70.0
Total	221.5	80.2
1992		
Q1	47.9	69.4
Q2	48.6	70.4
Q3	50.5	73.2
Q4	49.8	72.2
Total	196.8	71.3
1993		
Q1	48.0	69.6
Q2	49.0	71.0
Q3	49.8	72.1
Q4	48.3	70.0
Total	195.1	70.7
1994		
Q1	46.0	66.7
Q2	48.1	69.7
Q3	51.8	75.0
Q4	50.4	73.1
Total	196.3	71.1
1995		
Q1	48.5	70.2
Q2	50.1	72.5
Q3	50.8	73.5
Q4	50.4	72.9
Total	199.8	72.3
1996		
Q1	49.1	71.1
Q2	51.1	74.0
Q3	54.4	78.8

Source: Central Bureau of Statistics.

Table 2. Croatia: Gross Domestic Product at Current Prices 1/

(In millions of kuna)

	1990	1991	1992	1993	1994	1995	Percent composition 1990	1991	1992	1993	1994	1995
Total activity at factor costs	253	374	2,294	36,023	68,263	74,828	90.6	91.7	87.3	87.2	80.0	79.1
Industry and mining	64	96	580	9,007	14,934	14,889	23.1	23.6	22.1	21.5	17.5	15.7
Agriculture and fisheries	24	35	290	4,172	8,097	8,380	8.5	8.7	11.0	9.9	9.5	8.9
Forestry	3	5	32	462	934	885	1.0	1.2	1.2	1.1	1.1	0.9
Water management	1	2	6	97	194	200	0.3	0.4	0.2	0.2	0.2	0.2
Construction	15	19	70	1,278	2,615	2,950	5.2	4.6	2.7	3.0	3.1	3.1
Transport and communication	22	39	159	2,382	5,077	5,499	7.9	9.5	6.0	5.6	6.0	5.8
Trade	22	36	231	2,734	5,019	6,123	7.9	8.8	8.8	6.6	5.9	6.5
Hotels, restaurants, and tourism	12	10	82	1,158	2,739	2,512	4.5	2.4	3.1	2.8	3.2	2.7
Crafts and trades	9	13	60	892	2,227	2,873	3.1	3.1	2.3	2.1	2.6	3.0
Housing, utilities, and public services	16	33	242	4,803	5,773	6,208	5.7	8.2	9.2	11.5	6.8	6.6
Financial and other services	10	22	169	2,905	6,562	6,844	3.5	5.4	6.4	7.0	7.7	7.2
Education, health care, central government, funds and associations	55	65	372	6,135	14,091	17,464	19.9	15.9	14.2	14.8	16.5	18.5
Net indirect Taxes	26	34	334	5,810	17,037	19,736	9.4	8.3	12.7	13.9	20.0	20.9
GDP-at market prices	279	408	2,628	41.833.2	85,299	94,564	100.0	100.0	100.0	100.0	100.0	100.0

Source: State Institute for Macroeconomic Analysis and Forecasting.

1/ These estimates are produced independently by SIMAF. The Central Bureau of Statistics is in the process of preparing current price estimates for GDP.

Table 3. Croatia: Gross Domestic Product at Constant 1994 Prices 1/

(In millions of kunas)

	1990	1991	1992	1993	1994	1995	Percent composition 1990	1991	1992	1993	1994	1995
Total activity at factor costs	93,585	77,373	70,404	67,947	68,263	69,838	90.0	91.8	85.3	84.4	80.0	79.8
Industry and mining	24,044	18,033	15,905	15,317	14,934	14,979	23.1	21.4	19.3	19.0	17.5	17.1
Agriculture and fisheries	9,989	9,180	7,922	8,271	8,097	8,178	9.6	10.9	9.6	10.3	9.5	9.3
Forestry	1,527	1,191	897	838	934	873	1.5	1.4	1.1	1.0	1.1	1.0
Water management	232	199	192	192	194	196	0.2	0.2	0.2	0.2	0.2	0.2
Construction	4,551	3,245	2,947	2,696	2,615	2,565	4.4	3.8	3.6	3.3	3.1	2.9
Transport and communication	5,573	5,016	5,076	4,706	5,077	5,077	5.4	6.0	6.2	5.8	6.0	5.8
Trade	11,110	9,277	6,865	5,272	5,019	6,123	10.7	11.0	8.3	6.6	5.9	7.0
Hotels, restaurants, and tourism	5,838	2,715	2,440	2,123	2,739	2,438	5.6	3.2	3.0	2.6	3.2	2.8
Crafts and trades	2,492	2,043	1,927	2,015	2,227	2,450	2.4	2.4	2.3	2.5	2.6	2.8
Housing, utilities, and public services	6,015	5,888	5,732	5,735	5,773	5,774	5.8	7.0	6.9	7.1	6.8	6.6
Financial and other services	7,933	7,203	6,591	6,696	6,562	6,766	7.6	8.5	8.0	8.3	7.7	7.7
Education, health care, central government, funds and associations	14,280	13,384	13,910	14,085	14,091	14,419	13.7	15.9	16.9	17.5	16.5	16.5
Net indirect Taxes	10,344	6,920	12,124	12,536	17,037	17,721	10.0	8.2	14.7	15.6	20.0	20.2
GDP-at market prices	103,928	84,293	82,528	80,483	85,299	87,559	100.0	100.0	100.0	100.0	100.0	100.0

Source: State Institute for Macroeconomic Analysis and Forecasting.

1/ These estimates are produced independently by SIMAF and, therefore, are not consistent with official estimates from the Central Bureau of Statistics.

Table 4. Croatia: Gross Domestic Product Deflators 1/

(1994=100)

	1990	1991	1992	1993	1994	1995
Total activity at factor costs	0.3	0.5	3.3	53.0	100.0	107.1
Industry and mining	0.3	0.5	3.6	58.8	100.0	99.4
Agriculture and fisheries	0.2	0.4	3.7	50.4	100.0	102.5
Forestry	0.2	0.4	3.6	55.1	100.0	101.4
Water management	0.4	0.8	3.1	50.6	100.0	101.9
Construction	0.3	0.6	2.4	47.4	100.0	115.0
Transport and communication	0.4	0.8	3.1	50.6	100.0	108.3
Trade	0.2	0.4	3.4	51.9	100.0	100.0
Hotels, restaurants, and tourism	0.2	0.4	3.4	54.5	100.0	103.0
Crafts and trades	0.3	0.6	3.1	44.3	100.0	117.3
Housing, utilities, and public services	0.3	0.6	4.2	83.7	100.0	107.5
Financial and other services	0.1	0.3	2.6	43.4	100.0	101.2
Education, health care, central government, funds and associations	0.4	0.5	2.7	43.6	100.0	121.1
Net indirect Taxes	0.3	0.5	2.8	46.3	100.0	111.4
GDP-at market prices	0.3	0.5	3.2	51.9	100.0	108.0

Source: State Institute for Macroeconomic Analysis and Forecasting.

1/ These estimates are produced independently by SIMAF. The Central Bureau of Statistics is in the process of preparing current price estimates for GDP.

Table 5. Croatia: Trends in Industrial Production 1/

	Total industry	Capital goods	Inter-mediate goods	Consumer goods	Electricity generation	Oil and gas extraction	Oil refining	Metal working	Machine building	Ship building
1988	113.4	121.3	114.6	107.8	108.8	107.5	102.2	129.2	122.2	118.1
1989	112.7	118.9	113.8	108.4	98.4	107.0	98.4	129.5	113.4	106.9
1990	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1991	71.5	64.9	72.2	74.0	101.0	82.4	68.8	66.3	55.1	68.4
1992	61.1	51.0	62.3	64.1	101.3	81.8	57.6	49.1	31.7	59.5
1993	57.4	44.9	59.3	61.0	107.9	86.0	65.0	46.1	27.1	46.6
1994	55.9	38.5	58.9	60.6	99.7	78.3	64.9	41.9	22.2	38.1
1995	56.1	40.1	60.0	60.0	104.6	82.6	82.4	40.6	25.4	38.4
1996	57.8	43.9	61.1	60.6	131.1	76.3	76.1	40.3	24.7	34.1
1990										
Q4	99.3	95.7	97.8	103.1	122.6	110.3	99.9	86.0	107.9	96.0
1991										
Q1	81.3	71.9	84.4	81.9	127.9	104.2	84.2	76.1	66.4	63.0
Q2	82.4	73.5	85.9	82.4	116.2	82.6	78.0	79.0	62.6	79.2
Q3	65.8	59.7	67.1	67.1	75.3	72.6	76.0	60.1	51.2	66.8
Q4	56.6	54.4	51.1	64.0	84.3	70.0	36.9	49.8	40.0	64.4
1992										
Q1	58.6	52.4	60.2	61.2	92.9	87.4	50.6	49.1	32.0	56.8
Q2	59.2	55.4	58.9	60.6	105.5	72.5	55.5	47.8	29.3	71.0
Q3	60.5	47.1	60.2	66.1	84.8	75.1	60.5	48.2	31.2	50.1
Q4	66.2	54.0	69.1	67.8	122.0	92.0	63.6	51.1	34.4	59.9
1993										
Q1	58.2	43.9	60.8	60.6	119.7	92.7	67.4	45.6	23.4	46.1
Q2	58.1	52.2	58.9	59.5	102.6	76.5	67.2	47.8	32.5	57.7
Q3	56.6	45.5	57.4	60.2	105.6	73.1	57.9	47.5	28.5	46.9
Q4	55.1	40.5	56.0	60.4	107.8	78.6	61.5	44.2	25.5	40.3
1994										
Q1	53.3	35.7	57.0	56.8	118.2	88.2	61.7	40.6	17.5	38.4
Q2	55.3	40.2	58.6	57.6	89.7	66.7	53.2	41.7	23.1	42.4
Q3	55.4	34.4	58.1	62.0	91.6	66.9	75.9	42.7	19.0	34.4
Q4	59.9	43.4	61.4	65.5	99.2	91.3	68.9	42.6	29.3	37.0
1995										
Q1	56.0	37.2	60.8	58.8	118.4	91.8	91.9	37.9	19.0	35.0
Q2	56.6	39.8	61.4	58.5	99.9	84.4	114.0	42.3	23.2	40.5
Q3	53.2	37.6	54.3	59.1	97.9	74.6	93.1	38.9	34.4	34.3
Q4	58.3	45.7	59.2	59.7	115.4	91.0	87.4	43.2	36.1	43.9
1996										
Q1	56.0	38.6	60.8	58.2	145.3	90.1	83.0	40.7	20.5	42.9
Q2	57.4	48.4	61.0	57.2	120.8	66.0	65.8	41.2	28.1	56.6
Q3	56.8	43.6	58.5	61.4	107.6	64.0	78.2	44.0	23.7	46.9
Q4	60.9	44.2	63.7	65.7	150.7	85.0	70.0	39.4	21.0	50.7
1996										
Jan.	56.1	38.4	59.8	59.3	165.3	95.6	78.7	39.4	19.7	36.9
Feb.	55.7	39.3	59.3	59.0	144.7	87.5	73.8	39.7	23.7	44.0
Mar.	56.3	39.1	63.3	56.4	125.7	87.1	96.4	42.7	18.1	47.9
Apr.	56.7	49.4	62.1	53.7	126.1	72.2	66.1	42.5	27.2	51.7
May	58.2	50.0	60.4	59.1	118.6	68.0	66.3	37.4	29.8	62.3
Jun.	57.3	45.9	60.7	58.6	117.7	57.7	65.0	43.8	27.3	55.6
Jul.	56.7	37.3	60.1	62.1	112.9	58.8	94.0	37.7	23.9	45.8
Aug.	56.0	48.2	55.6	60.6	99.0	61.2	93.1	45.0	23.0	39.2
Sep.	57.8	45.3	59.8	61.6	110.7	72.1	47.4	49.2	24.1	55.6
Oct.	65.4	45.9	67.4	72.8	149.4	80.8	58.1	46.6	24.1	58.8
Nov.	63.1	45.9	66.8	66.9	145.1	83.8	83.8	42.2	19.1	53.4
Dec.	54.2	40.7	56.9	57.3	157.6	90.6	68.0	29.5	19.8	39.9

Source: Central Bureau of Statistics.

1/ Seasonally unadjusted indices, 1990=100.

Table 6. Croatia: Mining and Industry - Indices of Production, Stocks, Consumption, Employees and Productivity

	Production				Stocks					Consumption			
					Final Products								
	Total	Equipment and Machinery	Production Materials	Consumer Goods	Total	Equipment and Machinery	Production Materials	Consumer Goods	Raw Materials	Raw Materials	Electricity and Fuels 1/	Number of Employees	Productivity 2/
1990	178.3	249.2	169.7	166.8	154.7	181.3	132.8	186.3	125.8	157.9	160.8	171.6	104.4
1991	127.5	161.8	122.5	123.4	136.7	171.2	121.2	155.4	108.0	111.7	122.0	141.3	90.5
1992	108.9	127.2	105.7	106.9	115.8	154.4	110.4	115.1	113.4	101.3	103.9	120.2	90.8
1993	102.4	112.1	100.5	101.7	117.4	151.0	114.2	114.0	115.1	98.1	104.1	112.7	91.1
1994	99.7	96.0	99.9	101.0	104.0	131.8	99.4	103.4	101.4	99.5	99.3	106.4	93.8
1995	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1996	103.1	109.4	103.6	101.1	...	...	...	...	...	...	...	...	...
1995													
Jan.	95.9	84.5	98.7	96.0	100.4	119.0	97.9	100.3	95.5	101.5	112.2	102.8	111.7
Feb.	96.6	93.4	98.0	95.5	98.3	125.7	93.9	99.0	95.9	99.3	98.0	102.4	111.5
Mar.	107.5	100.8	113.0	103.3	101.0	129.5	96.1	102.3	95.6	110.3	115.0	101.9	111.0
Apr.	98.9	96.6	104.4	93.1	105.2	134.4	103.2	101.1	97.8	103.1	110.2	101.1	110.4
May	101.4	97.3	104.5	98.9	107.5	137.5	104.6	104.7	93.9	106.6	95.0	100.7	109.9
Jun.	102.8	104.0	103.8	101.2	104.8	121.5	102.0	105.5	93.7	98.1	95.8	100.1	110.0
Jul.	95.0	93.9	92.8	97.9	100.3	118.6	98.4	99.4	95.2	91.1	86.6	99.8	109.4
Aug.	91.4	87.6	88.4	96.4	97.8	71.3	104.2	93.5	98.6	92.0	80.6	99.1	108.7
Sep.	98.4	99.8	94.9	101.7	93.9	67.5	99.0	91.4	96.1	93.2	77.4	98.8	107.5
Oct.	106.7	104.6	101.8	113.5	92.2	70.1	92.4	97.1	111.9	104.1	99.5	98.4	107.2
Nov.	110.0	110.6	108.1	112.7	97.9	56.7	99.9	104.7	112.7	107.1	120.2	97.8	107.2
Dec.	95.5	126.9	91.5	89.7	100.7	48.2	108.2	101.0	113.0	93.6	108.9	97.0	106.6
1996													
Jan.	100.0	98.2	101.5	98.8	101.5	49.5	107.0	104.8	110.5	95.9	103.5	94.6	113.3
Feb.	99.4	97.9	100.6	98.4	104.8	51.2	109.7	109.1	105.0	93.1	118.3	94.1	112.5
Mar.	100.4	97.4	107.4	94.0	104.4	42.8	109.7	110.1	105.2	100.3	113.8	93.8	108.6
Apr.	101.2	123.2	105.3	89.5	100.7	48.8	107.1	102.4	104.0	97.4	100.0	93.7	109.1
May	103.7	124.8	102.6	98.6	100.4	44.3	107.5	102.0	106.3	92.7	88.4	93.3	109.2
Jun.	102.1	114.6	102.9	97.7	99.0	41.9	106.2	100.8	95.7	86.8	82.6	92.8	108.9
Jul.	101.1	93.1	102.0	103.6	93.1	41.2	99.1	95.4	99.6	84.8	82.1	92.8	109.7
Aug.	99.9	120.2	94.3	101.1	93.8	49.4	100.4	93.3	100.1	85.7	74.9	92.2	110.6
Sep.	103.1	113.0	101.4	102.7	88.4	50.7	90.6	93.9	95.6	93.2	81.5	91.7	110.7
Oct.	116.7	114.4	114.3	121.3	92.8	52.4	89.9	107.6	98.5	104.8	103.6	91.3	111.6
Nov.	112.5	114.5	113.3	111.5	101.6	57.6	98.2	118.3	103.7	107.3	108.6	90.8	111.4
Dec.	96.6	101.4	96.5	95.5	...	...	...	...	...	...	...	...	...

Source: Central Bureau of Statistics.

1/ Consumption of electricity and fuels includes only fuels used for production and technology purposes. Fuels used as raw materials for further production are not included.
2/ Productivity indices show the change in the period from January to the month for which the data is given in comparison with the same period in the previous year.

Table 7. Croatia: Agricultural Production

(1988=100)

	1989	1990	1991	1992	1993	1994	1995
				(All production units)			
Total production	104.0	100.9	93.8	81.2	85.2	82.7	83.5
Field crops	108.0	105.8	108.0	74.1	85.7	85.7	92.5
Cereals	103.0	108.2	115.7	70.0	88.5	83.2	89.0
Industrial crops	116.0	112.5	106.9	86.3	86.8	78.1	82.0
Meadow crops	110.0	97.9	101.8	68.5	71.1	76.0	77.6
Fruit	122.0	89.1	123.8	128.4	104.8	85.9	95.3
Viticulture	106.0	115.5	123.6	119.1	124.2	114.2	106.2
Stock-raising	100.0	95.0	72.2	72.8	67.0	65.6	61.0
Cattle	100.0	91.0	67.3	79.1	70.2	66.0	61.4
Pigs	100.0	100.0	73.0	72.7	70.7	71.4	65.0
Total production	104.0	101.9	88.7	70.7	75.9	63.0	58.0
Field crops	107.0	107.0	108.1	70.0	83.5	70.1	68.7
Cereals	98.0	107.8	108.9	64.3	78.8	64.6	67.2
Industrial crops	123.0	107.0	108.1	77.6	89.8	75.4	68.6
Meadow crops	89.0	87.2	103.8	61.7	49.1	81.0	185.4
Fruit	101.0	88.9	87.1	76.9	90.8	63.5	54.6
Viticulture	98.0	108.8	105.5	74.1	72.7	63.2	41.7
Stock-raising	103.0	97.9	70.5	70.7	67.2	59.1	52.0
Cattle	110.0	92.4	59.1	63.7	58.1	41.2	37.5
Pigs	102.0	105.1	59.9	59.9	65.9	66.6	55.9
Total production	104.0	100.9	95.8	85.4	86.7	88.4	91.1
Field crops	108.0	105.8	108.0	76.0	86.9	93.0	104.1
Cereals	105.0	108.2	119.0	72.8	93.4	93.4	101.8
Industrial crops	80.0	100.8	83.7	88.6	72.4	76.0	96.5
Meadow crops	111.0	98.8	102.7	69.6	72.8	77.1	74.8
Fruit	131.0	89.1	137.2	144.6	109.5	94.1	111.1
Viticulture	107.0	116.6	128.3	129.6	135.9	125.1	120.0
Stock-raising	98.0	93.1	72.6	73.3	66.4	68.4	65.0
Cattle	97.0	90.2	69.5	86.5	76.4	76.4	71.8
Pigs	99.0	97.0	79.6	79.1	72.8	73.6	69.9

Source: Central Bureau of Statistics.

Table 8. Croatia: Tourism Data - Overnight Stays

		Overnight Stays		
		Total	Domestic	Foreign
			(In thousands)	
1983		54,632	8,541	46,091
1984		59,465	8,527	50,938
1985		67,665	8,790	58,875
1986		68,216	8,836	59,380
1987		68,160	8,397	59,763
1988		67,298	7,946	59,352
1989		61,849	7,383	54,466
1990		52,523	6,747	45,776
1991		10,158	3,394	6,764
1992		10,724	3,170	7,554
1993		12,909	3,152	9,757
1994		19,977	4,421	15,556
1995		12,885	4,370	8,515
1994	Jan.	231.0	141.0	90.0
	Feb.	239.0	138.0	101.0
	Mar.	337.0	188.0	149.0
	Apr.	455.0	167.0	288.0
	May	949.0	260.0	689.0
	Jun.	1,971.0	335.0	1,636.0
	Jul.	5,653.0	990.0	4,663.0
	Aug.	7,068.0	1,358.0	5,710.0
	Sep.	2,075.0	358.0	1,717.0
	Oct.	400.0	170.0	230.0
	Nov.	286.0	169.0	117.0
	Dec.	311.0	146.0	166.0
1995	Jan.	248.0	160.0	88.0
	Feb.	259.0	157.0	102.0
	Mar.	286.0	162.0	124.0
	Apr.	595.0	226.0	369.0
	May	666.0	254.0	412.0
	Jun.	1,559.0	367.0	1,192.0
	Jul.	4,121.0	1,111.0	3,010.0
	Aug.	3,516.0	1,153.0	2,363.0
	Sep.	850.0	319.0	531.0
	Oct.	295.0	166.0	129.0
	Nov.	225.0	146.0	79.0
	Dec.	266.0	149.0	117.0
1996				
	Jan.	247.0	155.0	92.0
	Feb.	252.0	139.0	113.0
	Mar.	289.0	148.0	141.0
	Apr.	560.0	220.0	340.0
	May	918.0	253.0	665.0
	Jun.	2,178.0	432.0	1,746.0
	Jul.	6,109.0	1,224.0	4,885.0
	Aug.	8,020.0	1,536.0	6,484.0
	Sep.	1,950.0	322.0	1,628.0
	Oct.	389.0	174.0	215.0
	Nov.	257.0	155.0	102.0

Source: Croatian Economic Trends.

Table 9. Croatia: Number of Nights Spent According to Accomodation

(In thousands)

	1990	1991	1992	1993	1994	1995	1996
				(Total nights spent)			
Hotels	20,716	5,904	4,983	5,729	8,433	5,587	8551
Pensions	122	21	15	22	21	15	31
Motels	337	159	100	82	103	95	111
Overnight lodging houses	127	62	32	21	27	29	41
Tourist facilities	5,198	844	1,648	2,178	3,357	1,972	3083
Inns and other food and lodging establishments	16	15	2	2	2	2	5
Spas and sanatoriums	617	283	300	199	283	261	172
Company vacation facilities	4,412	740	140	139	249	303	401
Vacation facilities for children and adolescents	1,245	98	61	107	219	192	225
Campgrounds	12,010	1,436	2,651	3,562	5,079	3,429	5815
Housekeeping facilities - private rooms, apartments, villas and weekend cottages	7,375	456	709	748	2,054	840	2806
Other	348	140	84	119	150	160	214
Total	52,523	10,158	10,725	12,908	19,977	12,885	21,455
				(Nights spent by tourists from Croatia)			
Hotels	2,648	2,249	2,067	2,053	2,609	2,569	2732
Pensions	45	13	10	8	6	7	10
Motels	106	59	64	53	64	66	73
Overnight lodging houses	52	25	12	10	14	16	21
Tourist facilities	353	258	391	369	410	466	502
Inns and other food and lodging establishments	4	2	1	1	1	1	3
Spas and sanatoriums	355	244	252	119	130	173	139
Company vacation facilities	1,317	209	78	88	174	225	251
Vacation facilities for children and adolescents	323	45	16	41	108	108	107
Campgrounds	677	114	161	257	368	349	387
Housekeeping facilities - private rooms, apartments, villas and weekend cottages	728	129	95	97	449	279	527
Other	139	47	23	54	88	111	157
Total	6,747	3,394	3,170	3,150	4,421	4370	4909
				(Nights spent by foreign tourists)			
Hotels	18,068	3,655	2,916	3,676	5,824	3,018	5819
Pensions	77	8	5	14	15	8	21
Motels	231	100	36	29	39	29	38
Overnight lodging houses	75	37	20	11	13	13	20
Tourist facilities	4,845	586	1,257	1,809	2,947	1,506	2581
Inns and other food and lodging establishments	12	13	1	1	1	1	2
Spas and sanatoriums	262	39	48	80	153	88	33
Company vacation facilities	3,095	531	62	51	75	78	150
Vacation facilities for children and adolescents	922	53	45	66	111	84	118
Campgrounds	11,333	1,322	2,490	3,305	4,711	3,080	5428
Housekeeping facilities - private rooms, apartments, villas and weekend cottages	6,647	327	614	651	1,605	561	2279
Other	209	93	61	65	62	49	57
Total	45,776	6,764	7,555	9,758	15,556	8,515	16546

Source: Central Bureau of Statistics.

Table 10. Croatia: Nights Spent by Tourists According to Country of Origin

	1990	1991	1992	1993	1994	1995	1996
				(Number of nights)			
European Union	30,170,000	2,877,000	3,642,000	5,130,354	8,026,724	4,569,215	8,986,696
Eastern Europe	8,120,000	2,178,000	3,257,000	4,133,029	6,946,380	3,502,749	6,843,974
Other European	401,000	1,563,000	36,000	338,204	397,308	296,713	442,505
Non-European	640,000	155,000	109,000	156,450	185,658	146,714	272,451
Total	39,331,000	6,773,000	7,044,000	9,758,037	15,556,070	8,515,391	16,545,626
				(In percent)			
European Union	76.7	42.5	51.7	52.6	51.6	53.7	54.3
Eastern Europe	20.6	32.2	46.2	42.4	44.7	41.1	41.4
Other European	1.0	23.1	0.5	3.5	2.6	3.5	2.7
Non-European	1.6	2.3	1.5	1.6	1.2	1.7	1.6

Source : Statistical Yearbook, Central Bureau of Statistics.

Table 11. Croatia: Composition of Employment 1/

	1991	1992	1993	1994	1995	1996 2/ XI
			(In thousands)			
Total	1,303.6	1,137.9	1,108.4	1,061.5	1,026.8	962.2
Goods and services	1,053.0	903.8	872.3	827.0	792.2	728.3
Mining and industry	461.9	397.6	384.7	368.3	349.2	314.5
Of which:						
Manufacture of metal products	36.8	28.9	28.2	26.4	24.4	20.0
Machine industry	25.3	21.7	19.7	17.7	15.7	12.5
Shipbuilding	21.7	16.4	16.3	15.5	14.1	12.9
Manufacture of electrical equipment	28.3	24.9	23.9	21.5	20.5	18.2
Finished wood products	27.5	22.9	22.3	21.2	19.5	17.8
Textile fibre and fabrics	20.5	16.2	15.5	14.3	13.2	10.7
Finished textile products	52.9	46.2	48.9	48.3	45.6	40.3
Leather footwear and accessories	24.3	21.4	22.2	23.2	21.2	18.1
Food products industry	51.1	46.5	44.1	44.2	43.9	42.8
Agriculture and fisheries	48.3	43.2	42.3	39.5	35.2	30.3
Of which: fisheries	1.6	1.6	1.5	1.4	1.3	1.1
Forestry	13.4	11.5	10.8	10.9	10.9	10.4
Water management	5.6	5.0	4.3	4.0	4.0	4.0
Construction	98.8	76.2	66.3	59.0	59.0	54.2
Transport and communications	110.2	95.6	90.0	84.9	84.1	82.9
Of which:						
Railways	33.1	28.6	26.4	23.9	23.4	24.0
Ocean shipping	10.0	7.2	5.3	4.7	4.6	4.3
Road transport	24.4	21.1	20.0	18.3	17.9	16.3
Communications	20.3	19.9	20.2	20.4	21.1	22.1
Trade	142.3	123.9	125.2	116.5	109.8	95.5
Retail trade	103.5	90.1	87.9	80.4	73.0	63.6
Wholesale trade	31.0	28.2	31.8	31.6	32.4	28.2
Foreign trade	7.8	5.6	5.5	4.5	4.4	3.7
Hotels, restaurants, tourism	61.0	52.5	50.5	48.8	44.6	40.1
Crafts and trade	28.3	24.2	23.8	21.8	20.0	17.7
Housing, utilities, and public services	28.3	23.8	23.3	23.5	24.1	24.4
Financial and other services	55.4	50.7	51.5	50.1	51.3	54.5
Of which: banking	21.7	19.0	18.6	19.1	19.3	23.8
Education, health, and government	250.6	234.1	236.1	234.5	234.6	233.9
Education, culture, and the arts	93.8	87.7	88.9	89.4	88.9	90.0
Health care and social services	101.9	97.4	98.6	97.3	95.3	96.5
Government bodies	54.4	48.6	48.2	47.5	50.4	47.4

Source: Central Bureau of Statistics, Monthly Statistical Report.

1/ The data cover the former socially - owned enterprises, privated and partially privatized enterprises, as well as the general government sector. Annual data are the average of March and September.

2/ The last available data is for November 1996; provisional data is presented for that month. The number of employed persons for November 1996 is taken from a monthly survey which covers 70% of employed from each activity. The employed persons in the Ministry of Defense, Ministry of Interior and independent farmers are not included.

Table 12. Croatia: Trends in Employment and Unemployment 1/

(End of period)

	Majority state-owned ent. & pub. sector 2/ (1)	Private sector 3/ (2)	Total employment (3)=(1)+(2)	Unemployed (registered) (4)	Labor force (5)=(3)+(4)	Unemployment rate (4)/(5)	Vacancies
1990	1,670,096	285,766	1,955,862	195,466	2,151,328	9.1	10,701
1991	1,482,740	343,650	1,826,390	283,308	2,109,698	13.4	6,922
1992	1,221,333	435,200	1,656,533	261,050	1,917,583	13.6	8,863
1993	1,054,357	586,823	1,641,180	243,096	1,884,276	12.9	8,426
1994	870,787	716,791	1,587,578	247,555	1,835,133	13.5	9,069
1995	799,665	738,804	1,538,469	249,070	1,787,539	13.9	7,765
1996 Q2			1,451,733	252,524	1,704,257	14.8	10,669
1996 Q3			1,468,316	262,203	1,730,519	15.2	10,974

Source: State Institute for Macroeconomic Analysis and Forecasting.

Table 13. Croatia: Trends in Wage Bills and Non-wage Compensation

(In thousands of kunas, prices of December 1990)

	Total Compensation	Wage Bill	Social Benefits	Compensation from Employmen and Work	Wage Bill	Social benefits	Compensation from Employment and Work
						(Shares)	
1989	140,485	98,473	31,446	10,566	0.70	0.22	0.08
1990	155,907	98,505	41,930	15,471	0.63	0.27	0.10
1991	116,409	71,051	29,853	15,505	0.61	0.26	0.13
1992	61,211	33,599	13,681	13,931	0.55	0.22	0.23
1993	50,194	27,198	10,562	12,434	0.54	0.21	0.25
1994	69,701	35,123	14,557	20,021	0.50	0.21	0.29
1995	82,786	49,148	15,946	17,692	0.59	0.19	0.21
1994							
Jan.	4,011	2,413	723	875	0.60	0.18	0.22
Feb.	4,614	2,566	1,054	994	0.56	0.23	0.22
Mar.	5,576	2,696	1,398	1,482	0.48	0.25	0.27
Apr.	5,572	2,812	1,082	1,678	0.50	0.19	0.30
May.	5,660	2,698	1,206	1,756	0.48	0.21	0.31
Jun	6,462	2,918	1,479	2,065	0.45	0.23	0.32
Jul.	5,973	2,938	1,180	1,855	0.49	0.20	0.31
Aug.	5,884	3,091	1,186	1,607	0.53	0.20	0.27
Sep.	6,163	3,149	1,259	1,755	0.51	0.20	0.28
Oct.	6,185	3,142	1,232	1,811	0.51	0.20	0.29
Nov.	6,507	3,198	1,400	1,909	0.49	0.22	0.29
Dec.	7,099	3,505	1,360	2,234	0.49	0.19	0.31
1995							
Jan.	5,916	3,769	985	1,162	0.64	0.17	0.20
Feb.	6,266	3,939	1,145	1,182	0.63	0.18	0.19
Mar.	6,782	4,189	1,273	1,320	0.62	0.19	0.19
Apr.	6,720	4,095	1,281	1,344	0.61	0.19	0.20
May.	6,892	4,092	1,228	1,572	0.59	0.18	0.23
Jun	7,091	4,188	1,361	1,542	0.59	0.19	0.22
Jul.	7,252	4,268	1,317	1,667	0.59	0.18	0.23
Aug.	6,917	4,147	1,374	1,397	0.60	0.20	0.20
Sep.	7,223	4,176	1,522	1,525	0.58	0.21	0.21
Oct.	7,145	4,061	1,461	1,622	0.57	0.20	0.23
Nov.	6,938	3,998	1,410	1,530	0.58	0.20	0.22
Dec.	7,645	4,227	1,589	1,829	0.55	0.21	0.24
1996							
Jan.	6,965	3,947	1,666	1,352	0.57	0.24	0.19
Feb.	6,898	3,942	1,597	1,359	0.57	0.23	0.20
Mar.	7,190	4,055	1,750	1,385	0.56	0.24	0.19
Apr.	7,272	4,063	1,734	1,476	0.56	0.24	0.20
May.	7,605	4,229	1,842	1,535	0.56	0.24	0.20
Jun	7,582	4,304	1,868	1,411	0.57	0.25	0.19
Jul.	8,013	4,346	1,963	1,704	0.54	0.24	0.21
Aug.	7,879	4,593	1,897	1,390	0.58	0.24	0.18
Sep.	7,737	4,327	1,943	1,466	0.56	0.25	0.19
Oct.	7,958	4,347	1,994	1,616	0.55	0.25	0.20

Source: Croatian Economic Trends.

Table 14. Croatia: Trends in Average Monthly Net Wages and Salaries 1/

	Total	Total	Total	Economy	Non-economy
	(In HrK)	(In US$)	(In HrK, prices of Dec. 1990)		
1989	0.8		5.3	5.2	5.8
1990	4.8		5.6	5.5	7.5
1991	8.1	414.9	4.4	4.4	5.6
1992	33.4	112.0	2.2	2.2	2.3
1993	535.4	140.4	2.0	1.9	2.1
1994	1,248.6	234.0	2.8	2.8	3.1
1995	1,819.1	347.8	4.1	3.9	4.4
1995					
Jan.	1,745.0	317.5	3.9	3.8	4.4
Feb. 2/	1,725.0	326.0	3.9	3.8	4.3
Mar.	1,800.0	360.2	4.0	3.9	4.4
Apr.	1,791.0	361.7	4.0	3.9	4.4
May	1,836.0	367.9	4.1	4.0	4.4
Jun.	1,843.0	365.5	4.1	4.0	4.6
Jul.	1,798.0	359.1	4.0	3.9	4.3
Aug.	1,839.0	342.8	4.1	4.0	4.3
Sep.	1,826.0	347.5	4.0	3.9	4.3
Oct.	1,848.0	351.8	4.1	4.0	4.4
Nov.	1,895.0	354.9	4.2	4.1	4.4
Dec.	1,883.0	354.2	4.1	4.0	4.5
1996					
Jan.	1,924.0	349.5	4.2	4.1	4.4
Feb.	1,908.0	355.3	4.2	4.1	4.4
Mar.	1,920.0	351.8	4.2	4.1	4.5
Apr.	1,980.0	355.7	4.3	4.2	4.5
May	2,067.0	370.6	4.5	4.4	4.6
Jun.	1,994.0	366.3	4.3	4.2	4.5
Jul.	2,071.0	393.9	4.4	4.4	4.5
Aug.	2,085.0	396.7	4.5	4.4	4.6
Sep.	2,028.0	373.8	4.3	4.3	4.5

Source: Croatian Economic Trends; and staff estimates.

1/ Comprises the formerly socially-owned industrial sector ("economy") and the general government sector ("non-economy").
2/ Series break starting in January 1995 when amounts previously included in non-wage compensation are shifted to wages.

Table 15. Croatia: Average Gross Monthly Pay per Employee

(In Croatian kuna)

	1994	1995	1996 I-VI	1996 I-X
Total	2,155	2,887	3,159	3,210
Goods and services	2,092	2,781	3,075	3,143
Mining and industry	2,083	2,743	3,000	3,061
Of which:				
Manufacture of metal products	1,823	2,384	2,453	2,521
Machine industry	1,788	2,272	2,631	2,676
Shipbuilding	1,660	2,308	2,715	2,827
Manufacture of electrical equipment	2,409	3,137	3,629	3,602
Finished wood products	1,622	2,032	1,959	2,010
Textile fibre and fabrics	1,352	1,745	1,884	1,868
Finished textile products	1,855	2,195	2,226	2,261
Leather footwear and accessories	1,535	1,877	1,918	1,956
Food products industry	2,530	3,472	3,649	3,688
Agriculture and fisheries	2,020	2,690	2,915	2,967
Of which:				
Fisheries	1,969	2,603	2,774	2,789
Forestry	2,187	3,041	3,285	3,407
Water management	1,927	2,558	2,869	3,044
Construction	1,970	2,550	2,809	2,930
Transport and communications	2,189	2,840	3,209	3,275
Of which:				
Railways	1,791	2,513	2,724	2,848
Ocean shipping	3,156	3,845	4,091	4,150
Road transport	1,833	2,421	2,608	2,712
Communications	2,259	2,906	3,543	3,532
Trade	1,855	2,590	2,801	2,866
Retail trade	1,682	2,378	2,523	2,756
Wholesale trade	2,240	3,104	3,544	3,622
Foreign trade	2,754	3,546	3,754	3,875
Hotels, restaurants, tourism	1,967	2,591	2,605	2,740
Crafts and trade	2,003	2,625	2,743	2,850
Housing, utilities, and public services	1,946	2,741	3,180	3,234
Financial and other services	2,895	3,796	4,386	4,383
Of which:				
Banking	2,886	3,829	4,577	4,542
Education, health and government	2,360	3,190	3,386	3,393
Education, culture and the arts	2,310	2,988	3,193	3,209
Health care and social services	2,234	3,202	3,386	3,402
Government bodies	2,686	3,510	3,734	3,713

Source: Central Bureau of Statistics.

Table 16. Croatia: Indices of Nominal Net Wages and Salaries per Employee

(1993=100)

	1991	1992	1993	1994	1995	1996 I-X
Total	1.5	6.3	100.0	237.1	345.6	381.2
Goods and services	1.5	6.4	100.0	236.6	343.2	384.0
Mining and industry	1.4	6.5	100.0	230.5	332.0	366.9
Of which:						
Manufacture of metal products	1.1	6.2	100.0	209.5	300.6	318.6
Machine industry	1.4	6.7	100.0	227.4	318.4	370.4
Shipbuilding	1.7	8.4	100.0	209.2	320.6	386.2
Manufacture of electrical equipment	1.3	6.3	100.0	225.6	328.2	372.0
Finished wood products	1.2	6.6	100.0	217.5	300.7	300.2
Textile fibre and fabrics	1.4	7.0	100.0	231.8	325.8	346.0
Finished textile products	1.1	6.4	100.0	210.2	276.2	284.7
Leather footwear and accessories	1.3	6.5	100.0	199.4	268.2	280.0
Food products industry	1.7	6.1	100.0	244.7	361.4	382.2
Agriculture and fisheries	1.5	6.9	100.0	231.4	330.6	363.6
Of which:						
Fisheries	1.5	6.9	100.0	200.2	293.2	307.2
Forestry	1.5	6.8	100.0	225.6	344.4	381.4
Water management	1.5	5.9	100.0	234.6	342.2	398.6
Construction	1.4	5.4	100.0	260.1	372.0	422.8
Transport and communications	1.6	6.6	100.0	227.8	326.0	374.0
Of which:						
Railways	1.8	7.9	100.0	228.1	348.0	390.0
Ocean shipping	1.5	6.3	100.0	224.3	304.5	327.7
Road transport	1.6	7.2	100.0	240.4	346.7	386.0
Communications	1.8	6.1	100.0	218.7	314.2	382.0
Trade	1.8	7.3	100.0	254.3	381.9	418.3
Retail trade	1.9	7.6	100.0	259.2	392.3	422.2
Wholesale trade	1.7	6.9	100.0	245.0	365.5	419.5
Foreign trade	1.5	6.2	100.0	233.9	334.6	363.8
Hotels, restaurants, tourism	1.2	5.7	100.0	241.6	340.8	358.8
Crafts and trade	1.4	6.3	100.0	239.5	344.5	374.1
Housing, utilities, and public services	1.6	6.0	100.0	234.3	355.8	412.9
Financial and other services	1.5	5.9	100.0	234.8	337.0	383.7
Of which:						
Banking	1.4	5.5	100.0	218.6	317.8	370.1
Education, health, and government	1.7	6.1	100.0	236.2	346.7	367.5
Education, culture and the arts	1.8	6.1	100.0	229.3	324.4	345.5
Health care and social services	1.7	6.2	100.0	247.3	380.6	403.5
Government bodies	1.6	5.7	100.0	230.2	328.9	348.2

Source: Central Bureau of Statistics.

Table 17. Croatia: Indices of Real Net Wages and Salaries per Employee

(1993=100)

	1991	1992	1993	1994	1995	1996 I-X
Total	174.4	100.0	100.0	114.4	160.4	169.6
Goods and services	174.4	101.5	100.0	114.2	159.3	170.9
Mining and industry	162.7	103.1	100.0	111.2	154.1	163.3
Of which:						
Manufacture of metal products	127.9	98.4	100.0	101.1	139.5	141.8
Machine industry	162.7	106.3	100.0	109.8	147.7	164.8
Shipbuilding	197.6	133.3	100.0	100.9	148.8	171.9
Manufacture of electrical equipment	151.1	100.0	100.0	108.9	152.3	165.6
Finished wood products	139.5	104.7	100.0	105.0	139.5	133.6
Textile fibre and fabrics	162.7	111.1	100.0	111.9	151.2	154.0
Finished textile products	127.9	101.5	100.0	101.4	128.2	126.7
Leather footwear and accessories	116.2	103.1	100.0	96.2	124.5	124.6
Food products industry	197.6	96.8	100.0	118.1	167.7	170.1
Agriculture and fisheries	174.4	109.5	100.0	111.7	153.4	161.8
Of which:						
Fisheries	174.4	109.5	100.0	96.6	136.1	136.7
Forestry	174.4	107.9	100.0	108.9	159.8	169.7
Water management	174.4	93.6	100.0	113.2	158.8	177.4
Construction	162.7	85.7	100.0	125.5	172.6	188.2
Transport and communications	186.0	104.7	100.0	110.0	151.3	166.4
Of which:						
Railways	209.3	125.3	100.0	110.1	161.5	173.6
Ocean shipping	174.4	100.0	100.0	108.2	141.3	145.8
Road transport	186.0	114.2	100.0	116.0	160.9	171.8
Communications	209.3	96.8	100.0	105.6	145.8	170.0
Trade	209.3	115.8	100.0	122.7	177.2	186.2
Retail trade	220.9	120.6	100.0	125.1	182.0	187.9
Wholesale trade	197.6	109.5	100.0	118.3	169.6	186.7
Foreign trade	174.4	98.4	100.0	112.9	155.3	161.9
Hotels, restaurants, tourism	139.5	90.4	100.0	116.6	158.1	159.7
Crafts and trade	162.7	100.0	100.0	115.6	159.9	166.5
Housing, utilities, and public services	186.0	95.2	100.0	113.1	165.1	183.8
Financial and other services	174.4	93.6	100.0	113.3	156.4	170.8
of which						
Banking	162.7	87.3	100.0	105.5	147.5	164.7
Education, health, and government	197.6	96.8	100.0	114.0	160.9	163.6
Education, culture, and the arts	209.3	96.8	100.0	110.7	150.5	153.8
Health care and social services	197.6	98.4	100.0	119.4	176.6	179.6
Government bodies	186.0	90.4	100.0	111.1	152.6	155.0

Source : Central Bureau of Statistics.

Table 18. Croatia: Health Insurance of Workers

(Number of persons insured)

	1990	1991 1/	1992	1993	1994	1995
Total	4,394,398	4,899,083	4,608,466	4,571,955	4,591,341	4,629,280
Currently employed	1,723,059	1,839,657	1,606,984	1,573,520	1,564,494	1,588,344
Receiving retirement pensions	657,961	712,865	712,032	742,828	778,400	799,892
Unemployed persons	81,260	163,615	178,618	166,534	161,660	158,164
Other	72,736	78,481	72,266	79,356	82,710	79,629
Family members	1,859,382	2,104,465	1,847,566	1,818,717	1,813,077	1,811,602
Refugees	0	0	191,000	191,000	191,000	191,649

Source: Central Bureau of Statistics, and Croatian Health Insurance Institute.

1/ As of 1991 health insurance for agricultural workers is also included.

Table 19. Croatia: Child Care Supplements

	1990	1991	1992	1993	1994	1995	1996
Number receiving benefits	175,103	194,022	208,414	193,423	204,975	199,775	196,962
Number of children	334,804	365,469	394,034	359,529	378,434	370,150	365,202
Expenditures, (thousand kunas)	2,369	4,268	17,505	113,820	662,780	820,581	853,164
Child care supplement, (thousand kunas)	2,280	4,096	16,740	102,945	636,319	801,540	825,249

Source: Central Bureau for Statistics, and National Workers' Retirement and Disability Fund.

Table 20. Croatia: Disability and Retirement Insurance 1/

	1990	1991	1992	1993	1994	1995	1996 I-VI
				(Number of persons)			
Retirement benefits	594,839	646,140	762,072	784,364	813,382	863,551	866,126
Disabilty pensions	163,309	164,858	183,530	181,614	184,989	193,654	194,846
Old-age pensions	264,096	310,068	387,405	409,122	433,180	443,688	446,929
Survivor pensions	167,434	171,214	191,137	193,628	195,213	200,589	195,233
Former republics of former Yugoslavia					25,620	29,118	29,118
Disability compensation (for bodily injury)	89,186	94,186	95,153	100,964	104,172	104,819	104,520
Disabled workers - retraining or additional training	1,766	2,472	2,472	2,159	2,102	2,476	...
Disabled workers - unemployment benefits	3,960	6,650	7,418	11,654	13,061	14,434	...
Compensation for less than full-time employment	23,619	20,441	16,947	16,192	16,145	14,390	...
Compensation for reduced pay on new job	26,771	31,056	32,043	31,637	32,956	32,217	...
				(Expenditures, in thousands of kunas)			
Total	31,603	47,780	208,836	3,318,269	8,479,061	10,667,302	5,947,376
Disability pensions	6,860	9,558	39,383	593,397	1,245,613	1,648,754	915,942
Old-age pensions	13,545	22,317	108,681	1,756,203	3,698,375	4,412,054	2,219,835
Survivor pensions	5,793	7,984	36,132	571,993	1,208,417	1,510,676	793,682
Supplement (100 kuna)					413,087	521,767	521,767
Compensation for bodily injury	206	309	1,382	20,709	42,780	51,695	47,544
Costs and compensations associated with retraining and additional training of disabled workers	1,069	1,675	4,471	96,256	240,043	257,632	155,280
Contributions to housing construction	521	553	2,754	36,128	3,243	1,782,484	947,428
Administrative costs	818	1,059	4,933	91,481	166,327	316,078	118,876
Other	2,790	4,325	11,100	152,102	1,874,265	274,842	227,022

Source: Central Bureau of Statistics, and National Workers' Retirement and Disability Fund.

1/ From 1991 onwards, coverage is slightly broader than previously.

Table 21. Croatia: Price Developments

	Retail Prices			Producer Prices		
		Rate of Growth			Rate of Growth	
	Index Dec. 1994=100	Previous Period	Same Month Previous Year	Index Dec. 1994=100	Previous Period	Same Month Previous Year
1990		609.5			455.3	
1991		123.0			146.3	
1992		665.5			825.5	
1993		1,517.5			1,512.4	
1994		97.6			77.6	
1995		2.0			0.7	
1995						
Jan.	100.7	0.7	-2.2	99.9	-0.1	-4.3
Feb.	100.8	0.1	-0.7	100.5	0.6	0.6
Mar.	100.9	0.1	0.4	100.0	-0.5	1.7
Apr.	101.6	0.7	2.5	99.5	-0.5	1.3
May	101.8	0.2	2.8	99.6	0.1	1.3
Jun.	101.4	-0.4	2.6	99.4	-0.2	1.7
Jul.	101.4	0.0	1.9	99.5	0.1	1.2
Aug.	101.3	-0.1	1.9	99.8	0.3	0.8
Sep.	102.9	1.6	2.9	100.1	0.3	0.7
Oct.	103.4	0.5	3.5	100.6	0.5	1.3
Nov.	103.5	0.1	3.7	101.1	0.5	1.2
Dec.	103.7	0.2	3.7	101.6	0.5	1.6
1996						
Jan.	103.9	0.2	3.2	101.7	0.1	1.9
Feb.	104.4	0.5	3.6	101.7	0.0	1.3
Mar.	104.3	-0.1	3.3	100.7	-1.0	0.7
Apr.	104.0	-0.3	2.4	101.1	0.4	1.6
May	105.2	1.1	3.3	100.7	-0.4	1.2
Jun.	105.7	0.5	4.1	101.1	0.4	1.7
Jul.	106.1	0.4	4.5	101.1	0.0	1.7
Aug.	106.1	0.0	4.7	101.1	0.0	1.3
Sep.	106.2	0.1	3.1	101.2	0.1	1.1
Oct.	106.7	0.6	3.2	101.2	0.0	0.6
Nov.	107.2	0.5	3.5	102.8	1.6	1.7
Dec.	107.2	0.0	3.4	103.1	0.3	1.5

Source: Central Bureau of Statistics.

Table 22. Croatia: Retail Inflation Rates

(Average percentage change)

	1990	1991	1992	1993	1994	1995	1996
Total	609.5	123.0	665.5	1,517.5	97.6	2.0	3.5
Goods	591.6	115.5	746.8	1,502.4	95.1	0.0	2.4
Agricultural products	915.3	104.0	632.3	1,135.9	134.5	3.7	0.0
Industrial products - total	582.5	115.9	751.1	1,514.2	94.1	-0.2	2.5
Processed food products	507.7	127.7	740.7	1,442.2	93.3	0.0	4.5
Alcoholic beverages	704,6	87.8	749.7	1,593.4	108.2	4.4	7.7
Tobacco	435.6	101.9	1,050.0	1,278.2	159.1	27.2	18.2
Non-food industrial products	614.8	113.7	743.3	1,552.6	90.8	-2.2	0.2
Textile products	639.9	68.2	817.4	1,774.7	103.5	-4.2	-1.5
Fuel and light	514.1	96.4	659.9	1,807.1	87.6	-3.5	1.9
Household furnishings	567.7	74.5	771.1	1,776.3	103.8	-5.8	-3.3
Electric appliances	704.0	69.3	958.5	1,488.6	62.2	-10.6	-3.9
Medicine	483.4	404.2	374.7	2,665.1	110.5	0.6	-0.6
Services	690.1	152.5	393.5	1,604.2	110.9	11.9	8.6
Housing services	1,074.7	320.7	77.0	1,534.4	142.8	18.1	5.1
Public utilities and services	750.2	117.5	358.2	1,805.5	113.7	5.3	4.5
Transport	598.2	159.5	486.7	1,681.4	98.8	6.5	5.9
Communications	398.0	202.5	246.2	1,703.8	95.2	23.8	32.8

Source: Central Bureau of Statistics.

Table 23. Croatia: Indices of Prices

(1989=100)

	1990	1991	1992	1993	1994	1995	1996
Indices of manufacturers' prices for industrial products	555	1,368	12,654	204,033	362,363	364,899	370,008
Of which:							
Equipment and machine	543	1,303	14,069	224,526	373,386	362,185	369,428
Production materials	559	1,472	14,412	237,811	413,077	413,491	411,423
Consumer Goods	551	1,237	10,178	158,512	296,576	304,584	316,463
Indices of wholesale prices for industrial products	566	1,282	12,142	179,504	340,520	344,947	351,846
Indices of producer process for agricultural products	628	1,141	10,435	143,647	284,852	291,688	...
Hotel and restaurant services	668	1,605	14,336	233,293	450,022	466,223	550,143

Source: Central Bureau of Statistics.

Table 24. Croatia: Electro-Energy Balance Sheet

(In millions of Kwh)

	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Total supply of electro-energy	12,445	15,019	15,675	16,133	16,385	16,128	16,214	14,482	12,313	12,942	12,820	13,244
Domestic production 1/	9,109	7,627	8,149	8,733	8,690	8,109	8,693	8,414	8,894	9,359	8,273	8,862
Imported from other SFRY republics	3,259	6,388	6,265	6,486	7,376	6,726	6,231	5,627	2,811	2,391	2,455	2,548
Imported from outside SFRY	76	1,005	1,261	914	319	1,293	1,290	441	609	1,192	2,092	1,834
Total use	12,445	15,019	15,675	16,133	16,385	16,128	16,214	14,482	12,313	12,942	12,820	13,244
Industry	5,106	5,811	6,186	6,247	6,305	6,361	5,860	4,591	3,333	2,997	2,972	2,695
Agriculture	84	103	114	115	116	115	115	103	81	71	74	68
Transportation	355	410	403	410	393	382	406	217	219	229	238	240
Others	5,175	6,897	7,049	7,475	7,499	7,436	7,789	7,322	6,560	7,048	6,971	7,696
Transmission loss	1,237	1,328	1,546	1,477	1,554	1,548	1,584	1,481	1,487	1,329	1,584	1,660
Exports (including other SFRY republ	488	472	377	409	518	286	460	768	632	1,257	982	886

Source: Electricity Institute Zagreb.

1/ Including hydro- and nuclear-generated electricity.

Table 25. Croatia: Energy Balance Sheet

(In millions of tons coal equivalent)

	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Domestic sources	8.9	8.7	9.2	9.0	9.8	9.2	8.7	8.1	6.9	7.3	6.7	6.9
Coal	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Other solid fuels	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.4	0.4	0.4	0.4
Liquid fuel	4.4	4.3	4.3	3.9	4.3	4.1	3.9	3.1	2.7	2.7	2.3	2.1
Other	3.3	3.3	3.9	4.1	4.4	4.1	3.9	4.1	3.7	4.1	4.0	4.3
of which: hydro 1/	2.2	1.7	1.9	1.8	1.7	1.4	1.3	1.9	1.5	1.5	1.7	1.8
Imports	10.0	8.0	8.8	8.7	10.6	10.5	10.4	6.7	6.9	6.7	7.7	7.5
Liquid fuel	8.2	4.7	5.4	5.5	7.2	7.1	7.5	4.1	4.3	4.1	5.8	6.4
USSR/FSU	2.1	1.4	1.3	2.7	1.8	2.0	1.6	0.3	0.8	0.6	0.8	0.3
Others	6.1	3.3	4.1	2.8	5.4	5.1	5.8	3.8	3.5	3.5	5.0	6.1
Gas	0.5	0.8	0.8	0.9	0.9	0.9	0.8	0.9	0.8	0.9	0.9	0.3
USSR/FSU	0.5	0.8	0.8	0.9	0.9	0.9	0.8	0.9	0.8	0.9	0.9	0.3
Other primary energy	1.3	2.5	2.6	2.3	2.4	2.5	2.1	1.7	1.8	1.7	1.0	0.8
of which: nuclear fuel 2/	0.0	0.7	0.7	0.8	0.7	0.8	0.8	0.9	0.7	0.7	0.0	0.0
Exports	6.3	3.6	4.2	3.6	5.2	5.0	5.1	3.3	2.8	2.8	3.6	3.4
Liquid fuel	5.7	3.0	3.6	3.2	4.6	4.5	4.7	2.9	2.4	2.3	3.2	3.2
Solid fuels	0.6	0.7	0.6	0.4	0.6	0.5	0.4	0.4	0.4	0.5	0.4	0.2
Change in stocks	-0.2	-0.3	-0.7	0.3	0.0	-0.2	0.1	0.4	-0.3	-0.2	-1.0	0.1
Domestic use of primary energy	12.3	12.8	13.1	14.3	15.1	14.5	14.1	11.9	10.7	11.0	10.7	11.0
Electricity generation	3.2	3.4	3.5	3.8	3.9	3.6	3.7	3.7	3.7	3.8	2.8	2.9
Industry	4.3	4.4	4.5	4.9	5.6	5.2	4.7	3.6	2.9	2.7	2.8	2.9
Agriculture	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.6	0.3
Households	1.8	1.9	1.9	2.1	2.0	2.1	2.1	2.0	1.5	1.6	1.6	1.8
Transport	2.3	2.4	2.4	2.6	2.7	2.7	2.8	1.9	1.8	1.9	2.2	2.3
Other	0.5	0.5	0.5	0.6	0.7	0.6	0.6	0.4	0.5	0.6	0.7	0.7

Source: Electricity Institute Zagreb.

1/ Hydro=hydro-generated electricity/0.35.
2/ Nuclear fuel=nuclear generated electricity/0.336.

Table 26. Croatia: National Public Enterprises

(End of Year)

	Employment						Assets		Sales	
	1990	1991	1992	1993	1994	1995	1994	1995	1994	1995
	(In persons)						(Millions of kuna)			
HRVATSKA ELEKTROPRIVREDA (Electricity)	18,289	...	14,250	13,984	14,457	14,158	23,331	23,628	5,386	5,831
HRVATSKA VODOPRIVREDA (Water Supply)	859	...	569	426	400	401	4,952	5,332	232	276
HRVATSKE CESTE (Road Construction)	4,444	...	3,857	3,643	3,715	3,645	36,590	37,000	1,391	988
HRVATSKE ELJEZNICE (Railroads)	37,702	...	29,301	22,840	22,004	21,812	7,086	7,791	2,241	2,323
HPT (Post and telecommunications)	20,067	...	18,439	19,445	19,687	20,493	7,618	8,609	3,385	3,854
JADROLINIJA RIJEKA (Coastal navigation)	2,309	...	2,209	1,499	2,113	1,974	317	267	348	339
HRVATSKA RADIO - TELEVIZIJA (HR (Radio and TV)	3,496	...	2,846	2,752	2,719	2,928	793	851	526	711
HRVATSKE [UME (Forestry)	14,734	...	10,113	9,882	10,201	10,034	22,328	22,190	1,470	1,359
NARODNE NOVINE (Printing)	736	...	725	763	746	727	203	206	439	518
INA - INDUSTRIJA NAFTE (Oil refining and distribution)	32,585	...	18,345	18,084	17,965	17,513	20,540	21,171	10,773	9,490
Total	135,221	...	100,654	93,318	94,007	93,685	123,758	127,045	26,191	25,689

Source: State Institute for Macroeconomic Analisis and Forecasting.

Table 27. Croatia: Number of Enterprises in the Economic Sector and Number of Legal Entities Undergoing Bankruptcy

(End of Year)

	Number of Enterprises in the Economic Sector						Legal Entities Undergoing Bankruptcy					
	1991	1992	1993	1994	1995	1996 1/	1991	1992	1993	1994	1995	1996 1/
Total	32,051	54,703	83,788	117,483	135,403	139,748	339	373	397	275	348	413
Industry	4,556	6,790	9,519	12,035	13,437	13,874	176	147	131	84	112	127
Agriculture and fishing	849	1,476	2,243	2,973	3,319	3,399	13	15	17	14	20	26
Forestry	21	50	87	124	151	161	...	...	...	...	...	...
Water supply	29	32	33	33	35	35	...	...	...	...	...	...
Construction	2,076	3,562	5,519	7,635	8,943	9,472	60	63	64	45	55	57
Transport and communication	800	1,441	2,625	4,185	4,731	44,943	3	2	2	4	6	8
Trade	14,948	27,010	42,214	61,384	71,258	73,127	28	83	110	78	95	121
Restaurants and Tourism	2,076	3,072	4,376	6,026	6,828	7,102	7	12	14	9	11	17
Artisanship and personal services	1,386	2,214	3,465	4,992	5,983	6,043	23	21	24	15	18	19
Housing and urban services	785	915	1,041	1,133	1,193	1,226	4	3	2	2	3	2
Financial,engineering and business	4,525	8,150	12,666	17,000	19,615	20,366	25	27	33	24	28	35

Source: State Institute for Macroeconomic Analysis and Forecasting.

1/ October.

Table 28. Croatia: Number of Employees in Enterprises Undergoing Bankruptcy

(End of Year)

	Number of Employees in Enterprises Undergoing Bankruptcy						Number of Employees in Insolvent Enterprises					
	1991	1992	1993	1994	1995	1996 1/	1991	1992	1993	1994	1995	1996 1/
Total	87,177	69,062	59,017	33,532	43,589	46,792	189,537	164,797	158,324	188,902	194,757	160,792
Industry	73,170	53,941	44,489	24,356	30,302	32,142	135,853	80,291	86,621	95,464	103,328	81,429
Agriculture and fishing	1,139	1,182	1,588	1,408	1,972	2,212	6,532	10,266	15,433	18,273	23,692	16,368
Construction	6,590	8,306	7,361	4,184	6,791	7,172	20,964	20,375	20,338	16,598	17,886	16,199
Transport and communication	1,355	2	2	452	457	457	3,843	30,386	1,170	26,434	7,349	3,764
Trade	1,101	1,942	2,212	1,696	2,591	3,305	9,065	9,413	20,366	22,638	28,480	27,230
Restaurants and Tourism	441	454	343	143	141	141	1,868	1,273	2,910	3,110	7,687	6,768
Artisanship and personal services	1,670	1,448	1,541	494	534	579	4,348	3,371	2,910	2,010	2,019	2,366
Housing and urban services	764	368	4	...	4	0	1,621	383	81	201	285	738
Financial,engineering and business	947	1,419	1,477	799	797	784	5,443	9,039	8,479	4,171	4,006	4,897

Source: State Institute for Macroeconomic Analysis and Forecasting

1/ October.

Table 29. Croatia: Government Employment

	1991 Dec.	1992 Dec.	1993 Dec.	1994 Jul.	1994 Dec.	1995 Jul.	1995 Dec.	1996 Jul.
Central government	29,312	25,635	27,439	27,668	26,738	21,070	24,693	25,357
Budgetary central government	19,938	18,885	15,137	15,695	14,440	13,787	17,595	18,295
Administration	6,880	6,938	8,471	9,024	7,823	7,247	10,691	11,214
Legislature	723	721	852	912	817	833	1,099	1,150
Judiciary	6,047	5,725	5,814	5,759	5,800	5,707	5,805	5,931
Social Accounting Service (ZAP)	6,288	5,501	5,430	5,037	5,252	5,252	5,252	5,200 1/
National Bank of Croatia (NBC)	400	384	401	434	431	460	460	460 1/
Extrabudgetary funds	8,974	6,366	6,471	6,502	6,615	6,823	6,638	6,602
Regional and local governments	22,952	20,443	19,395	23,376	25,560	26,060	18,948	19,000
Health care	76,859	73,158	73,409	71,046	69,996	69,678	71,234	71,317
Social services	24,441	24,090	24,613	24,754	24,976	25,044	25,578	25,097
Education	66,976	64,489	67,328	67,237	65,860	65,891	67,284	66,187
Primary	39,485	38,202	39,449	39,441	38,910	38,888	39,197	38,341
Secondary	17,400	17,249	18,354	18,288	17,922	17,928	18,574	18,149
Tertiary	9,159	8,280	8,420	8,507	8,374	8,422	8,607	8,690
Other	932	758	1,105	1,001	654	653	906	1,007
Research	5,742	3,994	3,947	3,979	3,865	3,863	3,990	3,361
Culture, arts and information	20,124	17,048	16,576	16,142	16,446	16,486	16,619	17,093
Sports	1,779	1,608	1,578	1,552	1,513	1,509	1,536	1,458
Total general government	248,185	230,465	234,285	235,754	234,954	234,853	237,310	231,083
				(In percent of total employment)				
Total general government	11.6	11.7	12.2	...	12.4	...	13.0	...
Budgetary central government	0.9	1.0	0.8	...	0.8	...	1.0	...
Regional and local governments	1.1	1.0	1.0	...	1.3	...	1.0	...
Extrabudgetary funds	0.4	0.3	0.3	...	0.3	...	0.4	...
Providers of								
Health care	3.6	3.7	3.8	...	3.7	...	3.9	...
Education	3.1	3.3	3.5	...	3.5	...	3.7	...
Social services	1.1	1.2	1.3	...	1.3	...	1.4	...
Culture, arts and information	0.9	0.9	0.9	...	0.9	...	0.9	...

Source: Croatian Ministry of Finance.

1/ Estimate.

Table 30: Croatia - Budgetary Central Government Revenue

	1991	1992	1993	1994 1/	1995	1996 Budget	1996 Jan.-Nov. 2/
			(in millions of kunas)				
Revenue and grants	64	557	8,471	24,260	27,981	31,085	28,598
Revenue	64	557	8,471	24,260	27,881	31,085	28,598
Current revenue	64	547	8,371	23,906	27,287	30,147	27,552
Tax revenue	63	502	7,892	23,350	26,505	29,076	25,966
Income and profit tax	25	84	936	3,803	4,507	4,851	4,947
Property tax	0	2	63	118	142	157	150
Taxes on goods and services	33	316	5,663	15,894	17,746	19,365	17,250
Taxes on international trade	5	99	1,230	3,487	3,939	4,400	3,588
Other taxes	0	0	0	49	172	33	30
Non-tax revenue	1	45	479	556	782	1,072	1,586
Capital revenue	0	10	100	354	594	938	1,046
Grants	0	0	0	0	100	0	0
			(in percent of GDP)				
Revenue and grants	15.0	20.4	20.3	28.9	32.2	32.9	33.0
Revenue	15.0	20.4	20.3	28.9	32.1	32.9	33.0
Current revenue	15.0	20.1	20.0	28.5	31.4	31.9	31.8
Tax revenue	14.8	18.4	18.9	27.8	30.5	30.7	30.0
Income and profit tax	5.8	3.1	2.2	4.5	5.2	5.1	5.7
Property tax	0.0	0.1	0.2	0.1	0.2	0.2	0.2
Taxes on goods and services	7.8	11.6	13.5	18.9	20.4	20.5	19.9
Taxes on international trade	1.2	3.6	2.9	4.2	4.5	4.7	4.1
Other taxes	0.0	0.0	0.0	0.1	0.2	0.0	0.0
Non-tax revenue	0.2	1.6	1.1	0.7	0.9	1.1	1.8
Capital revenue	0.0	0.4	0.2	0.4	0.7	1.0	1.2
Grants	0.0	0.0	0.0	0.0	0.1	0.0	0.0
			(composition)				
Revenue and grants	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Revenue	100.0	100.0	100.0	100.0	99.6	100.0	100.0
Current revenue	100.0	98.2	98.8	98.5	97.5	97.0	96.3
Tax revenue	98.5	90.1	93.2	96.3	94.7	93.5	90.8
Income and profit tax	38.5	15.1	11.0	15.7	16.1	15.6	17.3
Property tax	0.0	0.4	0.7	0.5	0.5	0.5	0.5
Taxes on goods and services	52.1	56.8	66.9	65.5	63.4	62.3	60.3
Taxes on international trade	7.9	17.9	14.5	14.4	14.1	14.2	12.5
Other taxes	0.0	0.0	0.0	0.2	0.6	0.1	0.1
Non-tax revenue	1.5	8.1	5.7	2.3	2.8	3.4	5.5
Capital revenue	0.0	1.8	1.2	1.5	2.1	3.0	3.7
Grants	0.0	0.0	0.0	0.0	0.4	0.0	0.0

Source: Ministry of Finance.

1/ Includes the Road Fund.

2/ GDP shares are at an annual rate.

Table 31. Croatia: Budgetary Central Government Expenditure and Net Lending

	1991	1992	1993	1994 1/	1995	1996	
						Budget	Jan.-Nov. 2/
			(In millions of Croatian kuna)				
Expenditure and net lending	83	564	8,403	23,719	28,696	33,268	28,437
Expenditure	83	564	8,403	23,403	28,476	31,972	27,881
Current expenditure	80	520	7,742	21,194	25,495	26,392	23,939
Expenditure on goods and services	62	396	6,111	17,145	20,735	19,891	18,217
Wages and salaries	21	98	1,941	6,589	8,394	8,468	7,673
Employer contributions	4	24	484	1,383	1,716	2,003	1,845
Other goods and services	37	273	3,686	9,173	10,625	9,420	8,700
Interest payments	0	21	212	1,305	1,392	1,451	1,162
Domestic	0	21	207	1,132	911	1,015	928
External	0	0	5	173	481	435	234
Subsidies and other current transfers	17	103	1,419	2,744	3,369	5,050	4,560
Capital expenditure	3	44	661	2,210	2,980	5,580	4,052
Lending minus repayments	0	0	0	316	221	1,297	446
			(In percent of GDP)				
Expenditure and net lending	19.6	20.7	20.1	28.3	33.0	35.2	32.8
Expenditure	19.6	20.7	20.1	27.9	32.8	33.8	32.2
Current expenditure	18.8	19.1	18.5	25.3	29.4	27.9	27.6
Expenditure on goods and services	14.6	14.5	14.6	20.4	23.9	21.0	21.0
Wages and salaries	4.9	3.6	4.6	7.9	9.7	9.0	8.9
Employer contributions	1.0	0.9	1.2	1.6	2.0	2.1	2.1
Other goods and services	8.7	10.0	8.8	10.9	12.2	10.0	10.0
Interest payments	0.1	0.8	0.5	1.6	1.6	1.5	1.3
Domestic	0.1	0.8	0.5	1.3	1.0	1.1	1.1
External	0.0	0.0	0.0	0.2	0.6	0.5	0.3
Subsidies and other current transfers	4.1	3.8	3.4	3.3	3.9	5.3	5.3
Capital expenditure	0.8	1.6	1.6	2.6	3.4	5.9	4.7
Lending minus repayments	0.0	0.0	0.0	0.4	0.3	1.4	0.5
			(Composition)				
Expenditure and net lending	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Expenditure	100.0	100.0	100.0	98.7	99.2	96.1	98.0
Current expenditure	96.0	92.1	92.1	89.4	88.8	79.3	84.2
Expenditure on goods and services	74.7	70.1	72.7	72.3	72.3	59.8	64.1
Wages and salaries	24.8	17.4	23.1	27.8	29.2	25.5	27.0
Employer contributions	5.4	4.3	5.8	5.8	6.0	6.0	6.5
Other goods and services	44.5	48.4	43.9	38.7	37.0	28.3	30.6
Interest payments	0.5	3.7	2.5	5.5	4.9	4.4	4.1
Domestic	0.5	3.7	2.5	4.8	3.2	3.1	3.3
External	0.0	0.0	0.1	0.7	1.7	1.3	0.8
Subsidies and other current transfers	20.9	18.3	16.9	11.6	11.7	15.2	16.0
Capital expenditure	4.0	7.9	7.9	9.3	10.4	16.8	14.2
Lending minus repayments	0.0	0.0	0.0	1.3	0.8	3.9	1.6

Source: Ministry of Finance.

1/ Includes the Road Fund.
2/ GDP shares are at an annual rate.

Table 32. Croatia: Budgetary Central Government Expenditure by Function

	1991	1992	1993	1994	1995	1996	
						Budget 1/	January - September
				(In millions of Croatian kuna)			
Expenditure by function	83	565	8,403	22,283	28,476	31,622	15,267
General public services	3	21	395	1,675	1,911	2,072	824
Defense affairs and services	22	196	3,259	7,650	9,911	7,760	5,027
Public Order and safety	15	65	998	2,841	3,351	3,827	1,662
Education	15	60	824	2,865	3,278	3,696	1,712
Health affairs and services	1	3	8	57	78	216	28
Social security and welfare	8	66	856	2,547	3,186	4,357	2,166
Culture	2	7	126	309	430	436	178
Housing	0	10	76	463	1,343	2,459	772
Agriculture, forestry and fisheries	2	43	495	653	512	556	278
Mining and mineral resources	0	0	74	192	255	463	173
Transportation and communication	7	37	578	1,499	2,232	3,408	1,508
Other	7	58	715	1,532	1,988	2,372	938
				(In percent of GDP) 2/			
Expenditure by function	19.6	20.7	20.1	26.5	31.7	32.0	15.5
General public services	0.8	0.8	0.9	2.0	2.1	2.1	0.8
Defense affairs and services	5.1	7.2	7.8	9.1	11.0	7.9	5.1
Public order and safety	3.6	2.4	2.4	3.4	3.7	3.9	1.7
Education	3.6	2.2	2.0	3.4	3.6	3.7	1.7
Health affairs and services	0.3	0.1	0.0	0.1	0.1	0.2	0.0
Social security and welfare	2.0	2.4	2.0	3.0	3.5	4.4	2.2
Culture	0.4	0.3	0.3	0.4	0.5	0.4	0.2
Housing	0.0	0.4	0.2	0.6	1.5	2.5	0.8
Agriculture, forestry and fisheries	0.5	1.6	1.2	0.8	0.6	0.6	0.3
Mining and mineral resources	0.0	0.0	0.2	0.2	0.3	0.5	0.2
Transportation and communication	1.7	1.3	1.4	1.8	2.5	3.4	1.5
Other	1.7	2.1	1.7	1.8	2.2	2.4	0.9
				(Composition)			
Expenditure by function	100.0	100.0	100.0	100.0	100.0	100.0	100.0
General public services	4.2	3.8	4.7	7.5	6.7	6.6	5.4
Defense affairs and services	26.0	34.7	38.8	34.3	34.8	24.5	32.9
Public Order and safety	18.2	11.4	11.9	12.8	11.8	12.1	10.9
Education	18.2	10.6	9.8	12.9	11.5	11.7	11.2
Health affairs and services	1.5	0.5	0.1	0.3	0.3	0.7	0.2
Social security and welfare	10.1	11.7	10.2	11.4	11.2	13.8	14.2
Culture	1.9	1.3	1.5	1.4	1.5	1.4	1.2
Housing	0.2	1.8	0.9	2.1	4.7	7.8	5.1
Agriculture, forestry and fisheries	2.3	7.5	5.9	2.9	1.8	1.8	1.8
Mining and mineral resources	0.0	0.0	0.9	0.9	0.9	1.5	1.1
Transportation and communication	8.8	6.5	6.9	6.7	7.8	10.8	9.9
Other	8.7	10.2	8.5	6.9	7.0	7.5	6.1

Source: Ministry of Finance.

1/ Includes the Road Fund.

2/ GDP shares for January-September 1996 are at an annual rate.

Table 33. Croatia: Consolidated Fiscal Accounts

	1991	1992	1993	1994	1995	1996 Budget	1996 Jan-Sep.
	(In millions of Croatian kuna)						
Central government 1/ 2/							
Revenues and grants	64	557	8,471	24,260	27,981	31,085	23505
Expenditures plus net lending 2/	70	500	7,482	22,112	26,189	29,451	20658
Balance	-6	57	989	2,148	1,791	1,634	2,846
Extrabudgetary funds 1/ 3/							
Revenues and grants	75	315	4,849	12,622	15,302	16,176	12580
Expenditures plus net lending	90	477	6,163	13,529	17,976	20,180	15534
Balance	-15	-162	-1,314	-907	-2,674	-4,004	-2,954
Consolidated central government							
Revenues and grants	139	872	13,320	36,882	43,283	47,262	36,084
Expenditures plus net lending	160	977	13,645	35,642	44,165	49,631	36,192
Balance	-21	-105	-326	1,241	-883	-2,369	-108
	(In percent of GDP)						
Central government							
Revenues and grants	15.0	20.4	20.3	28.9	32.2	32.9	33.1
Expenditures plus net lending 2/	16.5	18.3	17.9	26.4	30.2	31.1	29.1
Balance	-1.5	2.1	2.4	2.6	2.1	1.7	4.0
Extrabudgetary funds 3/							
Revenues and grants	17.6	11.6	11.6	15.0	17.6	17.1	17.7
Expenditures plus net lending	21.1	17.5	14.7	16.1	20.7	21.3	21.9
Balance	-3.4	-5.9	-3.1	-1.1	-3.1	-4.2	-4.2
Consolidated central government							
Revenues and grants	32.6	32.0	31.9	44.0	49.8	50.0	50.9
Expenditures plus net lending	37.5	35.8	32.6	42.5	50.8	52.5	51.0
Balance	-4.9	-3.8	-0.8	1.5	-1.0	-2.5	-0.2

Sources: Ministry of Finance; and staff estimates.

1/ Revenues and expenditures adjusted for inter-governmental transfers.

2/ Includes since 1994 the Croatian Roads fund.

3/ Composed of the Pension fund, Health fund, Employment fund, Child Benefits fund and, since 1994, the Water Management fund. Does not include the Privatization fund.

Table 34: Croatia: Monetary Survey

(End of period, millions of kuna)

	1993	1994	1995				1996			
	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Oct.
ASSETS										
1. Foreign assets (net)	240	3,009	2,879	4,011	4,782	4,750	5,353	6,942	9,563	9,596
2. Domestic credit	40,364	43,832	43,104	43,107	45,423	49,297	50,742	50,711	51,537	52,375
2.1. Claims on central government and funds (net)	19,069	15,625	15,441	15,038	15,162	15,156	15,169	13,731	13,450	13,468
2.2. Claims on other domestic sectors	21,269	28,115	27,551	27,950	30,137	34,010	35,437	36,826	37,920	38,730
2.3. Claims on other banking institutions	10	30	35	35	21	31	37	35	33	33
2.4. Claims on nonbank financial institutions	16	62	77	85	103	101	98	119	134	144
Total (1+2)	40,604	46,840	45,983	47,119	50,205	54,047	56,095	57,653	61,100	61,971
LIABILITIES										
1. Money	3,139	6,641	6,829	7,749	8,364	8,275	8,601	9,397	10,326	10,612
2. Savings and time deposits	1,476	1,873	1,865	1,851	2,134	2,043	2,304	2,522	2,991	3,145
3. Foreign currency deposits	5,412	8,775	8,977	9,991	12,179	14,099	16,499	17,337	19,813	20,506
4. Bonds and money market instruments	48	199	95	108	154	124	137	166	107	98
5. Restricted and blocked deposits	15,594	13,322	12,946	12,719	12,481	11,921	11,233	10,709	9,988	9,741
o/w: Households' blocked f/c deposits	13,857	11,471	11,061	10,798	10,477	9,812	9,219	8,704	7,940	7,580
6. Other items (net)	14,934	16,031	15,271	14,702	14,894	17,584	17,321	17,523	17,874	17,870
Total (1+2+3+4+5+6)	40,604	46,840	45,983	47,119	50,205	54,047	56,095	57,653	61,100	61,971

Source: National Bank of Croatia.

Table 35: Croatia: Monetary Authorities Balance Sheet

(End of period, millions of kuna)

	1993	1994	1995				1996			
	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Oct.
ASSETS										
Foreign assets	4,044	7,908	7,672	9,208	10,215	10,075	10,319	10,989	12,452	12,457
1.1. Gold	...	...	...	...	...	...	...	...	...	...
of which:										
Holdings of SDRs	24	25	28	518	770	743	753	720	703	690
Foreign cash in vaults	608	88	82	252	383	384	385	195	114	114
Demand deposits with foreign banks	7	1	8	5	7	12	4	3	2	1
Time deposits with foreign banks	3,403	7,794	7,554	8,433	8,997	8,381	8,593	9,314	11,040	11,061
Securities in f/c	...	...	...	...	56	555	585	757	592	592
Nonconvertible foreign exchange	0	0	0	0	0	0	0	0	0	0
Claims on central government and funds	535	251	192	119	109	390	586	352	275	261
Claims in Kuna	384	180	131	70	60	353	548	328	251	249
Bridging loans	...	...	...	...	45	...	200	...	...	...
Loans under separate decrees	377	180	125	70	15	353	348	300	251	249
Overdue claims	7	...	6	...	...	0	0	28	0	...
Claims in f/c	151	70	61	49	49	37	38	25	24	12
Claims on other domestic sectors	0	1	3	2	1	1	3	3	2	2
Claims on DMBs	192	224	173	205	91	220	137	123	3	60
Credits to DMBs	182	222	171	40	88	123	135	120	0	57
Refinancing of DMBs	140	...	...	...	...	...	...	...	...	...
Short...term credits against securities portfolio	...	...	...	...	27	26	...	...	...	...
Lombard credits	6	24	171	30	61	97	134	120	...	57
Other credits	36	0	0	10	0	0	0	0	0	0
NBC bills under repurchase agreement	...	197	...	...	...	...	...	...	...	...
NBC deposits with DMBs	1	1	1	1	1	1	1	1	1	1
Overdue claims	9	1	1	163	1	96	1	1	1	1
Claims on other banking institutions	...	...	...	...	...	...	...	...	...	...
Total Assets	4,771	8,383	8,039	9,534	10,416	10,686	11,045	11,466	12,731	12,780
LIABILITIES										
Reserve money	2,249	4,714	4,544	5,558	6,437	6,744	6,676	7,125	7,882	7,963
Currency outside banks	1,367	2,658	2,556	2,983	3,212	3,365	3,275	3,577	3,919	3,946
DMBs' cash in vaults	52	134	120	126	132	131	113	111	137	145
DMBs' deposits	821	1,901	1,855	2,422	3,059	3,199	3,239	3,393	3,775	3,826
Giro accounts	55	116	48	98	59	181	182	270	445	619
Statutory reserves	767	1,785	1,807	2,055	2,320	2,202	2,255	2,459	2,955	3,113
NBC bills on obligatory basis	...	...	...	270	680	816	802	664	375	93
Deposits of other banking institutions	0	6	8	15	22	46	48	44	51	46
Deposits of other domestic sectors	8	15	5	12	12	3	0	0	0	0
Restricted and blocked deposits	1	40	130	155	172	212	216	230	227	242
Restricted deposits	1	40	27	40	45	54	53	58	66	81
Escrow deposits	...	...	103	115	127	158	163	172	161	161
Foreign liabilities	152	716	672	1,188	1,189	1,175	1,193	1,161	1,149	1,135
Use of IMF credit	151	715	671	1,187	1,188	1,174	1,191	1,159	1,148	1,133
Liabilities to international organizations	0	1	1	1	1	1	2	2	2	2
Central government and funds deposits	0	794	629	705	328	396	580	613	547	518
Demand deposits	0	794	629	705	328	396	580	613	547	518
Central government demand deposits	...	725	511	524	277	339	423	510	454	428
Central government funds demand deposits	0	68	117	181	52	57	156	103	93	90
4.2. Central government f/c deposits	...	...	...	...	...	...	...	...	...	0
NBC bills	21	375	407	252	309	168	346	512	1,116	1,138
Capital accounts	2,366	2,066	1,652	1,664	1,969	2,019	2,073	1,831	1,819	1,807
Other items (net)	19	322	6	12	12	28	38	6	9	23
Total Liabilities	4,771	8,383	8,039	9,534	10,416	10,686	11,045	11,466	12,731	12,780

Source: National Bank of Croatia.

Table 36: Croatia: Deposit Money Banks' Accounts

(End of period, millions of kuna)

	1993	1994	1995				1996			
	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Oct.
ASSETS										
1. Reserves	866	2,036	1,981	2,494	3,206	3,304	3,367	3,513	3,927	3,985
2. Foreign assets	8,596	9,117	8,833	9,208	9,471	11,185	12,194	13,459	14,561	14,509
o/w: Claims on former Yugoslavia	3,353	2,425	2,354	2,319	2,403	2,337	2,257	2,193	2,017	2,017
3. Claims on central governments and funds	19,972	17,838	17,537	17,444	17,326	17,187	16,928	15,654	15,507	15,501
3.1. Bonds arising from blocked f/c deposits	14,837	11,437	11,043	10,853	10,486	10,078	9,539	8,477	7,858	7,832
3.2. Big bonds	3,635	4,972	5,103	5,064	5,000	5,061	4,878	4,656	4,053	4,047
3.3. Other claims	1,500	1,429	1,391	1,527	1,839	2,048	2,511	2,520	3,596	3,622
4. Claims on other domestic sectors	21,269	28,114	27,548	27,948	30,135	34,009	35,434	36,823	37,918	38,728
4.1. Claims on local governments and funds	11	113	122	131	161	147	150	139	139	138
4.2. Claims on enterprises	19,355	24,626	23,899	23,980	25,712	29,350	30,436	31,544	32,228	32,788
4.3. Claims on households	1,902	3,375	3,527	3,837	4,262	4,513	4,848	5,139	5,551	5,802
5. Claims on other banking institutions	10	30	35	35	21	31	37	35	33	33
6. Claims on nonbank financial instituions	16	62	77	85	103	101	98	119	134	144
Total Assets	50,729	57,197	56,012	57,213	60,262	65,816	68,058	69,603	72,080	72,900
LIABILITIES										
1. Deposit money	1,764	3,961	4,261	4,739	5,118	4,861	5,277	5,776	6,357	6,620
2. Savings and time deposits	1,476	1,873	1,865	1,851	2,134	2,043	2,304	2,522	2,991	3,145
3. Foreign currency deposits	5,412	8,775	8,977	9,991	12,179	14,099	16,499	17,337	19,813	20,506
4. Bonds and money market instruments	48	199	95	108	154	124	137	166	107	98
5. Foreign liabilities	12,248	13,301	12,953	13,216	13,714	15,335	15,966	16,346	16,300	16,236
o/w: Liabilities to former Yugoslavia	8,356	6,942	6,746	6,790	6,871	6,896	6,958	6,730	6,635	6,585
6. Central government and funds' deposits	1,438	1,669	1,660	1,821	1,945	2,026	1,765	1,661	1,785	1,775
7. Credit from central bank	275	224	183	138	90	183	137	122	29	59
8. Restricted and blocked deposits	15,593	13,281	12,919	12,678	12,435	11,866	11,179	10,648	9,920	9,657
o/w: Households' blocked f/c deposits	13,857	11,471	11,061	10,798	10,477	9,812	9,219	8,704	7,940	7,580
9. Capital accounts	11,756	14,185	14,168	13,404	13,413	16,228	15,782	16,308	16,737	16,321
10. Other items (net)	718	-272	-1,068	-732	-919	-950	-987	-1,284	-1,959	-1,517
Total Liabilities	50,729	57,197	56,012	57,213	60,262	65,816	68,058	69,603	72,080	72,900

Source: National Bank of Croatia.

Table 37: Croatia: Interest Rates of the National Bank of Croatia

(In Percentage, On Yearly Basis)

Year	Month	Deposit Rates					Credit rates			
		Interest rates on statutory reserves with the NBC 1/	Interest rates on NBC bills on obligatory basis	Interest rates on NBC bills on voluntary basis 2/			NBC Discount Rate	On Lombard Credits	Reserve Shortfall Credits	On arrears
				7 days	35 days	91 days				
1994	January	...	...	26.8	66.9	66.7	14.0	18.9	200.4	127.8
	February	...	...	28.3	41.1	71.5	14.0	18.9	127.8	51.1
	March	6.0	...	24.0	24.8	25.0	11.0	14.5	71.0	47.1
	April	6.0	...	17.5	18.7	15.0	11.0	14.5	40.0	30.0
	May	5.2	...	17.9	19.4	...	9.5	12.5	34.5	30.0
	June	5.2	...	15.2	20.0	22.0	9.5	12.5	34.5	30.0
	July	5.2	...	11.0	14.0	16.8	8.5	14.0	23.0	22.0
	August	5.2	...	11.0	14.0	17.0	8.5	14.0	23.0	22.0
	September	5.2	...	11.1	14.1	17.0	8.5	14.0	23.0	22.0
	October	5.2	...	11.1	13.7	17.0	8.5	14.0	17.0	22.0
	November	5.2	...	9.0	11.0	14.0	8.5	14.0	17.0	22.0
	December	5.2	...	9.0	12.0	14.0	8.5	18.0	17.0	22.0
1995	January	5.2	...	9.0	12.0	14.0	8.5	18.0	17.0	22.0
	February	5.2	...	9.5	12.5	14.8	8.5	18.0	17.0	22.0
	March	5.2	...	9.0	16.1	17.3	8.5	18.0	17.0	22.0
	April	5.2	...	9.0	15.9	17.5	8.5	18.0	17.0	22.0
	May	5.5	16.5	9.0	15.8	17.5	8.5	18.0	17.0	22.0
	June	5.5	16.5	9.0	18.0	19.3	8.5	18.9	17.0	22.0
	July	5.5	16.5	9.0	19.0	19.5	8.5	19.7	17.0	22.0
	August	5.5	16.5	10.0	19.2	24.0	8.5	20.5	17.0	22.0
	September	5.5	16.5	12.0	22.0	24.0	8.5	22.3	17.0	22.0
	October	5.5	16.5	12.0	22.9	26.0	8.5	24.4	17.0	22.0
	November	5.5	16.5	12.0	24.4	27.0	8.5	24.9	17.0	22.0
	December	5.5	16.5	12.0	25.5	27.0	8.5	25.5	17.0	22.0
1996	January	5.5	16.5	12.0	26.0	...	8.5	25.7	17.0	22.0
	February	5.5	16.5	12.0	26.0	27.5	8.5	27.3	17.0	22.0
	March	5.5	16.5	12.0	26.0	27.5	8.5	27.7	17.0	22.0
	April	5.5	16.5	12.0	26.0	28.0	8.5	28.1	17.0	22.0
	May	5.5	16.5	12.0	25.1	26.5	8.5	28.3	17.0	24.0
	June	5.5	16.5	...	21.5	22.8	8.5	27.1	17.0	24.0
	July	5.5	16.5	...	16.5	17.6	8.5	20.9	17.0	24.0
	August	5.5	12.0	...	9.1	10.8	6.5	19.6	17.0	24.0
	September	5.5	...	...	8.0	9.5	6.5	13.0	17.0	18.0
	October	5.5	...	...	8.0	9.5	6.5	11.0	17.0	18.0

Source: National Bank of Croatia.

1/ From December 1992 through October 7, A291993 data present weighted averages of monthly interest rates on statutory reserves deposited with the NBC.

2/ Since November 1993 table shows weighted averages of monthly interest rates from auctions of NBC bills.

Table 38: Croatia: Deposit Money Bank Interest Rates - Domestic Currency Rates

Year	Month	Interest rates on deposits in Kuna			Interest rates on credits in Kuna		
		Total average	On demand deposits	On time and savings deposits	Total average	On short-term credits	On long-term credits
1994	January	16.1	7.7	38.3	55.9	56.3	24.2
	February	14.4	7.6	32.9	53.6	53.9	26.5
	March	8.0	5.7	14.3	23.3	23.9	15.0
	April	4.9	3.2	9.8	17.7	17.7	15.1
	May	3.8	2.8	7.7	16.5	16.5	11.5
	June	3.8	2.7	7.6	16.2	16.2	11.7
	July	4.2	2.8	7.6	16.1	16.2	12.6
	August	3.9	2.9	7.5	14.9	15.0	12.7
	September	4.3	3.0	8.6	15.2	15.2	12.6
	October	4.9	3.5	9.1	15.5	15.5	12.9
	November	5.0	3.6	9.0	15.7	15.7	13.8
	December	5.0	3.6	9.7	15.4	15.4	13.8
1995	January	5.1	3.6	9.2	16.0	16.1	13.6
	February	5.5	3.8	10.1	16.1	16.2	14.4
	March	5.3	3.8	10.3	16.7	16.8	13.3
	April	5.3	3.8	10.5	17.6	17.7	14.6
	May	5.3	3.8	10.7	18.7	18.8	15.3
	June	5.4	3.9	11.2	22.6	22.8	15.2
	July	5.2	3.8	10.6	21.9	22.6	10.1
	August	5.3	3.7	11.3	22.0	22.6	11.9
	September	5.9	4.1	12.4	21.7	21.8	16.9
	October	5.8	4.2	11.2	23.5	23.6	17.4
	November	6.2	3.9	14.1	24.2	24.4	17.2
	December	6.1	3.9	13.7	22.3	22.6	13.5
1996	January	6.4	4.0	14.8	26.4	26.6	16.2
	February	6.6	4.0	15.2	25.8	26.0	14.9
	March	6.4	3.9	14.9	24.9	25.2	16.4
	April	6.5	3.9	15.1	25.6	25.8	15.9
	May	6.4	3.9	14.9	25.1	25.2	17.3
	June	5.8	3.6	13.8	23.6	24.0	13.2
	July	5.9	3.5	14.1	22.8	23.1	16.5
	August	5.5	3.1	13.4	20.8	20.9	17.9
	September	4.7	2.7	10.7	18.7	19.1	10.8
	October	4.5	2.6	10.2	18.0	18.5	10.8

Source: National Bank of Croatia.

Table 39: Croatia: Deposit Money Banks Interest Rates - Foreign Currency Rates

Year	Month	Interest rates on deposits in foreign currency			Interest rates on credits in foreign currency		
		Total average	On demand deposits	On time and savings deposits	Total average	On short-term credits	On long-term credits
1995	January	...	...	...	...	...	...
	February	...	...	...	...	...	...
	March	...	...	...	...	...	...
	April	...	...	...	...	...	...
	May	...	...	...	...	...	...
	June	...	...	...	...	...	...
	July	4.5	3.3	6.2	17.3	17.1	17.9
	August	5.2	3.9	6.9	33.8	35.2	17.3
	September	4.6	3.1	6.6	16.6	16.6	13.7
	October	3.7	1.7	5.9	8.4	8.3	13.1
	November	4.6	2.9	6.7	16.8	16.9	14.0
	December	4.6	2.8	6.8	15.7	16.6	12.3
1996	January	4.6	3.0	6.7	17.7	18.0	14.9
	February	4.7	2.8	7.0	17.7	17.8	15.0
	March	4.7	2.9	6.8	17.6	18.7	14.3
	April	4.7	2.8	6.8	16.1	19.1	13.5
	May	4.4	2.8	6.2	14.1	14.6	12.9
	June	4.1	1.7	6.4	14.3	15.8	10.9
	July	4.0	1.5	6.3	15.1	17.6	10.8
	August	4.2	1.9	6.2	15.7	20.7	10.9
	September	4.5	1.5	7.0	19.6	20.9	10.7
	October	4.8	1.4	7.5	21.0	22.1	9.8

Source: National Bank of Croatia.

Table 40. Croatia: Balance of Payments, 1993-1996
(In millions of U.S. Dollars)

	1993	1994	1995	1996 Est.
Merchandise trade balance	-763	-969	-2877	-3277
Exports (f.o.b.)	3904	4260	4633	4511
(in percent change)	(-15.1)	(9.1)	(8.7)	(-2.6)
Imports (c.i.f.)	-4666	-5229	-7510	-7788
(in percent change)	(4.6)	(12.1)	(43.6)	(3.7)
Services and transfers	867	1072	1165	2013
Transportation	179	120	60	118
Tourism	533	875	813	1313
Other services	-80	-257	-260	-186
Interest income (scheduled, net) 1/	-141	-124	-94	-50
Government transfers	250	235	280	222
Private transfers	126	224	366	596
Current account balance	104	104	-1712	-1263
Capital account	42	220	491	1054
Foreign direct investment	74	98	81	287
Medium and long term loans	-192	-137	-137	310
Disbursements	154	184	315	722
Amortization scheduled 1/	-345	-321	-452	-413
Net non-loan claims	44	242	50	409
Bank net non-loan claims	-211	-190	-467	-706
Other sectors net non-loan claims	255	431	517	1115
Net short-term lending 2/	116	17	497	49
Errors and omissions 3/	76	102	1300	595
Overall balance	222	425	78	386
Gross reserves (US$m) (- = increase)	-449	-789	-490	-418
Arrears (+ = increase)	251	258	315	-1405
Exceptional financing	-24	106	98	1436
Memorandum items:				
Current account as percent of GDP	0.9	0.7	-10.3	-7.2
Gross reserves (US$m)	616	1405	1895	2313
Reserves in months of imports of goods and nonfinancial services	1.1	1.7	2.3	2.6

Sources: Croatian authorities and staff estimates.

1/ Does not include debt that was excluded from London Club agreement, and claims on international reserves of the former SFRY.
2/ Includes deposits by non-residents, mainly international organizations.
3/ Includes trade credits under 3 months, unreported foreign interest income, workers remittances and repatriation of savings in kind.
4/ Excludes short-term trade related debt.

Table 41. Croatia: Merchandise Exports and Imports, 1993-96

(In millions of U.S. dollars)

Month	Overall		World except Former Yugoslav Republics		Former Yugoslav Republics	
	Exports	Imports	Exports	Imports	Exports	Imports
1993	3,904	4,666	2,938	3,894	966	773
January	185	162	130	119	55	43
February	353	646	261	514	92	132
March	240	362	170	300	70	63
April	542	439	389	380	154	59
May	390	538	305	477	86	61
June	277	353	218	299	59	54
July	330	273	263	240	68	33
August	356	254	278	209	77	44
September	257	569	193	482	65	86
October	364	417	256	326	108	90
November	301	282	236	245	65	37
December	307	374	240	303	68	71
1994	4,260	5,229	3,292	4,657	968	572
January	135	137	102	110	33	27
February	232	315	190	290	42	25
March	260	278	211	245	50	33
April	267	409	204	370	64	39
May	244	292	180	256	64	36
June	420	421	340	383	80	38
July	520	520	436	468	84	52
August	332	481	249	429	83	52
September	512	432	357	386	155	46
October	386	544	290	473	96	71
November	564	777	438	685	126	92
December	387	626	296	564	91	62
1995	4,633	7,510	3,571	6,658	1,061	850
January	370	505	303	447	67	58
February	366	554	284	487	82	67
March	430	676	338	599	92	77
April	290	619	218	550	72	69
May	468	679	381	605	87	74
June	441	679	346	602	95	77
July	352	787	282	717	70	70
August	270	503	174	444	96	59
September	555	615	427	533	128	82
October	329	605	236	532	93	73
November	427	702	330	616	97	86
December	335	584	252	526	83	58
1996	4,512	7,788	3,293	6,922	1,219	866
January	390	527	305	472	85	55
February	292	502	212	447	80	55
March	401	633	298	557	103	76
April	353	668	255	599	98	69
May	433	637	313	562	120	75
June	294	588	204	517	90	71
July	414	732	304	646	110	86
August	369	588	261	519	108	69
September	275	587	197	508	78	79
October	332	699	243	618	89	81
November	458	857	352	775	106	82
December	501	771	349	703	152	68

Source: Central Bureau of Statistics

Table 42. Croatia: Composition of Exports (SITC)

(In millions of U.S. dollars)

	Total					
	1991	1992 1/	1993	1994	1995	1996
Total	3,292	4,597	3,904	4,232	4,633	4,512
Food products	246	459	367	369	395	411
Live animals	43	56	22	5	6	7
Meat and meat products	55	90	49	60	50	47
Fish and fish products	28	54	49	50	45	49
Grain and grain products	26	65	74	64	75	64
Fruit and vegetables	43	46	40	40	42	40
Coffee, tea, cocoa and spices	4	32	25	1	34	31
Livestock feed	7	21	10	21	15	15
Other food products	40	94	98	128	128	158
Beverages and tobacco	24	112	101	67	90	92
Raw materials, excluding fuels	171	286	237	214	251	247
Oil seeds, for planting and consumption	7	3	1	2	4	2
Raw rubber	0	0	0	0	0	0
Wood, framing lumber and cork	117	167	168	144	161	166
Textile fibers and waste material	6	56	6	6	7	3
Raw fertilizers and minerals	4	11	12	13	13	13
Metal ores and scrap	8	14	10	20	22	20
Other raw materials	29	35	40	29	44	43
Mineral fuels and lubricants	223	397	377	386	391	416
Petroleum and petroleum products	172	340	322	344	366	371
Gas, natural and industrial	9	17	18	16	22	28
Other fuels and lubricants	42	39	37	26	3	17
Animal and vegetable oil and fats	1	6	4	7	9	10
Chemical products	399	597	564	543	814	643
Organic chemicals	40	40	61	43	53	44
Paints, material for tanning and dyeing	27	22	16	14	18	23
Medical and pharmaceutical products	68	127	100	133	137	139
Synthetic fuels	82	123	77	86	112	118
Plastic, cellulose resins	93	165	145	177	361	209
Other chemical products	89	119	166	90	133	110
Products classified according to constituent material	477	820	526	654	670	594
Rubber products	11	44	11	13	9	9
Paper, cardboard and products thereof	43	95	80	98	107	62
Textile yarns, textiles and the like	74	95	95	129	124	110
Non-metal mineral products	63	125	102	126	126	135
Raw iron and steel	108	124	66	69	59	48
Non-ferrous metals	74	195	41	50	73	65
Other metal products	104	142	131	168	172	165
Machines and transport equipment	770	849	552	732	778	964
Special machines for specific industries	109	49	32	47	45	51
Metal-working tools	43	22	17	15	28	24
General-purpose industrial machines	37	43	39	42	52	54
Electrical machines, devices and tools	76	162	143	172	211	219
Other machines and transport equipment	505	572	321	456	442	616
Miscellaneous ready-made products	971	1,044	1,169	1,257	1233	1133
Household furnishings	128	109	148	138	151	120
Clothing	585	553	644	629	673	633
Footwear	152	186	225	279	234	235
Scientific and monitoring instruments	6	17	13	17	28	22
Other ready-made products	100	179	139	194	147	123
Miscellaneous transactions and goods	10	28	7	3	2	2

Source: Central Bureau of Statistics.

1/ Starting with 1992 data include trade with the countries of the former Yugoslavia.

Table 43. Croatia: Composition of Imports (SITC)

(In millions of U.S. dollars)

	Total					
	1991	1992 1/	1993	1994	1995	1996
Total	3,828	4,461	4,666	5,229	7,510	7,788
Food products	375	468	357	498	780	767
Live animals	31	68	69	18	27	46
Meat and meat products	42	104	61	76	114	98
Fish and fish products	13	12	13	19	23	28
Grain and grain products	14	22	19	39	45	57
Fruit and vegetables	121	79	92	131	222	194
Coffee, tea, cocoa and spices	58	30	24	52	98	89
Livestock feed	44	36	41	34	38	53
Other food products	53	117	38	129	213	202
Beverages and tobacco	22	52	37	62	66	58
Raw materials, excluding fuels	199	263	176	151	198	220
Oil seeds, for planting and consumption	11	14	7	12	13	14
Raw rubber	9	6	4	4	8	6
Wood, framing lumber and cork	5	15	16	19	27	52
Textile fibers and waste material	42	92	36	28	32	30
Raw fertilizers and minerals	45	65	45	38	51	56
Metal ores and scrap	47	32	31	7	3	7
Other raw materials	40	39	36	43	64	55
Mineral fuels and lubricants	667	430	461	589	871	857
Petroleum and petroleum products	499	321	302	436	736	707
Gas, natural and industrial	80	66	103	95	34	107
Other fuels and lubricants	88	43	56	58	101	43
Animal and vegetable oil and fats	10	23	15	12	25	38
Chemical products	515	672	575	541	810	848
Organic chemicals	125	114	102	81	114	118
Paints, material for tanning and dyeing	45	61	47	46	68	71
Medical and pharmaceutical products	55	106	98	99	177	188
Synthetic fuels	23	38	24	15	22	20
Plastic, cellulose resins	92	72	58	70	77	73
Other chemical products	174	281	246	230	352	378
Products classified according to constituent material	347	808	804	801	1304	1384
Rubber products	15	48	45	53	86	88
Paper, cardboard and products thereof	46	136	166	134	236	249
Textile yarns, textiles and the like	89	155	148	149	210	203
Non-metal mineral products	36	70	75	77	124	142
Raw iron and steel	60	152	159	142	243	257
Non-ferrous metals	23	78	64	81	137	133
Other metal products	77	170	147	165	268	312
Machines and transport equipment	840	726	1,123	1,367	2009	2129
Special machines for specific industries	97	117	147	176	281	318
Metal-working tools	14	13	24	24	28	31
General-purpose industrial machines	156	157	169	217	330	370
Electrical machines, devices and tools	98	145	159	241	376	399
Other machines and transport equipment	475	294	625	709	994	1011
Miscellaneous ready-made products	551	715	780	776	1013	1117
Household furnishings	11	31	32	54	93	92
Clothing	170	175	173	231	271	286
Footwear	144	286	358	202	214	240
Scientific and monitoring instruments	78	53	58	79	113	132
Other ready-made products	147	169	159	210	322	367
Miscellaneous transactions and goods	302	304	339	431	433	370

Source: Central Bureau of Statistics.

1/ Starting with 1992 data include trade with the countries of the former Yugoslavia.

Table 44. Croatia: Exports by Destination

(In millions of U.S. dollars)

	1991	1992 1/	1993	1994	1995	1996
Total	3,292	4,597	3,904	4260	4633	4512
Developed countries	2,474	2,588	2,419	2729	2862	2478
EU countries	2,162	2,415	2,245	2531	2672	2303
Austria	97	105	130	149	200	198
Belgium	28	32	29	38	43	41
Denmark	9	7	7	10	7	4
France	66	58	133	111	110	84
Italy	715	909	828	910	1098	949
Netherlands	126	98	92	94	80	69
Germany	968	773	895	941	997	839
Sweden	44	339	25	164	14	13
Great Britain	57	56	73	68	57	70
Other	177	38	33	46	65	35
EFTA countries	104	61	45	65	59	41
Norway	58	23	3	4	5	3
Switzerland	42	36	40	60	52	37
Other	4	2	2	1	2	1
Other developed countries	207	113	129	133	131	135
Australia	7	5	6	5	6	4
Japan	1	3	1	1	1	2
Canada	9	5	5	5	7	8
U.S.A.	120	69	82	88	83	89
Turkey	10	11	20	14	5	13
Other	60	20	15	20	30	19
Developing countries	818	2,008	1,484	1531	1770	2034
Countries of former Yugoslavia	...	1,470	966	967	1061	1219
Bosnia...Herzegovina	...	192	189	338	383	549
FYR of Macedonia	...	87	63	73	70	59
Slovenia	...	1,101	712	556	608	611
Other and unclassified	...	90	2	...	...	0
Countries of the former USSR	247	155	173	176	185	172
Other developing European countries	146	112	158	192	229	191
Czech and Slovak Republics	51	32	11	...	...	...
Czech Republic	...	...	13	34	36	40
Hungary	36	42	54	68	71	55
Poland	44	32	37	45	49	56
Slovakia	...	...	8	16	21	22
Other	15	6	35	29	52	17
Developing Middle East countries	21	10	19	14	39	64
Developing Asian countries	114	137	59	28	60	54
Developing countries of North Africa	63	30	22	22	33	39
Developing other African countries	191	60	55	71	115	270
Developing countries in the Americas	35	34	33	61	48	24
Developing countries of Oceania	0	0	0	0	0	0

Source: Central Bureau of Statistics.

1/ Starting with 1992 data include trade with countries of the former Yugoslavia.

Table 45. Croatia: Imports by Origin

(In millions of U.S. dollars)

	1991	1992 1/	1993	1994	1995	1996
Total	3,828	4,461	4,666	5,229	7,510	7,788
Developed countries	2,571	2,392	2,952	3,525	5,300	5,262
EU countries	2,145	2,118	2,630	3,096	4,664	4,625
Austria	177	190	311	353	575	597
Belgium	42	50	47	55	85	100
Denmark	29	31	16	31	51	48
France	99	72	97	116	188	199
Italy	623	761	882	994	1,366	1,421
Netherlands	115	89	92	115	174	176
Germany	833	768	991	1,110	1,509	1,602
Sweden	46	53	60	81	148	117
Great Britain	111	65	90	179	455	225
Other	70	39	44	62	113	139
EFTA countries	101	77	86	112	219	179
Norway	11	7	5	8	44	27
Switzerland	87	67	79	101	169	144
Other	3	3	2	3	6	8
Other developed countries	326	196	235	317	417	457
Australia	8	9	5	5	9	17
Japan	111	32	42	54	80	104
Canada	8	4	10	19	12	17
U.S.A.	148	106	124	172	201	213
Turkey	21	15	9	16	28	27
Other	30	30	45	50	88	79
Developing countries	1,257	2,058	1,714	1,705	2,210	2,526
						866
Countries of former Yugoslavia	...	1,031	773	572	850	63
Bosnia...Herzegovina	...	81	14	4	8	34
FYR of Macedonia	...	56	46	27	36	769
Slovenia	...	874	712	541	805	769
Other and unclassified	...	21	1	...	...	...
Countries of the former USSR	252	231	261	254	224	253
Other developing European countries	332	378	235	210	473	571
Czech and Slovak Republic	202	215	52	...	...	...
Czech Republic	...	...	42	92	147	207
Hungary	80	103	78	100	158	193
Poland	25	32	25	38	45	50
Slovakia	...	...	24	53	78	84
Other	25	28	14	27	45	38
Developing 'Middle East countries	18	9	3	16	44	106
Developing Asian countries	233	256	284	364	213	301
Developing countries of North Africa	233	74	64	91	236	269
Developing other African countries	42	27	37	15	24	17
Developing countries in the Americas	145	61	57	81	145	143
Developing countries of Oceania	0	0	0	0	0	0

Source: Central Bureau of Statistics

1/ Starting with 1992 data include trade with countries of the former Yugoslavia.

Table 46. Croatia: Exchange Rates and International Reserves

		HrK/US$ 1/		HrK/100DM 1/		Real Effective Exchange Rate (Jan. 1992=100) 2/	Foreign Exchange Reserves (NBC) (In millions of U.S. dollars)
		e.o.p	p.a.	e.o.p	p.a.		
1994	January	6.54	6.60	377.51	378.85	144.5	624.9
	February	6.18	6.44	359.52	371.03	144.8	673.2
	March	6.14	6.17	366.11	364.28	146.5	716.1
	April	6.14	6.23	369.41	367.25	141.7	777.0
	May	6.12	6.16	371.65	371.38	143.2	795.2
	June	5.87	6.07	371.76	371.73	139.8	866.1
	July	5.89	5.83	369.43	370.10	140.7	970.0
	August	5.85	5.77	369.68	369.37	140.7	1 082.1
	September	5.73	5.74	369.52	369.31	140.8	1 160.3
	October	5.49	5.60	366.52	368.12	140.8	1 393.9
	November	5.70	5.61	364.48	365.10	141.4	1 369.2
	December	5.63	5.72	363.21	363.95	142.0	1 405.0
1995	January	5.50	5.56	363.02	362.97	143.0	1 445.2
	February	5.29	5.46	362.88	363.05	143.1	1 477.4
	March	5.00	5.11	362.96	362.90	146.0	1 535.2
	April	4.95	5.01	359.53	362.64	147.2	1 641.7
	May	4.99	5.06	359.84	359.63	147.2	1 721.7
	June	5.04	5.05	360.80	359.95	145.5	1 826.1
	July	5.01	5.01	361.52	360.84	144.8	1 911.5
	August	5.36	5.23	363.41	362.69	142.2	1 863.1
	September	5.26	5.40	370.75	369.16	141.8	1 943.8
	October	5.25	5.26	372.03	372.02	142.9	1 897.4
	November	5.34	5.26	371.66	372.11	142.7	1 892.0
	December	5.32	5.35	370.59	371.17	143.1	1 895.2
1996	January	5.51	5.40	370.83	370.51	143.3	1 845.2
	February	5.37	5.43	369.06	370.13	143.3	1 883.6
	March	5.46	5.46	369.96	369.58	142.8	1 890.8
	April	5.57	5.54	365.52	368.82	141.4	1 876.3
	May	5.58	5.57	360.85	363.57	144.5	1 919.2
	June	5.44	5.48	357.55	359.09	145.1	2 019.1
	July	5.26	5.36	355.73	356.13	146.3	2 216.3
	August	5.26	5.26	355.11	354.68	147.1	2 331.1
	September	5.43	5.35	356.24	355.63	146.9	2 295.1
	October	5.39	5.45	356.58	356.28	146.8	2,312.5
	November	5.47	5.38	356.18	356.49	146.8	2,292.5
	December	5.54	5.52	356.22	356.02	146.1	2,076.6

Source: National Bank of Croatia.

1/ Croatia introduced a new currency, the Croatian kuna, on May 30, 1994, at the rate of one kuna per 1,000 Croatian dinars. Exchange rates prior to May 1994 are foreign currency units per 1,000 Croatian dinars.
2/ Real effective exchange rates are calculated relative to seven currencies using retail or consumer prices. An increase in the rate denotes a real appreciation.

Table 47. Croatia: External Debt Stock and Principal Repayments, 1993-2001 1/

(In millions of U.S. dollars)

	Debt Stock			Scheduled Payments 2/					
	12/31/93	12/31/94	12/31/95	1996	1997	1998	1999	2000	2001
Total	3039	3349	3758	600	799	413	295	346	327
Medium and long term debt 3/	2984	3265	3499	444	483	413	295	346	327
Short term debt	55	84	259	156	317	0	0	0	0
Official Creditors	1636	1917	2005	212	213	262	184	177	161
International Organizations	320	404	519	45	35	65	79	82	82
IMF	21	126	223	4	2	9	32	31	37
IBRD	89	71	86	13	11	14	15	13	10
EUROFIMA	60	48	39	10	1	14	3	9	8
IFC	2	2	0	0	0	0	0	0	0
EIB	139	146	144	9	10	11	12	13	14
EFR	10	10	10	6	2	2	1	0	0
EBRD	n.a.	n.a.	17	3	9	17	16	16	13
Governments (Paris Club) 4/	1317	1513	1487	167	178	197	105	95	79
Private creditors	1348	1382	1527	232	270	151	111	169	166
Of which: commercial banks, nonguaranteed	136	109	190	66	159	70	56	27	7
Of which: suppliers credits, nonguaranteed	105	163	247	73	77	57	31	17	10
Short-term external debt	55	50	225	156	317	0	0	0	0
Commercial banks	11	16	136	116	259	0	0	0	0
Suppliers	44	35	89	40	58	0	0	0	0
Memorandum items:									
Interest arrears	152	365	425	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Scheduled interest payments 2/	n.a.	n.a.	n.a.	141	251	211	192	180	160

Source: National Bank of Croatia; and staff estimates.

1/ Debt stock data for 1993-1995 have been adjusted to reflect the shares in unallocated principal debt to the Paris Club and the London Club creditors that have been recognized by Croatia.

2/ Scheduled payments as of end-October 1996.

3/ Excludes estimates of interest arrears, includes IMF.

4/ Includes post-cutoff commercial credits (signed after December 2, 1982) guaranteed by Government agencies.