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Republic of Estonia: Selected Issues and Statistical Appendix

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REPUBLIC OF ESTONIA

Selected Issues and Statistical Appendix

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Approved by European II Department

June 8, 1999

Contents Page

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[1]Mr. Taube coordinated this report. Ms. Chen (Research Assistant) and Ms. Galantin (Research Officer) helped in its preparation. Helpful comments were received from Mr. Bernard Brunet of the European Commission on drafts of Chapter V.

Page

Text Boxes

Text Tables

Figures

Statistical Appendix Tables

Statistical Appendix Tables

I. INTRODUCTION

1. This paper[2] seeks to address in greater depth several of the issues raised in the recently issued staff report.

- Estonia has been among the leaders on structural reforms among transition countries, and Chapter II surveys the progress made since independence.

- There have been dramatic changes in the banking system since Estonia gained independence in 1991. Chapter III takes stock of these developments and describes how the number of banks in Estonia has been reduced through a series of bankruptcies and mergers from 41 in 1992 to 5 by end 1998. This chapter also explores nonbank financial sector developments.

- Estonia has been saving fiscal surpluses and much of recent privatization revenues in the Stabilization Reserve Fund (SRF) abroad. It is considering using the accumulated balances in this fund to finance the systemic pension reform. Chapter IV surveys the experiences of other countries with fiscal reserves held abroad.

- The authorities are eager to join the European Union (EU) as quickly as possible. Estonia, together with several other transition countries, is in the next group of countries expected to join the EU. Chapter V describes the progress made by Estonia toward EU accession and explores the likely macroeconomic consequences.

- The year 1998 saw a strong and largely unexpected decline in economic growth. As even preliminary national income account data became available only with a substantial lag, policy makers need to rely on other indicators for taking the pulse of the economy. Chapter VI describes a composite index of coincidence indicators and tests how well it has tracked recent developments.

2. Finally, this paper updates a number of statistical tables, released earlier in IMF Staff Country Report No. 98/12 (February 1998).

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[2]Recent economic developments and near-term prospects are described in the staff report on the 1999 Article IV discussions, which is expected to be made public as Estonia is participating in the pilot project on the voluntary release of such reports.

II. Successful Transition: First and Second Generation Structural Reforms[3]

A. Introduction and Overview

3. Since regaining independence in mid-1991, Estonia has moved swiftly and comprehensively in most areas of structural reform to expedite the transition to a market economy. In several policy areas reforms had been initiated earlier. For example, the first commercial banks were established already in 1988–89, and the central bank, the Bank of Estonia (BoE), was founded in December 1989. The lifting of price controls began in 1989. The law on economic autonomy for the three Baltic states, passed by the Soviet Union's supreme court, became effective January 1, 1990. By now, Estonia is generally considered one of the most advanced transition economies in Central and Eastern Europe (CEE). It has a large share of the private sector in the economy, estimated at 70 percent (Table 1), and is consistently ranked favorably in indicators measuring progress in transition.[4] Estonia also achieves high marks in indicators that measure openness, economic freedom, and governance.[5]

4. Strong structural reforms have supported macroeconomic stabilization: inflation was reduced to single-digits by end-1998, and GDP grew by 11 percent in 1997 and 4 percent in 1998, despite the crisis in Russia and other external shocks. Based on its strong performance, Estonia has been included, as the only BRO country, among the first group of candidates for EU accession.[6]

5. During the first years of the transition (approximately 1991–94), the main focus of structural reforms was on (i) completing the liberalization of prices, wages, and interest rates; (ii) fully liberalizing the exchange system and external trade; (iii) reforming tax policy and administration; (iv) privatizing state owned enterprises and promoting private sector development; (v) establishing the legal framework required for the functioning of a market economy; and (vi) restituting property or compensating the previous owners of real estate. During 1992–93, bank restructuring and rescue operations also featured prominently in the

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[3]Prepared by Günther Taube.

[4]See, for example, the EBRD's transition reports (EBRD 1997, 1998).

[5]For example, Estonia was ranked most favorably among all transition countries in Transparency International's 1998 Corruption Perception Index (rank 25 out of a total of 85 countries). See http://www.transparency.de. Similarly, in the most recent U.S. Heritage Foundation/Wall Street Journal's Economic Freedom Index Estonia was the best performing transition country (rank 18 out of 156 countries surveyed). See http://www.heritage.org.

[6]The other Central and East European countries are the Czech Republic, Hungary, Poland, and Slovenia. For further details on EU accession see Chapter V.

Table 1. Estonia: Transition Indicators, 1993-98

	1993	1994	1995	1996	1997	1998
Privatization and Enterprise Reform						
Share of private sector in GDP	...	55	65	70	70	...
Share of privatized small scale enterprises	80	99	99	100	100	100
Share of privatized medium- and large-scale enterprises	11	55	80	90	95	98
Share of privatization proceeds in GDP	2.5	6.8	3.8	1.3	2.6	0.4
Share of foreign direct investment in GDP	9.4	9.3	5.6	2.5	2.8	11.3
Share of private housing in total housing stock	...	15	40	80	95	...
Share of private land in total arable land	--	--	1	11	14	20
Banking Sector Reform 1/						
Percentage of bad loans in total loans	7.1	3.6	3.1	2.4	1.2	1.4
Ratio of broad money to GDP	28.1	26.6	25.4	27.0	30.5	26.0
Ratio of lending to deposit rate	2.0	2.1	2.2	2.6	1.5	1.9
Money multiplier	1.6	1.8	2.0	2.3	2.3	2.4
Capital adequacy ratio 2/	...	13.4	13.3	12.1	13.4	16.9
Number of banks (excluding branches of foreign banks)	22	21	15	14	11	5
Foreign exchange deposits as a percentage of total deposits	7.6	18.2	17.2	15.5	20.5	20.9
Fiscal Reform						
Share of general government revenue in GDP 3/	38.5	41.3	39.9	39.0	39.6	39.5
Tax arrears in percent of GDP	...	...	...	...	1.5	1.5
Share of general government expenditure in GDP 4/	39.1	40.0	41.1	40.6	37.7	39.6
Share of general government employment in total employment 5/	19.0	18.5	20.1	22.1	21.3	21.5
Trade and Exchange Liberalization						
Share of merchandise exports and imports in GDP	105	130	123	106	114	118
Ratio of non-BRO to BRO trade	63	57	36	35	28	22
Average effective import tariff rate	Estonia has no external tariffs.					
Social Safety Net						
Poverty ratio (in percent) 6/	...	...	...	...	12.8	12.3
Social transfers in percent of GDP 7/	2.9	3.2	3.6	3.2	2.9	2.9
Number of benefit recipients in percent of total population 8/	...	15.7	15.9	16.2	16.3	16.1
Education						
Enrollment ratios (in percent of relevant age group)						
Primary school	96	95	96	96	97	97
Secondary school	80	84	85	87	87	88
Teacher per student ratio 9/	1:14	1:14	1:13	1:13	1:13	1:13
Share of education expenditures in GDP	3.1	3.5	3.5	3.5	3.3	3.3
Health						
Share of health expenditures in GDP	...	...	...	4.9	4.6	4.9
Life expectancy at birth, in years						
Female	74	73	74	75	76	...
Male	62	61	62	64	65	...
Infant mortality rates, per 1000 live births (under 1 year of age)	15.8	14.5	14.8	10.4	10.1	9.3

Sources: Estonian authorities, World Bank, UNDP, and Fund staff estimates.

1/ End-year data.
2/ Minimum requirement for individual banks: 10 percent.
3/ Excludes privatization proceeds.
4/ Includes net lending and changes in the balances of the Environment and Forestry Funds.
5/ In 1998, staff estimate based on official data for the first three quarters.
6/ Official estimates.
7/ Including transfers from the central government to local governments, and family and unemployment benefits. Excluding pensions.
8/ Including recipients of family and unemployment benefits, excluding pensioners.
9/ For primary and secondary full-time schools.

economic reform program. Brisk progress was made in all of these areas during this **"first transition phase,"** with the exception of real estate privatization and restitution where progress has remained limited even to date.

6. Over the past three to four years—**"the second transition phase"**—structural reforms have specifically focussed on (i) completing the privatization of the few remaining large commercial enterprises and embarking upon the (partial) divestiture of public utilities and the major transport and telecommunications parastatals; (ii) accelerating the real estate restitution and privatization process; (iii) improving public expenditure management and reforming public administration; (iv) reforming the pension system; and (v) strengthening prudential requirements, banking supervision, and financial sector legislation.

B. Trade and Exchange Liberalization

7. Estonia established early on a very liberal and open external sector policy framework which has contributed importantly to macroeconomic stabilization and strong economic growth. In mid-1992, the currency (Estonian kroon, EEK) became fully convertible for current and capital transactions within the context of a **currency board arrangement**.[7] The exchange rate peg (EEK 8 to DM 1) has remained unchanged since 1992, and as of January 1, 1999 the Estonian kroon is de facto pegged to the euro. Although CPI-based calculations[8] show that Estonia's real exchange rate has appreciated substantially vis-à-vis most trading partner currencies—as has been the general experience of transition economies—exports have remained highly competitive, mainly as a result of increases in labor productivity linked to foreign direct investment.

8. Estonia's foreign trade regime is highly liberal—there are neither external tariffs nor quantitative restrictions. However, EU membership will eventually require that Estonia adopt the import regime of the Union.[9] Imports are subject to the same indirect taxation as domestic production (VAT, excises, state fees). Estonia has completed the negotiation for accession to the WTO and is expected to become a member in 1999.

9. Estonia's policy toward **capital movements** has been equally liberal. There are no restrictions on capital transactions. Foreign investors receive equal, but not preferential, tax treatment and there are no restrictions on foreign shareholdings in Estonian companies.

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[7]Estonia accepted the obligations of Article VIII of the IMF's Articles of Agreement in August 1994.

[8]Much of the CPI increase in recent years reflects adjustments in the prices of nontraded goods, especially utility tariffs and telecommunication charges.

[9]For a discussion of trade, foreign investment, and aspects of EU accession see Chapter V.

However, there is a provision that at least half of the members of a company's supervisory board must be Estonian residents (though not necessarily nationals). The acquisition of land by foreigners is subject to certain restrictions, including that county governments have to authorize the sale of land. Certain licensing requirements exist, but apply equally to foreign and domestic companies.

C. Privatization and Private Sector Development

10. Privatization of state-owned enterprises was largely completed by mid-1996. During the first three to four years of the transition, virtually all small enterprises were sold, and the divestiture of medium and large scale enterprises was largely undertaken during the period 1993–96. Many of the larger enterprises were fully or partially sold to foreign strategic investors with the primary objectives of fostering structural change, promoting competition, and boosting productivity (Box 1). Since 1996, privatization has increasingly focussed on the divestiture of state-owned utilities, transport, and telecommunications enterprises. Progress in this area has generally been slower than anticipated, as has been the case in other transition countries. However, the sale of a 24 percent stake of the national telecommunications enterprise (Eesti Telekom) through an IPO was successfully completed in February 1999, netting about US$200 million (equivalent to almost 4 percent of projected 1999 GDP) in privatization proceeds.[10]

11. In parallel with privatization, Estonia has vigorously promoted private sector development. The authorities have endeavored to establish a hospitable environment for foreign investment through a very liberal foreign exchange and trade regime, legal and institutional reforms,[11] a simple tax system, and nondiscrimination in terms of licensing (see below). According to EBRD estimates, during the six-year period through 1997 about 15,000 new private enterprises were established. Moreover, Estonia was among those transition countries that had the highest share (50 percent) of "de novo" enterprises in GDP (Johnson et al. 1997).[12] Newly formed private enterprises were able to absorb a significant share of labor shed by privatized enterprises, especially in the Tallinn region. New enterprises have also

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[10]The government retained a 27 percent stake, while two strategic investors from Scandinavia own a combined 49 percent.

[11]Including the early adoption of a Commercial Code and a Bankruptcy Law. According to the results of an extensive survey, Estonia was among the most advanced transition countries in terms of legal reforms. See EBRD (1997). Stern (1998) provides a summary of private sector development in Estonia and the two other Baltic countries.

[12]See also Havrylyshyn and McGettigan (1998) who emphasize the importance of these enterprises for achieving efficiency gains and growth.

contributed importantly to the speedy recovery of the Estonian economy and the remarkable export growth performance, particularly in terms of manufacturing.

Box 1: Large-Scale Privatization

At independence, Estonia had about 450 large state-owned enterprises. A trial privatization of 7 of these companies was conducted in 1991–92 and, following an intensive but relatively short debate on privatization methodologies, the Law on Privatization became effective in mid-1992. The law required that all sales of enterprises proceed on the basis of tenders with the objective of selling enterprises as quickly as possible against cash and finding effective new owners. Privatization of enterprises during the first years of the transition was undertaken with the help of the German Treuhand. Maximization of privatization proceeds was only of secondary priority (IMF 1996). Nevertheless, privatization revenues were sizable, peaking at EEK 2 billion or 6.8 percent of GDP in 1994 (Table 2). After settling debt obligations and tax arrears that were accepted by the successful bidders, 45–50 percent of the remaining proceeds were transferred to the Compensation Fund to cover its liabilities (bonds that were issued in exchange for privatization vouchers), while the remainder was used to compensate previous owners of real estate.

In late 1992, the Estonian Privatization Office was established and the first international tender for 38 large enterprises was undertaken. The second international tender for 52 state-owned companies was announced in May 1993, followed by the third tender for 40 more enterprises in the fall of 1993. In October 1993, a tender for 25 agricultural enterprises was announced but it was restricted to Estonian investors. The Privatization Law was updated in mid-1993, clarifying the rules for selling large enterprises. At the same time, the State Property Department was merged with the Privatization Office into the Estonian Privatization Agency (EPA).

Estonia's method of privatizing commercial enterprises through direct sales to strategic investors is generally considered as having been a success. By mid-1996, about 430 large state-owned enterprises had been privatized.

Sources: IMF (1996), Stern (1998), http://www.eea.ee

12. At independence, the government committed itself to restitute or compensate all owners of **real estate** in Estonia prior to 1940 (including their descendants). By early 1993, slightly more than 200,000 restitution claims had been filed. Also, compensation vouchers for property were issued, and in 1993 voucher registries were established. In late 1994, the government also began to set up a land cadastre system. However, processing restitution claims and privatizing land was much slower than originally anticipated; at end-1998, about 30 percent of all land was owned by the private sector. Some restrictions on the sale of land continue to exist, but the government is in the process of revising land legislation to make it conform with EU requirements. The limited progress in land privatization has hampered structural change in the agricultural sector, where almost half of all agricultural land is still cultivated by largely unrestructured farms. Only about 20 percent of all agricultural land is privately owned. However, the contribution of agriculture to GDP has declined steadily to less than 4 percent of GDP (Table 20), so that these problems are more a sectoral problem than an economy-wide issue.

Table 2. Estonia: Privatization Revenue of the Estonian Privatization Agency, 1993–98

	1993	1994	1995	1996	1997	1998
	(In millions of kroons)					
Total	549	2,030	1,555	704	1,712	326
Revenue	353	1,329	937	474	1,295	318
Obligations assumed by buyers 1/	196	700	618	230	416	8
	(In percent of GDP)					
Total	2.5	6.8	3.8	1.3	2.7	0.4
Revenue	1.6	4.5	2.3	0.9	2.0	0.4
Obligations assumed by buyers 1/	0.9	2.4	1.5	0.4	0.6	--
Memorandum item:						
Nominal GDP (in millions of kroons)	21,610	29,645	40,705	52,446	64,324	73,213

Source: Estonian Privatization Agency

1/ Including debt obligations and tax arrears.

D. Banking Sector Reform and Financial Deepening

13. Estonia began to shift toward a two-tier banking system already in December 1988 when the first commercial bank, Tartu Commercial Bank, was established while the central banking functions were carried out by the local branch of Gosbank. In 1991, the latter was merged with the Bank of Estonia (BoE), which had been set up by a decree of the Supreme Council in December 1989. The BoE became the central bank for independent Estonia. Also in 1991, interest rates were freed.

14. Initially, the BoE followed a relatively liberal policy in granting licenses to new commercial banks because it was thought that a large number of banks would create greater competition and provide necessary support to the emerging private sector. However, after a banking crisis in 1992–93, the BoE started to strengthen banking supervision, reviewed its licensing procedures and as a result increased the minimum capital requirements for new banks. Also, bank privatization accelerated.[13] Since then, the banking sector has experienced several waves of bank closures and mergers. The number of banks fell from 41 in 1992 to 5 at end-1998. In mid-1998, foreign investors bought major stakes in the 2 largest banks. At the same time, the state has gradually divested its ownership in the banking sector with the share

[13]For details on bank privatization see IMF (1996) and Chapter III.

of the state in total assets declining from 60 percent in 1992 to about 10–12 percent at end-1998. By March 1999, all but 1 of the 25 Basle Core Principles had been adopted.[14]

Monetary and financial indicators

15. The ratio of broad money to GDP gradually increased from 28 percent in 1993 to 30 percent in 1997, indicating some financial deepening. However, the ratio declined somewhat in 1998. Estonia's ratio has been significantly higher than in all other BRO countries, but lower compared with Central and East European countries. The average risk-weighted capital adequacy ratio stood at 17 percent at end-1998 against a BoE requirement of 10 percent.[15] The ratio of nonperforming loans in the banking sector remained low (1.4 percent of total loans at end-1998). This may reflect, to some degree, underestimation[16] but also the requirement that banks write off all loans that are overdue for more than 150 days.

E. Fiscal Reforms

16. Estonia undertook sweeping **tax policy** reforms during 1991–94 and was successful in establishing a simple and efficient tax system. During that period, the VAT rate was raised from 10 percent to 18 percent, the corporate profit tax rates were consolidated into a single rate (initially 35 percent, later reduced to the current 26 percent), a flat personal income tax rate (26 percent) was introduced, excise taxes were newly introduced or raised, a land tax was introduced, and a medical insurance tax (13 percent) was introduced in addition to the existing social insurance tax (20 percent).

17. **Tax administration** was strengthened substantially during the early transition years by (i) moving from a tax-based structure toward a functional organization (i.e., assessment, collection, enforcement); (ii) extending self-assessment; (iii) simplifying tax returns; (iv) moving towards more selective auditing; and (v) introducing taxpayer identification numbers and computerization. As a result of these reforms, revenue performance improved sharply and quickly. The tax revenue to GDP ratio rose by 7 percentage points to 39 percent

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[14]The exception relates to the introduction of country and transfer risk components into the capital adequacy ratio.

[15]The capital adequacy ratio was raised from 8 to 10 percent in October 1997.

[16]Prior to July 1998, banks were allowed to use their individual classification procedures for loans although these had to be approved by the BoE. From July 1998, the central bank introduced new regulations requiring all banks to classify their loans into six categories defined by the BoE. All banks were required to implement this new loan classification system by end-1998.

in 1993 and has stayed at about that level since then. Tax arrears stagnated in nominal terms during the period 1993–95 and have remained at a relatively low level in recent years, at about 1.5 percent of GDP (Table 1).

18. Progress in reforming **public administration** has been mixed. Some headway in terms of streamlining central government administration was made in 1996–97 when the functions of nine key ministries were reviewed and the share of government spending in GDP declined (Tables 1 and 30). However, the share of general government spending in GDP rose again to almost 40 percent in 1998, and is likely to increase further in 1999. Public sector employment as a share of total employment has remained largely unchanged in recent years (Tables 1 and 35). Public expenditure management has improved significantly following the preparation of three-year, rolling Public Investment Programs (PIP) fr om 1994 onwards, and the inception of the Treasury in 1996.[17] By contrast, progress in the budget preparation and presentation has been slow. For example, a new systemic budget law has not yet become effective and the coverage of general government data remains incomplete.[18]

19. In 1993–94, the government embarked upon a major **fiscal decentralization** reform. Important expenditure assignments were devolved to the local community level (e.g., education, road construction and maintenance), and a revenue-sharing arrangement for the personal income tax was introduced. A the same time, local governments were allowed to generate their own revenues, for example through the land tax. These reforms, however, brought about new challenges for fiscal management, largely because local government increasingly began to borrow domestically and abroad. In 1996 and early 1997, the Estonian authorities therefore introduced a rules-based system to reign in such type of borrowing, including the "golden rule" which restricts borrowing to the financing of investment projects. There are also quantitative limits on the total stock of outstanding local government foreign borrowing and debt service. Local governments need a "no-objection letter" from the Ministry of Finance if they want to borrow domestically or abroad.[19]

20. Upon independence, Estonia was faced with the challenge of reforming the inherited Soviet-type **pension system** in a market-conform way, while at the same time avoiding that many of its pensioners would fall into a poverty trap. Like most other transition countries (see Cangiano et al. 1998), Estonia first opted for a gradual approach in pension reform by

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[17]Initially, the preparation of PIPs was supported by the World Bank.

[18]For example, the operations of some extrabudgetary funds and foreign grant financed expenditures have not yet been included in the consolidated general government accounts. However, monthly consolidated general government data are available on the Ministry of Finance's website with a one-month lag (http://www.fin.fin.ee/English).

[19]The city of Tallinn is the only local government entity that has borrowed abroad. For a detailed analysis of intergovernmental fiscal relations in Estonia see IMF (1998).

reforming the Pay-As-You-Go (PAYG) system in a piecemeal fashion (e.g., raising the statutory retirement age). Although Estonia's problems as regards the worsening of the dependency ratio and the financial unsustainablity of the PAYG system appear less pressing than in other transition countries (Box 2), the authorities have acknowledged the need for further changes and embarked upon a systemic medium-term reform of the pension system.

Box 2: Estonia's Pension System—Salient Features and Problems

• Estonia has a relatively large number of pensioners due to population aging, relatively low retirement ages, and generous early retirement provisions. As other transition countries, Estonia used the pension system as a safety net during the early transition years as many employees of privatized or restructured enterprises benefitted from generous early retirement regulations.

• The Estonian pension system's dependency ratio worsened considerably in 1993 and 1994 and increased slightly further until 1997 (Table 3, Figure 1). Estonia's ratio has been similar to those of Latvia and Lithuania, but lower than those of the Ukraine, Russia, and most Central and Eastern European countries (see IMF 1998c).

• As many other transition countries, Estonia has a large number of disability pensioners. Their share in the total number of pensioners has been rising (to about 16 percent in 1998), which is high compared to an EU average of about 10 percent. However, the share is low compared to that of Poland (35 percent) and some other CEE countries.

• While Estonia's contribution rate (20 percent) is higher than the EU average, it is lower than the rates in most other transition countries (Poland has the highest rate at 45 percent).

• The replacement rate (i.e., the ratio of average public pension to average net wage) fell from 42–43 percent in 1993–94 to below 40 percent during 1994–95 and 1997–98, but is expected to rise above 40 percent in 1999 due to a 24 percent increase in the average pension that became effective at the beginning of this year. The real value of the average pension has thus been relatively well protected, but real incomes of pensioners have tended to rise less than real wages (Figure 1). In sharp contrast to other transition countries (e.g., Russia, Kazakhstan), pensions have always been paid on time in Estonia.

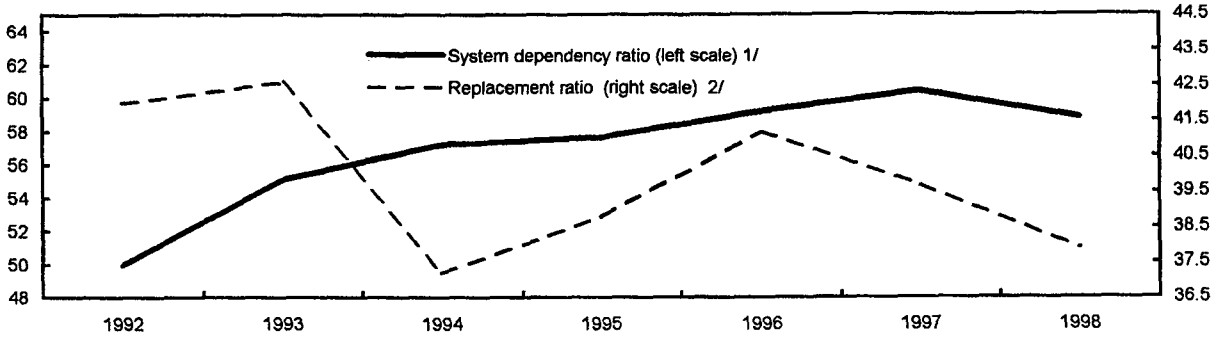
• Estonia appears to have one of the most efficient pension systems among the BRO countries as evidenced by the relatively small difference between statutory and effective contribution rates (de Castello Branco 1998). (Social) tax evasion and informal sector activities are a lesser problem than in other BRO countries.

• Under the PAYG system there was, until recently, no link between contributions and benefits.

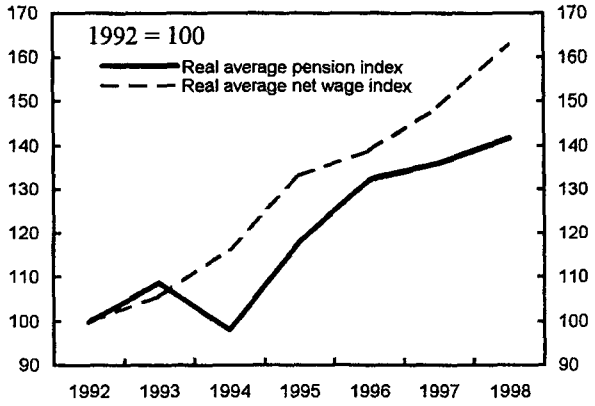
• Until mid-1998, the Estonian Social Insurance Fund (SIF) remained financially sound, in spite of the substantial increase in the system's dependency ratio and significant increases in pensions. Estonia did not allow pension expenditures to go out of hand during the initial transition period, thereby avoiding the fate of other CEE countries (Fox 1995). Pension outlays remained below 8 percent of GDP throughout the period 1993–98. In Poland, for example, pension outlays were substantially higher and rose over time (to 14 percent of GDP in 1998, respectively). However, the financial position of the Estonian pension fund has recently become more precarious. First, in mid-1998, it lost almost one-fifth of the surpluses accumulated earlier due to the closure of two banks (Table 4). Second, a deteriorating social tax revenue performance due to the slowdown in the economy in combination with the 24 percent increase in average pensions that became effective at the beginning of this year have resulted in a sizable deficit in the SIF in early 1999.

Figure 1. Estonia: Pension Indicators, 1992 - 1998

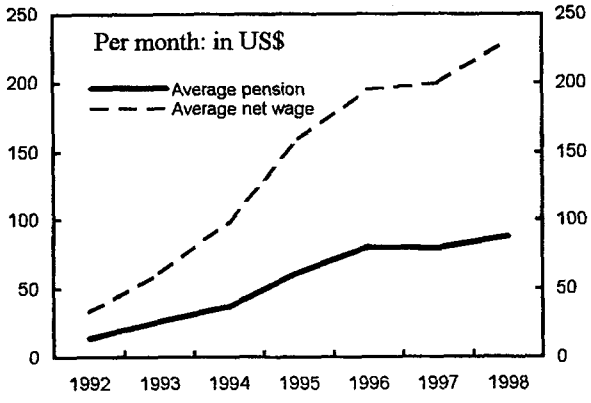
System Dependency Ratio and Replacement Ratio
(%)



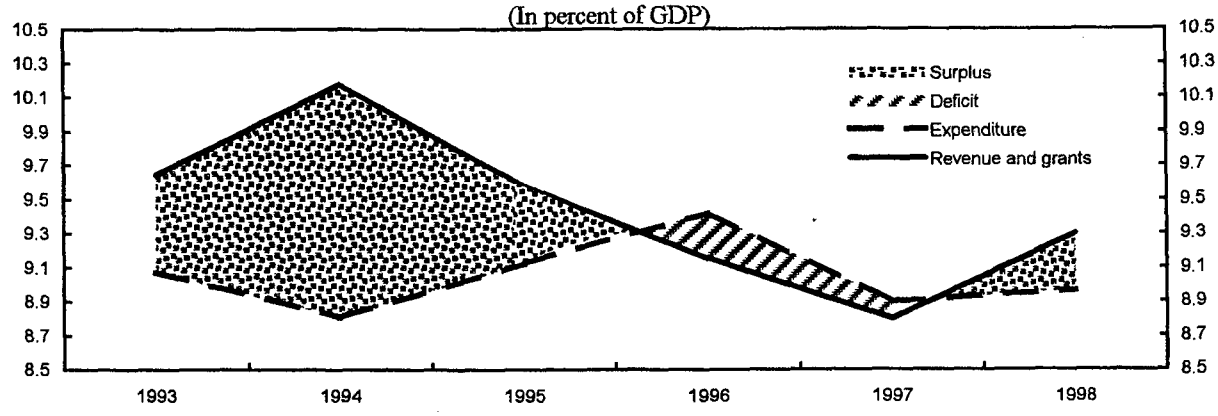
Real Pension and Real Net Wage Indexes



Average Pension and Net Wage



Financial Performance of the Social Insurance Fund
(In percent of GDP)



Sources: Estonia Social Insurance Fund and Ministry of Finance; and Fund staff estimates and projection.

1/ Number of pensioners relative to number of socially insured.

2/ Defined as average pension over average net wage.

Table 3. Estonia: Pension Indicators, 1992-98

	1992	1993	1994	1995	1996	1997	1998
Pensioners (in thousands)	380,012	387,253	376,379	374,755	374,534	374,360	375,419
Old age pensioners	...	308,294	299,884	296,905	291,521	289,636	287,359
Disability pensioners	...	50,004	51,686	52,954	56,140	58,149	60,870
Survivors pensioners	...	20,691	17,965	20,075	21,492	21,839	22,496
Early retirement pensioners	...	5,930	4,997	3,220	3,240	2,738	2,705
Other	...	2,334	1,806	1,601	2,141	1,999	1,809
Disability pensioners/pensioners (in percent)	...	12.9	13.7	14.1	15.0	15.5	16.2
System dependency ratio 1/	50.0	55.1	57.2	57.6	59.2	60.4	58.8
Average pension (kroons/month)	175	346	477	712	963	1,100	1,237
Average pension (change in percent)	...	97.7	37.9	49.3	35.3	14.2	12.5
Real average pension (change in percent)	...	8.7	-9.8	20.4	12.2	2.8	4.3
Real average pension index (1992=100)	100	108.7	98.0	118.0	132.3	136.1	141.8
Replacement ratio 2/	42.0	42.6	37.2	38.8	41.2	39.7	37.9
Average pension (per month in US$)	14	26	37	62	80	79	87
Average pension (in percent of subsistence minimum)	...	...	...	...	...	102.2	105.6
Memorandum items:							
Socially insured (in thousands)	760,115	702,673	657,824	650,146	632,569	619,659	638,000
Average net wage (kroons/month)	417	812	1,281	1,836	2,339	2,773	3,266
Average net wage (change in percent)	...	94.7	57.8	43.3	27.4	18.6	17.8
Real average net wage (change in percent)	...	5.7	10.1	14.4	4.3	7.2	9.6
Real average net wage index (1992=100)	100	105.7	116.4	133.1	138.9	148.8	163.1
Average net wage (US$/months)	33	62	99	160	195	200	231
Official per capita subsistence minimum (kroons/month)	...	...	...	...	...	1,076	1,171
GDP (in mn kroons)	12,302	21,610	29,645	40,705	52,446	64,324	73,213
CPI (annual average)	1,069.0	89.0	47.7	28.9	23.1	11.4	8.2
Real GDPgrowth (in percent)	-21.6	-9.0	-2.0	4.3	4.0	10.6	4.0
Average exchange rate kroons/US$	12.5	13.2	13.0	11.5	12.0	13.9	14.2

Sources: Social Insurance Fund and Ministry of Finance; and Fund staff estimates.

1/ Number of pensioners relative to number of socially insured.

2/ Number of persons in the age group 20-59 relative to those over 60.

Table 4. Estonia: Financial Performance of the Social Insurance Fund, 1993-98

	1993	1994	1995	1996	1997	1998
	(In millions of kroons)					
Revenue and grants	2,084	3,017	3,900	4,801	5,723	6,781
Revenue	1,568	2,333	3,131	3,891	4,692	5,378
Grants from central government	517	683	769	910	1,031	1,403
Expenditure	1,961	2,611	3,714	4,941	5,744	6,563
Pensions and family benefits	1,919	2,556	3,677	4,829	5,635	6,359
Pensions	1,440	1,970	2,908	3,964	4,628	5,200
Family benefits	479	586	769	865	1,007	1,159
Other	42	55	37	112	109	204
Balance	123	406	186	-140	-21	217
	(In percent of GDP)					
Revenue and grants	9.6	10.2	9.6	9.2	8.9	9.3
Expenditure	9.1	8.8	9.1	9.4	8.9	9.0
Of which: Pensions	6.7	6.6	7.1	7.6	7.2	7.1
Family benefits	2.2	2.0	1.9	1.6	1.6	1.6
Balance	0.6	1.4	0.5	-0.3	0.0	0.3
	(In percent of general government expenditure)					
Expenditure	22.4	21.6	21.9	23.3	23.6	22.7
Of which: Pensions	16.5	16.3	17.1	18.7	19.0	18.0
Family benefits	5.5	4.8	4.5	4.1	4.1	4.0
Memorandum items:						
Deposits of the SIF (in millions of kroons) 1/	...	...	...	771	750	967
General government expenditure (in millions of kroons)	8,748	12,082	16,979	21,241	24,315	28,915
General government expenditure (in percent of GDP)	40.5	40.8	41.7	40.5	37.2	39.5
Nominal GDP (in percent of GDP)	21,610	29,645	40,705	52,446	64,324	73,213

Sources: Social Insurance Fund and Ministry of Finance; and Fund staff estimates and projections.

1/ End-year stock. In 1998, including EEK 180 million of deposits in closed banks.

21. Estonia intends to establish a three-pillar pension system consisting of a largely revamped PAYG scheme (first pillar), supplemented by a mandatory fully funded second pillar and voluntary, fully funded private pensions as a third pillar. In mid-1998, two important laws (Social Tax Law and State Pension Insurance Law) were adopted by parliament. Effective January 1, 1999, the collection method for the PAYG contributions was changed and individual "notional" accounts with the objective of establishing a link between contributions and benefits are now in place.[20] The statutory retirement ages will gradually rise (they will be equalized for men and women at 63 years in 2016), and incentives for early retirement are being reduced. Eligibility criteria for old age and other pensions are being tightened, while all those not eligible for old-age pensions are entitled to a minimum pension. The calculation method for individual pension benefits will be changed starting in the year 2000.

22. However, progress on establishing the second and third pillars of the new pension system has been slow. The authorities are currently in the process of preparing legislation for the second pillar, which is unlikely to become effective before the year 2001.[21] As to the third pillar, the Law on Private Pension Funds became effective July 1, 1998, permitting the creation of private pension funds. Individuals can save up to 15 percent of their income in private pension funds. These contributions are tax-exempt, while pension benefits will be subject to a 10 percent income tax. By March 1999, however, only one private pension fund had become operational.

Social expenditures and indicators

23. Most **social expenditures** have been relatively well protected during the transition. Education sector outlays have remained broadly stable as a share of GDP. Health and education outlays as a share of GDP remained broadly stable in recent years. Safety net outlays have declined slightly in recent years, reflecting declining unemployment as well as limited nominal increases in the value of benefits (Table 1). According to official estimates, about 12 percent of the Estonian population were considered poor in 1998 (defined as persons with income below the minimum pension). The poverty ratio fell slightly in 1998, presumably reflecting the strong growth performance in 1997 and the first half of last year. Also, as

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[20]This system is modeled on the Swedish example and has also been implemented in Latvia (see IMF 1998b). Individual contributions are recorded in the State Pension Insurance Register, but in contrast to funded schemes, no real funds are accumulated in these accounts.

[21]Over the medium term, it is intended to gradually reduce the payroll tax (currently 20 percent, fully paid by employers) that funds the PAYG system while introducing and increasing contribution rates for the mandatory second pillar. According to one model, in the year 2001 the payroll tax could be reduced by 2 percentage points and then reduced in seven steps to reach 11 percent until the year 2015. During the same period, the newly introduced mandatory contribution rate for the second pillar would increase from 4 percent to 11 percent.

indicated above, although average pensions have fallen relative to average wages in recent years, they have increased in real terms. **Social indicators** (e.g., life expectancy, infant mortality rates) have tended to worsen during the first few years following independence, but have improved in recent years (Table 1).

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III. Financial Sector Developments in Estonia[22]

A. Background

24. This chapter describes financial sector developments in Estonia with a focus on the evolution of the banking sector. Estonia's financial system is based on the universal banking model common in Germany and Austria, with banks forming the core of the financial market and bank-owned or controlled subsidiaries operating as the dominant players in nonbank financial markets. Consolidation in the banking system since independence progressed through several stages until by end-March 1999 the two largest banks—Hansa Bank and Uhis Bank—accounted for 85 percent of total banking sector assets. Through their subsidiaries they accounted for about the same share of the leasing and life insurance markets.[23]

25. The legal framework for banking operations is defined in the Credit Institutions Act that has been in place since 1995. This law was revised in February 1999 to harmonize legislation with that of the European Union and to strengthen the Banking Supervision Department of the Bank of Estonia (BoE), including through supervision on a consolidated basis. Banks are subject to a wide range of prudential norms set by the BoE, most of which meet or exceed the standards set by either the Basle Committee on Banking Supervision (by March 1999, 24 out of 25 Basle Core Principles had been adopted in principle[24]) or European Union directives.

B. Transition and Consolidation in the Banking Sector

26. The development of the Estonian banking system can be divided into five distinct phases that started with the state-bank-dominated phase in the period preceding independence (in August 1991) and ended with the present day modern and private banking system offering a full range of financial services and close linkages with regional and international banks.

27. Very early in the development of the Estonian banking system, two classes of banks co-existed that could be loosely characterized as "transition style" and "market based." The entire process of consolidation and growth of the banking sector can be understood as a

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[22]Prepared by Basil Zavoico.

[23]These two banks also have three foreign banking subsidiaries, two in Lithuania and one in Latvia. However, both Hansa Bank and Uhis Bank are now effectively controlled by two Swedish banks that bought substantial blocks of shares in these two banks in the second half of 1998.

[24]The twenty-fifth core principle—relating to the country risk and transfer risk components of the capital adequacy ratio—is expected to be implemented in September 1999.

process of "transition style" banks either failing or being merged with "market based" banks. This process ended in late 1998, when only "market based" banks remained as significant players in the financial markets. The key differences between "transition style" banks and "market based" banks are as follows:[25]

Characteristic	*Transition-Style Bank*	*Market-Based Bank*
Origin	State ownership or insider buy-out privatization with little fresh capital involved.	Set up on basis of private initiative and capital.
Ownership	State ownership or senior management and major clients.	Initially founders and then widening circle of private individuals and investors. Early dependence on capital markets for fresh funding which further broadened ownership (including foreign investors).
Management	Inward looking, uninterested in developing relationships with other banks, and well connected to political establishment. Generally uneasy with innovation and competition. Tolerant of overstaffing. Wary of accepting technical assistance.	Outward looking with awareness of need to develop working relationships with domestic and foreign banks (money market lines, correspondent relationships, etc.). Eager to innovate, to compete for business, and to work openly with foreign advisors and consultants.
Business Mix	Virtually 100 percent oriented toward lending, mostly to state enterprises or to companies within their bank's sectoral specialization. Implicit poor risk diversification.	Initially virtually all off-balance sheet - foreign exchange trading, letters of credit, and guarantees until collateral provisions improved. Later lending mainly to private companies and to successful privatized enterprises. Implicit high risk diversification.
Credit Evaluation	Based on personal/historical connections and minimal formal analysis. No cash-flow projections and poor loan and collateral documentation.	Cash-flow projections for all loans with high standard for loan and collateral documentation.

[25]The archetypal "transition style" bank was the second North-Estonian Bank (state-owned) or Social Bank (private) and the archetypal "market based" bank is Hansa Bank.

28. **Phase One—The Soviet Banking Period (1987 and 1988).** Following the financial sector reforms in the Soviet Union, banking activity in Estonia during 1987 and 1988 was concentrated in the local offices of six Soviet banks (all with headquarters in Moscow): the Agricultural Bank, the Bank for Industry and Construction, the Social Bank, the Vneshekonombank (VEB), the Savings Bank, and the Gosbank. The first three banks were formed to channel credit to enterprises in their respective sectors; the fourth predominantly financed foreign trade activities while the fifth bank was the principal mobilizer of resources through the collection of household deposits. The Gosbank was responsible for maintaining the currency issue and was the banker for the Soviet regional government.

29. **Phase Two—Initial Privatization Phase (1988 through 1991).**[26] This phase was characterized by the opening of a number of private financial institutions and the privatization of existing state banks, largely through the purchase of equity by bank clients (usually seeking cheap and secure funding). In December 1988, the first private commercial bank, Tartu Commercial Bank (TCB) was opened and initiated the transformation of Estonia's financial system towards a market orientation. In January 1991, two large state banks (the Agricultural Bank and the Bank for Industry and Construction) were converted into joint stock companies, and over a short period state participation in these two banks was reduced to relatively low levels. By end-1991, the number of Estonian banks had grown to 24, of which 20 were private. However, the private banks were all relatively small and together accounted for only about 30 percent of total banking assets at the end of this period.

30. **Phase Three—Rapid Expansion (mid-1991 through end-1992).** During this period licensing requirements for new commercial banks were lax and capital requirements minimal. The substantial systemic risks associated with a rapidly growing and lightly regulated banking system were initially not fully appreciated by the authorities. As a result, a large number of new private banks were established, including many that were former branches of state banks that had transformed themselves into private and independent banks by raising enough capital (normally from their clients) to meet the minimum requirements. This process was facilitated by the hyper-inflation of 1991 and early 1992, which had the effect of lowering the financial hurdle imposed by the statutory minimum capital requirement of rub 5 million (EEK 0.5 million after the currency reform). This phase also saw the takeover of the Sberbank by the BoE to help ensure a smooth transition to a currency board. This operation was completed in April 1992 through the BoE subscribing to all the shares of the Sberbank and at the same time guaranteeing its liabilities (the bank was renamed Hoiupank—or Savings Bank).[27] It is also

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[26]The BoE was established during this period (in December 1989), but the local branch of the Gosbank continued to carry out most traditional central banking functions through December 1991. Some functions overlapped, including bank licensing and supervision.

[27]At the time Sberbank's deposit liabilities represented about 85 percent of private savings held in the form of bank deposits in Estonia. In recognition of Hoiupank's lack of experience in credit operations, the BoE placed a 100 percent reserve requirement on its deposit liabilities

(continued...)

noteworthy that immediately following the introduction of the currency board, the government and the BoE effectively terminated the practice of explicitly instructing banks to lend to specific enterprises (directed credits).

31. During the six-month period ending June 1992, 17 new banks were licensed with the result that there were 41 commercial banks in operation when the currency board was introduced on June 20, 1992.

32. **Phase Four—First Consolidation Phase (end-1992 through end-1997).** The first consolidation phase was associated with the merger and/or failure of banks that could be characterized as "transition style" in management and operational practices. The management and lending practices of "transition style" banks resulted in poor quality loan portfolios, with loans concentrated on a limited number of enterprises/clients and a high vulnerability to changing business conditions. This group of banks included most state-owned banks (the main exception being the Hoiupank) and a number of smaller private banks. Failures were usually precipitated by nonperforming loans prompting loss of confidence. The mergers were driven by the steady increase in the minimum capital requirement imposed by the BoE throughout this period and the inability of these banks to raise capital from private sources.

33. In response to these bank failures, the BoE's policy throughout this period was to try to strengthen the banking sector by raising the minimum capital requirements. To that end, the BoE increased the minimum subscribed capital (Tier 1) for existing commercial banks to EEK 6 million at January 1, 1993, EEK 15 million by April 1, 1995, EEK 25 million by April 1, 1996, and EEK 35 million by April 1, 1997. In addition, from January 1, 1996, banks were required to maintain subscribed capital plus reserve funds (Tier 1 and Tier 2 capital) of at least EEK 50 million.[28]

34. The first failures during this phase started shortly after the adoption of the currency board in June 1992. The first signs of problems came with a slowdown in the time required to effect payments through the BoE's clearing system during July and August 1992. Although, the clearing system was strengthened by the BoE during August 1992 as part of its modernization program for the financial sector, payments problems nevertheless persisted and, in fact, worsened. They were traced to serious solvency problems at two major banks: the Northern Estonian Bank (NEB) and Union Baltic Bank (UBB), caused by the freezing of combined deposits amounting to EEK 890 million at the Russian Vneshekonombank (VEB) in

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[27](...continued)
to eliminate the risk of any losses through nonperforming loans. When the currency board was introduced two months after the Sberbank takeover, the BoE's guarantee of Hoiupank deposits was fully covered with foreign reserves.

[28]The current minimum capital (Tier 1 and Tier 2) requirement of Euro 5 million (the EU standard) became effective on January 1, 1998.

Moscow (which had closed earlier in 1992).[29] [30] Meanwhile, problems also emerged at Tartu Commercial Bank (TCB) as a result of substantial loan losses associated with lending to one particular client. At that time, the combined deposit liabilities of the NEB, UBB, and TCB constituted 40 percent of total deposit liabilities in the banking system. In light of the systemic risks involved, the BoE extended emergency credits (EEK 75 million) that allowed these banks to continue operations temporarily.[31] When this failed to ameliorate their liquidity positions—as reflected in continued delays in clearing payments—the BoE closed all three banks in mid-November 1992.[32]

35. During December 1992 and January 1993, the authorities, in close cooperation with the IMF, elaborated a comprehensive bank rescue operation. The NEB and the UBB were merged and recapitalized to form a new entity called the "North Estonia Bank" (hereafter referred to as NEB2). It was decided not to close these two banks since their problems were judged as having been caused mainly by factors beyond their control (mainly the failure of VEB). To recapitalize the NEB2, the BoE purchased the NEB2's claims on the VEB for EEK 103 million and the government issued EEK 300 million in bonds and placed these with the NEB2 (and in return it took 100 percent ownership of the bank).[33] [34] The TCB, on the other hand, was put into forced liquidation because its problems were deemed to have been the result of poor management, and the authorities wanted its liquidation to have a salutary

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[29]The payments delays were caused by these two banks failing to process outgoing payments until adequate liquidity was created by incoming payments.

[30]The counterpart of these frozen deposits were liabilities of the NEB and UBB to corporate clients. Payments to Estonian exporters were channeled through the VEB under contracts negotiated mainly with Soviet foreign trade organizations prior to 1992. These continued to be channeled to VEB accounts even after the VEB had been shut.

[31]This support was consistent with the currency board principle as the BoE held foreign exchange reserves in excess of the amount necessary to cover its currency and deposit liabilities. However, this margin was small and effectively severely constrained the central bank from acting as a general "lender of last resort" in the rescue of failing banks.

[32]Although these closures had adverse consequences for both the economy and the financial system—as reflected in the greater use of cash in enterprise transactions—these were not as dire as may have been expected given the size of the banks involved. In particular, the closure of the banks did not precipitate a run on other banks; instead, there was a shift in banking business to the remaining banks that were perceived as strong.

[33]Liabilities corresponding to the frozen VEB deposits were segregated from the new bank's balance sheet and certificates issued to depositors against their frozen claims. As of March 1999, these claims remained unsettled.

[34]The BoE provided further additional liquidity support to NEB2 in February 1993 amounting to EEK 87 million.

effect on bank owners and managers throughout the financial system.[35] By spring 1993, the bank rescue operation had succeeded in restoring confidence in the banking sector and normal bank-client relations gradually resumed.

36. In the aftermath of this crisis, the BoE also instituted a licensing review and strengthened banking supervision. As a direct result of the increase in the minimum capital requirement to EEK 6 million—effective January 1, 1993—a number of banks lost their licenses and several banks merged. Furthermore, in April 1993 the BoE announced a moratorium on applications for bank licenses through January 1, 1994 to allow improvements in banking supervision to take effect. By end-1993 the number of banks had fallen to 22.

37. In spring 1993, the BoE also started the process of establishing the Hoiupank as an active participant in the banking system by arranging for the acquisition of one-third of the bank by one of the leading private banks (Hansa Bank). As part of this package, it was agreed that Hansa Bank management would participate in the development of a strong management team at Hoiupank and that the BoE would implement a phased reduction in the 100 percent reserve requirement on Hoiupank's deposits to allow a gradual expansion in its lending operations.[36]

38. The next major crisis came in mid-1994 when the Social Bank (representing about 20 percent of total bank assets at end-1993)—which had been privatized prior to the currency reform—ran into difficulties because of mismanagement and substantial nonperforming loans to the bank's owners. The bank's problems were precipitated by a government decision in the spring 1994—prompted by concerns related to its solvency—to progressively withdraw government deposits (the equivalent of about EEK 250 million—or 25 percent of Social Bank's liabilities at the beginning of the year) and to reallocate these among other Estonian banks. Further withdrawals by other depositors prompted the BoE to put the bank under moratorium in August 1994. It was then reopened in September 1994 after having been provided with substantial liquidity support by the BoE (in the order of EEK 180 million), and merged with a much smaller private bank (Development Bank). It was hoped that this merger

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[35]A liquidation commission was made responsible to realize the TCB's assets and to compensate the bank's creditors. The first auction of assets was held in January 1993 and most assets were liquidated by May 1994 when the process was turned over to a bankruptcy court. The bankruptcy court completed its work in mid-1995. The liquidation proceedings proved lengthy mainly because of poor loan documentation and because creditors were given the option of settling their claims through the takeover of the TCB's assets. This latter process necessarily involved an examination and selection period. In the end, only about 50 percent of claims on the TCB were satisfied.

[36]Up to that point, the BoE had to transfer to Hoiupank sufficient income to cover the interest Hoiupank paid on its deposits plus its operating expenses. As Hoiupank initiated its own lending program, this had the effect of reducing, and eventually eliminating, the payments made by the BoE.

would improve management.[37] Subsequently, the BoE tried to find a strategic domestic or foreign investor for the "new" Social Bank, but it soon became evident that the bank's problems were such that it could not be sold. In the event, the BoE decided in March 1995 to transfer to the NEB2—by then the fourth largest bank in Estonia—the bulk of Social Bank's deposits and an equivalent amount of assets.[38] [39]

39. Due to its weak management and the problems associated with the quality of loans transferred with the "Social Bank package," the NEB2 itself started to show signs of financial strain. In October 1995, the BoE agreed to a plan whereby the second largest Estonian bank—Uhis Bank—acquired a minority interest (one-eighth share) in NEB2, but effectively took over its management. However, soon after the new management team was in place (December 1995), it became apparent that NEB2 was substantially insolvent. To permit NEB2 to meet prudential ratios and to continue operations, the owners (mainly the Government and the BoE) provided guarantees in the amount of EEK 220 million against a specific list of bad loans. In addition, the terms of the guarantee effectively prohibited further credit expansion by NEB2. This provision, which was intended to protect the BoE and the Government from further injudicious lending and loan losses, also made it difficult for the bank to serve its clients effectively in an increasingly competitive marketplace. Finally, a full merger between NEB2 and Uhis Bank was agreed in January 1997; in the process, the Government and BoE (i) completely wrote off their capital investment against nonperforming loans on NEB2's balance sheet and (ii) made additional transfers in the form of securities and real estate to ensure that the net worth of the NEB2's balance sheet was approximately zero at the time of the merger (so as not to undermine the viability of Uhis Bank). The combined losses to the Government and the BoE from this operation were in the order of EEK 220 million, or 0.3 percent of GDP.

40. Following the political and financial problems associated with the closure of the Social Bank in August 1994 and the difficulties associated with the revival of the NEB2, the BoE became increasingly reluctant to shut banks that were solvent, but failed to meet the minimum capital requirement. As a result, in the run-up to the capital increase deadline on January 1, 1996, the BoE strongly encouraged a number of smaller banks to merge rather than being forced to withdraw their licenses. The most conspicuous of such mergers involved Virumaa

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[37]At the time of the merger, the Development Bank itself was in poor financial shape and its management may have hoped that the merger would create an entity that "was too big to fail".

[38]This, in theory, would have a neutral effect on NEB2's net worth.

[39]The remainder of the Social Bank—with a book value of about EEK 80 million—was converted into a loan recovery agency. The loan recovery agency continued its work until it was declared bankrupt in August 1996.

Kommertspank, Maapank,[40] [41] and two smaller banks. The capital of each of these four banks fell short of the new minimum and the BoE strongly supported the merger of these institutions, notwithstanding questions relating to issues of corporate governance and the strength of the loan portfolios of at least one of the merged institutions (notably Maapank).

41. Following the merger in December 1995, the new bank was renamed Maapank (hereinafter, Maapank2). Its immediate problem was to integrate the staff, operations, accounting, and reporting systems of the four merging banks. The task was made especially challenging as two of the merged banks had been active competitors—mainly in rural areas—and any serious restructuring would necessarily involve painful branch closures. Meanwhile, the lead management team developed a reputation for being weak and indecisive. In particular, it was slow to rationalize the branch network and develop comprehensive internal reporting systems so that data on a group basis would be reported in a timely fashion.

42. The process of bank consolidation continued through 1996 and 1997, although at a much reduced pace, and was driven by a combination of rising minimum capital requirements and a progressive tightening of bank supervisory standards—which motivated weaker banks to seek stronger partners. One such merger took place in September 1996, when the Bank for Industry and Construction was purchased by the Savings Bank. This was an important milestone since this represented the demise of the last bank "left over" from the original group inherited from the Soviet Union. At the end of the first consolidation phase, the number of banks had fallen to 11 by end-1997.

43. During the initial part of the first consolidation phase (1992 through 1995), borrowing by households and individuals was virtually nonexistent due to low incomes and poor collateral. Moreover, enterprises tended to have exclusive relationships with banks. As accounting standards were weak and financial information about enterprises insubstantial, the bank-client relationship typically provided banks with the information required to make considered judgements about the creditworthiness of their clients. However, since this information was not transferable, clients were often locked into relationships with their banks. This contributed to an environment where banks enjoyed a degree of monopoly power despite the multiplicity of financial institutions. The passage of the Accounting Law in 1994 and the subsequent adoption of international accounting standards in January 1995 served to create greater transparency in enterprise operations. This resulted in a gradual break-up of the traditional bank-client relationships and encouraged greater competition in the banking

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[40]During the initial bank consolidation phase in 1992, 13 regional branches of the Agroprom Bank merged to form Uhis Bank, while the Harju County branch (the county containing Tallinn) remained independent and became Maapank (or the Land Bank). The Maapank focused on lending in rural areas and had made substantial loans to some projects favored by government that proved unprofitable.

[41]Virumaa Kommertspank and Maapank had 3.0 percent and 2.6 percent of total bank assets, respectively, at end-1995.

system. At the same time, rising individual incomes and the privatization of houses and apartments (and the parallel development of an active housing market) progressively strengthened the creditworthiness of households and opened up a new market for commercial banks.

44. Consequently, the last two years of the first consolidation phase (1996 and 1997) were characterized by fierce competition in the banking sector and a rapid expansion of credit. Banks competed for new clients in the enterprise sector as well as exploited new business opportunities by funding their nonbank financial subsidiaries (mainly leasing companies) and meeting growing demand for credit by households (including financing purchases of equities as the stock market rose sharply in the period to October 1997). As a result, domestic credit to the nongovernment sector increased by 70 percent in 1996 and by 84 percent in 1997.[42] The opening of the Tallinn Stock Exchange (TSE) in May 1996 also provided banks with an important instrument for raising the fresh capital that they needed to sustain this growth.[43] This was also the period during which Estonian banks started to develop a regional presence, with the acquisition of banking and leasing interests elsewhere in the Baltics as well as in Russia and Ukraine.

45. **Phase Four—Second Consolidation Phase (1998)**. The second consolidation phase was dominated by the merger of large market-based banks. These mergers were driven primarily by strategic factors in an increasingly competitive environment rather than motivated by efforts to meet rising minimum capital requirements or to stave off insolvency (as had been the case in the past). These strategic factors included cutting fixed and operating costs, creating access to cheaper capital, as well as broadening client appeal by acquiring complementary financial capabilities through mergers rather than by developing such capacity *de novo*. To a certain extent, these mergers were also hastened by the stock market collapse in October 1997 which resulted in a weakening in the balance sheets of some banks and made them attractive takeover targets.

46. Effective July 1998, Hansa Bank merged with Hoiupank to create the largest commercial bank in Estonia and Uhis Bank merged with Tallinnapank to create the second

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[42]Partly reflecting the growing reliance on foreign borrowing to sustain domestic credit growth and the consequent desire on the part of banks to minimize their exposure to exchange rate risk, a growing share of domestic loans were denominated in foreign currency (usually DM). Hence, the ratio of foreign denominated loans to total loans increased from 12 percent at end-1995 to 57 percent at end-1997 (and 76 percent at end-1998).

[43]The TSE included among its listing requirements minimum capitalization, profitability, and reporting requirements that provided investors with a degree of confidence regarding the operations of companies traded on the exchange. At its inception, the shares of five banks were the only company-related securities listed on the TSE (the other securities were Compensation Fund bonds). Further information on the TSE is available on its website (www.tse.ee).

largest commercial bank in Estonia. These two entities—which kept the names of the dominant partners (i.e., Hansa Bank and Uhis Bank)—also became the largest and second largest commercial banks in the Baltics.[44] The mergers also strengthened the trans-Baltic presence of each bank, as in this process they acquired (or merged overlapping) financial institutions in the other two Baltic states. This broadened their capacity to provide a range of financial services throughout the region.[45]

47. The second consolidation phase also saw the first failure of a "market based" bank—Forekspank. Forekspank was crippled by a combination of domestic stock market losses and the failure of some of its CIS-related operations. It was the third largest commercial bank in Estonia at end-June 1998 with 6 percent of total bank assets. Foreksbank had established itself as a leader in financing international trade and facilitating international payments (especially with the CIS). However, the unfolding financial crisis in Russia had a strong impact on both the assets and funding of Foreksbank. Outflows of non-resident deposits (mainly held by CIS entities) had started already in mid-summer and had the effect of progressively undermining the bank's liquidity through August and September 1998. In early September 1998, Forekspank acquired 50 percent of the shares in Estonian Investment Bank (EIB)[46] with a view to effecting a merger of the two banks. However, in the course of the due diligence exercise with the EIB that took place in mid-September 1998, the full extent of Forekspank's financial difficulties became apparent. As the EIB had become the principal provider of liquidity to the increasingly troubled Forekspank already before the formal merger took place, the difficulties at Forekspank also threatened the viability of the EIB. These developments prompted the BoE to step in and facilitate the merger by taking a majority share in both banks through the injection of EEK 255 million of fresh capital. In taking this step, the BoE was prompted by (i) concerns that the failure of a bank with significant borrowings abroad during a period of substantial instability in local and emerging markets would undermine domestic and international confidence in Estonia and its banking system; (ii) its judgement that Forekspank had a positive net worth and that the merged bank would make an important contribution to ensuring competition in the Estonian banking market; and (iii) the fact that the merger process had progressed to the point that the failure of Forekspank would create problems for the otherwise healthy EIB. The merger was finalized in December 1998 and the merged bank was renamed Optiva Pank. The BoE's ownership share in the new bank was 58 percent, and the BoE immediately announced it intention to sell its interest in Optiva

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[44]The third largest bank in the Baltics is the Lithuanian Savings Bank (Taupomasis).

[45]Hansa Bank's banking presence in Latvia dates from June 1996 and it is expected to open a branch in Lithuania by mid-1999. In addition, Hansa Bank offers leasing and factoring facilities in each of the Baltic states. Uhis Bank became a 100 percent shareholder in Saules Bank (the seventh largest bank in Latvia) in May 1999 and offers leasing services throughout the Baltics as well as in Russia (although the latter is of marginal significance to the group).

[46]At the time merger discussions were initiated, the EIB was a profitable bank with a capital adequacy ratio of 23 percent (well above the prudential threshold of 10 percent).

Pank as soon as practicable. Since the merger, Optiva Pank has met all prudential ratios and was able to generate a modest profit in the first quarter of 1999.

48. There was also a degree of overlap of the first and second consolidation phases as three of the "transition style" banks that had survived into 1998 (Maapank2, ERA Bank, and EVEA Bank) were driven into insolvency during the second consolidation phase because of poor corporate governance and inefficient risk management. This process was accelerated by the impact of the October 1997 stock market collapse and the Russian crisis of August 1998.

49. The largest of these banks, Maapank2, with a market share of 3.6 percent of total assets of the banking sector, was closed down in June 1998 when the BoE declared it insolvent. As already noted, at its formation in January 1996, Maapank2 was already saddled with weak management and a doubtful loan portfolio. During the stock market boom of 1996/97, the bank built up a substantial stock portfolio financed mainly through deposit taking. When the market crashed in October 1997, the bank was immediately rendered insolvent. However, according to the report of the independent evaluator (see below), its management disguised the extent of the financial damage through various accounting devices. An attempt was made by management to save the bank in April 1998 through fresh capital injections from existing private shareholders. However, when new capital failed to materialize, the BoE suspended Maapank2's banking license (June 8) and then declared it bankrupt (June 28). The scale of private and public sector deposits frozen at Maapank2 (amounting to about EEK 1 billion) prompted a review of the factors that precipitated the crisis in Maapank2 and the lessons to be drawn from it. To that end, an independent external evaluator was jointly appointed by the government and the BoE. The report was released in January 1999 and made public by the BoE shortly thereafter.

50. Two other small banks—EVEA bank and ERA bank—both with market shares equivalent to about 2 percent of total bank assets, were also closed by the BoE in October 1998.[47] The main cause of the failure of EVEA bank was its exposure to Russian eurobonds amounting to almost 20 percent of its assets in mid-1998. This resulted in substantial losses when Russian financial markets collapsed in August 1998. Since ERA bank also held 30 percent of its assets in the form of an equity stake in EVEA bank, the failure of EVEA bank precipitated a run on ERA bank and its closure a few days later.

51. The two phases of the consolidation process served to reduce the number of licensed banks in Estonia from 11 at end-1997 to 5 at end-1998—or the smallest number of banks in any transition economy in Eastern Europe, the CIS, and the other Baltic states.

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[47]EVEA bank was declared bankrupt on October 2, 1998 and ERA bank was placed under moratorium on October 7, 1998 and declared bankrupt on April 6, 1999.

C. Foreign Investment into the Estonian Banking System

52. Foreign financial institutions have played an increasingly important role in the Estonian banking system during the past five years. This interest culminated in the essential takeover of two of Estonia's largest banks in mid-1998 by two Swedish banks. However, the process started in fall 1994 when licenses were granted to branches of two Finnish banks.[48] These two branches merged in 1995 following the merger of their parent banks (the new entity was named Merita Bank). Initially, the Tallinn branch of Merita Bank kept a very low profile and limited its operation to providing financial services in Estonia mainly to its Finnish clients. Consequently, its total assets only represented about 2 percent of total banking assets during the period 1995–97. However, its growth and customer base was boosted significantly in 1998 following the Russia crisis and the difficulties in the Estonian banking system. Consequently, its share in total banking assets rose to 5 percent. In addition, in the period since 1994, representative offices have been opened in Tallinn of the Finnish OKO Pank, the German Landesbank Schleswig-Holstein and the Swedish Svenska Handelsbanken.

53. The emergence of a profitable and rapidly growing banking system in Estonia in 1998 deepened the interest of foreign investors in effecting major acquisitions. This took the form of purchases of strategic equity stakes in Hansa Bank and Uhis Bank. These were bought by major Swedish banks seeking to expand their capacity to provide financial services throughout the Nordic-Baltic region, in parallel with acquisitions in Latvia and Lithuania.

54. Swedbank, a large retail-oriented Swedish commercial bank, had already taken a significant stake in Hoiupank in 1994, when Hoiupank was the predominant retail bank in Estonia. When Hoiupank and Hansa Bank merged in July 1998, Swedbank sought to enlarge its participation by acquiring further shares in the merged bank on the stock market. By this time, Skandinaviska-Enskilda Banken (SEB) had also shown an interest in Hansa Bank and this prompted a takeover battle for the newly merged entity between the two Swedish banks, (waged mainly on the stock market). In the event, Swedbank gained effective control in September 1998 with a total investment of EEK 3.47 billion (US$250 million) that represented a 59 percent interest in Hansa Bank. SEB, having failed to acquire Hansa Bank, invested EEK 828 million (US$60 million) in Uhis Bank in December 1998, acquiring thereby a 32 percent stake.[49] As of end-April 1999, the new Hansa Bank and the new Uhis Bank controlled 51 percent and 34 percent of the Estonian market, respectively. The significant stakes taken by the Swedish banks in the two largest Estonian banks have strengthened the capital asset ratios and liquidity of these banks and permitted their access to international

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[48]Union Bank of Finland and Kansallis-Osake-Pankki (KOP).

[49]These two investments amounted to 54 percent of total FDI in that year.

capital markets in late 1998 and early 1999 with relative ease to refinance maturing short-term foreign credits with medium-term loans.[50]

D. The Deposit Insurance Fund

55. The creation of an insurance fund for depositors in commercial banks had been discussed in Estonia since 1994, but was delayed by a debate over issues of funding and extent of coverage. In the event, the Deposit Guarantee Fund Act was finally passed in April 1998 and provided for coverage by the Deposit Guarantee Fund (DGF) to become effective October 1, 1998.[51] This law provides for compensation to depositors equivalent to 90 percent of selected classes of deposits up to a maximum of EEK 20,000. It is financed through mandatory contributions by all licensed commercial banks at a uniform annual rate of 0.5 percent of total deposits (but excluding amounts owed to credit and financial institutions).[52] In the event that funds are insufficient to meet its obligations, the DGF is authorized to borrow the necessary resources from commercial banks on the strength of a government guarantee.

56. When Maapank2 was declared bankrupt in June 1998, the Deposit Guarantee Fund Act had already been passed, but it was not yet effective. For this reason, and because many of Maapank2's depositors were rural-based and the loss of these deposits would have a severe impact on the rural sector, the government decided to provide compensation to selected Maapank2 depositors. The compensation terms were more generous than would have been provided by the DGF; in particular, compensation was provided for deposits in excess of EEK 20,000 and was extended to local governments and other state entities. The most important features of this package were: (i) all private depositors (individuals and companies) with deposits less than or equal to EEK 20,000 (90–95 percent of the total number of depositors) were reimbursed in full; (ii) private depositors with deposits exceeding EEK 20,000 were to be reimbursed for 80 percent of their deposits (in excess of the EEK 20,000) with maximum reimbursement of EEK 100,000; (iii) local governments were to be compensated for 80 percent of their deposits, with a maximum reimbursement of EEK 350,000; and (iv) health, educational and cultural entities funded by the local authorities, but which held independent accounts at Maapank, were to be compensated in full. The total budgetary cost of the Maapank failure was estimated at EEK 366 million (or about 0.5 percent of GDP) and the state budget suffered further losses amounting to EEK 427 million as a result of lost deposits.

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[50]In completing this refinancing, Hansa Bank and Uhis Bank paid about 200 basis points and 350 basis points over Euribor, respectively.

[51]The Supervisory Board of the DIF consists of five members: two from parliament, one from Government, one from the BoE, and one from the Bankers Association.

[52]The guarantee is subject to a maximum cumulative limit of EEK 700 million.

57. As the DGF was in place when EVEA bank and ERA bank failed in October 1998, their depositors were eligible for compensation in the amount of EEK 121 million.[53] However, since the DGF had just started operations, its resources were insufficient to cover the cost of compensation and it was forced to borrow EEK 75 million from a commercial bank on the strength of a government guarantee.

58. Total losses by the general government and the BoE in failed banks during the period 1992–98 amounted to about EEK 1.5 billion, of which lost deposits by the general government in failed banks amounted to about EEK 607 million in the period 1992–98 and the remainder represented (i) written-off capital investments by the government and the BoE in banks (mainly NEB2 and Maapank2) and (ii) amounts lost by the BoE in providing liquidity support to banks that later failed (mainly Social Bank), and (iii) compensation through the state budget of lost deposits (Maapank2). This excludes amounts that have been or will be recovered through bankruptcy proceedings, although these are expected to be relatively small.

E. Development of the Nonbank Financial Sector

59. Nonbank financial institutions have developed rapidly in Estonia and become increasingly important in financing economic activity and offering avenues for financial intermediation. Many of these institutions are affiliated with commercial bank parents that are able to provide funding at costs comparable to their own cost of funds. The two most important such nonbank operations are in the leasing and insurance sectors (the other nonbank activities include asset management and brokerage services).

60. **Leasing.** The size of the leasing market in Estonia rose rapidly from EEK 0.5 billion at end-1995 to EEK 6.2 billion at end-1998 (or 27 percent of bank loan volume) and was fueled by companies and individuals leasing cars and equipment. However, growth slowed in the second half of 1998 reflecting the general slowdown in economic activity. The leasing option has been particularly important in providing access to capital equipment for small and medium-sized enterprises (which often lack a credit history). The leasing portfolio is made up of 33 percent for cars, 28 percent for other road transport vehicles, and 20 percent for machinery and industrial equipment. Most leasing companies are subsidiaries of major domestic banks and some have been merged along with the banks to which they belonged. As of end-December 1998, there were three leasing companies belonging to major domestic banks (Hansa Leasing, Uhis Leasing and Foreks Leasing) and two foreign-owned leasing companies (Estonian Industrial Leasing Ltd. belonging to the Finnish Merita Bank and Siemens Financial Services Ltd.).

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[53]Of which EEK 92 million was for EVEA bank depositors and EEK 29 million for ERA bank depositors.

61. In contrast to the supervision to which banks are subject, leasing subsidiaries are not directly supervised by the BoE. However, since July 1, 1998 supervision on a consolidated base came into effect, and banks had to include subsidiary operations in their quarterly reports to the BoE. Recovery ratios on leases have been significantly better than loan recovery ratios with the result that on a consolidated basis, bank performance has become increasingly dependent on the income from leasing subsidiaries.

62. **The Insurance Industry.** The insurance industry in Estonia is divided into two main sectors—life and nonlife–and under 1992 Insurance Law insurance companies are prohibited from engaging in both sectors at the same time. The non-life insurance market grew very rapidly since 1993 when compulsory motor vehicle insurance was brought into effect. However, in 1998 the growth slowed as the nonlife insurance market reached saturation. In contrast, the life insurance market has grown at an annual rate in excess of 50 percent since 1996 as the rapid increase in personal incomes as well as the increase in implicit real interest rates made savings via life insurance policies an increasingly attractive alternative to other forms of savings. Gross premiums reached EEK 1.2 billion in 1998 (1.6 percent of GDP) and by end-1998 there were 22 insurance companies, of which 14 were nonlife and 8 were life.[54] There was a small degree of consolidation in the nonlife sector (the number of nonlife firms fell by three) as a number of companies failed, due to poor investments (including into commercial real estate) and an intensification of competition. The entire insurance sector weathered the collapse of the stock market relatively well since traded equities made up only a relatively small proportion of their total balance sheets (less than 5 percent of nonlife companies as at end-September 1998); most liquid assets are held in the form of bank deposits and bonds (together almost one-fourth of the balance sheets of nonlife companies as at end-September 1998).

63. The insurance industry operates within the framework established by the Insurance Law that came into effect on January 1, 1993. This law established the Insurance Supervisory Agency (ISA). Both the Insurance Law and the ISA were modeled on Western European precedents. The ISA is subordinated to the Ministry of Finance and is responsible for the general work of supervising both life and non-life companies, although the power to grant and withdraw insurance licenses remains with the Ministry of Finance. It is funded by a levy on licensed insurance companies, which allows it, inter alia, to maintain competitive salaries vis-à-vis the rest of the industry. This is an important factor helping the ISA provide a high standard of supervision. As part of the process of harmonization with EU legislation, a new Insurance Law is in the final stages of completion. Once effective, it will further strengthen the regulatory powers of the ISA, including through improving access to group accounts where the insurance company is a subsidiary. It will also strengthen the role of the ISA in the resolution of crisis situations.

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[54]Both Hansa Bank and Uhis Bank are active in both the life and nonlife markets. However, Hansa Bank announced in April 1999 that it will gradually withdraw from the nonlife market to focus on life insurance (together with developing a capacity for the market for private pensions).

IV. Building Fiscal Reserves: The Stabilization Reserve Fund[55]

A. Introduction

64. In late 1997, Estonia established the Stabilization Reserve Fund (SRF) as an instrument for saving budgetary surpluses and large-scale privatization proceeds abroad. As of March 1999, fiscal reserves amounting to EEK 2.8 billion, equivalent to 3½ percent of projected 1999 GDP, have been accumulated in this fund. The establishment of the SRF was a major achievement of the government's macroeconomic program that was supported by the IMF. Estonia has so far been the only transition country to establish fiscal reserves abroad.

65. Other countries that have achieved fiscal surpluses and/or build externally held fiscal reserves in past decades include Botswana, Chile, Hong Kong Special Administrative Region (SAR), Kuwait, Mauritania, New Zealand, Norway, and Singapore. More recently, the issue of budget surpluses, and how to use them, has gained greater attention in the United States and Canada, which have begun to run budget surpluses.[56] In Canada, for example, it is proposed to use up to 50 percent of accumulated surpluses for the reduction of external debt while the other 50 percent could finance social programs such as state pensions. In the United States, one plan proposed by the President envisages the use of surplus funds for the recapitalization of the reformed social security system.[57]

66. The Estonian SRF was set up with two objectives in mind. First, to create a contingency reserve that could be used in case of macroeconomic emergencies or for the financing of long term reforms and investments (e.g., pension reform, infrastructure projects). Second, in late 1997 and early 1998 Estonia was experiencing a period of excessive credit growth and it was seen as desirable to withdraw liquidity from banks by transferring public savings abroad. Later, it was deemed important to tighten liquidity of the domestic banking system and sterilize large inflows of privatization proceeds.[58] The establishment of the SRF has strengthened the confidence of foreign investors and international financial markets in Estonia' policies.

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[55]Prepared by Günther Taube.

[56]On the general discussion see Chalk and Hemming (1998).

[57]See, for example, Niskanen (1997).

[58]According to one estimate, the privatization of key enterprises in the energy, transport, and telecommunications sectors was expected to yield more than EEK 3 billion over a period of 5 years. This estimate has already proven to be too low as the sale of a 24 percent stake of the telecommunications parastatal in early 1999 alone yielded about EEK 3 billion.

67. Section B reviews the experiences of other countries with the generation and use of fiscal reserves. Section C explores how Estonia was able to generate fiscal reserves, how the SRF was established, and what rules are under consideration as regards the operations of the fund and the use of its resources.

B. Fiscal Surpluses and Reserves: Country Experiences

68. In past decades, several countries have established fiscal reserve funds financed by fiscal surpluses and other public savings. These can broadly be categorized into two groups—resource-rich and resource-poor countries. The first group includes countries such as Botswana, Chile, Kuwait, and Norway.[59] The second group comprises Hong Kong SAR, and Singapore as the most prominent cases. The size of the fiscal reserves that these countries have accumulated varies greatly. In 1998, it ranged from more than US$20 billion (over 30 percent of GDP) in Hong Kong SAR to around US$1.2 billion (about 2 percent of GDP) in Chile.[60] [61] The experience of both Hong Kong SAR and Singapore would appear to be of particular interest for Estonia as all three economies are resource poor, small, and very open. Moreover, Hong Kong SAR has a currency board arrangement. Both Asian countries have build large fiscal reserves on the basis of prudent budgetary performance over a long stretch of time (Box 3).

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[59]The discussion here is limited to a number of "best-practices" countries without claiming to be exhaustive. There are also cases of fiscal reserves at subnational levels, e.g., Alaska in the United States (Chalk and Hemming 1998; http://www.apfc.org). The discussion does not focus on countries that have been unsuccessful in building fiscal reserves despite being rich in resources. See Sachs and Warner (1995) who show how resource richness can hamper the achievement of macroeconomic stability and sustained growth.

[60]In the case of Hong Kong SAR, the reserves include assets that were transferred by the Land Fund to the government in mid-1997. Prior to this transfer, fiscal reserves were estimated at HK163 billion, equivalent to 13.5 percent of GDP (Dodsworth and Mihaljek 1997).

[61]Two African countries—Botswana and Mauritania—have also been able to achieved fiscal surpluses. Botswana has benefited from large diamond revenues, while Mauritania has received large payments from the EU in exchange for fishing rights. Mauritania has used the surpluses to retire domestic debt, while Botswana has built up large foreign reserves.

Box 3. Fiscal Surpluses and Reserves in Hong Kong SAR and Singapore

Since the mid-1980s, **Hong Kong SAR** has maintained a strong budgetary performance. On average, it achieved a budget surplus of about 2 percent of GDP during the period 1984-96. This has contributed to the overall success of its currency board arrangement, which has been seriously tested at times in the wake of the financial crisis in Asia. Hong Kong SAR's budgetary performance is noteworthy for several reasons. First, the shares of revenues and expenditures in GDP are generally low, averaging 17¾ percent and 15¾ percent of GDP per year. Second, there were occasionally unexpectedly large budget surpluses (up to 4 percent of GDP). This largely reflected a cautious assessment of volatile revenue sources (e.g., stamp duties on asset transactions and land sales revenue) and underspending due to delays in the implementation of investment projects. Third, within the rules-based fiscal framework, budgets have generally been formulated to be "neutral;" i.e., they were intended not to have a cyclical impact. According to IMF staff estimates, fiscal outcomes had a generally slightly contractionary effect in the second half of the 1980s and early 1990s, and a slightly expansionary effect in FY 1993 and FY 1995-96. Since the transfer of sovereignty in July 1997, fiscal policy has been guided by the "Basic Law" which, among other things, prescribes that the government should strive to avoid deficits. Since March 1998, fiscal reserves have declined somewhat reflecting the accumulated deficit during the first seven months of financial year 1998/99.

Guidelines for the level and use of fiscal reserves include (i) to meet the operational needs of the government; (ii) to offset the effects of an economic downturn or cope with unforeseen world events; and (iii) to ensure proper functioning of Hong Kong SAR's exchange rate arrangement. The benchmark level of fiscal reserves for these uses would be equal to one year of government expenditures plus the Hong Kong dollar money supply M1 as backing for the exchange rate link to the U.S. dollar. (As regards operational and contingency needs, three and nine months of expenditures are considered adequate.) At end-March 1998, actual reserves exceeded the general benchmark by a large margin.

During the period 1970-98, **Singapore** recorded budget surpluses in every year but two. The surpluses were particularly large in fiscal years 1990/91-92/93 when they averaged 12½ percent of GDP. Such favorable fiscal performance was primarily the result of prudent expenditure policies, but also reflected large capital revenue from land sales and growing nontax revenue from investment income (a "virtuous circle"). Total government asset holdings amounted to 162 percent of GDP in 1996/97. Fiscal surpluses have mostly been channeled into overseas portfolio investments through the Singapore Government Investment Corporation. In part, the annual incomes from these investments are destined to help finance future growth of social expenditures. Two capital funds (Edusave Endowment Fund and Medical Endowment Fund) have been established to finance transfers to households for certain types of education and medical services. While discretionary fiscal policies have generally been limited, the government used fiscal reserves to finance a budget deficit as a result of expansionary policies in 1985. The reserves were also used to finance a deficit in 1998/99.

Sources: Dodsworth and Mihaljek (1997), IMF (1999a), Bercuson (1995).

Objectives

69. Fiscal reserves can generally serve one or more of the following objectives:

- to ensure intergenerational equity and consumption smoothing;
- to strengthen demand management and maintain competitiveness;[62] and
- to provide a contingency or emergency reserve (e.g., Hong Kong SAR. Singapore).

70. The first objective has generally featured prominently in countries with large nonrenewable resources (e.g., oil in the case of Norway and Kuwait, copper in Chile). For these countries, building fiscal reserves allows the replacement of nonfinancial wealth with financial assets, thereby preserving capital and generating current income for future generations.

71. Sterilizing fiscal surpluses can also strengthen demand management. For example, in the case of Norway the accumulation of sizable fiscal reserves, which have been invested abroad (Box 4), has successfully dampened inflation, upward pressure on the exchange rate, and a loss of competitiveness in non-oil sectors ("Dutch Disease"). At the same time, the Norwegian authorities have sought to insulate the budget from the volatility of petroleum revenues due to the sharply fluctuating world market price. In Kuwait, the Reserve Fund for Future Generations (RFFG) was originally established to offset budgetary shortfalls from a downturn in oil prices with a view to be able to safeguard public investment and social spending.[63] [64] Generally, the motivation has been to save current income in preparation for large future outlays. Importantly, this includes increased social security expenditures as populations age and/or the need to finance systemic reforms of the pension system (e.g., Norway, Singapore).

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[62]Chalk and Hemming (1998) emphasize that the stabilization role of the government may require to run fiscal surpluses to correct macroeconomic disequilibria. For a general discussion of when fiscal surpluses may be appropriate see also Hemming and Daniel (1995)

[63]The fund was substantially enlarged during the first oil boom in the early 1970s and fiscal surpluses were built up until the late 1980s. Fiscal reserves were drawn upon to finance reconstruction activities after the occupation by Iraq and to compensate for budgetary revenue shortfalls owing to the decline in oil prices prior to 1998. This, in turn, has reduced investment income and increased the dependency on current oil revenues (Chalk et al. 1997). More recently, however, fiscal reserves have increased again.

[64]Following the Kuwait model, Azerbaijan is considering the establishment of an Oil Trust Fund, primarily to save revenues from exports and large bonus payments made by foreign investors in a bid to moderate the appreciation of the real exchange rate (Rosenberg and Saavalainen 1998).

Box 4: The Norwegian State Petroleum Fund

The idea for this fund dates back to the initial exploitation of North Sea oil reserves in the early 1970s. The Norwegian State Petroleum Fund (SPF) was set up in 1990 during a period of economic recovery and acceleration of North Sea petroleum extraction and exports. During the early 1990s, the fund lay dormant as the government pursued an expansionary fiscal policy to counter a continuing recession. However, since the mid-1990s substantial fiscal reserves have been accumulated due to rising oil revenues and expenditure restraint during a period of strong economic growth. At end-1998, the balance in the SPF was close to US$23 billion, equivalent to almost 17 percent of GDP.

The Norwegian SPF is set up in a very transparent fashion. Oversight mechanisms and investment rules have been established, and information on the SPF's balance and transfers into and out of the fund SPF are easily and frequently available (e.g., quarterly reports). In the budgetary framework, there is a clear distinction between non-oil and oil-related expenditures and revenues. The Ministry of Finance is responsible for the investment strategy, but has appointed the central bank (Norges Bank) as an operational manager for the SPF. Originally, all assets of the SPF were invested abroad in low-risk, interest-bearing financial instruments, such as bonds and bills issued by foreign governments or highly rated international institutions, with the currency composition of the SPF investment portfolio defined by Norway's import weights. (About 75 percent of the investments were thus placed in Europe, with about one-third in Sweden and Denmark.) In 1997, the investment guidelines were revised. Geographical dispersion was increased (the exposure in Europe was reduced to 50 percent) and it was decided that some 30-50 percent of SPF assets be invested in equities to achieve a higher rate of return.

The Norwegian authorities expect an accumulation of funds of 150 percent, or more, of projected GDP by the year 2030. A portfolio of such size is estimated to generate a return on investment sufficient to meet the projected long-term non-oil budget deficit.

Sources: IMF (1998a); http://www.odin.dep.no; http://www.norges-bank.no

Institutional set-up and management rules

72. In general, countries that have generated fiscal reserves have also established an institutional framework and a set of rules for managing and using them. Broadly categorized, there appear to be two different institutional set-ups for fiscal reserves. Some countries (e.g., Kuwait, Singapore) have established separate trust funds or organizations, generally under the supervision of a government agency or a board of directors, that are in charge of the management of fiscal reserves. In these cases, the central bank functions have generally remained unblurred. In other cases (e.g., Chile, Hong Kong SAR, and Norway), the government has delegated the management task to the respective central banks and monetary authorities. Moreover, some countries include fiscal reserves in net international reserves (e.g., Chile, Hong Kong SAR) while others do not (e.g., Norway).

C. Building Fiscal Reserves and Establishing the SRF

73. Estonia's fiscal performance during the transition has been remarkable (Tables 5–7). Expenditure restraint and a comparatively favorable revenue performance helped to limit fiscal deficits or achieve fiscal surpluses during the period 1992-96.[65] Fiscal outcomes improved much in 1997 and the first half of 1998 when general government budget surpluses of about 2 percent of GDP were achieved.[66] Fiscal restraint has also helped to limit external indebtedness. The level of official external debt and the debt service ratio have remained low.[67] Net of SRF holdings, the stock of public sector external debt amounted to less than 1.5 percent of GDP at end-March 1999.

74. Between September 1997 and March 1999, a total of EEK 2.8 billion were accumulated in the SRF (including interest), which is equivalent to about 3½ percent of projected 1999 GDP (Table 8). In late 1998, the government withstood strong pressures to tap the SRF to compensate agricultural producers for harvest losses and industrial enterprises for export shortfalls to Russia. However, the government transferred only half of the Telekom privatization proceeds to the SRF in February 1999, while the balance was used to finance the sharply increased budget deficit and to replenish the government's domestically held cash reserve.

75. In the course of 1998, the authorities began to consider possible rules and operational guidelines for the SRF.[68] So far, however, few decisions have been taken. In the absence of a formal framework, the SRF has effectively been controlled by the Ministry of Finance. In March 1998, the Ministry of Finance and the Bank of Estonia signed a contract, establishing that the latter would act as the agent of the former. It was stipulated that SRF funds could only be invested in foreign money and securities markets (demand deposits, term deposits,

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[65]For details on Estonia's favorable stabilization experience during the first few transition years see Saavalainen (1995). Budina (1997) considers Estonia as a good example of a country that, by pursuing tight fiscal policies early on in the transition, was able to resume growth sooner and more rapidly than countries that maintained large budget deficits.

[66]The staff report for the 1999 Article IV consultations provides details on the fiscal performance in 1998 (IMF 1999b).

[67]Kapur and van der Mensbrugghe (1997) provide an assessment of external borrowing by the Baltics, Russia, and other countries of the former Soviet Union.

[68]See Kopits and Symansky (1998) for a general discussion of fiscal policy rules.

government bonds, government backed bonds, investments backed by government securities or repurchase transactions).[69]

76. The government intends to draft specific legislation concerning the SRF, which would provide a fully elaborated institutional and operational framework for the fund. A number of proposals have been made as regards the operations of the SRF, including (i) the establishment of an SRF supervisory committee or board, which could comprise representatives from the government, the Bank of Estonia, and nongovernment institutions; and (ii) full elaboration of a transparent investment strategy, focussing on maturities, portfolio composition, maximum expected risk levels, and currency composition. As regards transparency, the Norwegian State Petroleum Fund would appear to be a useful model.

77. It is generally recommended to use accumulated fiscal surpluses for the retirement of government debt.[70] However, with little external and domestic public debt, Estonia is in the favorable position that accumulated fiscal surpluses can be used for other purposes. These include, most importantly, the financing of a systemic pension reform and possibly also major infrastructure investments.

78. The Estonian authorities are considering to establish transparent rules on the procedures for the use of SRF resources.[71] These include (i) making the use of SRF resources dependent upon parliamentary approval; (ii) strictly limiting, or disallowing, the use of SRF resources for financing specific types of expenditures; and (iii) including the use of SRF resources explicitly in the budget. There have also been proposals to link spending out of SRF to economic performance, by, for example, requiring payments into the SRF if GDP growth exceeds a certain threshold, leaving the fund untouched if growth is slow, and making use of SRF resources to finance the budget when there is negative growth.

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[69]For investments in other instruments, a separate written agreement between the two institutions is necessary.

[70]See, for example, Chalk and Hemming (1998).

[71]For a discussion of transparency issues see Kopits and Craig (1998). See also the Code of Good Practices on Fiscal Transparency on the IMF's external website.

Table 5. Countries in Transition: General Government Balance, 1992-98
(In percent of GDP)

Country	1992	1993	1994	1995	1996	1997	1998
ALBANIA	-21.5	-9.1	-7.0	-6.7	-10.7	-10.8	-6.4
ARMENIA	-37.6	-56.1	-16.5	-9.0	-8.6	-5.9	-5.3
AZERBAIJAN	2.7	-15.3	-12.1	-4.9	-2.8	-1.7	-4.3
BELARUS	-2.8	-1.9	-2.6	-1.9	-1.6	-0.7	-2.5
BULGARIA	-5.2	-10.9	-5.8	-6.3	-12.7	-2.5	1.3
CROATIA	-3.9	-0.8	1.6	-0.9	-0.4	-1.3	-0.9
CZECH REPUBLIC	-2.1	0.5	-1.2	-1.8	-1.2	-2.1	-1.4
ESTONIA	-0.3	-0.7	1.3	-1.2	-1.5	2.0	-0.3
GEORGIA	-34.5	-26.2	-16.5	-5.3	-4.5	-4.1	-3.7
HUNGARY	-6.9	-8.4	-8.2	-6.2	-3.1	-4.8	-4.3
KAZAKHSTAN	-7.3	-1.4	-7.7	-3.2	-4.7	-6.8	-6.6
KYRGYZ REPUBLIC	-17.6	-13.5	-16.3	-19.9	-9.8	-9.3	-7.0
LATVIA	-0.8	0.6	-4.4	-3.9	-1.7	0.1	-0.8
LITHUANIA	0.5	-5.3	-4.8	-4.5	-4.5	-1.8	-5.8
MACEDONIA, FYR	-9.8	-13.4	-2.9	-1.2	-0.5	-0.4	-0.7
MOLDOVA	-23.7	-8.9	-9.1	-7.7	-10.7	-5.9	-7.1
MONGOLIA	-12.7	-14.6	-24.6	-4.8	-8.2	-8.6	-10.0
POLAND	-6.2	-3.4	-3.2	-3.3	-3.6	-3.3	-2.5
ROMANIA	-4.6	-0.4	-1.9	-2.6	-4.0	-3.6	-3.6
RUSSIA	-22.0	-7.6	-10.5	-5.7	-8.5	-7.5	-8.5
SLOVAK REPUBLIC	-11.9	-7.0	-1.3	0.2	-1.3	-5.1	-5.5
SLOVENIA	0.2	0.3	-0.2	0.0	0.3	-1.1	-0.9
TAJIKISTAN	-31.2	-21.1	-10.5	-11.2	-5.8	-3.4	-2.0
TURKMENISTAN	13.3	-0.3	-1.1	-1.3	-0.6	0.0	-2.7
UKRAINE	-24.2	-11.8	-8.7	-4.9	-3.2	-5.6	-2.9
UZBEKISTAN	-12.2	-10.4	-6.1	-4.1	-7.3	-2.3	-4.8

Sources: WEO; and Fund staff estimates.

Table 6. Countries in Transition: General Government Revenue, 1992-98
(In percent of GDP)

Country	1992	1993	1994	1995	1996	1997	1998
ALBANIA	24.7	28.4	26.9	26.1	23.2	21.8	19.6
ARMENIA	29.1	28.4	27.7	19.9	17.7	19.8	21.4
AZERBAIJAN	51.1	40.6	37.3	17.5	17.6	19.2	20.6
BELARUS	42.6	55.6	47.3	43.6	38.7	46.0	44.8
BULGARIA	38.4	37.2	39.9	36.1	32.5	31.1	30.9
CROATIA	32.2	34.2	42.2	44.1	45.4	45.0	46.3
CZECH REPUBLIC	45.0	45.9	44.7	43.5	42.5	40.7	39.0
ESTONIA	34.6	39.2	41.3	39.9	39.0	39.3	39.5
GEORGIA	19.0	12.4	7.7	7.1	9.4	10.4	13.1
HUNGARY	53.1	53.7	51.2	47.6	46.5	45.7	42.1
KAZAKHSTAN	24.5	29.9	22.2	24.0	13.8	13.4	13.9
KYRGYZ REPUBLIC	17.5	25.3	20.8	16.7	15.9	17.0	18.0
LATVIA	28.1	36.4	36.1	37.2	38.0	40.1	40.6
LITHUANIA	32.0	30.2	31.7	32.3	29.6	32.6	34.2
MACEDONIA, FYR	39.3	40.2	46.4	42.0	41.0	38.9	37.2
MOLDOVA	31.4	22.2	33.5	32.9	30.1	36.7	33.0
MONGOLIA	25.2	34.7	23.1	34.5	27.8	29.0	26.0
POLAND	43.3	47.1	46.0	44.8	44.0	44.5	43.0
ROMANIA	37.4	33.9	32.1	31.9	29.8	27.7	33.2
RUSSIA	47.0	37.3	34.9	32.7	31.8	31.9	27.9
SLOVAK REPUBLIC	46.0	44.2	46.4	46.9	47.4	40.9	39.1
SLOVENIA	45.8	47.0	45.9	45.7	45.2	43.8	42.0
TAJIKISTAN	30.8	33.6	47.6	11.0	13.1	9.8	6.6
TURKMENISTAN	42.3	12.8	8.1	10.7	13.6	23.2	29.3
UKRAINE	34.2	42.8	41.9	37.8	36.7	38.4	34.9
UZBEKISTAN	34.7	42.6	32.3	34.6	34.3	29.9	26.3

Sources: WEO; and Fund staff estimates.

Table 7. Countries in Transition: General Government Expenditure 1/
(In percent of GDP)

Country	1992	1993	1994	1995	1996	1997	1998
ALBANIA	46.2	37.5	33.9	32.8	33.9	32.6	26.0
ARMENIA	66.7	84.5	44.1	28.9	26.3	25.7	26.7
AZERBAIJAN	48.4	55.9	49.4	22.4	20.4	20.9	24.9
BELARUS	45.5	57.5	49.9	45.5	40.3	46.7	47.3
BULGARIA	43.6	48.1	45.7	42.4	45.2	33.6	29.6
CROATIA	36.1	35.0	40.6	45.0	45.8	46.3	47.2
CZECH REPUBLIC	47.1	45.4	45.8	45.3	43.6	42.9	40.4
ESTONIA	34.8	39.9	40.0	41.1	40.5	37.3	39.8
GEORGIA	53.5	38.6	24.2	12.3	13.9	14.5	16.8
HUNGARY	60.0	62.1	59.4	53.8	49.6	50.6	46.4
KAZAKHSTAN	31.8	31.3	29.9	27.2	18.5	20.2	20.5
KYRGYZ REPUBLIC	35.1	38.8	37.1	36.6	25.7	26.3	25.0
LATVIA	28.9	35.8	40.5	41.1	39.7	40.0	41.3
LITHUANIA	31.5	35.4	36.5	36.8	34.1	34.4	40.1
MACEDONIA, FYR	49.1	53.6	49.3	43.1	41.5	39.4	37.9
MOLDOVA	55.1	31.1	42.6	40.6	40.8	42.6	40.1
MONGOLIA	37.9	49.3	47.7	39.3	36.0	37.6	36.0
POLAND	49.5	50.5	49.2	48.1	47.5	47.8	45.5
ROMANIA	42.0	34.2	33.9	34.5	33.8	31.3	36.8
RUSSIA	69.0	44.9	45.4	38.4	40.3	39.4	36.4
SLOVAK REPUBLIC	57.9	51.2	47.8	46.7	48.7	46.0	44.6
SLOVENIA	45.6	46.8	46.1	45.7	44.9	44.9	42.9
TAJIKISTAN	62.0	54.6	58.1	22.2	18.9	13.2	8.6
TURKMENISTAN	28.9	13.1	9.2	12.0	14.2	23.2	32.1
UKRAINE	58.4	54.6	50.6	42.7	39.9	44.0	37.7
UZBEKISTAN	46.9	53.0	38.5	38.7	41.6	32.2	31.1

Sources: WEO; and Fund staff estimates.

1/ Including net lending.

Table 8. Estonia: Financial Operations of the Stabilization Reserve Fund, 1997-99

	1997		1998					1999	
	Q4	Year	Q1	Q2	Q3	Q4	Year	Q1	Year 1/
					(in millions of EEK)				
Transfers to the SRF	700	700	300	100	126	--	526	1,540	1540
of which General government surpluses	700	700	300	100	126	--	526	--	
Privatization proceeds	--	--	--	--	--	--	--	1,540	1540
Balance (end-period)	700	700	1,000	1,100	1,226	1,226	1,226	2,766	2,766
					(in percent of GDP)				
Transfers to the SRF	4.0	1.1	1.8	0.5	0.7	--	0.7	8.8	2.0
of which General government surpluses	4.0	1.1	1.8	0.5	0.7	--	0.7	--	--
Privatization proceeds	--	--	--	--	--	--	--	8.8	2.0
Balance (end-period)		1.1					1.7		3.5
Memorandum item:									
Nominal GDP (in millions of EEK)	17,575	64,324	16,902	19,361	18,572	18,378	73,213	17,613	78,200

Sources: Ministry of Finance; and Fund staff estimates and projections.

1/ Staff projections.

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V. Implications of EU Accession and Participation in EMU[72]

A. Introduction

79. Estonia attaches high priority to rapid accession to the European Union (EU) and participation in Economic and Monetary Union (EMU). It applied for EU membership in 1995, and was two years later included by the European Council in the first group of countries invited to start membership negotiations together with Cyprus, the Czech Republic, Hungary, Poland, and Slovenia.[72] This represented a recognition of Estonia's efforts toward integrating into the world economy and Western Europe. Estonia's inclusion in the first group of accession candidates was, in large part, the result of strong macroeconomic and structural policies that had led to major progress in disinflation, external stability, and sustainable growth.

80. Since gaining independence in 1991, Estonia's economic policies have been anchored in a currency board arrangement and a peg to the deutsche mark, combined with a highly liberal external trade and capital account regime. Estonia has also moved ahead quickly and vigorously in deregulation, price liberalization, and enterprise restructuring and privatization with the objective to establish a market-oriented economy.[73] More recently, Estonia has begun to address many of the legal and institutional adjustments required for EU membership. It has been very successful in attracting foreign investors and its trade with Western partners has grown strongly. This can be attributed to Estonia's strong policy performance, helped by historic ties with Scandinavian countries, a favorable geographic location, a relatively well-developed infrastructure and industrial base, and its well-qualified and still inexpensive labor force.

81. Looking ahead, closer and more formal economic integration with the EU will have benefits and costs for Estonia. For all accession candidates, there is an expectation that the longer term economic gains from joining the EU's common market will outweigh the related adjustment costs incurred in the transitory period. This view is supported by evidence from countries that joined the EU before the 1990s, with the favorable growth performance of Portugal, Spain, and, especially, Ireland, clearly dominating the less favorable experience of Greece. While these country experiences point to the significance of the domestic policies pursued in earlier years, the integration process had a bearing on their choice of policies. The

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[72]Prepared by Günther Taube and René Weber. Helpful comments on an earlier draft were received by Mr. Bernard Brunet from the European Commission.

[72]The following Central and Eastern European Countries (CEECs) are also membership candidates: Bulgaria, Latvia, Lithuania, Romania, and Slovakia.

[73]For a summary of structural reforms in Estonia since independence see Chapter II, for a detailed discussion of reforms in the financial sector see Chapter III.

assumption of a favorable impact of accession is also underpinned by model simulations which suggest a positive real income effect for EU membership candidates from Central and Eastern Europe.[74] On the other hand, in addition to the costs related to a reallocation of means of production, further integration with the EU will restrict the scope for discretionary policies given the need for "policy convergence" and the discipline imposed by the Copenhagen criteria (see below), the Maastricht criteria, and the Stability and Growth Pact. Estonia has already lived within such constraints since the currency board leaves limited room for independent monetary and exchange rate policies. Moreover, there are likely to be sizable additional budgetary outlays as well as resource implications from other "adjustment challenges" (EBRD, 1998) which will arise from the need to comply with numerous EU regulations and standards and the requirement for large public sector investments in infrastructure, the environment, and other sectors. In the case of Estonia, which currently has no import tariffs or other trade restrictions, EU accession will also lead to the introduction of tariffs that could divert trade, reduce efficiency, and cause welfare losses.

82. This chapter analyzes the possible macroeconomic benefits and costs resulting from EU membership and EMU participation for Estonia, with particular emphasis on trade and capital flows and fiscal policies. A few caveats are in order as regards the substantive scope and analytical instruments used. First, while projecting future policies and developments is generally difficult and necessarily judgmental, the analysis undertaken is complicated by the fact that many domestic policies are yet to take shape as accession negotiations are still at an early stage. In addition, the policy framework of the EU as well as EMU are both "moving targets;" i.e., they are likely to undergo important changes in the coming years.[75] A prominent example in this context is the Common Agricultural Policy (CAP) which may be further reformed before Estonia joins the EU. Second, the net effects of EU accession and EMU participation cannot be well isolated and quantified. Determining the specific impact of the membership scenario as compared to a plausible alternative, or counterfactual, is elusive.[76] Third, the analysis is made even more complicated by the fact that Estonia's economic integration with the EU, and other European countries, is already well underway and set to intensify during the pre-accession period. EU accession and participation in EMU can usefully be interpreted as further stages of an ongoing process.

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[74]See, for example, Baldwin et al. (1997), IMF (1994), IMF (1997), and Feldman et al. (1998).

[75]As Havrylyshyn (1998) points out, it is also important to acknowledge that EU enlargement and EMU are not the only mechanisms of further economic integration in Europe. These include, for example, the various forms of cooperation among the states surrounding the Baltic Sea.

[76]Without the option of EU accession, Estonia may have joined not only EFTA but also the European Economic Area, where much of the regulatory requirements are modeled on those of the EU.

B. Relations with the EU

83. The conclusion of Association Agreements with Central and Eastern European countries (CEECs) is part of the EU's pre-accession strategy.[77] The ultimate aim is to enable the applicants to prepare for accession, notably by fully accepting the *acquis communautaire*.[78] Underlying these agreements is the understanding reached at the European Council in Copenhagen in 1993 that all associated CEECs should be admitted to join the EU, provided they fulfil all the necessary conditions, including their ability to adhere to the aims of economic and monetary union. The so-called Copenhagen criteria serve as a strict benchmark by which progress on the way to economic and political compatibility with the EU is to be judged. The Copenhagen criteria are (i) the existence of stable institutions guaranteeing democracy, the rule of law, human rights, and respect for the protection of minorities; (ii) the existence of a functioning market economy and the capacity to cope with competitive pressures and market forces within the EU; and (iii) the ability to take on the obligations of membership, including adherence to the aims of political, economic, and monetary union (Temprano-Arroyo and Feldman 1998).

84. The Association Agreements have been criticized for potentially reducing intra-CEEC trade and investment.[79] In addition, relatively strict rules of origins initially applied (e.g., on minimum local value added) for exports originating in the associated partner countries. The original cumulation provisions, determining the extent by which value added in other countries with a similar preferential trade agreement counts as local content, permitted only the bilateral cumulation (between individual CEECs and the EU) as well as the diagonal cumulation among selected countries (among the Visegrad countries and with the EU). Following an amendment of the relevant agreements in 1997, the EU extended the right for the diagonal cumulation of local value added to a significantly larger group of countries, including Estonia. "Originating products" can since be moved around more widely while still qualifying for preferential tariff treatment. This *pan-European cumulation of origin* removed potential obstacles for

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[77]These "Europe Agreements" define the lines of cooperation in a wide range of policy areas, triggering far-reaching adjustments in the legal and regulatory frameworks, particularly in trade-related areas such as competition, state subsidies, customs, product standards, and intellectual property rights. For more details on the general nature and contents of these agreements see Temprano-Arroyo and Feldman (1998) or Pautola (1996).

[78]To provide guidance regarding the most important items of the EU internal market legislation, the European Commission issued a "White Paper" in May 1995. Support in strengthening administrative capacities to implement the *acquis* is given through the process of "twinning" under the PHARE program, which makes technical and administrative expertise of EU member countries available to accession candidates.

[79]On these so called "hub and spoke" effects, which are related to relatively high intra-CEEC tariffs or legal uncertainty, see further below.

cost-efficient specialization in production and intra-industry trade within the EU periphery and notably improved Estonia's trade and investment environment.[80]

85. The EU and Estonia signed an Association Agreement in June 1995 which entered into force in February 1998. The agreement fully replaced previous treaties with the EU (an Agreement on Trade and Commercial and Economic Cooperation, signed in May 1992, which was converted into a Free Trade Agreement in 1994) and expanded the scope of cooperation. In addition to the trade liberalization component, it includes provisions on the movement of labor and capital, the supply of services, economic, cultural and financial collaboration, the prevention of illegal activities, and a more intensive political dialogue. It also provides for financial support from the EU through PHARE, exceptional macrofinancial assistance, and loans and grants from the European Investment Bank.

86. Based on the Commission's Agenda 2000, the EU has intensified its dialogue with the accession candidates through "Accession Partnerships." Based on the favorable "Opinions" of the European Commission on membership, the European Council decided in December 1997 to start accession negotiations with Cyprus, the Czech Republic, Estonia, Hungary, Poland, and Slovenia that were formally launched in March 1998. In its first annual progress report on Estonia, issued in November 1998, the European Commission gave a broadly favorable assessment of Estonia's progress, but also highlighted a number of shortcomings as regards administrative capacity. On the economic criteria, the report concluded that" .... Estonia can be regarded as a functioning market economy, and should be able to cope with competitive pressure and market forces within the Union in the medium term, provided that prudent macroeconomic management continues to limit the risks associated with its large external imbalances" (European Commission 1998). Estonia's domestic agenda for meeting the requirement for EU membership is contained in its "National Programme for the Adoption of the Acquis" which is updated on a yearly basis.

87. In parallel with the accession negotiations, a thorough screening of national legislation aimed at identifying remaining discrepancies relative to the EU's *acquis* is under way with the first group of accession candidates. Chapters which have already been closed (i.e. areas in which negotiations have been concluded) may at a later stage be reopened in light of the development of the *acquis* and the context of the final negotiation offers from both sides. It is likely that agreements on transition periods will need to be reached. However, given the challenges that eastward enlargement presents for the EU's internal decision making procedures and financing structures, there will be limited scope for the applicants to influence the pace of the negotiations. It is currently expected that Estonia and the other CEE candidates will not become EU members before the year 2003.

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[80]After Turkey was included at the beginning of 1999, these cumulation provisions now apply to 32 countries, namely the members of the EU, EEA and EFTA, the 10 associated CEECs, as well as Andorra, San Marino, and Turkey. See Temprano-Arroyo and Feldman (1998).

C. The Macroeconomic Impact of Further Economic Integration

Trade patterns in transition

88. Estonia is a small and very open economy. It has no external tariffs and only very limited restrictions on international capital mobility in the form of rules on FDI in some sectors (e.g., aviation, maritime sector, land sales). Free trade agreements are in force with all main trading partners except Russia.[81] Underpinned by a currency board arrangement, the Estonian kroon is fully convertible and its exchange rate to the deutsche mark has remained unchanged at 8:1 since 1992.[82] This transparent and liberal external policy framework has helped boosting Estonia's trade with Western countries following independence in 1991 and has played an important role in attracting foreign investors.

89. Estonia has successfully integrated in the global trading system. Its external openness has grown over time, as evidenced by a ratio of goods and services exports and imports to GDP of 170 percent. This is, by far, the highest degree of openness among all transition countries (Table 9). Havrylyshyn and Al-Atrash (1998) have shown that Estonia and other CEECs have by now economies that are as open as market economies of similar size and per capita income. Since 1991, the direction of trade has shifted progressively and markedly toward the West and away from Russia and other CIS countries (Tables 10–12). Specifically, trade with Finland and Sweden across the Baltic Sea has risen strongly in recent years. The share of trade with Russia had already declined substantially through mid-1998, and triggered by the August 1998 events it fell sharply in the second half of 1998. By contrast, the share of exports to the EU countries rose from 48 percent in 1993 to around 62 percent in 1998.

90. Because of substantially lower labor costs than in Western Europe, Estonia has developed into a favorable location for Scandinavian and other Western high-technology firms seeking to outsource assembly work. Partly because of this, Estonia's trade structure, and its export profile in particular, has converged markedly with that of current EU members as the share of manufactured exports, mainly electronics, in the commodity composition of trade has increased substantially. These "new exports" are characterized by a high value added and substantial potential for exports to the rest of the world. By contrast, the share of traditional, mostly agriculture-based exports to Russia and the CIS has declined (Table 11). As regards export-oriented manufacturing, Estonia has clearly benefited from its highly favorable

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[81]Estonia has signed bilateral Free Trade Agreements with Hungary, Poland, the Czech Republic, Ukraine, the Slovak Republic, Slovenia and Turkey. It is a member of EFTA and has ratified the Baltic Free Trade Agreement with Latvia and Lithuania. WTO membership status is expected for 1999. For a detailed analysis of Regional Trade Arrangements with Estonian Participation see Sorsa (1997).

[82]Estonia's currency board arrangement has been analyzed by Bennett (1992, 1994), Pautola and Backé (1998), Sepp (1995), and Baliño et al. (1997).

geographical location at the crossroads between the East and the West but relatively close to Western European markets and its access to sea shipping. Because of the latter and as evidenced by large increases in services receipts, Estonia has flourished as a transit location for raw materials exported from Russia and other CIS countries to the West (in particular oil shipments). Finally, Estonia has benefited from a growing tourism industry which has been the second major source of services receipts in recent years.

Table 9. Trade Indicators for Central and Eastern European Countries ,1998

	Trade openness 1/	Trade-orientation toward the EU 2/
	In percent of GDP	In percent of total trade
Albania	41.9	82.9
Bulgaria	98.4	46.2
Croatia	94.9	55.1
Czech Republic	115.7	59.9
Estonia	**169.6**	**70.1**
Hungary	121.7	69.5
Latvia	110.4	54.9
Lithuania	106.9	46.0
FYR Macedonia	103.0	43.3
Poland	54.8	67.4
Romania	58.6	57.8
Slovakia	118.9	49.5
Slovenia	114.7	67.6

Sources: IMF, Direction of Trade Statistics Database; Bank of Estonia .

1/ Trade in goods and non-factor services as a share of GDP.
2/ Trade in goods with the EU as a share of total trade in goods.

The trade channel

91. The evolution of trade during the transition process as well as theoretical considerations presage that Estonia's trade-orientation towards Western markets is likely to intensify further with closer integration. Theory suggests that international economic integration ultimately improves the allocation of resources (static effect) and leads to gains from increased competition on goods and factor markets (dynamic effect). This process involves a possibly disruptive shift of these resources to more productive uses and the adjustment of the economic structure to the more competitive environment. By strengthening its economic ties across borders, a country can take better advantage of a larger market with its partner countries, although it could also be more strongly affected by cyclical downturns in those countries. While the advantages from participating in a free trade area or customs union

mainly accrue from a more efficient use of domestic resources through trade specialization, joining a common market also entails the elimination of obstacles to capital and labor mobility.

92. In order to assess the net effects of closer economic integration, both trade and financial linkages need to be considered.[83] Trade-induced welfare effects are largely determined by the *previous level of protection* and the new common tariff regime to be adopted. As regards individual countries, it is ultimately an empirical question whether the benefits of *trade creation* will exceed the costs of *trade diversion*. In this context, it has been argued that the current system of bilateral EU association agreements may in fact exacerbate trade diversion and effectively reduce trade as well as investment activity among the associated CEECs (Baldwin 1994). Through the so called "hub-and-spoke effect" the EU membership candidates ("spokes") may be marginalized to the benefit of the EU ("hub"). However, these considerations become less of a concern as the level of integration among the accession candidates is raised (e.g., through regional free trade initiatives such as the Baltic Free Trade Agreement).[84]

93. Rather than dismantling trade barriers at the border, Estonia will have to introduce certain restrictions on imports, particularly tariffs on agricultural products, which in principle could have an adverse impact on trade. It is indeed possible that EU accession may actually result in higher quantitative and non-quantitative trade barriers vis-à-vis non-members.[85] However, all of Estonia's main trading partners are also part of the EU's extensive network of Free Trade Agreements and Partnership and Cooperation Agreements with ten CIS countries (including Russia and the Ukraine). With the general level of trade protection thus being low, the potential for trade diversion appears to be limited. Exports from only a few countries are expected to be affected by the introduction of tariffs.[86] The already large share of EU imports in overall imports also points to minor welfare losses from adopting external tariffs.

94. By contrast, trade links with the EU are bound to deepen further, given the close economic ties and the alignment of the legal and regulatory frameworks with EU norms. Also,

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[83]For a more detailed theoretical discussion of these linkages and relevant empirical evidence see Russo (1998) and Feldman et al. (1998).

[84]In addition, the extent of possible discrimination depends on the existing regime for rules of origin and the regulations on market access for services.

[85]For example, it has been shown that trade barriers versus non-EU members increased following the creation of the European single market in January 1993. See Taube (1992).

[86]The main countries affected are Australia, Canada, Japan, New Zealand, Taiwan, and the United States to which the EU accords only most-favored-nation (MFN) treatment. The impact is limited for Russia and the Ukraine which have preferential access to the EU market on the basis of their Partnership and Cooperation Agreements.

trade with the EU can be expected to increase further to the extent that more FDI will flow into export production. Studies based on gravity models have shown that, in general, there is a potential for further expansion of CEEC exports to the EU, with an expected share of CEEC exports to the EU of 70 percent or more.[87] Given that Estonia's share of exports to the current 15 EU members reached 62 percent in 1998, there appears to be room for further expansion (Tables 10–12).

95. The trade impact of EU accession will to some extent also depend on further improvements in the *degree of market access to the EU*, especially as regards agriculture and services which are not or only partially subject to the provisions of the association agreement. In these sectors, market access will depend on Estonia's progress in adopting and implementing relevant EU regulations. This, in turn, will require building up the necessary administrative capacity. Equally important is the ability of the private sector to comply with the sanitary and safety standards required for the sale of products within the common market. Upon accession, the impact will be smaller if Estonia prepares itself well with regard to meeting the requirements of the single market during the pre-accession period.

96. As regards the EU's CAP, Estonia has started preparing the institutional and policy framework needed for its introduction. This will subsequently lead to protection from non-EU farmers and the agricultural industry more generally. At the same time, Estonia's agricultural producers will not be discriminated against in other EU countries. Both changes foster exports of agricultural exports to the EU and other CEECs. As regards services, better opportunities due to gaining market access to the EU, especially in the transport sector, will partly compensate the negative impact from less favorable trade relations with Russia. There is also a good chance for travel services receipts to increase further as visa-free travel to and from some EU countries has already become possible.

97. EU accession is likely to further enhance domestic competition and spur structural change. The *intensity of competition from abroad* is relevant for judging the potential dynamic gains from trade in goods and services. Although Estonia's liberal trade regime already facilitates market entry by foreign firms, there appears to be further scope for additional dynamic integration gains from increased competition due to EU accession. It is this dynamic impact of joining the EU's common market in the form of spurring competitive pressures and fostering restructuring as well as innovation that is likely to be the predominant integration effect in the medium term. It promises to lead to a sustained increase in output capacity as well as a rise in total factor productivity.[88]

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[87]For a summary of these studies see Feldman et al. (1998).

[88]See for example the analysis of welfare effects of the European Communities' Common Market Program by Emerson et al. (1988).

Table 10. Reorientation of Central and Eastern European Countries' Trade in Goods With the European Union, 1993-98 /1

(In percent of each country's total exports/imports)

	1993	1994	1995	1996	1997	1998
CEE countries' exports to the EU						
Albania	71.3	83.0	84.0	80.2	87.5	88.6
Bulgaria	48.0	46.6	38.6	40.0	43.3	47.9
Croatia	56.7	59.4	57.7	51.0	50.4	47.1
Czech Republic	55.5	53.4	54.5	58.2	60.2	60.2
Estonia	*48.3*	*47.9*	*54.7*	*51.0*	*56.6*	*61.7*
Hungary	57.9	64.4	62.8	62.6	71.2	68.0
FRY Macedonia	34.5	33.2	34.0	45.9	43.2	44.6
Poland	69.3	69.2	70.1	66.5	64.2	62.9
Romania	41.4	48.2	54.4	55.9	54.9	60.2
Slovak Republic	29.6	35.0	37.4	41.3	46.9	51.3
Slovenia	61.6	62.8	67.3	64.6	63.6	65.5
CEE countries' imports from the EU						
Albania	87.3	77.7	77.3	79.3	83.8	81.3
Bulgaria	43.4	50.9	38.4	36.4	40.4	44.6
Croatia	55.4	59.2	62.1	59.4	58.3	59.2
Czech Republic	51.1	54.3	56.3	58.1	52.0	59.7
Estonia	*60.4*	*63.5*	*66.0*	*66.4*	*75.3*	*75.7*
Hungary	54.6	61.5	61.5	59.7	62.4	70.8
FRY Macedonia	33.5	37.1	40.3	46.6	41.5	42.4
Poland	64.8	65.3	64.7	63.9	63.8	69.9
Romania	45.3	48.2	50.9	52.2	50.8	56.1
Slovak Republic	27.9	33.4	34.8	36.9	45.7	48.1
Slovenia	62.1	64.0	69.3	67.5	67.4	69.4

Sources: IMF, Direction of Trade Statistics database; and Fund staff estimates.

1/ Based on EU-15.

Table 11. Estonia: Composition of Exports by Countries and Commodities, 1994-98

(i) By Countries

	1994	1995	1996	1997 1/		1998	
				1st half	2nd half	1st half	2nd half
	(In percent of total exports)						
European Union	47.9	54.7	51.0	57.8	55.6	58.2	65.3
Denmark	3.4	3.3	3.5	3.6	3.3	3.6	4.0
Finland	17.8	21.5	18.3	19.6	18.3	18.1	26.0
Germany	6.8	7.2	7.1	7.4	5.7	6.2	6.1
Netherlands	3.1	4.7	2.9	3.2	2.4	1.9	2.2
Sweden	10.8	10.8	11.6	15.0	18.6	19.8	19.1
United Kingdom	2.8	3.3	3.5	4.7	3.9	4.6	4.3
Baltics	13.6	12.2	14.0	12.8	12.8	12.2	12.4
Latvia	8.2	7.5	8.3	8.3	8.3	8.1	8.4
Lithuania	5.4	4.7	5.7	4.5	4.5	4.1	4.0
CIS	28.8	23.5	23.6	20.4	22.7	20.8	14.1
Russia	23.1	17.6	16.4	15.2	17.2	16.1	10.5
Ukraine	3.1	3.8	5.0	3.7	4.1	3.7	2.6
Other Countries	9.7	9.6	11.4	9.0	8.9	8.8	8.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(ii) By Commodities

	1994	1995	1996	1997 1/		1998	
				1st half	2nd half	1st half	2nd half
	(In percent of total exports)						
Foodstuffs	22.2	16.4	15.8	15.1	17.1	15.6	10.8
Mineral Products	8.2	8.1	7.2	5.2	3.8	2.9	2.4
Products of Chemical Industry	8.6	10.3	11.0	8.8	8.2	8.1	6.6
Textiles and Textile Articles	16.4	16.1	17.1	17.4	15.3	15.7	16.4
Wood, Paper and Articles thereof	11.0	13.5	13.4	17.0	16.1	17.8	16.5
Metals and Articles thereof	8.0	6.8	6.4	6.5	7.1	7.1	9.0
Machinery, Mech.Appl, Electronics	9.3	13.0	13.4	15.8	19.9	19.4	25.0
Vehicles, Aircrafts, Vessels	7.6	6.9	6.4	3.8	3.4	3.5	3.1
Furniture, Sportswear	5.4	5.7	6.0	6.3	5.5	6.1	6.6
Other Manufactured Articles	3.3	3.1	3.4	3.9	3.6	3.9	3.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Of which:							
Consumption Goods /2	51.9	45.5	46.1	45.0	43.6	43.1	39.3
Investment Goods	48.1	54.5	53.9	55.0	56.4	56.9	60.7

Source: IMF, Direction of Trade Statistics database; Bank of Estonia.

1/ From 1997 adjusted for transit trade.

2/ Foodstuffs; textiles and textile articles; vehicles, aircrafts, vessels (consumption share 60 percent); furniture sportswear; other manufactured articles.

Table 12. Estonia: Composition of Imports by Countries and Commodities, 1994-98

(i) By Countries

	1994	1995	1996	1997 1/		1998	
				1st half	2nd half	1st half	2nd half
	(In percent of total imports)						
European Union	63.5	66.0	66.4	74.2	76.1	74.7	76.6
Denmark	2.9	2.8	3.0	2.9	3.0	3.3	2.8
Finland	37.3	38.3	36.2	35.3	33.9	33.9	37.3
Germany	8.8	8.8	8.9	9.3	10.1	10.0	9.5
Netherlands	3.4	3.5	3.7	3.8	3.5	3.6	3.2
Sweden	10.1	9.0	8.4	9.0	10.5	9.5	9.7
United Kingdom	1.5	1.9	2.7	2.4	2.2	2.1	2.3
Baltics	4.7	5.3	5.6	5.2	5.2	5.7	5.8
Latvia	2.0	3.3	3.3	3.2	3.5	3.9	4.0
Lithuania	2.8	2.0	2.3	2.0	1.8	1.8	1.9
CIS	20.4	19.0	16.7	11.3	9.7	10.3	8.5
Russia	15.7	15.4	12.9	8.8	7.2	7.1	5.8
Ukraine	1.6	1.0	1.6	0.9	1.0	1.0	0.4
Other Countries	11.4	9.7	11.3	9.3	9.0	9.3	9.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(ii) By Commodities

	1994	1995	1996	1997 1/		1998	
				1st half	2nd half	1st half	2nd half
	(In percent of total imports)						
Foodstuffs	16.0	14.2	15.6	13.3	12.2	11.7	11.0
Mineral Products	14.1	11.5	9.8	8.0	7.9	5.9	5.7
Products of Chemical Industry	11.5	12.6	13.7	12.5	12.0	11.9	11.2
Textiles and Textile Articles	12.8	12.5	11.6	12.1	10.1	11.0	10.9
Wood, Paper and Articles thereof	4.0	4.9	4.7	4.8	4.6	5.1	4.8
Metals and Articles thereof	5.9	7.1	7.8	8.0	8.8	9.6	8.9
Machinery, Mech.Appl, Electronics	19.7	21.6	21.9	23.9	26.4	26.7	32.3
Vehicles, Aircrafts, Vessels	8.6	7.9	7.5	9.9	11.1	11.3	7.9
Furniture, Sportswear	2.8	2.9	2.7	2.6	2.6	2.5	2.8
Other Manufactured Articles	4.6	4.9	4.7	5.0	4.2	4.3	4.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
of which:							
Consumption Goods /2	41.3	39.2	39.1	38.9	35.9	41.5	33.9
Investment/Production Goods	58.7	60.8	60.9	61.1	64.1	58.5	66.1

Sources: IMF, Direction of Trade Statistics database; Bank of Estonia.

1/ From 1997 adjusted for transit trade.

2/ Foodstuffs; textiles and textile articles; vehicles, aircrafts, vessels (consumption share 60 percent); furniture sportswear; other manufactured articles.

The financial channel

98. Estonia has experienced major foreign capital inflows which were sufficient to cover its large savings-investment imbalance. The current account deficit amounted to over 13 percent of GDP in 1997 and 8.6 percent of GDP in 1998. The composition of capital inflows has recently improved markedly in favor of non-debt creating flows and longer maturities.[89] Foreign direct investment (FDI) increased sharply in 1998 as the two largest commercial banks benefited from large capital injections from Scandinavian investors. In early 1999, the (partial) privatization of the major telecommunications parastatal (Eesti Telekom) provided a further large inflow of capital. Whereas during 1989-98, the Czech Republic, Hungary, and Poland received most FDI in absolute terms, Estonia was the second largest recipients of FDI on a per capita basis. Most of Estonia's FDI inflows originated from the EU (Tables 13–14).

Table 13. Foreign Direct Investment (FDI) Indicators for Central and Eastern European Countries, 1989–98

	Cumulative FDI inflows 1989–98	Cumulative FDI inflows 1989-98 per capita	FDI inflows per capita in 1998	FDI inflows in percent of GDP in 1998
	(In millions of U.S. dollars)			
Albania	384	103	12	1.5
Bulgaria	1,352	163	48	3.3
Croatia	2,086	464	190	4.2
Czech Republic	8,053	782	120	2.2
Estonia	*1,467*	*1,005*	*387*	*10.9*
Hungary	14,508	1,429	94	2.0
Latvia	1,645	666	111	4.3
Lithuania	1,566	422	249	8.7
FYR Macedonia	175	80	25	1.7
Poland	14,680	380	159	4.1
Romania	4,489	199	90	5.3
Slovak Republic	1,331	247	56	1.5
Slovenia	1,199	603	83	0.8

Sources: IMF, International Financial Statistics, and World Economic Outlook.

[89]For detailed discussions of debt levels and profiles in the BRO countries see Odling-Smee and Zavoico (1998) and Kapur and van der Mensbrugghe (1997).

Table 14. Estonia: Shares of Net Foreign Direct Investment Inflows by Country of Origin and Field of Activity, 1994-98

(i) By Country of Origin

	1994	1995	1996	1997		1998	
				1st half	2nd half	1st half	2nd half
	(In percent of total net inflows)						
European Union	59.9	74.7	53.1	55.0	32.0	79.6	98.1
Finland	22.3	8.3	27.8	27.5	15.1	35.3	14.2
Sweden	18.7	48.8	7.8	4.7	8.0	15.3	77.0
USA	5.2	8.6	19.9	3.9	1.4	5.4	1.4
Russia and Ukraine	15.4	-2.7	0.1	3.3	1.9	1.1	-2.8
Baltics	0.0	1.7	5.8	23.0	24.2	31.9	-7.4
Other	19.4	17.7	21.1	14.8	40.6	-18.1	10.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(ii) By Fields of Activity

	1994	1995	1996	1997		1998	
				1st half	2nd half	1st half	2nd half
	(In percent of total net inflows)						
Primary sector	1.6	1.8	-5.3	1.5	-0.6	5.5	-0.6
Agriculture, Fishing, Mining	1.6	1.8	-5.3	1.5	-0.6	5.5	-0.6
Secondary sector	56.6	48.5	23.4	39.0	20.5	41.1	13.3
Manufacturing	56.2	48.4	22.0	38.3	20.4	38.1	11.4
Construction	0.3	0.1	1.4	0.7	0.1	2.9	1.9
Tertiary sector	41.8	49.7	82.0	59.4	80.1	53.4	87.3
Trade and repairs	14.3	25.1	29.9	7.7	7.9	26.8	9.3
Hotels and restaurants	1.4	2.6	2.8	2.9	0.2	1.4	0.1
Transports,communication	19.3	14.6	19.8	16.3	30.1	-20.0	3.1
Financial intermediation	3.9	6.6	22.5	13.3	22.2	31.7	72.6
Real estate and business activities	2.9	0.8	7.0	19.3	19.7	13.5	2.3
Other investment	6.3	-0.9	8.4	4.4	8.4	9.7	3.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total excl. Finance	96.1	93.4	77.5	86.7	77.8	68.3	27.4

Source: Bank of Estonia.

99. In the past few years, these inflows have not only helped finance large current account deficits and increase foreign exchange reserves, but they have also provided a major stimulus to economic growth through the provision of new equipment, up-to-date technology, and modern management practices. It appears likely that Estonia will continue to be able to attract foreign investors, including from non-EU countries, given its improved access to an enlarged EU market and its proximity to Russia and other CIS countries. Macroeconomic stability, progress in structural reforms to increase productivity, and maintaining a qualified labor force will, however, also be essential to continue attracting foreign capital.

100. Its liberal policy regime has allowed Estonia to take full advantage of its comparative advantages in trade, including transit services, which also enhances the *favorable climate for foreign investors*. These advantages will be further strengthened by the full adoption of the EU financial sector directives which provide a stable and predictable legal framework for investment. The adoption of the comprehensive package of EU legislation will make it easier for multinational enterprises to include Estonia into their Europe-wide business strategies. Furthermore, EU membership is likely to ensure that inflows of capital, technology and know-how continue after the major privatization projects (e.g., energy production and distribution, railways) are completed.

101. As with trade, the additional impact of accepting those elements of the EU's common market relating to capital transactions, particularly the provision of cross-border financial services, cannot be easily isolated. The additional welfare impact from capital mobility will not depend solely on the adjustment of the regulatory environment but also on the macroeconomic policies and the level of development and soundness of the domestic financial system. Due to its open capital account and full currency convertibility, Estonia already has relatively easy access to international capital markets.[90] This has increased competitive pressure in the domestic financial sector and raised the efficiency of financial intermediation.[91]

102. These processes can be expected to intensify through further integration into EU financial markets. By strengthening these links, accession will likely spur *domestic financial sector deepening*. Additional welfare effects will arise from stronger competition in the domestic financial sector fostered by free market access for providers of financial services. Adherence to EU regulations on capital movements and financial services and minimum standards for bank regulation and supervision can also be expected to contribute to improved

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[90]The major rating agencies have recently confirmed Estonia's investment grade rating on foreign currency denominated long-term debt (Moody's: Baa1, Standard and Poor's: BBB+, FitchIBCA: BBB; situation end April 1999).

[91]For details see Chapter III.

financial sector intermediation.[92] This environment is bound to spur securities trading, increase portfolio flows, and render the stock market more liquid. Foreign bank borrowing and equity financing abroad should become easier not just for larger but also for medium-sized Estonian enterprises, while firms should also be able to benefit from intensified cooperation among the Baltic stock exchanges, which is already underway. Fiercer competition on both domestic and EU-wide financial markets should not only strengthen financial systems, but also result in better access to financing and lower interest rates.

103. A direct effect from EU accession on economic activity in Estonia will result from the *amount of transfer payments* to and from the EU, with grant and loan financing as inflows and EU contributions as outflows. According to the EU budget provisions of Agenda 2000 which were adopted by the European Council in March 1999, there will be pre-accession financing available for all membership candidates, namely for infrastructure and environmental projects, for agriculture, and for technical assistance and training (through PHARE). Financial support from these instruments will be available from 2000 to 2006 or until a country becomes a EU member.[93] The EU has also agreed to an indicative medium-term financial framework for an enlarged EU comprising 21 countries which, from 2002, sets aside substantial financial support exclusively for new members (Table 15). It remains to be seen how these funds will be allocated within this group and what the financing obligations of these countries with regard to the EU budget will be. According to staff estimates, net transfer receipts for Estonia could reach about 2 percent of GDP per year over the medium-term (implying a net transfer of approximately US$160 million for 2003, the first possible year of membership). In subsequent years, this sum would rise by about US$10 million per year in line GDP growth.

104. Approaching EU membership is also likely to influence creditors' perception of sovereign and currency risk, thereby *reducing the risk premium on domestic interest rates*. Financing would become cheaper and interest rate arbitrage using debt instruments denominated in deutsche mark would subsequently become less profitable.

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[92]The EU financial sector directives include a large body of regulations on banking, capital markets and insurance. For a description of the EU framework in this area and the degree of compliance by Estonia see Cavalcanti and Oks (1998).

[93]From the date of membership, the regular EU support mechanisms will apply while funding through PHARE will cease.

Table 15. EU Financial Support for Accession Candidates 2000-06

	2000	2001	2002	2003	2004	2005	2006
	(In million EUR, at 1999 prices)						
Pre-accession instruments	3,120	3,120	3,120	3,120	3,120	3,120	3,120
PHARE	1,560	1,560	1,560	1,560	1,560	1,560	1,560
Agriculture	520	520	520	520	520	520	520
Structural aid (ISPA)	1,040	1,040	1,040	1,040	1,040	1,040	1,040
EU own resources set aside for new members	--	--	4,140	6,710	8,890	11,440	14,210
o/w agriculture	--	--	1,600	2,030	2,450	2,930	3,400

Source: European Council Berlin.

D. Fiscal Policy Challenges and the Budgetary Impact

105. EU accession will bring about a number of important fiscal policy changes and is likely to have a significant impact on budgetary performance. Fiscal policy challenges will comprise the need for further harmonizing tax policies, streamlining budget formulation and management, and rationalizing public administration. The net budgetary impact of EU accession is, however, difficult to project since future fiscal and other domestic policies as well as EU related fiscal measures are uncertain. Also, the size of grant and loan financing that may become available due to EU accession remains uncertain.[94]

106. Estonia's fiscal policies in the past have generally been prudent, which has been key for supporting its currency board arrangement since 1992. Fiscal deficits have remained limited, and in 1997 and the first half of 1998 sizable fiscal surpluses were achieved. These fiscal surpluses, together with large privatization proceeds, were saved abroad in the Stabilization Reserve Fund (SRF).[95] External public debt stood at 5 percent of GDP in 1998, but was even lower, at 3.3 percent of GDP, if SRF holdings are included. By this measure, the level of debt declined to below 2 percent of GDP in March 1999 due to the addition of considerable privatization revenues to the SRF. Although the EU does not require the accession candidates to focus on the Maastricht criteria (see below), Estonia comfortably satisfied the fiscal deficit and public debt criteria (Table 16).

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[94]Additional grant and loan financing may also become available bilaterally from current EU members.

[95]As of end-March 1999, fiscal reserves in the SRF amounted to EEK 2.8 billion, equivalent to 3.5 percent of projected 1999 GDP. See Chapter IV.

Table 16. Prospective European Union Members: Convergence Indicators, 1998

	Maastricht Indicators			GDP per capita		
	Consumer Price Inflation /1	Government Balance/GDP	Government Debt/GDP	In US$	In percent of Euro Area Average	In percent of poorest euro area country (Portugal)
	(In percent)					
Estonia	*8.2*	*-0.3*	*7.4*	*3,501*	*15.8*	*31.9*
Czech Republic	10.7	-2.1	10.7	5,170	23.3	47.1
Hungary	14.2	-4.7	60.4	4,712	21.2	42.9
Poland	11.7	-3.0	43.4	3,854	17.3	35.1
Slovenia	7.9	-1.4	25.1	10,044	45.2	91.5
Cyprus	3.3	-6.5	57.2	11,528	51.9	105.0
Euro Area	1.1	-2.1	73.4	22,220	...	...
Reference value	1.2	-3.0	60.0	...	...	...

Sources: IMF, World Economic Outlook, and International Financial Statistics.

The fiscal policy framework

107. EU accession will require further, albeit limited, tax harmonization for Estonia. Its present tax system is relatively transparent, simple, and efficient especially as regards the taxation of enterprise profits and personal incomes (flat tax of 26 percent).[96] This puts Estonia in a relatively favorable position vis-à-vis current and other prospective EU members. It is thus hardly vulnerable to possible tax revenue losses due to outmigration of enterprises or workers. On the contrary, Estonia's simple tax structure is one possible explanation for its continued attractiveness among foreign investors.

108. As regards the direct tax system, only relatively minor adjustments would appear necessary to comply with EU requirements.[97] Changes required in the area of indirect taxation may be of greater significance, including, in particular, the introduction of customs tariffs. Currently, Estonia has no external tariffs, whereas the average ad valorem external tariff of the EU is 5.5 percent.[98] While customs tariffs will be collected by Estonia on accession, they will be fully paid to the EU budget (apart from a deduction made for collection costs) and will thus generate no additional revenue. As regards VAT, the EU requires that the standard rate should not be lower than 15 percent, implying that Estonia could reduce its standard rate by up to 3 percentage points. Estonia is also in compliance with the requirement that the preferential rate should not be lower than 5 percent. However, there will be a need for Estonia to abolish a few VAT exemptions and to eliminate the zero rate currently applied to heating costs. Necessary adjustments in excise tax rates have already been undertaken and more increases are likely to follow over the next few years on the basis of an already prepared medium-term plan.

109. During the pre-accession phase and beyond, budget revenues could rise from buoyant tax collection in line with prospects for stronger real GDP growth, higher excise tax rates, and the newly introduced property tax. These receipts could be offset by a lowering of selected tax

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[96]See Kopits (1992), Tanzi and Zee (1998) for discussions of tax harmonization and competition issues in the context of EU integration.

[97]It is likely that the EU will require the abolition of recently introduced profit tax deductibility of fixed costs for all enterprises outside Tallinn over and above the customary deduction of depreciation. This measure was approved by parliament in January 1999 and became effective retroactively from January 1, 1998. It is also questionable if the EU would accept the maintenance of "free-zone status" for a number of ports and towns. See Cangiano and Mottu (1998) who discuss EU and OECD efforts to tackle harmful preferential tax regimes. On other taxes, the Estonian authorities have already initiated work on preparing a medium-term plan for gradually replacing the land tax with a property tax, which is also required by the EU. For details on Estonia's current tax system see IMF (1998) and Berg (1997).

[98]For agricultural goods, the average trade-weighted external tariff of the EU is 16.4 percent.

rates, including the standard 18 percent VAT rate, considering that the tax burden in Estonia's economy is already fairly high.

110. EU accession is likely to cause significant additional expenditure pressure, mostly because of the need for increased public sector investment on infrastructure and the environment.[99] The recurrent expenditure burden on the budget is likely to increase only moderately, reflecting the need to comply with EU standards and the creation of the necessary legal and institutional preconditions for EU membership.[100] However, as the Estonian public sector is already relatively large, efficiency gains in other parts of the public administration and the re-deployment of staff may offer scope for dampening spending increases. According to staff estimates, the general government wage bill and other current expenditures would need to rise by less than 2 percent due to EU membership.[101]

Investments and transfers

111. Public sector investment outlays are likely to rise in the run-up to accession, reflecting first of all the need to comply with EU requirements. Investments will also increase due to improved access to grants and concessional loans. Capital spending remained slightly above 4 percent of GDP in 1998, but the share of projects officially classified as "public investments for Eurointegration" rose to almost 40 percent under the 1999 budget (equivalent to EEK 1.5 billion or 1.8 percent of GDP). Also, the sectoral allocation of investment projects has already begun to shift in favor of sectors such as environmental protection and infrastructure. It is expected that the share of public investment in GDP will rise over the medium term, which calls for significant improvements in public expenditure management and project prioritization.

112. There are, as yet, no reliable estimates regarding the total costs of required investments. However, the World Bank has estimated that investments in the energy sector alone could amount to at least US$200 million during the period 1996-2005 (World Bank 1999). The overall figure including all sectors will likely be significantly higher since there is a need for sizable investments also in other areas (e.g., environment, infrastructure).

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[99]Budgetary spending will also be affected significantly by decisions in other, non-EU related domestic policy areas, including pension reform.

[100]For example, the EU has identified the need to increase staffing in the Customs Board, the National Tax Board, the State Audit Office, and institutions responsible for enforcing veterinary and sanitary conditions and controls as well as health and safety standards at work.

[101]Assuming an increase in the number of general government employees by not more than 2,000 persons over and above the current level of slightly less than 140,000 employees.

113. Sizable funding from the EU will become available to meet the considerable investment needs. As indicated above, the EU's new medium-term budgetary framework includes significant pre-accession expenditure for the countries which are actively seeking membership. As a vehicle for financial support targeted at infrastructure and environmental projects, the "Instrument of Structural Policies for Pre-Accession" (ISPA) will provide a yearly amount of EUR 1.04 billion for seven years starting in 2000. To access a share of these funds, Estonia will have to meet additionality requirements, which calls for co-financing and therefore real increases in domestic spending on proposed projects or programs.[102] During the same period, PHARE funding up to EUR 1.56 billion per year for institution building, training, and investment in other areas will be made jointly available for the accession candidates. Estonia will continue to benefit from these transfers until becoming a member.

114. Estonia can also expect to receive transfers directed at the agricultural sector. During the pre-accession period, the EU is committed to make available agricultural aid of EUR 520 million per year (for seven years starting in the year 2000) to the accession candidates to facilitate CAP implementation. The magnitude of these projected transfers may yet change should further reforms of the CAP take hold. For Estonia, the size of pre-accession agricultural funding and subsequent CAP transfers is likely to be limited considering the small, and declining, share of agriculture in GDP (about 5 percent of GDP). The importance of external farm support is further reduced by the fact that it will substitute rather than complement Estonia's present, modest, budgetary support for the agricultural sector.[103]

115. The considerable scale of financing under the pre-accession instruments will continue upon accession. As a new EU member, Estonia will be a net recipient of EU transfers given its low per capita GDP.[104] It will qualify for grant and loan funding from the European Structural

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[102]EU financial assistance for ISPA projects is normally 75 percent of the total outlays of a project, although the European Commission can propose to increase it to 85 percent under exceptional circumstances. The costs of technical support and feasibility studies can be financed exceptionally at 100 percent, but the costs for such operations cannot exceed 2 percent of the national ISPA budget.

[103]Introducing the CAP will of course have a direct favorable impact on producers and an immediate negative impact on real incomes of consumers. Leaving redistributive effects aside, the net effect on aggregate GDP should be minimal or zero according to World Bank estimates.

[104]Under current rules, EU Structural Funds are available to member countries if their GDP per capita is lower than 75 percent of the EU average measured at purchasing power parity levels. With a nominal per capita income of roughly 30 percent of the EU average, Estonia falls well below this threshold (Oxford Analytica 1998).

Funds (ESF) and the Cohesion Fund (CF).[105] The EU's Agenda 2000 as endorsed at the meeting of the European Council in March 1999 sets out an upper limit of 4 percent of GDP for total annual receipts by any member state from these structural operations (European Council Berlin 1999). However, actual external financing would be somewhat lower than this ceiling if Estonia's absorption and implementation capacity prevented it from tapping EU funds fully. Furthermore, transfers receipts will be partly offset by Estonia's contribution to the financing of the EU. Currently, member states' annual contribution is equivalent to about 1 percent of national GNP. On a prudent estimate, therefore, net transfer receipts from the EU in the magnitude of about 2 percent of GDP per year over the medium-term appear plausible.[106] Most of these inflows are likely to be channeled to the public sector.

E. EMU Participation

116. The EU has made accession conditional on subscribing to the objectives of EMU. Prospective new EU members cannot avail themselves of an "opting-out" clause that has been granted to the United Kingdom and Denmark. While this implies a requirement for membership candidates to prepare themselves for eventually adopting the euro, it does not require that would-be EU members fulfil the macroeconomic convergence criteria for participation in the euro area at the time of EU accession. During the pre-accession period, the EU requests that membership candidates primarily focus on meeting the Copenhagen economic criteria (see Section B above) and implementing structural reforms with the objective to complete the transition to a market economy. The Maastricht convergence criteria are only points of reference and will become relevant only upon accession. Estonia's good track record of prudent macroeconomic policies nevertheless already provides a good basis for meeting the Maastricht criteria. Budget deficits have been limited, or nonexistent, and the level of public debt has remained low (Table 16). While substantial progress has been made in reducing inflation in 1998 and early 1999, interest rates have remained persistently above those in Germany and other EU members despite the peg of the kroon to the deutsche mark.

117. More immediate institutional implications for CEE candidates arise from the need to meet all legal and institutional requirements that apply to EU countries not participating in the euro area. As so-called "member states with a derogation" they will have to comply with a

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[105]Structural Funds include the Social Fund (ESF), the Regional Fund (ERDF), part of the support for agriculture (EAGGF), and aid for fishing communities (FIFG). For the period 1994-99, total assistance provided to members through the Structural Funds was ECU138 billion (Begg 1998).

[106]This rough estimate does not account for CAP-related transfers. Note that an increase in capital spending will have potentially sizable recurrent cost implications.

range of conditions aimed at establishing the preconditions for participation in EMU.[107] These include the complete liberalization of capital flows both vis-à-vis EU and third countries, the establishment of an independent central bank which pursues price stability as a primary goal and is prohibited from direct or indirect financing of the government as well as the participation in the European System of Central Banks. Also, governments are obliged to treat economic policy, in particular exchange rate policy, as a matter of common interest and engage in the EU's policy coordination and surveillance procedures.[108] Among the CEE accession candidates, Estonia is well advanced in meeting these legal and institutional accession requirements. The central bank's role and functions were suitably defined in the context of setting up the currency board in 1992. It is statutorily independent with price stability as its primary objective and prohibited from purchasing government securities in the primary market. Also, capital movements were liberalized early on in transition, which should facilitate linking the domestic payments system with the network of cross-border settlements systems of the euro area.

118. EU accession will also entail entering into a formal exchange rate arrangement with the EU, an area which is not covered in detail in the association agreements. Currencies of EU members that have not adopted the euro can be linked to the euro through the Exchange Rate Mechanism II (ERM II).[109] In the case of Estonia, its long-standing strong formal link of the

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[107]The "derogations" are temporary, except for the United Kingdom and Denmark. The inclusion of actual transitory periods in the EU accession treaties concerning these institutional criteria appears unlikely since the membership applicants have expressed their preference to join as soon as possible. Even if these accession candidates make rapid progress on institutional reform and macroeconomic convergence, however, concerns on the side of the EU about real and structural convergence remain. See Feldman et al. (1998).

[108]The most important of coordination and surveillance procedures are the broad economic policy guidelines, the convergence programs and the excessive deficit procedure. For a detailed list of the respective rights and obligations see Temprano-Arroyo and Feldman (1998), Table 6.

[109]ERM II is designed as a flexible system with wide standard fluctuation bands (±15 percent), timely realignments, and the possibility of progressively tighter exchange rate links. Participation will be voluntary. The system is asymmetric to the extent that any intervention in the foreign exchange markets by the ECB must not interfere with the ECB's primary objective of price stability. The costs of intervention and realignment are thus largely borne by the country outside the euro area. It is not yet clear to what extent ERM II will be open to accession candidates wishing to build up a track record of exchange rate stability against the euro before EU membership in order to facilitate EMU participation later on. For a discussion of the implications of EMU for exchange rate policies in Central and Eastern Europe see Kopits (1999).

kroon to the deutsche mark suggests that such an exchange rate arrangement could consist of a formal peg to the euro in the context of a currency board.

119. The Estonian kroon is pegged to the deutsche mark, and thus since January 1, 1999 also to the euro. While introducing the euro as the national currency would amount to a change in the monetary policy regime, it would nevertheless imply continuity. Under EMU, the Bank of Estonia would be part of the European System of Central Banks with limited influence on euro-area monetary policy making. However, Estonia would maintain its responsibility for regulating and supervising the domestic financial sector.[110]

120. In terms of economic impact, the replacement of the currencies of most EU members with the euro represents a deepening of the EU's common market. Monetary union reduces the costs from doing business within the euro area by removing currency fluctuations and making the hedging of currency risks unnecessary. Furthermore, the improvement in price-transparency across borders is bound to spur competition in the goods and services sectors over the medium term, leading firms to reassess their current business strategies based on separate national markets. Estonian firms will be exposed to these mounting competitive pressures but will also be able to take advantage of the opportunities gained in being part of the euro area. These include, in particular, cost reductions in trade within the large "home" market as well as in financing business activities. The latter should follow the emergence of a large and liquid pan-European financial market which would improve direct access for large and medium-sized firms to capital markets abroad and reduce the costs of financing business activities.

121. The position of Sweden with regard to its future participation in the euro area is of particular interest for Estonia. Should Sweden choose to remain outside the euro area even after Estonia has joined, bilateral trade would continue to be saddled with transaction costs related to currency fluctuations, even if limited in practice. In this case, the possibility of some diversion of trade away from its currently second largest trade partner into the euro area cannot be entirely dismissed.

122. Additional growth impulses from joining the euro area are likely to arise from the fact that *short-term interest rates* will eventually equal those in the rest of the euro area. Given the size of Estonia, interest rate convergence in the run-up to adopting the euro will happen unilaterally, bringing the rate of domestic interest rates down to the lower level of the euro area. This could fuel domestic economic activity, depending on the extent by which banks' domestic credit activity responds to reduced financing costs.

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[110]Under EMU, banking sector supervision remains a prerogative of national supervisory authorities. With a view to the cross-border activities of banks, regular meetings of these authorities with the ECB are held. The central bank will also need to assure to make the domestic payments system compatible with the Europe-wide real time gross settlement system (TARGET) through which the ECB conducts monetary policy.

123. Full convergence is neither required nor likely for *long-term interest rates.* However, the policy credibility gained via participation in the euro area will further improve Estonia's sovereign ratings and its standing on the financial markets. The perceived reduction in sovereign risk and the elimination of currency risk will be reflected in a reduction of today's risk premium relative to other euro area debtors. Long-term financing for Estonian borrowers could thus also become considerably cheaper, spurring investment activity by Estonian firms and supporting growth.[111]

F. Conclusions

124. Membership in the EU and adoption of the euro will have important implications for Estonia's macroeconomic policies and performance. Estonia is likely to benefit via the trade, financial, and fiscal channels from further formal integration with Europe. Greater market access and increased trade as well as reduced costs and more competition will support real growth. The expected reduction in the risk premium and further integration into Western European financial markets are likely to improve access to financing on more favorable terms. And on the fiscal side, Estonia is likely to benefit from significant transfer payments.

125. However, there will also be costs related to EU accession in the form of additional expenditure pressures, largely on account of required investments in the environment and infrastructure sectors. In the absence of other adjustments, this will result in a notable increase in the share of public expenditure to GDP. To the extent that an expansionary effect on domestic demand ensues, spurring imports of consumer products and project related investment goods, the current account position could be significantly affected.[112] Lower interest rates which tend to boost domestic investment could compound an eventual widening of the external imbalance. At the same time, however, inflows of foreign capital will help to expand and modernize Estonia's production and export capacity and result in a quick and strong supply-side response of the economy. Most importantly, the net effect of EU membership on the balance of payments will also depend on private saving behavior and fiscal policies.

126. Estonia would be well advised to prepare for EU membership by (i) continuing to pursue a prudent fiscal policy stance; (ii) liberalizing the remaining administered prices; (iii)

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[111]While the introduction of the euro has removed currency risks as a source of interest rate differentials within the euro area, the remaining interest rate spreads mirror differences in country risks, in part linked to diverging fiscal policies and performance.

[112]According to the IMF's Balance of Payments Manual (Fifth Edition, 1993), investment grants should be classified as capital transfers. While the bulk of EU-related inflows is likely to involve such investment grants, some current transfers (e.g., technical assistance, CAP support) will also take place.

maintaining a flexible labor market; (iv) taking measures to foster competition on domestic goods markets; (v) finalizing pension reform consistent with promoting private saving; and (vi) further improving financial sector supervision.

127. If Estonia maintains and strengthens its policy stance along the lines suggested above, it should be able to cope with the challenges of EU accession and participation in EMU. During the pre-accession period, and beyond, Estonia holds considerable sway over its fiscal and structural policies to smooth the accession process and dampen the impact of possible shocks related to further integration into the EU and the global economy.

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VI. An Index of Coincident Indicators for Estonia[113]

A. Introduction

128. One of the difficulties facing economic analysts and policymakers in transition and many other countries is the absence of a timely, high-frequency, reliable indicator of aggregate economic activity. Official GDP statistics, which are considered to be the broadest indicator of economic activity, are generally of low frequency (at best quarterly) and become available with considerable lags, often of several months. In these conditions, it is almost impossible for policymakers to identify the current phase of the business cycle in an accurate and timely fashion and, therefore, to design and implement the correct economic policies over the cycle. Lack of timely information about current economic conditions may delay the introduction of necessary measures, or lead to a policy response that falls short of (or exceeds) what is required. This handicap becomes more severe when the business cycle is near a peak or a trough, when economic policies may need to be drastically adjusted.

129. To address this problem, economists have been using various high-frequency series as proxies, or indicators, for the state of the business cycle. The indicator approach was originated in the 1930s by Wesley Mitchell and Arthur Burns at the US National Bureau of Economic Research, and has gained wide acceptance since then (Appendix I). Today, single or aggregate indicators of economic activity of various degrees of sophistication are regularly used by government agencies, research centres, and market participants.

130. In Estonia, GDP estimates are produced by the Statistical Office on a quarterly basis with a lag of almost two quarters.[114] The rapid acceleration of economic activity in 1997, when GDP growth reached 11.4 percent in real terms, and the subsequent, large unexpected deceleration of growth to less than 1 percent toward the end of 1998 drove home the need for timely and reliable indicators of economic activity.[115] As there are no official indicators of the state of the business cycle, in practice the Estonian authorities use a variety of high-frequency indicators to gauge the situation in the market, such as inflation, industrial production, or various monetary aggregates. However, there is no information on how well and how consistently these indicators track overall economic conditions. In the following section, we

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[113]Prepared by Dimitri Demekas and Ülle Lõhmus.

[114]In early 1998, the Estonian Statistical Office started for the first time to publish preliminary quarterly GDP estimates with a lag of just over one quarter, in anticipation of the final estimates published with a two-quarter lag. Although these preliminary estimates are an improvement in terms of timeliness, their reliability is not yet established.

[115]Real GDP growth for 1997 was revised to 10.6 percent after this analysis had been finalized.

construct a monthly index of coincident indicators for overall economic activity in Estonia. Section C presents the methodology and main results.

B. The Construction of an Index of Coincident Indicators (ICI) for Estonia

131. Our guiding principles in constructing an ICI for Estonia are (1) utilizing as much of the available statistical information as is feasible without compromising the timeliness of the index; (2) limiting to the extent possible *ad hoc* choices that cannot be explained on economic grounds; and (3) using a simple and transparent methodology, which is easy to explain and whose results can be independently confirmed. These principles also dictate our choice of a coincident, rather than leading index.

132. The small number of observations is the main problem hampering the construction of an index of business cycle indicators for Estonia. Although a number of candidate monthly series are at hand, they generally are statistically reliable only starting in 1994–95. In addition, to the statistical limitations, there are also economic ones: the unsettled economic conditions and rapid restructuring of the economy during the initial period of transition diminish the reliability of any index based on early observations. For these reasons, only data starting in 1995 were used in our estimations. To eliminate seasonal variation, we used year-on-year changes.[116]

133. The small number of available observations means that the statistically rigorous method of Stock & Watson (Appendix I) cannot be used in this case. However, we have tried to minimize the arbitrary element in the choice of weights used in the aggregate index by following a hybrid approach: while the variables to be included in the ICI and the size of the weights assigned to each are ultimately a matter of choice, this choice is informed by a statistical analysis of the correlation between the candidate variables and our benchmark variable.

134. We use GDP as the benchmark variable on the grounds that (a) GDP is at least partly observable (on a quarterly basis), thus allowing direct evaluation of the ICI; and (b) even if GDP is a "narrower concept" than the business cycle, an ICI that tracks well GDP would still be very useful for policymaking. This approach, however, has a cost: in order to use GDP for evaluating the ICI, we need to use interpolation to generate a monthly GDP proxy from the

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[116]Instead of the simple rate of change $r = 100*(X_t - X_{t-1})/X_{t-1}$, we also experimented with the so-called "symmetric" rate of change formula: $r = 200*(X_t - X_{t-1})/(X_t + X_{t-1})$. This formula has the advantage that increases or declines of the same absolute magnitude are translated into equal percentage increases or declines. For this reason, the symmetric rate of change is preferred by the producers of some composite indicators (most notably the Conference Board). However, in our case the results were not substantially different, and we have stuck to the conventional rates of change.

quarterly series, thus diluting the information content of the time series and introducing an element of arbitrariness in the estimation.

135. We started with as wide a menu of candidate monthly series as possible, provided that they are publicly available with a lag no greater than two months. These series were:

- industrial sales (INS)
- local government revenues (LGR)
- imports (IMP)
- state budget revenues (SBR)
- wholesale trade (WST)
- retail trade (RTT)
- exports (EXP)
- money supply (M1)
- electricity consumption (ELC)
- registered unemployed (UMP)
- heat production (HPR)
- electricity production (ELP)
- fuel consumption (FLG)
- overnight stays by foreign visitors (FQN)

136. We tried to establish how well the candidate variables track our benchmark variable (GDP) first through a simple visual inspection of the correlation between each candidate variable and GDP. We discarded six variables (SBR; UMP; HPR; ELP; FLG; FQN) that were clearly uncorrelated with GDP. The state budget revenues (SBR) series turned out to have virtually no correlation with GDP because it is affected by "lumpy" payments of certain large taxes during the year (e.g., VAT), whose timing changed during the observation period. LGR, in contrast, which consists mostly of personal income tax, is relatively smooth, and correlates well with economic activity. At the second stage, we estimated a number of OLS regressions between GDP and the remaining candidate variables, both individually and group-wise, and tested for the significance of the correlation coefficients. Once again, in order to ensure as wide a group of variables as possible, we rejected only those variables whose βs were insignificant at the 90 percent confidence level, rather than the customary 95 percent level. After this second stage of selection, the set of candidate variables narrowed to four:

- industrial sales (INS)
- local government revenues (LGR)
- imports (IMP)
- money supply (M1)[117]

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[117]M1 = cash issued by Central Bank - (banks' vault cash + vault cash of loan and savings co-operatives) + demand deposits held with banks.

137. Figures 2–3 present the year-on-year change in these series compared with the year-on-year change of our target variable, GDP. Table 17 presents the results of the OLS regression involving these four variables.

Table 17. Estonia: Regression Results

	Coefficient	Standard Error	T -Stat
Constant term	0.363773	0.039017	9.323353
Ind. Sales (INS)	0.329277	0.048983	6.722259
Imports (IMP)	0.140609	0.032919	4.271370
Local government revenue (LGR)	0.078233	0.011068	7.068655
Money supply (M1)	0.075621	0.032728	2.310634

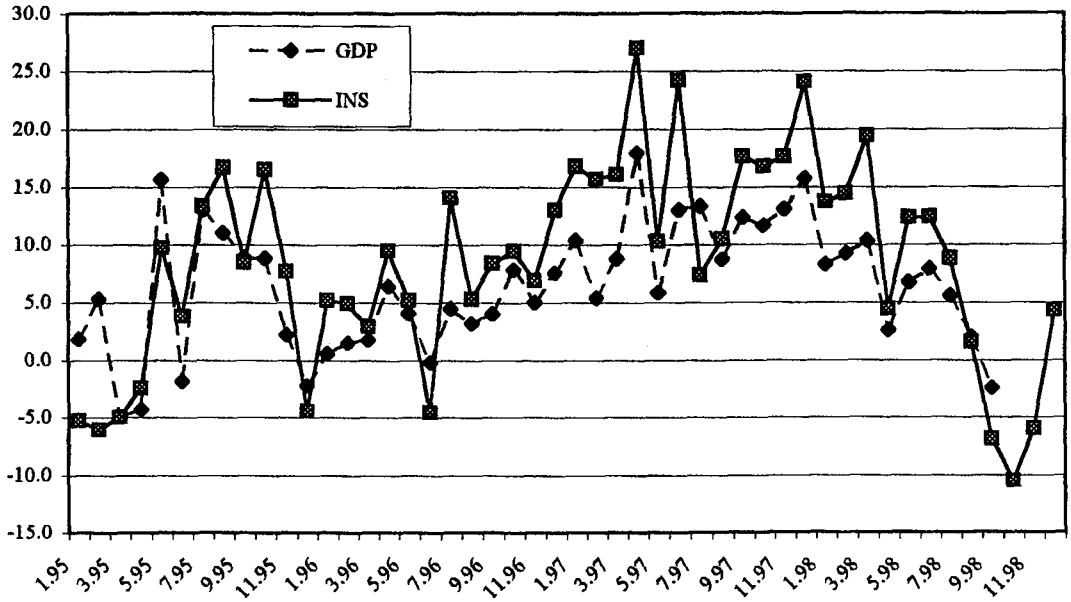
138. A number of observations are in order. First, in all regressions the constant term was consistently significant. This result is not surprising: since the variables are expressed in terms of year-on-year change, the constant term is the equivalent of a time trend, and time trends have often been found to be very accurate predictors of GDP. Its main influence on the ICI is to dampen fluctuations caused by the other components of the index: the greater its relative weight, the smaller the responsiveness of the aggregate index to fluctuations of the other variables (at the limit, a weight of one for the constant term would produce an index that would simply track a straight-line time trend).

139. Second, by far the most significant variable in most regressions was industrial sales (INS). In fact, an index consisting only by industrial sales and a time trend would predict actual GDP fairly well during the observation period. However, our presumption is that the sensitivity of such an index to changes in the underlying economic structure would probably be very high, and for this reason we would prefer using as much information as possible from the sample.

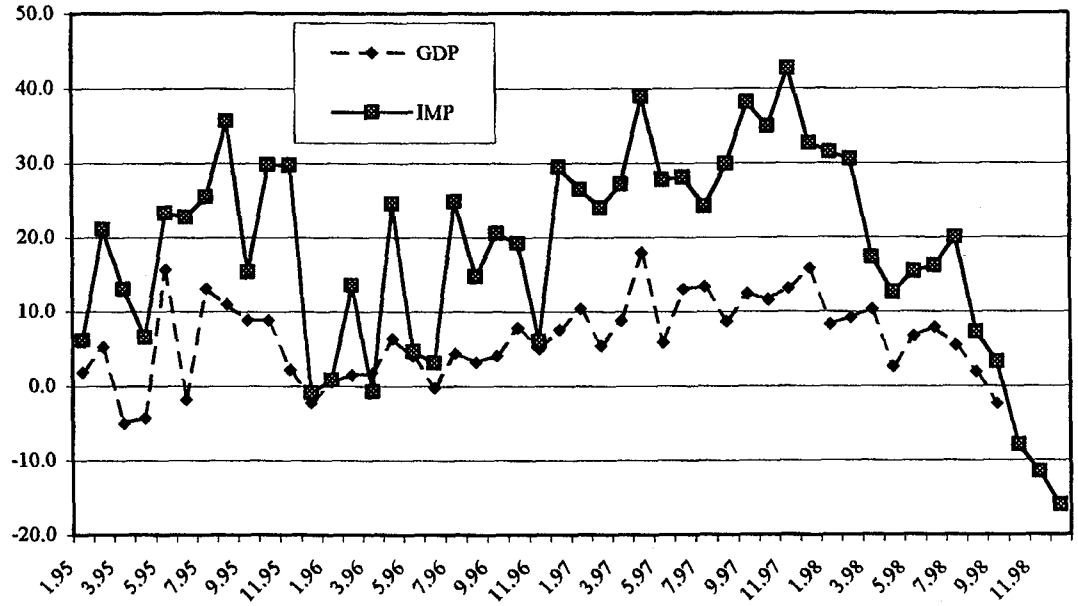
140. Third, our regression analysis indicated that some variables that we had expected to show a strong correlation with GDP (notably RTT, WST, ELC, and EXP) had in fact very small and insignificant coefficients. The probable reasons for this are different in each case. In some cases, the low predictive power of a candidate series (such as exports or retail trade and wholesale trade) may be explained by the fact that its information content is already captured by another series (industrial sales in the case of exports, since a very large part of the Estonian industrial production goes to exports; and imports in the case of retail trade and wholesale trade). The low predictive power of electricity consumption (which, in addition, turned out to have a negative coefficient in most regressions) may be explained by the proliferation of energy-saving technologies as a result of the rapid rise of electricity tariffs, which has altered the structural relationship between electricity consumption and economic activity over time.

Figure 2. Estonia: Industrial Sales, Imports and GDP, 1995-98
(Year-on-year change, in percent)

Industrial Sales (INS) and GDP



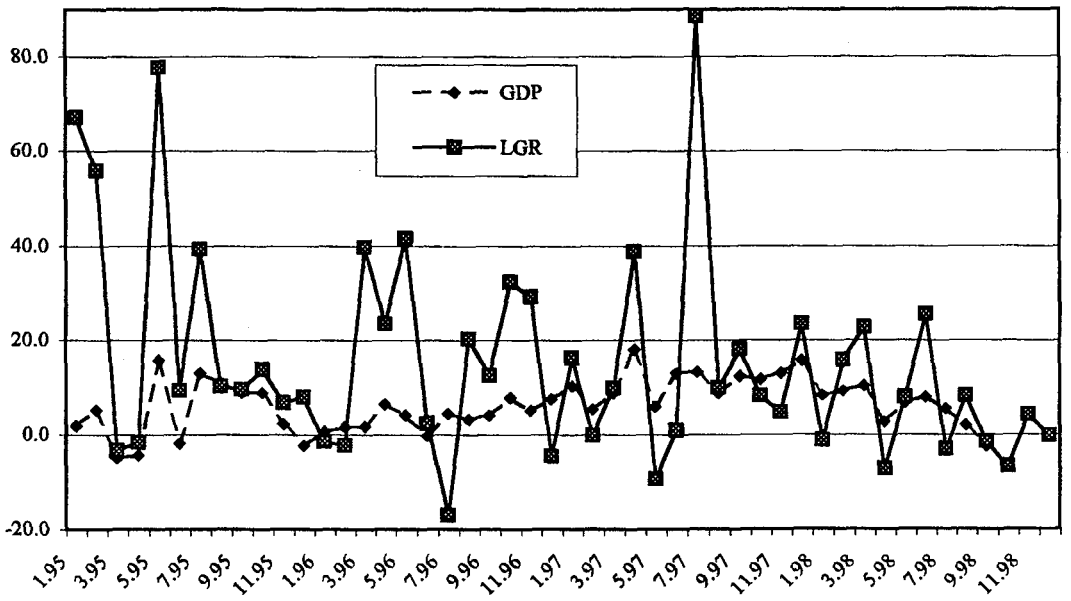
Imports (IMP) and GDP



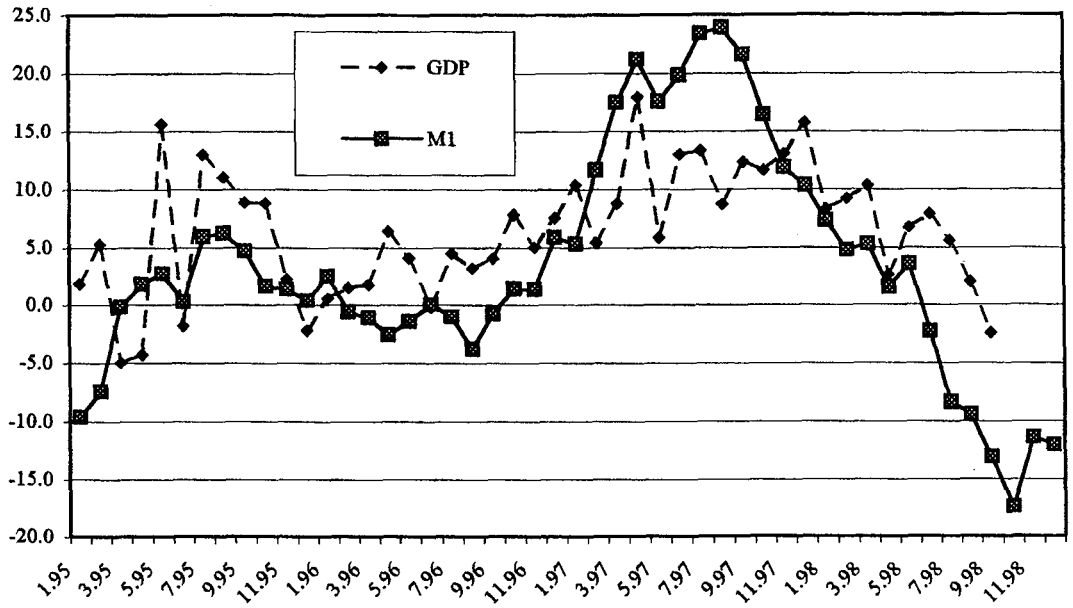
Sources: Estonian authorities, and Fund staff estimates.

Figure 3. Estonia: Local Government Revenues, M1 and GDP, 1995-98
(Year-on-year change, in percent)

Local Government Revenues (LGR) and GDP



M1 and GDP



Source: Estonian authorities, and Fund staff estimates.

We constructed the aggregate index using the above mentioned four variables and the constant term. We assigned weights based on the estimated coefficients of the regression, setting the weight of the constant term equal to 0.3763, slightly above the regression estimate, so that the weights of all components sum to one. The weights used for the four component series were the following:

- Industrial sales (INS) 0.3293
- Imports (IMP) 0.1406
- Local government revenue (LGR) 0.0782
- Retail trade (RTT) 0.0756

C. The Results

141. Figures 4–6 present the results. Figure 4 shows the ICI (expressed in terms of year-on-year changes) for the period January 1995–December 1998. Figure 5 shows the ICI (expressed as an index) compared directly to the actual quarterly GDP data (the latest quarterly national accounts are available for the third quarter of 1998), and Figure 6 shows the ICI compared with monthly "proxy" GDP data (in terms of year-on-year change). Figures 5 and 6, in particular, suggest that the ICI tends to track the turning points of GDP remarkably well.

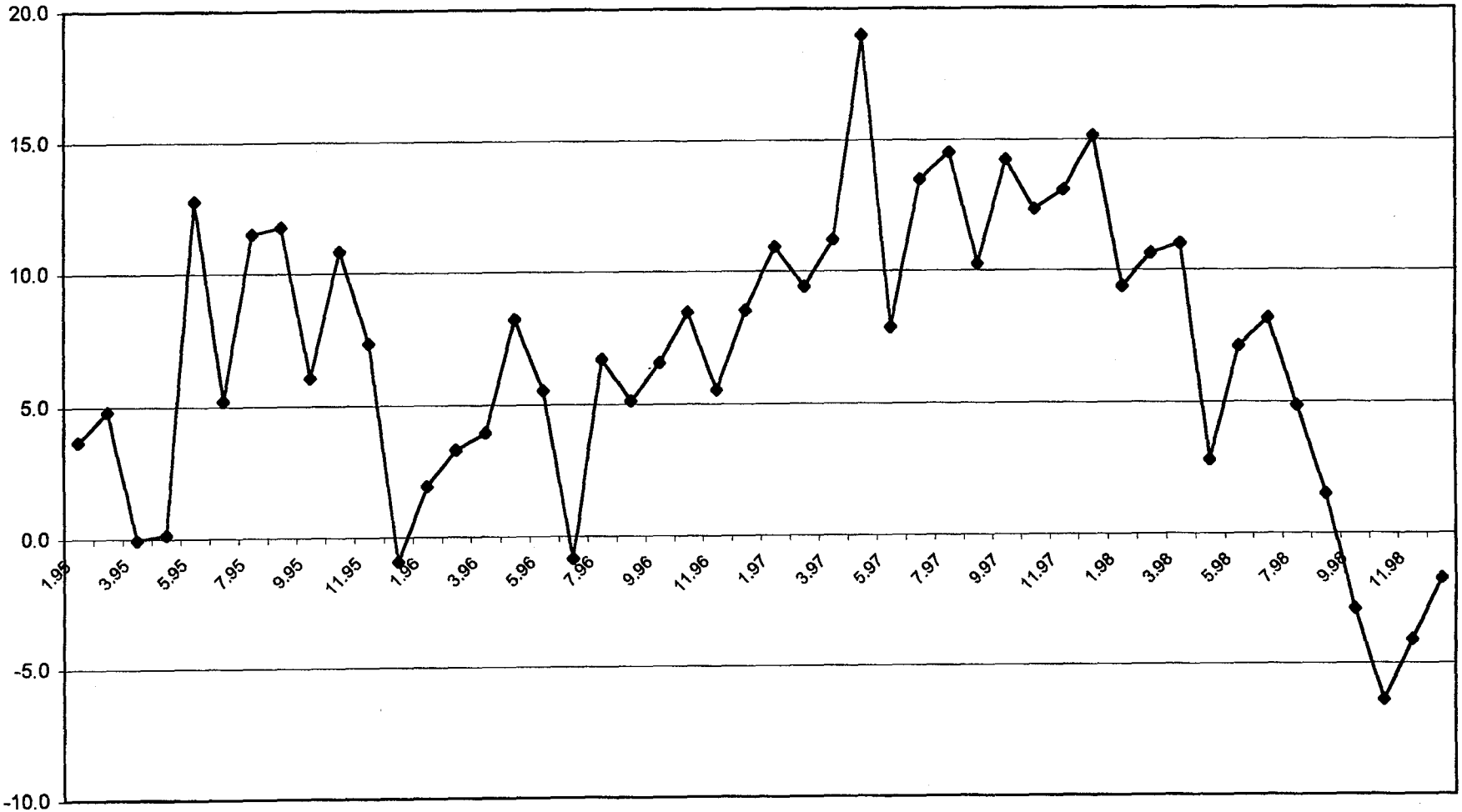
142. The ICI suggests strongly that the economic slowdown, which had started in the second quarter of 1998, continued in the last quarter of that year. In the 12 months of 1998, the ICI showed a decline of economic growth to about 3 percent during 1997. The decline in growth was particularly pronounced in the fourth quarter of 1998, and this negative growth is reflected in all component variables (Table 18).

Table 18. Estonia: Year-on-Year Quarterly Real Growth Rates of ICI Components, 1997–98

	1997 4th qtr	1998 4th qtr.
Real GDP	13.5	-0.7
ICI	13.5	-4.0
Industrial sales (INS)	19.5	-4.0
Imports (IMP)	37.0	-12.0
Local government revenues (LGR)	12.0	-1.0
Money supply (M1)	13.0	-14

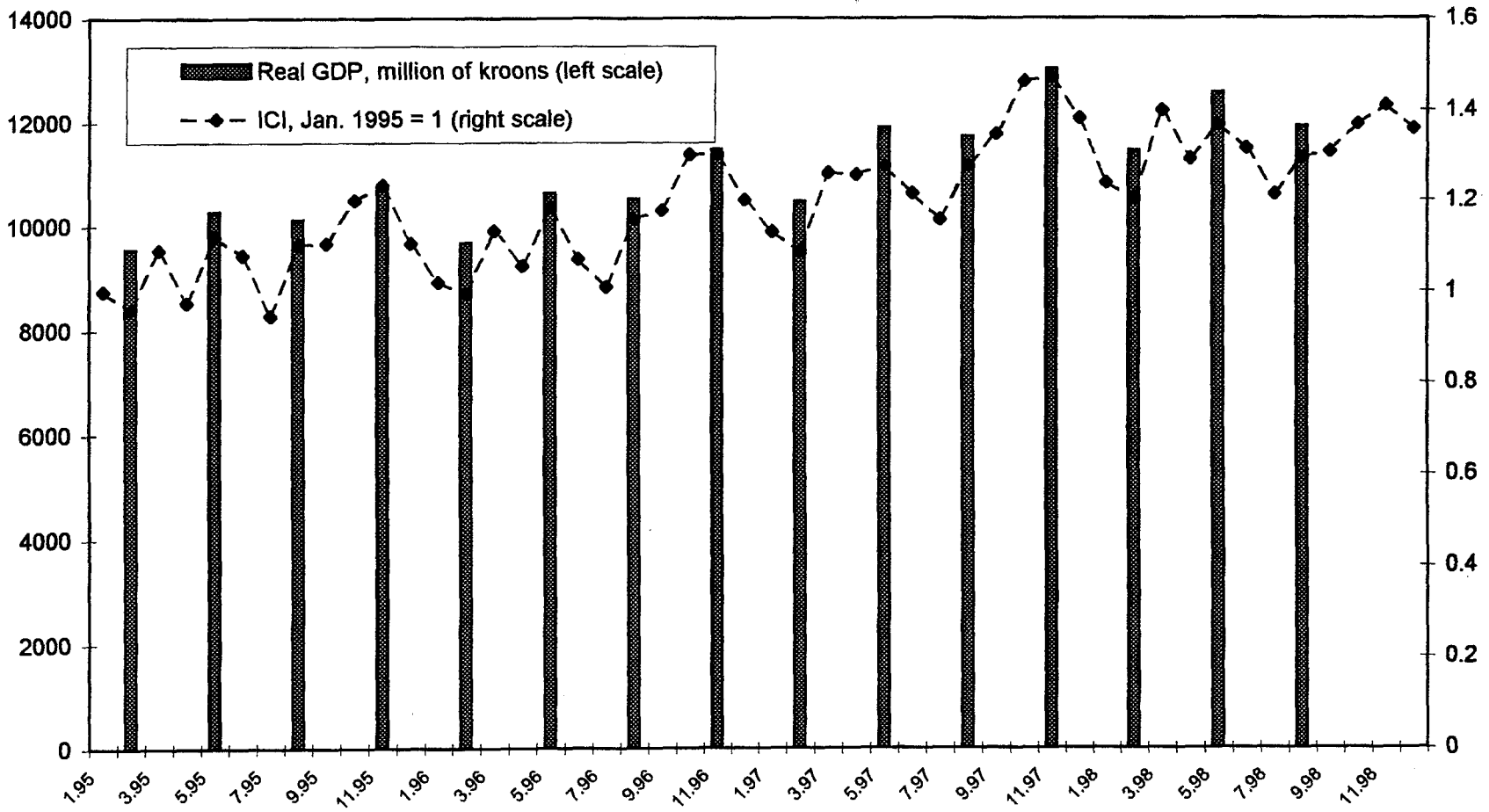
Sources: Estonian Statistical Office; and Fund staff estimates.

Figure 4: Estonia: Index of Coincident Indicators, 1995-98
(year-on-year change, in percent)



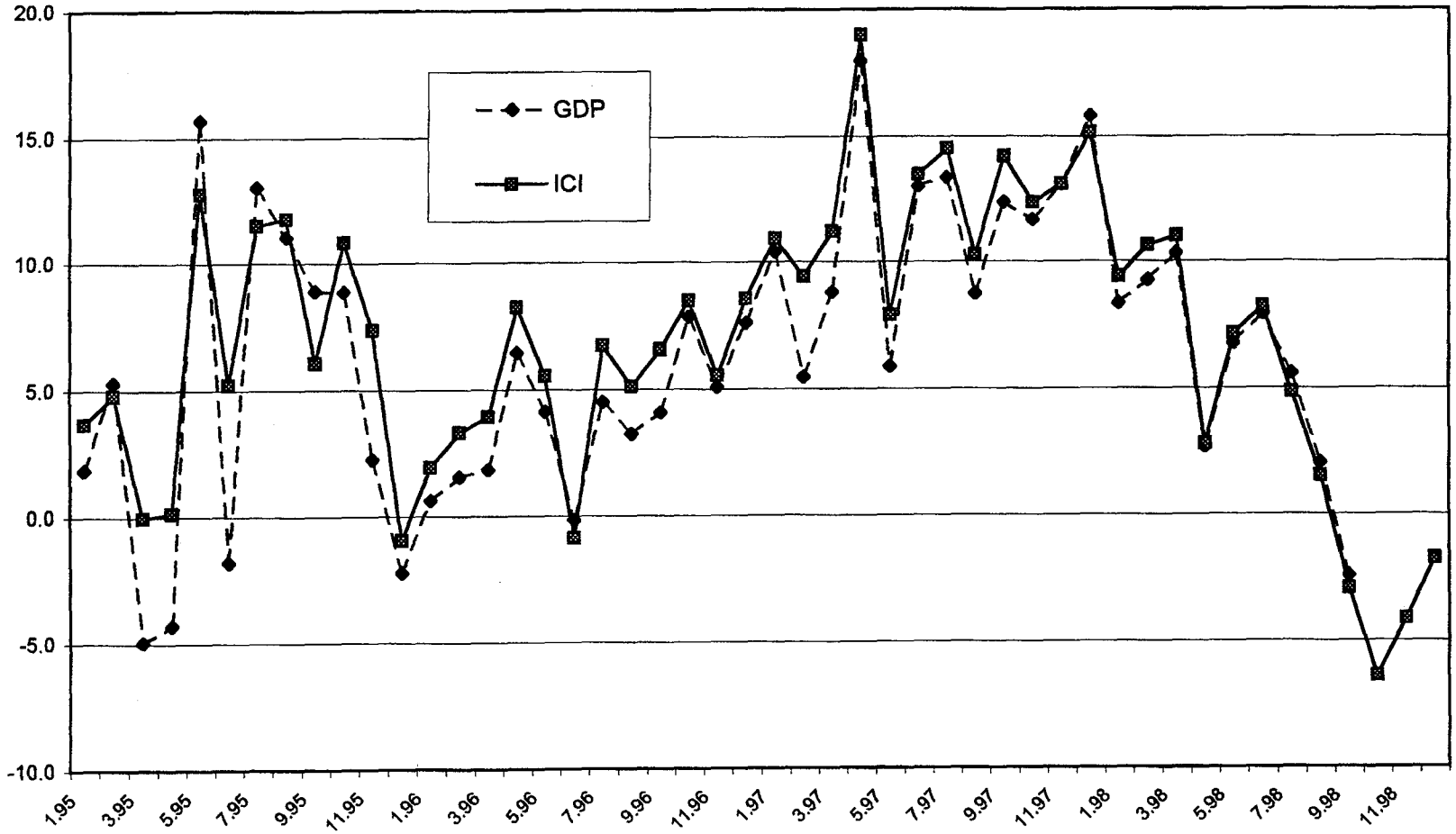
Source: Estonian authorities, and Fund staff estimates.

Figure 5. Estonia: Index of Coincodent Indicators and GDP, 1995-98



Sources: Estonian authorities, and Fund staff estimates.

Figure 6. Estonia: Index of Coincident Indicators and GDP, 1995-98
(Year-on-year change, in percent)



Sources: Estonian authorities, and Fund staff estimates.

Looking at the monthly evolution of the data in the fourth quarter of 1998, the ICI year-on-year negative growth was at maximum in October by -6.4 percent, reflecting a negative growth for INS by -10.5 percent in that month, as well as negative year-on-year growth for LGR (-6.7 percent), IMP (-8.0 percent) and M1 (-17.4 percent). In November and December, ICI accelerated somewhat but still remained negative (year-on-year growth rates of -4.1 percent and -1.7 percent, respectively). The December figure, in particular, reflects a hike in INS to 4.3 percent year-on-year. As in December the consumption of goods is normally higher than in other months, this hike in INS might be only a temporary blip.

143. How well did the ICI predict growth in the last quarter of 1998? According to preliminary official data, GDP growth was marginally negative in the last quarter of 1998, rather than minus 4 percent as predicted by the ICI. Aside from the possibility that the preliminary official data may be revised downwards (as has happened in the past), the only other explanation is that there has been a structural change in the growth process in Estonia, which has reduced the predictive accuracy of the ICI. Structural breaks of this type may occur often in very volatile economies such as Estonia, particularly in the context of the transition process. In this case, the weights of the ICI would have to be reestimated by the same procedure described above.

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A PRIMER ON BUSINESS CYCLE INDICATORS[1]

1. The mainstream approach to constructing business cycle indicators has changed little since the 1930s. The basic idea underlying this approach is that the business cycle "consist[s] of expansions occurring at about the same time in many economic activities, followed by similarly general recessions, contractions and revivals, which merge into the expansion phase of the next cycle" (Burns & Mitchell 1946). It follows that the general level of economic activity, which is an unobservable variable, can be traced in a large number of observable economic indicators that move in the same expansion-and-recession cycle. These indicators fall into three categories, leading, coincident, and lagging, based on the timing of their movements. The leaders tend to shift direction in advance of the business cycle, and for this reason they get the lion's share of the attention. The coincident indicators move at the same pace as aggregate economic activity, and their movements essentially define the business cycle. Finally, the lagging indicators tend to change direction after the coincident series. Although on the surface lagging indicators seem to have little practical value, dismissing them as inconsequential would ignore vital information about the business cycle process, because these indicators often signal structural changes in the economy.

2. The high-frequency (typically monthly) economic series that are used as business cycle indicators are chosen on the basis of a number of economic and statistical criteria. For example, the methodology used by The Conference Board in the US is based on six criteria (Conference Board 1998):[2]

- *conformity:* the series must conform well to the business cycle;
- *consistent timing:* the series must exhibit a consistent timing pattern as a leading, coincident, or lagging indicator;
- *economic significance:* the cyclical timing of the series must be economically logical;
- *statistical adequacy:* the data must be collected and processed in a reliable way;
- *smoothness:* the movements of the series over time must not be erratic; and
- *currency:* the series must become available on a reasonably prompt schedule, preferably within a month.

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[1]This appendix draws mainly on Conference Board (1996 and 1998); see also the discussion in Gorton (1984). For a brief review of the literature and an example of constructing a simple index of business cycle indicators, see also IMF (1995).

[2]The Conference Board is, since December 1995, the official source for the composite indices of leading, coincident, and lagging indicators formerly compiled by the Bureau of Economic Analysis (BEA) of the US Department of Commerce. Becman & Trapscot (1987) present the methodology used previously by the BEA. For a discussion of the methodology used by the UK Central Statistical Office for the construction of business cycle indicators see Moore (1993).

3. Series that are chosen as indicators are classified as leading, coincident, and lagging using "reference dates", i.e., turning points in the series. To surmount the shortcomings of individual series, the indicators are then usually combined into composite indices, after some further statistical manipulations, such as de-trending or seasonal adjustment, smoothing, and scaling. The success of these indices is judged on the grounds of how well they track the business cycle and, in particular, its turning points.

4. Clearly, the crucial steps in this methodology are the choice of the series and the choice of weights in forming the composite index. Unfortunately, there is no single accepted guide for these steps. Different researchers use different ways, and ultimately these choices are made atheoretically, in an arbitrary fashion, with a view to maximizing fit and in-sample forecasting performance. For this reason, some composite indices do not stick to the Conference Board's stringent selection criteria above, and do not include only economic variables: time trends and random-walk processes, for example, have often been shown to be good predictors of economic activity.

5. This inevitable degree of arbitrariness of the mainstream methodology is the departure point for a newer method, proposed by Stock & Watson (1988 and 1993). They postulate an unobservable variable called "the state of the economy," which affects other observable series, and estimate rigorously the former from the latter using a dynamic factor analysis, or single-index model. This technique purports to eliminate the arbitrary element both from the decision which variables to include in the aggregate index, as well as from the choice of weights, which are now obtained as estimates of the econometric model. It also allows a formal derivation of the statistical properties of the index, which are unknown under the mainstream methodology.

6. A conceptual problem faced by both methodologies is what benchmark to use for evaluating the composite index. Statistical tests, such as those conducted by Stock & Watson on their coincident index (whiteness tests of the residuals of the observable series and cointegration tests for the observable series) can check the internal coherence of the model, but cannot determine the accuracy of their index: for this, an "external" benchmark is needed. Interestingly, Stock & Watson use BEA's coincident index as a benchmark for their index. But using an existing composite index to evaluate a proposed new one begs the question what is an appropriate benchmark for the existing index.

7. This problem has not been resolved in a universally accepted way. A natural candidate for a benchmark would be GDP. However, GDP is not available on a monthly basis. In addition, it has been argued that, despite its broad coverage, GDP may be a limited concept where business cycle fluctuations are concerned; in other words the concept of "economic activity" may be wider than GDP (Stock & Watson 1993). Other economic variables, notably industrial production, are also often used as benchmarks, on the grounds that they capture well the turning points in the business cycle. But since the composite indices usually include these variables, is not surprising that they tend to track these variables well.

8. While these conceptual questions remain open, economists continue to use single or composite indicators of the business cycle. The consensus today seems to be that the advantages of the pragmatic, mainstream approach in terms of simplicity and transparency outweigh its lack of a clear theoretical foundation. While Stock & Watson's approach is statistically more rigorous and limits the arbitrariness of the traditional method, it is more complicated and, in addition, falls down at some of the same points as the mainstream approach, notably the lack of an acceptable benchmark. For these reasons, it has not gained wide currency. Here, we use a hybrid of the two approaches to construct an index of coincident indicators for Estonia.

Table 19. Estonia: Gross Domestic Product by Expenditure, 1993-98

	1993	1994	1995	1996	1997	1998
			(In millions of kroons)			
Consumption	17,185	25,038	34,309	44,477	52,210	60,190
Private 1/	12,711	18,248	23,959	31,845	37,990	43,656
Public	4,474	6,790	10,350	12,632	14,219	16,534
Investment	5,821	8,184	10,881	15,143	20,385	21,480
Private 1/	4,750	6,708	8,904	11,839	17,284	...
Public 2/	1,071	1,476	1,977	2,740	3,101	...
Exports	15,197	22,486	29,451	35,186	50,238	58,393
Imports	16,125	25,738	32,736	41,229	57,661	65,464
			(In percent of GDP)			
Consumption	79.5	82.1	84.3	84.8	81.2	82.2
Private	58.8	59.1	58.9	60.7	59.1	59.6
Public	20.7	22.9	25.4	24.1	22.1	22.6
Investment	26.9	27.6	26.7	28.9	31.7	29.3
Private	22.0	22.6	21.9	23.6	26.9	...
Public	5.0	5.0	4.9	5.2	4.8	...
Exports	70.3	75.9	72.4	67.1	78.1	79.8
Imports	74.6	86.8	80.4	78.6	89.6	89.4
Memorandum items:						
GDP at market prices (In millions of kroons)	21,610	29,645	40,705	52,446	64,324	73,213
GDP deflator (In percent)	89.1	40.0	31.7	23.9	10.9	9.4
Real GDP growth (In percent)	-7.1	-2.0	4.3	4.0	10.6	4.0

Sources: Estonian authorities; and Fund staff estimates.

Table 20. Estonia: Gross Domestic Product in Current Prices by Origin, 1993-98

	1993	1994	1995	1996	1997				1997	1998				1998
					Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4	
					(In millions of kroons)									
Total	19,799	26,479	36,493	46,959	12,106	14,655	14,992	15,104	56,857	15,468	17,266	16,820	16,252	65,807
Agriculture and hunting	1,844	2,180	2,228	2,723	518	727	817	717	2,780	540	721	779	705	2,746
Forestry	217	380	475	610	161	196	237	248	841	215	273	278	280	1,045
Fishing	118	154	173	203	50	71	67	91	278	89	90	58	52	288
Mining and quarrying	367	478	601	728	196	199	198	236	829	218	180	168	196	763
Manufacturing	3,770	5,022	6,385	7,784	1,844	2,452	2,514	2,576	9,386	2,403	2,827	2,587	2,220	10,038
Electricity, gas, water supply	714	871	1,442	1,899	613	437	293	642	1,984	815	534	396	772	2,517
Construction	1,301	1,684	2,161	2,735	619	848	929	918	3,314	851	1,058	1,117	973	3,999
Services	11,469	15,710	23,028	30,277	8,106	9,725	9,938	9,676	37,445	10,337	11,584	11,437	11,055	44,413
Trade	3,359	4,078	6,016	8,035	2,043	2,541	2,723	2,431	9,737	2,808	2,993	3,065	2,899	11,765
Hotels and restaurants	273	311	419	589	117	182	219	159	676	163	275	391	225	1,053
Transport and communication	2,456	3,060	3,831	5,070	1,458	1,695	2,128	1,647	6,928	2,004	2,341	2,613	1,941	8,900
Real estate, renting, business activities	1,457	2,211	3,474	4,495	1,314	1,499	1,323	1,423	5,560	1,660	1,891	1,780	1,652	6,983
Finance and insurance	560	848	1,321	2,227	600	670	866	662	2,798	747	581	534	674	2,536
Public administration	681	1,194	1,774	2,185	552	680	613	753	2,597	614	721	661	857	2,853
Education	1,124	1,510	2,212	2,611	684	949	584	866	3,082	817	1,112	673	1,017	3,619
Health and social care	507	947	1,485	1,955	523	568	461	634	2,187	540	578	552	620	2,290
Other	1,052	1,552	2,496	3,112	818	940	1,020	1,101	3,879	985	1,091	1,169	1,170	4,415
FISIM 1/	-450	-623	-787	-1,131	-305	-325	-272	-268	-1,170	-260	-247	-242	-252	-1,000
GDP at basic prices	19,349	25,855	35,706	45,828	11,801	14,330	14,720	14,836	55,687	15,209	17,020	16,579	16,000	64,807
Net taxes	2,261	3,789	4,999	6,618	1,583	2,051	2,264	2,739	8,637	1,694	2,341	1,993	2,378	8,406
GDP at market prices	21,610	29,645	40,705	52,446	13,384	16,381	16,984	17,575	64,324	16,902	19,361	18,572	18,378	73,213
					(In percent of GDP)									
Agriculture, hunting, and forestry	8.5	7.4	5.5	5.2	3.9	4.4	4.8	4.1	4.3	3.2	3.7	4.2	3.8	3.8
Forestry	1.0	1.3	1.2	1.2	1.2	1.2	1.4	1.4	1.3	1.3	1.4	1.5	1.5	1.4
Fishing	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.3	0.3	0.4
Mining and quarrying	1.7	1.6	1.5	1.4	1.5	1.2	1.2	1.3	1.3	1.3	0.9	0.9	1.1	1.0
Manufacturing	17.4	16.9	15.7	14.8	13.8	15.0	14.8	14.7	14.6	14.2	14.6	13.9	12.1	13.7
Electricity, gas, water supply	3.3	2.9	3.5	3.6	4.6	2.7	1.7	3.7	3.1	4.8	2.8	2.1	4.2	3.4
Construction	6.0	5.7	5.3	5.2	4.6	5.2	5.5	5.2	5.2	5.0	5.5	6.0	5.3	5.5
Services	53.1	53.0	56.6	57.7	60.6	59.4	58.5	55.1	58.2	61.2	59.8	61.6	60.2	60.7
Trade	15.5	13.8	14.8	15.3	15.3	15.5	16.0	13.8	15.1	16.6	15.5	16.5	15.8	16.1
Hotels and restaurants	1.3	1.0	1.0	1.1	0.9	1.1	1.3	0.9	1.1	1.0	1.4	2.1	1.2	1.4
Transport and communication	11.4	10.3	9.4	9.7	10.9	10.3	12.5	9.4	10.8	11.9	12.1	14.1	10.6	12.2
Real estate, renting, business activities	6.7	7.5	8.5	8.6	9.8	9.2	7.8	8.1	8.6	9.8	9.8	9.6	9.0	9.5
Finance and insurance	2.6	2.9	3.2	4.2	4.5	4.1	5.1	3.8	4.4	4.4	3.0	2.9	3.7	3.5
Public administration	3.2	4.0	4.4	4.2	4.1	4.2	3.6	4.3	4.0	3.6	3.7	3.6	4.7	3.9
Education	5.2	5.1	5.4	5.0	5.1	5.8	3.4	4.9	4.8	4.8	5.7	3.6	5.5	4.9
Health and social care	2.3	3.2	3.6	3.7	3.9	3.5	2.7	3.6	3.4	3.2	3.0	3.0	3.4	3.1
Other	4.9	5.2	6.1	5.9	6.1	5.7	6.0	6.3	6.0	5.8	5.6	6.3	6.4	6.0

Sources: Estonian authorities; and Fund staff estimates.

1/ FISIM -- Financial intermediation services indirectly measured.

Table 21. Estonia: Real Gross Domestic Product by Origin, 1993-98
(in 1995 constant prices)

	1993	1994	1995	1996	1997				1997	1998				1998
					Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4	
	(In millions of kroons)													
Total	35,715	35,094	36,493	38,066	9,211	10,576	10,394	11,547	41,727	10,157	11,270	10,812	11,452	43,691
Agriculture and hunting	2,606	2,290	2,228	2,080	403	510	646	467	2,025	407	498	598	458	1,961
Forestry	323	365	475	534	133	155	184	195	666	151	192	202	209	754
Fishing	151	139	173	200	49	62	64	85	260	83	83	56	51	273
Mining and quarrying	687	645	601	646	179	176	168	210	733	188	154	142	162	646
Manufacturing	6,010	5,806	6,385	6,560	1,641	1,990	1,993	2,122	7,746	1,918	2,128	1,972	1,946	7,964
Electricity, gas, water supply	1,474	1,492	1,442	1,504	473	315	229	427	1,443	428	300	242	418	1,387
Construction	2,003	1,891	2,161	2,374	501	655	764	827	2,747	634	794	897	866	3,190
Services	22,462	22,466	23,028	24,169	5,835	6,712	6,347	7,214	26,108	6,348	7,123	6,703	7,342	27,516
Trade	5,273	5,334	6,016	6,570	1,436	1,682	1,783	1,937	6,839	1,773	1,880	1,926	2,056	7,635
Hotels and restaurants	459	460	419	465	93	125	158	127	503	105	152	163	152	571
Transport and communication	3,973	3,995	3,831	4,111	1,058	1,271	1,298	1,268	4,896	1,178	1,410	1,419	1,279	5,287
Real estate, renting, business activities	3,738	3,549	3,474	3,498	949	993	922	1,121	3,985	980	1,063	1,012	1,121	4,176
Finance and insurance	1,233	1,302	1,321	1,428	321	405	375	442	1,542	308	336	329	393	1,366
Public administration	1,736	1,754	1,774	1,776	445	517	372	538	1,872	445	517	372	545	1,879
Education	2,122	2,144	2,212	2,246	542	627	461	633	2,263	551	631	465	639	2,286
Health and social care	1,486	1,491	1,485	1,460	365	418	314	418	1,515	362	419	319	423	1,522
Other	2,443	2,438	2,496	2,614	626	675	664	730	2,695	646	715	698	735	2,794
FISIM 1/	-727	-775	-787	-850	-197	-204	-255	-262	-918	-193	-190	-210	-198	-790
GDP at basic prices	34,987	34,319	35,706	37,216	9,014	10,371	10,140	11,284	40,809	9,964	11,080	10,602	11,254	42,901
Net taxes	4,839	4,712	4,999	5,110	1,301	1,460	1,563	1,655	5,980	1,364	1,493	1,326	1,599	5,781
GDP at market prices	39,826	39,031	40,705	42,326	10,315	11,832	11,703	12,940	46,789	11,328	12,573	11,928	12,853	48,682
	(Annual real growth rates in percent)													
Agriculture and hunting		-12.1	-2.7	-6.6	-1.9	-2.4	2.9	-10.1	-2.6	1.1	-2.3	-7.3	-1.9	-3.2
Forestry		12.9	30.2	12.4	15.0	25.4	31.0	25.9	24.8	14.0	24.1	9.8	7.1	13.2
Fishing		-7.4	24.3	15.3	4.5	2.1	25.3	103.8	29.9	70.6	34.1	-12.7	-39.7	5.2
Mining and quarrying		-6.0	-6.8	7.4	-1.0	15.2	21.4	20.4	13.4	5.3	-12.7	-15.3	-22.8	-11.8
Manufacturing		-3.4	10.0	2.7	10.4	20.0	17.1	23.8	18.1	16.9	6.9	-1.1	-8.3	2.8
Electricity, gas, water supply		1.2	-3.4	4.3	-12.5	13.3	-9.6	-1.3	-4.0	-9.5	-4.8	5.6	-2.0	-3.9
Construction		-5.6	14.3	9.9	8.8	16.6	13.5	21.9	15.7	26.7	21.1	17.3	4.7	16.1
Services		0.0	2.5	5.0	6.4	7.8	8.1	9.5	8.0	8.8	6.1	5.6	1.8	5.4
Trade		1.2	12.8	9.2	5.0	3.7	3.4	4.5	4.1	23.5	11.8	8.0	6.1	11.6
Hotels and restaurants		0.1	-8.9	11.1	-2.9	1.9	18.6	11.8	8.1	12.4	21.1	3.5	19.6	13.6
Transport and communication		0.6	-4.1	7.3	10.3	20.7	24.2	20.4	19.1	11.3	10.9	9.3	0.9	8.0
Real estate, renting, business activities		-5.1	-2.1	0.7	13.8	16.3	9.2	15.9	13.9	3.3	7.1	9.7	0.0	4.8
Finance and insurance		5.6	1.5	8.0	0.8	6.2	10.6	13.4	8.0	-3.9	-16.8	-12.4	-11.0	-11.4
Public administration		1.1	1.1	0.1	5.4	5.4	5.4	5.4	5.4	0.1	0.0	0.0	1.2	0.4
Education		1.0	3.2	1.5	0.4	0.9	-0.3	1.7	0.8	1.6	0.6	1.1	0.9	1.0
Health and social care		0.4	-0.4	-1.7	3.8	3.6	4.0	3.5	3.7	-0.8	0.2	1.5	1.1	0.5
Other		-0.2	2.4	4.8	4.9	-0.5	-0.2	8.3	3.1	3.2	6.0	5.1	0.6	3.7

Sources: Estonian authorities; and Fund staff estimates.
1/ FISIM -- Financial intermediation services indirectly measured.

Table 22. Estonia: Gross Domestic Product by Income Approach, 1993-98
(In millions of kroons)

	1993	1994	1995	1996	1997	1998				1998
						Q1	Q2	Q3	Q4	Year
Compensation of employees	11,384	16,992	23,146	27,910	33,392	8,536	9,647	8,878	9,824	36,885
Wages & Salaries	8,624	12,808	17,522	21,169	25,397	6,491	7,351	6,717	7,448	28,007
Social insurance contributions	2,760	4,184	5,624	6,741	7,995	2,045	2,296	2,160	2,377	8,878
Consumption of fixed capital	2,699	3,346	4,527	5,651	7,428	2,083	2,491	2,607	2,738	9,920
Indirect taxes	3,026	4,559	5,891	7,725	9,959	1,997	2,790	2,525	2,753	10,064
Subsidies	-216	-287	-311	-391	-458	-105	-209	-327	-164	-805
Operating surplus & mixed income	5,167	5,658	8,239	12,682	14,002	4,391	4,642	4,889	3,228	17,149
GDP at market prices	22,060	30,268	41,492	53,577	64,324	16,902	19,361	18,572	18,378	73,213
Net taxes	2,261	3,789	4,999	6,618	8,637	1,694	2,341	1,993	2,378	8,406
Real GDP growth (annual)	-8.2	-2.0	4.3	4.0	10.6	9.8	6.3	1.9	-0.7	4.0

Sources: Estonian authorities; and Fund staff estimates.

Table 23. Estonia: Prices, 1994-99

	Consumer Price Index					Producer Price Index	Export Price Index
	Overall	Goods	Services	Nonregulated Goods and Services 1/	Regulated Goods and Services 2/		
	(In percent)						
1994							
Period average	47.7	33.9	89.2	43.1	100.2	36.2	...
Dec.-on-Dec.	41.6	23.8	85.2	40.4	95.6	32.8	22.2
1995							
Period average	28.9	17.8	45.2	26.4	57.2	25.6	15.2
Dec.-on-Dec.	28.8	20.4	40.2	28.3	46.9	21.8	17.2
1996							
Period average	23.1	19.6	27.1	27.4	31.4	14.8	11.4
Dec.-on-Dec.	14.8	12.8	16.8	26.4	21.1	9.9	5.6
1997							
Period average	11.2	8.4	14.3	21.4	18.9	8.8	7.6
Dec.-on-Dec.	12.5	10.6	15.1	11.1	14.8	7.7	4.9
1998 3/							
Period average	8.2	...	...	...	...	3.8	2.1
Dec.-on-Dec.	4.4	...	...	...	...	-0.2	-0.8
	(Percent change on previous month)						
1997							
January	1.5	1.3	1.6	2.3	2.1	0.9	1.4
February	0.9	0.6	1.3	1.1	1.3	0.8	1.1
March	0.8	0.9	0.7	0.6	0.5	0.4	0.9
April	1.9	1.4	2.4	4.4	2.7	0.8	0.3
May	2.0	0.7	3.5	0.5	3.3	2.4	0.5
June	0.7	0.4	1.0	0.6	1.2	0.4	0.6
July	0.3	0.4	0.5	0.8	0.1	0.7	0.7
August	0.6	0.3	1.0	1.4	0.7	1.3	0.7
September	0.6	0.6	0.7	1.0	0.1	-0.2	-0.5
October	0.9	1.3	0.5	1.2	0.4	0.2	-0.8
November	0.8	0.9	0.7	0.8	0.7	0.0	-0.2
December	0.8	1.3	0.3	0.7	0.9	0.0	0.3
1998 3/							
January	0.8	...	...	...	...	1.6	1.2
February	1.0	0.9	1.1	0.8	1.6	0.3	1.2
March	0.8	0.6	1.2	0.7	1.0	-0.4	-0.2
April	0.4	0.5	0.3	0.5	0.3	0.1	0.2
May	0.4	0.3	0.6	0.2	0.8	-0.3	-1.8
June	0.2	0.1	0.4	0.2	0.1	0.3	1.3
July	0.6	0.2	1.3	0.3	1.4	0.2	0.8
August	-0.1	-0.2	0.1	-0.2	0.0	-0.2	0.0
September	0.0	-0.6	1.0	0.0	-0.1	-0.6	-0.8
October	0.2	-0.1	0.7	2.2	0.7	-0.3	-0.7
November	0.0	-0.2	0.3	0.2	0.4	-1.0	-1.3
December	0.1	0.1	0.2	0.5	0.0	-0.3	-0.6
1999							
January	1.2	0.3	3.0	1.0	3.5	-0.4	-0.3
February	0.3	-0.2	1.1	0.0	0.9	-0.1	0.2
March	0.5	0.1	1.2	0.2	1.2	0.0	0.1
April	0.2	0.2	0.3	...	...	0.0	0.3

Sources: Estonian authorities; and Fund staff estimates.

1/ Nonregulated, nontraded goods and services from January 1996.

2/ Regulated, nontraded goods and services from January 1996. Includes prices of goods and services directly controlled by the state and local governments (car inspection fees, mandatory car insurance), goods and services supplied by monopolies (electricity, gas central heating, water and sewage, public transport, postal services) and goods and services that carry large excise taxes (petrol, tobacco).

3/ The consumer basket used in calculating CPI was revised in January 1998. The authorities are still revising the subcomponents of the CPI.

Table 24. Estonia: Average Monthly Wages, 1993-99

	Nominal Wages in kroons	Real Wages 1/ 1992=100	Nominal Wages in U.S. dollars
1993 2/	1,086	104	82
1994 2/	1,694	109	131
1995 2/	2,356	118	206
1996 2/	2,986	122	248
1997 2/	3,571	108	257
1998 2/	4,100	115	291
1997			
January	3,108	100	242
February	3,121	99	233
March	3,184	101	235
April	3,450	107	252
May	3,601	109	264
June	3,930	119	273
July	3,572	107	263
August	3,346	100	241
September	3,476	103	250
October	3,751	110	270
November	3,753	110	270
December	4,563	132	329
1998			
January	3,669	106	252
February	3,688	105	253
March	3,875	109	266
April	4,026	113	281
May	4,191	117	292
June	4,539	127	316
July	4,176	116	296
August	3,850	107	273
September	4,013	112	285
October	4,185	116	315
November	4,112	114	309
December	4,822	134	363
1999			
January	3,906	107	269
February	4,012	110	277
March	4,282	117	295

Sources: Estonian authorities; and Fund staff estimates.

1/ Nominal wages deflated by CPI.

2/ Annual average, calculated as a simple average of monthly averages.

Table 25. Estonia: Average Monthly Wages by Sector, 1993-98

	1993	1994	1995	1996	1997				1997	1998				1998
					Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4	
					(In kroons)									
Total	1,066	1,734	2,375	2,985	3,136	3,659	3,463	4,027	3,573	3,743	4,255	4,011	4,389	4,100
Agriculture and hunting	641	1,010	1,405	1,811	1,714	2,125	2,350	2,202	2,131	2,188	2,680	2,658	2,499	2,506
Forestry	908	1,601	2,419	2,590	2,869	3,782	3,443	4,634	3,657	3,505	4,223	3,929	4,464	4,030
Fishing	1,229	1,705	1,987	2,708	3,190	3,567	3,164	4,806	3,640	3,628	4,630	3,241	3,172	3,668
Mining and quarrying	1,487	2,362	2,968	3,944	4,204	4,028	4,121	5,335	4,412	4,859	4,593	5,061	5,130	4,911
Manufacturing	1,036	1,784	2,421	2,991	3,168	3,601	3,598	3,898	3,578	3,753	4,188	4,113	4,263	4,079
Electricity, gas, and water supply	1,467	2,432	3,262	3,872	4,112	5,160	4,828	5,262	4,835	5,515	5,409	5,320	5,927	5,543
Construction	1,264	2,047	2,568	3,195	3,213	3,601	3,767	4,068	3,709	3,559	4,181	4,498	4,368	4,152
Services	1,083	1,708	2,364	2,984	3,147	3,707	3,346	4,083	3,541	3,766	4,332	3,942	4,459	4,125
Wholesale and retail trade	917	1,510	2,051	2,720	2,679	3,201	3,092	3,616	3,112	3,273	3,705	3,893	3,685	3,639
Hotels and restaurants	786	1,196	1,570	2,128	1,936	2,180	2,381	2,426	2,340	2,290	2,528	2,603	2,661	2,521
Transport, storage, and communications	1,741	2,421	3,101	3,748	3,865	4,401	4,502	4,905	4,425	4,524	5,253	4,971	5,490	5,060
Financial intermediation	2,496	3,571	4,951	6,109	7,065	7,805	7,519	8,463	7,684	8,170	9,048	9,044	9,830	9,023
Real estate	1,031	1,748	2,562	3,213	3,662	4,145	4,188	5,133	4,078	4,307	4,563	4,565	4,852	4,572
Public administration and defence	1,103	2,030	2,825	3,546	3,759	4,448	3,814	4,926	4,226	4,424	5,049	4,435	5,594	4,876
Education	850	1,259	1,900	2,326	2,558	3,348	2,073	3,287	2,794	3,170	4,061	2,489	3,806	3,382
Health and social work	818	1,402	1,975	2,689	2,819	3,282	2,864	3,479	3,089	3,273	3,964	3,393	4,147	3,694
Other	825	1,300	1,894	2,453	2,674	2,911	2,741	3,224	2,913	3,238	3,437	3,118	3,571	3,341

Sources: Estonian authorities; and Fund staff estimates.

Table 26. Estonia: Average Number of Employees by Sector, 1993-98 1/

	1993	1994	1995	1996	1997	1998 Q1-Q3
	(Actual number of full time units)					
Agriculture and hunting	42,368	33,937	27,993	26,063	20,781	22,277
Forestry	7,401	6,950	7,095	7,413	5,550	5,755
Fishing	8,737	4,938	3,456	3,900	3,137	3,685
Mining and quarrying	13,363	11,971	11,305	11,039	10,687	8,398
Manufacturing	127,264	111,854	119,562	118,578	116,607	125,623
Electricity, gas, and water supply	11,683	14,536	16,028	16,432	15,629	15,119
Construction	33,197	31,062	34,552	33,524	32,378	32,153
Services	272,506	259,406	280,746	305,053	302,052	321,092
Wholesale and retail trade	55,525	50,644	60,568	70,513	74,376	82,932
Hotels and restaurants	11,043	10,023	10,334	10,395	10,422	11,745
Transport, storage, and communications	47,367	46,076	46,583	45,024	43,131	43,491
Financial intermediation	5,211	5,333	6,002	7,360	7,865	9,165
Real estate	23,859	22,276	25,699	28,764	28,387	35,493
Public administration and defence	27,837	29,249	33,400	34,804	34,851	34,722
Education	48,372	47,038	44,325	51,916	53,062	53,902
Health and social work	33,052	30,745	32,134	34,102	32,180	29,905
Other	20,240	18,022	21,703	22,175	17,779	19,737
Total	516,519	474,654	500,743	522,003	506,822	534,105
	(Percentage of total)					
Agriculture and hunting	8.2	7.1	5.6	5.0	4.1	4.2
Forestry	1.4	1.5	1.4	1.4	1.1	1.1
Fishing	1.7	1.0	0.7	0.7	0.6	0.7
Mining and quarrying	2.6	2.5	2.3	2.1	2.1	1.6
Manufacturing	24.6	23.6	23.9	22.7	23.0	23.5
Electricity, gas, and water supply	2.3	3.1	3.2	3.1	3.1	2.8
Construction	6.4	6.5	6.9	6.4	6.4	6.0
Wholesale and retail trade	10.7	10.7	12.1	13.5	14.7	15.5
Hotels and restaurants	2.1	2.1	2.1	2.0	2.1	2.2
Transport, storage, and communications	9.2	9.7	9.3	8.6	8.5	8.1
Financial intermediation	1.0	1.1	1.2	1.4	1.6	1.7
Real estate	4.6	4.7	5.1	5.5	5.6	6.6
Public administration and defence	5.4	6.2	6.7	6.7	6.9	6.5
Education	9.4	9.9	8.9	9.9	10.5	10.1
Health and social work	6.4	6.5	6.4	6.5	6.3	5.6
Other	3.9	3.8	4.3	4.2	3.5	3.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Estonian authorities.

1/ Monthly average number of employees in full time units (full time positions) by economic activity derived from t database of the Wages Statistics Section of the Statistical Office of Estonia.

Table 27. Estonia: Labor Market Indicators, 1993-99 1/

	Population Age 15-74	Labor force	Employment (incl. part time)	Unemployed	Inactive	Rate of Unemployment 3/	Registered unemployed 2/	
							Total	In percent of labor force
	(In thousands)							
1993 Average	1,080	758	708	50	322	6.5	18,245	2.4
1994 Average	1,069	749	693	57	320	7.6	15,598	2.1
1995 Average	1,062	727	656	71	335	9.7	15,179	2.1
1996 Average	1,054	718	646	72	337	10.0	18,537	2.6
1997 Average	1,051	713	648	69	334	9.7	19,253	2.7
January			646				21,006	
February	1,051	710	646	69	337	9.7	22,054	3.1
March			646				22,223	
April			648				21,899	
May	1,051	711	648	68	336	9.5	20,515	2.9
June			648				18,693	
July			649				17,996	
August	1,051	715	649	71	332	9.9	16,451	2.3
September			649				16,887	
October			651				17,416	
November	1,051	718	651	71	329	9.8	17,577	2.4
December			651				18,313	
1998 Average	1,048	710	643	70	335	9.9	18,809	2.6
January			643				19,190	
February	1,048	712	643	72	333	10.2	19,931	2.8
March			643				20,423	
April			643				20,285	
May	1,048	707	643	68	337	9.6	18,769	2.7
June			643				17,510	
July							17,134	
August	...	...	...	...	...	...	16,150	2.3
September							17,163	
October							18,193	
November	...	...	...	...	...	...	19,229	2.7
December							21,729	
1999 January							24,362	
February	...	...	...	...	...	...	26,841	3.8
March							30,203	

Sources: Estonian authorities; and Fund staff estimates.

1/ Data for population, labor force, employment, unemployment, inactive, and the rate of unemployment are compiled quarterly.

2/ The registered unemployed are defined in accordance with Estonian legislation as persons of working age (16 to pension age) who currently do not have a job, are actively seeking one, have been employed for at least 180 days during the previous 12 months, and have submitted all necessary registration documents. They are entitled to all benefits including unemployment insurance.

3/ In percent of labor force.

Table 28. Estonia: Unit Labor Cost in the Economy, 1995-98 1/

(1994 = 100)

	1995	1996	1997				1997	1998				1998
			Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4	
Economy total	99	97	100	99	85	99	96	93	98	88	100	95
Agriculture and hunting	136	144	192	163	136	171	165	235	207	161	198	197
Forestry	121	101	126	123	75	105	103	115	99	73	89	92
Fishing	103	120	147	126	102	103	118	94	130	122	118	115
Mining and quarrying	100	110	115	91	99	123	108	119	114	143	143	130
Manufacturing	107	108	131	112	91	101	107	119	113	101	128	114
Electricity, gas, and water supply	81	73	105	93	83	70	87	106	80	68	66	79
Construction	98	96	111	96	78	86	92	89	89	78	88	85
Services	94	91	84	90	80	95	87	78	89	82	90	85
Wholesale and retail trade	92	91	73	93	82	98	86	65	92	92	83	84
Hotels and restaurants	98	94	55	117	61	101	90	46	90	37	78	62
Transport, storage, and communications	102	93	91	94	64	78	81	77	81	57	74	72
Financial intermediation	88	84	61	68	93	108	86	56	63	83	108	80
Real estate	94	70	92	84	54	73	71	87	107	96	68	87
Public administration and defence	94	95	104	99	82	95	96	110	106	88	95	100
Education	103	107	113	97	118	115	109	117	100	123	113	112
Health and social work	90	93	86	95	95	106	95	96	113	94	129	109
Other	91	94	98	90	87	83	90	98	92	86	87	90

Sources: Estonian authorities; and Fund staff estimates.

1/ Calculated for each sector of the economy by dividing average wage index by nominal output index.

Table 29. Estonia: Unit Labor Cost Index in Industry, 1996-98 1/

(1995=100)

	1996				1996	1997				1997	1998				1998
	Q1	Q2	Q3	Q4	Average	Q1	Q2	Q3	Q4	Average	Q1	Q2	Q3	Q4	Average
Industry total	129	130	115	118	123	122	116	107	110	114	111	108	107	118	111
Energy	121	124	86	100	108	144	128	106	102	120	140	130	119	128	129
Mining	117	120	108	115	115	130	109	102	106	112	101	107	94	96	99
Quarrying	117	116	110	112	114	127	105	101	104	109	100	101	93	95	97
Production of peat	114	139	118	136	126	151	137	107	139	133	114	154	100	106	119
Manufacturing	135	130	120	123	127	120	114	109	114	114	110	107	108	122	112
Foodstuffs	159	146	126	140	143	136	133	117	128	128	123	132	126	165	136
Meat	142	123	130	117	128	124	94	81	78	94	100	85	75	96	89
Fish	120	104	63	76	91	75	81	57	78	73	79	82	61	122	86
Diary products	145	143	145	128	140	153	152	172	122	150	124	147	201	187	165
Grains	218	163	120	173	168	326	175	79	84	166	200	111	76	123	127
Textile	84	86	104	102	94	72	72	83	88	79	67	75	97	94	83
Clothing	111	148	121	130	128	111	146	112	121	122	102	136	104	126	117
Tanning of leather	131	114	111	111	117	113	103	111	132	115	139	96	99	119	113
Wood processing	111	97	81	85	93	78	65	61	79	71	85	82	79	85	83
Paper	158	118	216	299	198	150	97	202	228	169	85	79	207	281	163
Chemicals	190	218	133	129	167	162	156	142	140	150	147	137	115	132	133
Rubber	160	107	73	103	111	142	93	64	78	94	114	88	67	101	93
Other non-metallic mineral	161	127	112	124	131	122	90	92	124	107	91	92	87	114	96
Machinery	93	101	136	146	119	81	87	116	140	106	78	82	123	134	104
Electric machinery	92	87	113	94	96	87	75	76	81	80	110	59	66	78	78
Furniture	123	146	120	114	126	115	123	105	103	112	109	126	115	115	116

Sources: Estonian authorities; and Fund staff estimates.

1/ Calculated for each branch of industry by dividing wage cost by nominal output.

Table 30. Estonia: Summary of General Government Operations, 1994-99

	1994	1995	1996	1997	1998	1998				1999
						Q1	Q2	Q3	Q4	Q1 (Prel.)
					(In millions of kroons)					
Total revenue	12,466	16,467	20,431	25,481	28,887	6,228	7,892	7,383	7,384	5,651
Tax revenue	11,716	15,624	19,405	24,072	27,126	5,870	7,371	6,939	6,947	5,331
Direct taxes	7,412	9,840	11,862	14,473	17,320	3,940	4,654	4,477	4,249	3,576
VAT	3,309	4,112	5,263	6,686	6,413	1,370	1,814	1,555	1,674	1,157
Excises	611	1,137	1,735	2,397	2,787	426	734	762	865	457
Other taxes	384	534	546	516	606	135	169	144	159	141
Nontax revenue	750	843	1,025	1,409	1,761	358	521	444	437	321
Total expenditure	11,606	16,833	21,219	24,247	29,016	6,122	7,281	7,365	8,248	7,057
Current expenditure	10,352	14,919	18,653	21,768	25,923	5,746	6,585	6,393	7,199	6,568
Goods and services	6,628	10,053	12,456	14,669	17,820	3,818	4,566	4,332	5,104	4,221
Current transfers and subsidies	3,397	4,662	6,041	6,885	7,865	1,857	1,984	1,929	2,095	2,269
Other 1/	327	204	156	214	238	71	35	132	--	78
Capital expenditure 2/	1,237	1,914	2,567	2,479	3,093	377	695	972	1,049	490
Environment/Forestry Fund combined position	...	...	19	-18	-12	100	21	-55	-78	--
Financial surplus (+) / deficit (-) 3/	860	-366	-770	1,216	-141	205	633	-37	-942	-1,406
Net lending (-)	-476	-146	-41	50	-112	-17	-17	-65	-14	-30
Overall balance	384	-512	-811	1,266	-253	188	616	-101	-956	-1,436
Borrowing requirement	-384	512	811	-1,266	253	-188	-616	101	956	1,436
Domestic financing (net)	-824	-148	297	-1,198	12	-206	-695	26	887	1,368
Foreign financing (net)	440	660	514	-68	241	17	80	75	69	68
					(In percent of GDP)					
Total revenue	41.3	39.9	39.0	39.6	39.5	36.8	40.8	39.8	40.2	32.1
Tax revenue	38.8	37.8	37.1	37.4	37.1	34.7	38.1	37.4	37.8	30.3
Direct taxes	24.6	23.8	22.7	22.5	23.7	23.3	24.0	24.1	23.1	20.3
VAT	11.0	10.0	10.1	10.4	8.8	8.1	9.4	8.4	9.1	6.6
Excises	2.0	2.8	3.3	3.7	3.8	2.5	3.8	4.1	4.7	2.6
Other taxes	1.3	1.3	1.0	0.8	0.8	0.8	0.9	0.8	0.9	0.8
Nontax revenue	2.5	2.0	2.0	2.2	2.4	2.1	2.7	2.4	2.4	1.8
Total expenditure	38.5	40.8	40.5	37.7	39.6	36.2	37.6	39.7	44.9	40.1
Current expenditure	34.3	36.1	35.6	33.8	35.4	34.0	34.0	34.4	39.2	37.3
Goods and services	22.0	24.3	23.8	22.8	24.3	22.6	23.6	23.3	27.8	24.0
Current transfers and subsidies	11.3	11.3	11.5	10.7	10.7	11.0	10.2	10.4	11.4	12.9
Other 1/	1.1	0.5	0.3	0.3	0.3	0.4	0.2	0.7	0.0	0.4
Capital expenditure 2/	4.1	4.6	4.9	3.9	4.2	2.2	3.6	5.2	5.7	2.8
Financial surplus (+) / deficit (-) 3/	2.8	-0.9	-1.5	1.9	-0.2	1.2	3.3	-0.2	-5.1	-8.0
Net lending (-)	-1.6	-0.4	-0.1	0.1	-0.2	-0.1	-0.1	-0.3	-0.1	-0.2
Overall balance	1.3	-1.2	-1.5	2.0	-0.3	1.1	3.2	-0.5	-5.2	-8.2
Borrowing requirement	-1.3	1.2	1.5	-2.0	0.3	-1.1	-3.2	0.5	5.2	8.2
Domestic financing (net)	-2.7	-0.4	0.6	-1.9	0.0	-1.2	-3.6	0.1	4.8	7.8
Foreign financing (net)	1.5	1.6	1.0	-0.1	0.3	0.1	0.4	0.4	0.4	0.4
Memorandum items:										
GDP (in million of kroons)	30,179	40,705	52,446	64,324	73,213	16,902	19,361	18,572	18,378	17,613

Sources: Estonian authorities; and Fund staff estimates.

1/ Includes unallocated expenditure, some portion of government operations that may be net lending from domestic budgetary resources, and foreign-financed current expenditure.

2/ Includes capital expenditure from both budgetary and foreign resources.

3/ Includes the combined balance of the Environment and Forestry Funds in 1996 and the first half of 1997.

Table 31. Estonia: General Government Revenue, 1994-99

	1994	1995	1996	1997	1998	1998				1999
						Q1	Q2	Q3	Q4	Q1 (Prel.)
					(In millions of kroons)					
Total revenue	12,466	16,467	20,431	25,481	28,887	6,228	7,892	7,383	7,384	5,651
Tax revenue	11,716	15,624	19,405	24,072	27,126	5,870	7,371	6,939	6,947	5,331
Direct taxes	7,412	9,840	11,862	14,473	17,320	3,940	4,654	4,477	4,249	3,576
Corporate profits tax	1,038	1,050	891	1,228	1,914	277	972	431	234	322
Personal income tax	2,388	3,593	4,352	5,240	6,233	1,492	1,415	1,715	1,611	1,542
Social security tax	2,170	2,917	3,844	4,637	5,303	1,265	1,333	1,339	1,366	1,012
Medical insurance tax	1,692	2,131	2,564	3,097	3,573	870	858	901	944	649
Land tax	124	149	211	270	297	35	76	91	95	51
VAT	3,309	4,112	5,263	6,686	6,413	1,370	1,814	1,555	1,674	1,157
Excises, o/w	611	1,137	1,735	2,397	2,787	426	734	762	865	457
on alcohol	...	...	753	918	935	214	240	233	248	169
on tobacco	...	...	350	502	537	44	146	155	192	74
on fuel	...	...	526	873	1,222	152	319	348	403	191
other excises	...	...	106	104	93	16	29	26	22	24
Taxes on international trade	192	63	3	5	5	1	1	0	2	1
Other taxes	192	471	543	511	602	134	168	144	157	140
Nontax revenue	750	843	1,025	1,409	1,761	358	521	444	437	321
					(In percent of GDP)					
Total revenue	41.3	39.9	39.0	39.6	39.5	36.8	40.8	39.8	40.2	32.1
Tax revenue	38.8	37.8	37.1	37.4	37.1	34.7	38.1	37.4	37.8	30.3
Direct taxes	24.6	23.8	22.7	22.5	23.7	23.3	24.0	24.1	23.1	20.3
Corporate profits tax	3.4	2.5	1.7	1.9	2.6	1.6	5.0	2.3	1.3	1.8
Personal income tax	7.9	8.7	8.3	8.1	8.5	8.8	7.3	9.2	8.8	8.8
Social security tax	7.2	7.1	7.3	7.2	7.2	7.5	6.9	7.2	7.4	5.7
Medical insurance tax	5.6	5.2	4.9	4.8	4.9	5.1	4.4	4.9	5.1	3.7
Land tax	0.4	0.4	0.4	0.4	0.4	0.2	0.4	0.5	0.5	0.3
VAT	11.0	10.0	10.1	10.4	8.8	8.1	9.4	8.4	9.1	6.6
Excises	2.0	2.8	3.3	3.7	3.8	2.5	3.8	4.1	4.7	2.6
on alcohol	...	...	1.4	1.4	1.3	1.3	1.2	1.3	1.3	1.0
on tobacco	...	...	0.7	0.8	0.7	0.3	0.8	0.8	1.0	0.4
on fuel	...	...	1.0	1.4	1.7	0.9	1.6	1.9	2.2	1.1
other excises	...	...	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Taxes on international trade	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other taxes	0.6	1.1	1.0	0.2	0.8	0.8	0.9	0.8	0.9	0.8
Nontax revenue	2.5	2.0	2.0	2.2	2.4	2.1	2.7	2.4	2.4	1.8
Memorandum items:										
GDP (in million of kroons)	30,179	40,705	52,446	64,324	73,213	16,902	19,361	18,572	18,378	17,613

Sources: Estonian authorities; and Fund staff estimates.

Table 32. Estonia: General Government Expenditure, 1994-99

	1994	1995	1996	1997	1998	1998				1999
						Q1	Q2	Q3	Q4	Q1 (Prel.)
					(In millions of kroons)					
Total expenditure and net lending	12,082	16,979	21,261	24,197	29,129	6,140	7,298	7,430	8,262	7,087
Total expenditure	11,606	16,833	21,219	24,247	29,016	6,122	7,281	7,365	8,248	7,057
Current expenditure	10,352	14,919	18,653	21,768	25,923	5,746	6,585	6,393	7,199	6,568
Expenditure on goods and services	6,628	10,053	12,456	14,669	17,820	3,818	4,566	4,332	5,104	4,221
Wages and salaries 1/	3,191	4,237	4,932	5,308	6,775	1,505	1,960	1,396	1,914	1,623
Other goods and services	3,438	5,816	7,524	9,361	11,044	2,313	2,606	2,935	3,190	2,597
Current transfers and subsidies	3,397	4,662	6,041	6,885	7,865	1,857	1,984	1,929	2,095	2,269
Subsidies	273	202	200	196	311	58	76	76	101	95
Transfers to households	3,124	4,460	5,841	6,689	7,554	1,799	1,908	1,853	1,994	2,174
Pensions	1,970	2,908	3,964	4,628	5,200	1,238	1,349	1,278	1,336	1,610
Family benefits	586	769	799	935	1,159	265	267	317	310	265
Sickness benefits	247	380	460	552	663	172	160	133	198	141
Unemployment benefits	24	28	73	71	57	12	16	14	15	35
Heating and housing allowance 2/	243	226	28	0	0	0	0	0	0	0
Income maintenance	38	98	450	431	386	95	99	80	112	103
Other	16	51	66	72	90	17	17	32	24	20
Other current expenditure 3/	327	204	156	214	238	71	35	132	0	78
Capital expenditure 4/	1,237	1,914	2,567	2,479	3,093	377	695	972	1,049	490
Net lending	476	146	41	-50	112	17	17	65	14	30
Memorandum item:										
Interest payments	76	163	156	214	238	71	35	132	0	78
					(In percent of GDP)					
Total expenditure and net lending	40.0	41.1	40.6	37.6	39.8	36.3	37.7	40.0	45.0	40.2
Total expenditure	38.5	40.8	40.5	37.7	39.6	36.2	37.6	39.7	44.9	40.1
Current expenditure	34.3	36.1	35.6	33.8	35.4	34.0	34.0	34.4	39.2	37.3
Expenditure on goods and services	22.0	24.3	23.8	22.8	24.3	22.6	23.6	23.3	27.8	24.0
Wages and salaries 1/	10.6	10.3	9.4	8.3	9.3	8.9	10.1	7.5	10.4	9.2
Other purchases of goods and services	11.4	14.1	14.4	14.6	15.1	13.7	13.5	15.8	17.4	14.7
Current transfers and subsidies	11.3	11.3	11.5	10.7	10.7	11.0	10.2	10.4	11.4	12.9
Subsidies	0.9	0.5	0.4	0.3	0.4	0.3	0.4	0.4	0.5	0.5
Transfers to households	10.4	10.8	11.2	10.4	10.3	10.6	9.9	10.0	10.8	12.3
Pensions	6.5	7.0	7.6	7.2	7.1	7.3	7.0	6.9	7.3	9.1
Family benefits	1.9	1.9	1.7	1.5	1.6	1.6	1.4	1.7	1.7	1.5
Sickness benefits	0.8	0.9	0.9	0.9	0.9	1.0	0.8	0.7	1.1	0.8
Unemployment benefits	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Heating and housing allowance 2/	0.8	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Income maintenance	0.1	0.2	0.9	0.7	0.5	0.6	0.5	0.4	0.6	0.6
Other	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1
Other current expenditure 3/	1.1	0.5	0.3	0.3	0.3	0.4	0.2	0.7	0.0	0.4
Capital expenditure 4/	4.1	4.6	4.9	3.9	4.2	2.2	3.6	5.2	5.7	2.8
Net lending	1.6	0.4	0.1	-0.1	0.2	0.1	0.1	0.3	0.1	0.2
Memorandum items:										
Interest payments	0.3	0.4	0.3	0.3	0.3	0.4	0.2	0.7	0.0	0.4
GDP (in million of kroons)	30,179	40,705	52,446	64,324	73,213	16,902	19,361	18,572	18,378	17,613

Sources: Estonian authorities; and Fund staff estimates.

1/ Wages and salaries of a number of budgetary institutions are included under "other goods and services".

2/ Combined with income maintenance in 1997.

3/ Includes unallocated expenditure, some portion of government operations that may be net lending from domestic budgetary resources, and foreign-financed current expenditure.

4/ Includes capital expenditure from both budgetary and foreign resources.

Table 33. Estonia: Fiscal Balances by Government Sector, 1996-99

(In millions of kroons)

	1996	1997	1998	1998				1999
				Q1	Q2	Q3	Q4	Q1 (Prel.)
Central government								
Revenue	13,270	13,708	15,150	2,984	4,535	3,838	3,792	2,856
Tax revenue	12,675	13,091	14,422	2,842	4,303	3,618	3,660	2,729
Nontax revenue	596	617	728	142	233	221	132	126
Revenue from property 1/	166	168	272	10	129	98	35	13
Other	430	449	456	133	103	123	97	113
Expenditure	13,195	12,336	15,229	3,076	3,808	4,084	4,261	3,512
Current	11,965	10,877	13,353	2,782	3,369	3,552	3,651	3,176
O/w: inter-governmental transfers	4,081	2,236	2,659	601	650	693	715	640
Capital	1,230	1,459	1,876	295	439	533	610	336
O/w: inter-governmental transfers	129	188	354	51	110	124	69	70
Domestic deficit (-)/surplus(+)	75	1,372	-79	-92	728	-246	-468	-656
Capital expenditure (foreign financed)	152	-80	-123	-12	-37	-30	-44	-52
Net lending to nongovernment (foreign financed)	41	50	-131	-17	-26	-70	-18	-30
Overall deficit (-)/ surplus (+)	-118	1,342	-333	-122	665	-346	-530	-738
Local government								
Revenue and transfers	4,064	5,333	6,342	1,410	1,563	1,695	1,674	1,483
Revenue (own)	678	3,939	4,732	1,079	1,129	1,268	1,256	1,116
Current revenue	352	3,585	4,345	1,006	1,007	1,191	1,141	1,056
Revenue from property	327	355	387	72	122	78	115	60
Intergovernmental transfers	3,385	1,394	1,610	331	434	427	418	366
Expenditure	4,486	5,421	6,490	1,267	1,664	1,617	1,942	1,436
Current	3,368	4,417	5,049	1,149	1,337	1,073	1,489	1,252
Capital	1,119	1,004	1,441	118	328	543	452	184
Deficit	-423	-88	-148	143	-101	79	-268	47
Capital expenditure (financed by foreign borrowing through central government)	163	-125	13	-4	8	16	-7	14
Overall deficit (-)/ surplus (+)	-586	-213	-135	139	-93	94	-275	61
Social Insurance Fund								
Revenue	4,801	5,723	6,781	1,606	1,684	1,745	1,746	1,348
O/w: inter-governmental transfers	910	1,031	1,403	322	325	390	367	324
Expenditure	4,941	5,744	6,563	1,540	1,631	1,683	1,710	1,904
Deficit (-)/ surplus (+)	-140	-21	217	65	54	62	36	-556
Medical Insurance Fund								
Revenue	2,591	3,143	3,627	881	869	921	957	675
O/w: inter-governmental transfers								20
Expenditure	2,578	2,965	3,618	876	899	777	1,066	878
Deficit (-)/ surplus (+)	13	177	9	5	-30	143	-109	-203
Forestry Fund								
Revenue	432	494	677	218	186	112	161	183
Expenditure	414	480	668	126	163	160	218	183
Deficit (-)/ surplus (+)	18	14	9	92	22	-48	-58	0
Environmental Fund								
Revenue	81	128	137	33	39	27	38	35
Expenditure	80	160	157	25	40	34	58	35
Deficit (-)/ surplus (+)	1	-32	-21	7	-1	-7	-20	0
Overall general government deficit (-)/surplus (+)	-811	1,267	-253	188	616	-101	-956	-1,436
Memorandum items:								
Nominal GDP	52,446	64,324	73,213	16,902	19,361	18,572	18,378	17,613

Source: Estonian authorities; and Fund staff estimates.

1/ Including revenue from forestry (stumpage tax) for 1996. Starting from 1997, forestry revenue is included under other tax revenue.

Table 34. Estonia: Fiscal Balances by Government Sector, 1996-99

(In percent of GDP)

	1996	1997	1998	1998				1999
				Q1	Q2	Q3	Q4	Q1 (Prel.)
Central government								
Revenue	25.3	21.3	20.7	17.7	23.4	20.7	20.6	16.4
Tax revenue	24.2	20.4	19.7	16.8	22.2	19.5	19.9	15.7
Nontax revenue	1.1	1.0	1.0	0.8	1.2	1.2	0.7	0.7
Revenue from property 1/	0.3	0.3	0.4	0.1	0.7	0.5	0.2	0.1
Other	0.8	0.7	0.6	0.8	0.5	0.7	0.5	0.6
Expenditure	25.2	19.2	20.8	18.2	19.7	22.0	23.2	20.2
Current	22.8	16.9	18.2	16.5	17.4	19.1	19.9	18.2
O/w: inter-governmental transfers	7.8	3.5	3.6	3.6	3.4	3.7	3.9	3.7
Capital	2.3	2.3	2.6	1.7	2.3	2.9	3.3	1.9
O/w: inter-governmental transfers	0.2	0.3	0.5	0.3	0.6	0.7	0.4	0.4
Domestic deficit (-)/surplus(+)	0.1	2.1	-0.1	-0.5	3.8	-1.3	-2.5	-3.8
Capital expenditure (foreign financed)	0.3	-0.1	-0.2	-0.1	-0.2	-0.2	-0.2	-0.3
Net lending to nongovernment (foreign financed)	0.1	0.1	-0.2	-0.1	-0.1	-0.4	-0.1	-0.2
Overall deficit (-)/ surplus (+)	-0.2	2.1	-0.5	-0.7	3.4	-1.9	-2.9	-4.2
Local government								
Revenue and transfers	7.7	8.3	8.7	8.3	8.1	9.1	9.1	8.5
Revenue (own)	1.3	6.1	6.5	6.4	5.8	6.8	6.8	6.4
Current revenue	0.7	5.6	5.9	6.0	5.2	6.4	6.2	6.1
Revenue from property	0.6	0.6	0.5	0.4	0.6	0.4	0.6	0.3
Intergovernmental transfers	6.5	2.2	2.2	2.0	2.2	2.3	2.3	2.1
Expenditure	8.6	8.4	8.9	7.5	8.6	8.7	10.6	8.2
Current	6.4	6.9	6.9	6.8	6.9	5.8	8.1	7.2
Capital	2.1	1.6	2.0	0.7	1.7	2.9	2.5	1.1
Deficit	-0.8	-0.1	-0.2	0.8	-0.5	0.4	-1.5	0.3
Capital expenditure (financed by foreign borrowing through central government)	0.3	-0.2	0.0	0.0	0.0	0.1	0.0	0.1
Overall deficit	-1.1	-0.3	-0.2	0.8	-0.5	0.5	-1.5	0.4
Social Insurance Fund								
Revenue	9.2	8.9	9.3	9.5	8.7	9.4	9.5	7.7
O/w: inter-governmental transfers	1.7	1.6	1.9	1.9	1.7	2.1	2.0	1.9
Expenditure	9.4	8.9	9.0	9.1	8.4	9.1	9.3	10.9
Deficit	-0.3	0.0	0.3	0.4	0.3	0.3	0.2	-3.2
Medical Insurance Fund								
Revenue	4.9	4.9	5.0	5.2	4.5	5.0	5.2	3.9
O/w: inter-governmental transfers								0.1
Expenditure	4.9	4.6	4.9	5.2	4.6	4.2	5.8	5.0
Deficit	0.0	0.3	0.0	0.0	-0.2	0.8	-0.6	-1.2
Forestry Fund								
Revenue	0.8	0.8	0.9	1.3	1.0	0.6	0.9	1.1
Expenditure	0.8	0.7	0.9	0.7	0.8	0.9	1.2	1.1
Deficit	0.0	0.0	0.0	0.5	0.1	-0.3	-0.3	0.0
Environmental Fund								
Revenue	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2
Expenditure	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.2
Deficit	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
General government deficit/surplus	-1.5	2.0	-0.3	1.1	3.2	-0.5	-5.1	-8.2
Memorandum item:								
Nominal GDP (in millions of kroons)	52,446	64,324	73,213	16,902	19,361	18,572	18,378	17,613

Source: Estonian authorities; and Fund staff estimates.

1/ Including revenue from forestry (stumpage tax) for 1996. Starting from 1997, forestry revenue is included under other tax revenue.

Table 35. Estonia: Employment and Wages in the General Government, 1993-98

	1993	1994	1995					1996	1997					1998				
	Year	Year	Q1	Q2	Q3	Q4	Year	Year	Q1	Q2	Q3	Q4	Year	Q1	Q2	Q3	Q4 1/	Year 2/
								(In kroons per month)										
Public administration	1,052	2,055	2,434	2,757	2,603	3,247	2,760	3,552	3,759	4,448	3,814	4,926	4,237	4,424	5,049	4,435	...	4,636
Education	822	1,257	1,763	2,028	1,541	2,383	1,929	2,332	2,558	3,348	2,073	3,287	2,817	3,170	4,061	2,489	...	3,240
Health and social work	844	1,403	1,681	2,055	1,819	2,366	1,980	2,685	2,819	3,282	2,864	3,479	3,111	3,273	3,964	3,393	...	3,543
Other public sector	841	1,301	1,697	1,926	1,854	2,100	1,894	2,504	2,674	2,911	2,741	3,224	2,888	3,238	3,437	3,118	...	3,264
General government	896	1,480	1,904	2,212	1,918	2,546	2,145	2,768	2,953	3,497	2,873	3,729	3,263	3,526	4,128	3,359	4,126	3,785
								(In percent of the average wage in the economy)										
Public administration	0.98	1.17	1.17	1.15	1.10	1.20	1.16	1.19	1.20	1.22	1.10	1.22	1.18	1.18	1.19	1.11	...	1.16
Education	0.78	0.72	0.85	0.85	0.65	0.88	0.81	0.78	0.82	0.92	0.60	0.82	0.79	0.85	0.95	0.62	...	0.81
Health and social work	0.79	0.81	0.81	0.86	0.77	0.88	0.83	0.90	0.90	0.90	0.83	0.86	0.87	0.87	0.93	0.85	...	0.89
Other public sector	0.79	0.74	0.81	0.80	0.78	0.78	0.79	0.84	0.85	0.80	0.79	0.80	0.81	0.87	0.81	0.78	...	0.82
General government	0.84	0.85	0.91	0.92	0.81	0.94	0.90	0.93	0.94	0.96	0.83	0.93	0.91	0.94	0.97	0.84	0.94	0.92
								(Number of wage earners; in thousand persons)										
Public administration	41.1	29.1	34.6	35.4	31.4	32.2	33.4	34.8	35.3	35.6	34.8	33.8	34.9	35.6	34.6	33.7	...	34.6
Education	43.1	49.1	44.2	43.3	45.2	44.6	44.3	51.9	54.4	53.7	50.1	54.0	53.1	54.1	53.9	54.0	...	54.0
Health and social work	31.2	31.8	33.3	32.1	32.2	31.0	32.2	34.1	32.7	32.4	32	31.7	32.2	30.3	29.8	29.7	...	29.9
Other public sector	18.9	18.3	22.6	22.2	20.3	21.7	21.7	22.2	19.1	17.8	17.4	16.9	17.8	20.6	19.9	18.8	...	19.8
Total general government	134.3	128.2	134.7	132.9	129.2	129.4	131.6	143.0	141.5	139.5	134.3	136.4	137.9	140.6	138.2	136.2	...	138.3
Wage earners in general government as a share of all wage earners (in percent)	19.0	18.5	20.7	20.3	19.6	19.7	20.1	22.1	21.9	21.5	20.7	20.9	21.3	21.9	21.5	21.2	...	21.5
Memorandum items:																		
Average wage in the economy (kroons/month)	1,069	1,743	2,086	2,395	2,363	2,697	2,385	2,986	3,136	3,659	3,463	4,027	3,571	3,743	4,255	4,011	4,389	4,100
Average number of employed in the economy (in '000)	708	693	652	655	659	658	656	646	646	648	649	651	648	643	643	643	...	643
Rate of growth of average wage (in percent) 3/	...	63.0	47.9	37.6	37.1	28.7	36.9	25.2	18.4	21.8	16.2	21.7	19.6	19.4	16.3	15.8	...	14.8
Rate of growth of gen. govt. wage (in percent)3/								29.1	16.1	22.2	12.8	19.4	17.9	19.4	18.0	16.9	...	16.0

Source: Statistical Office of Estonia; and Fund staff estimates.

1/ Staff estimates for general government wage in 1998Q4.
2/ Except for the general government, indicates the average for the first three quarters of the year.
3/ Compared with same quarter in the previous year.

Table 36. Estonia: Recent Changes in Tax Policy and Administration[1]

· The **costs for the acquisition of fixed assets**, with the exception of fixed assets with a value less than EEK 5,000 and motor vehicles, can be **deducted from taxable income for all enterprises located in areas outside Tallinn**. Costs can be deducted either fully during one year or stretched over seven years. This measure was approved by parliament in February 1999 and is effective retroactively from January 1, 1998 through December 31, 2007, plus further seven years for investments undertaken in the year 2007, if the second option mentioned above is taken.

· **Donations** up to 5 percent of taxable income can be deducted from the personal income tax liability.

· **Contributions to private pension funds** under the new third pillar of the pension system can be deducted up to a maximum of 15 percent of taxable income.

· A new, third **VAT** rate of 5 percent was introduced on the sales of books and maps.

· The **VAT repayment period** was shortened from 60 days to 30 days.

· **Excise taxes on alcohol products** were raised and structured according to alcohol content rather production volumes.

· The **excise tax on tobacco** was raised from EEK 4.5 to EEK 5.0 per package of cigarettes.[2]

· **Excise tax rates on fuel** were raised by 12–44 percent. The most important tax on petrol was increased by 20 percent from EEK 2.5 to EEK 3 per liter.

· The **excise tax rates on motor vehicles** were raised based on age and cylinder volume as follows:

One to ten years of age:	EEK 500 per year
over ten years of age	EEK 1000 per year
New cars	Zero
Less than 1,000 cm^3	EEK 1/cm^3
1,000–1,600 cm^3	EEK 2,5/cm^3
1,600–2,000 cm^3	EEK 4/cm^3
2,000–2,500 cm^3	EEK 8,0/cm^3
2,500–3,000 cm^3	EEK 15,0/cm^3
More than 3,000 cm^3	EEK 30/cm^3

Vans, jeeps and station wagons with six to nine seats of a cylinder capacity of 1600 cm^3 and over: EEK 4/cm^3

· The responsibility for the collection of the social security and medical insurance taxes was transferred from the Social and Medical Insurance Funds to the National Tax Board.

· In January and February 1999, the government established three "**free zones**" (in Sillamea, Valga, and Voru), effectively exempting enterprises operating in these zones from VAT payments on export production (instead of requiring VAT payments and providing rebates later).

Sources: Estonian authorities; and Fund staff estimates.

[1]For a complete tax summary see the IMF Staff Country Report No. 98/12 on Estonia. All measures became effective January 1, 1999 unless stated otherwise.

[2]A further increase in the excise tax by EEK 0,5 per package will become effective July 1, 1999.

Table 37. Estonia: Bank of Estonia, 1993-99

(In millions of kroons, end of period)

	1993	1994	1995	1996				1997				1998				1999	
		Dec		March	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	Apr
Net foreign assets	4,460	4,547	5,546	5,488	6,099	6,195	6,945	7,207	7,735	8,978	10,104	9,028	10,931	9,986	10,496	9,184	11,667
Foreign assets 1/	5,409	5,541	6,685	6,765	7,249	7,284	7,958	8,192	8,670	9,843	10,902	9,788	11,836	10,541	10,909	10,324	12,084
Of which:																	
Currency board cover 2/	3,834	4,275	5,091	5,029	5,556	5,518	6,192	6,386	6,794	7,789	8,526	7,593	9,298	8,207	9,070	7,780	10,206
Foreign liabilities	949	994	1,140	1,277	1,149	1,089	1,013	985	935	865	798	760	905	556	413	1,140	417
Net domestic assets	-615	-262	-445	-450	-534	-669	-752	-821	-941	-1,189	-1,577	-1,435	-1,633	-1,779	-1,170	-1,404	-1,461
Net claims on government	39	-1	3	3	2	3	3	-1	-1	-1	-352	-2	-113	-126	-4	-3	-6
Claims on financial institutions	409	383	73	74	61	61	48	43	32	33	23	25	17	17	270	281	281
Claims on non-financial public enterprises	63	15	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
Claims on private sector	5	8	15	16	18	18	19	20	22	25	26	27	33	36	40	40	42
Other	-1,131	-667	-537	-543	-616	-752	-821	-883	-995	-1,245	-1,275	-1,486	-1,570	-1,706	-1,476	-1,723	-1,778
Base money	3,834	4,275	5,091	5,029	5,556	5,518	6,192	6,386	6,794	7,789	8,526	7,593	9,298	8,207	9,070	7,780	10,206
Currency issue	2,730	3,512	4,337	4,284	4,706	4,690	4,987	4,984	5,367	5,355	5,439	5,260	5,773	5,322	5,391	5,233	5,355
Deposits of commercial banks	1,044	703	720	695	794	796	1,202	1,399	1,415	2,321	3,035	2,330	3,521	2,855	3,676	2,513	4,829
Certificates of deposits	60	60	34	50	54	30	2	0	10	0	0	0	0	0	0	0	0
Memorandum items:																	
Gross international reserves (in millions of US$) 3/	388	447	583	573	595	596	640	610	623	694	760	662	819	787	813	709	820
Gross international reserves (in millions of DM) 3/	669	692	835	845	906	910	995	1,024	1,084	1,230	1,363	1,223	1,479	1,318	1,312	1,148	1,511

Sources: Estonian authorities; and Fund staff estimates.

1/ Excludes foreign assets of the central government's Stabilization Reserve Fund.

2/ Currency board cover is equivalent to the sum of base money and the kroon liabilities of the Bank of Estonia in its correspondent accounts.

3/ Net of currency board cover (program definition).

Table 38. Estonia: Banking Survey, 1993-99

	1993	1994	1995	1996				1997				1998				1999	
	Dec			March	June	Sept.	Dec.	Mar.	June	Sept	Dec	Mar	June	Sept	Dec	Mar	Apr
	(In millions of kroon, end of period)																
Net foreign assets 1/	5,692	6,874	7,629	6,914	7,771	7,426	7,159	7,499	8,101	8,292	5,091	6,114	6,843	5,126	5,114	6,611	6,979
Foreign assets	6,840	8,561	10,383	10,056	11,163	11,311	11,967	13,154	14,731	16,211	18,980	19,257	20,171	17,792	17,389	20,467	20,380
Foreign liabilities	1,148	1,688	2,754	3,142	3,392	3,885	4,808	-5,655	-6,631	-7,919	-13,889	-13,143	-13,328	-12,665	-12,275	-13,857	-13,401
Net domestic assets	388	1,006	2,715	3,963	4,464	5,584	6,995	7,755	8,942	10,173	14,418	14,278	14,303	15,622	15,683	14,915	15,106
Domestic credit	2,206	3,139	5,200	6,311	7,172	8,432	10,434	12,178	14,057	16,510	19,184	20,754	21,789	22,285	23,622	22,308	22,331
Of which:																	-1,915
Credit to nongovernment	2,903	4,557	7,020	7,824	8,873	10,139	11,935	13,719	16,176	19,695	21,946	23,101	24,341	25,136	25,092	24,307	24,247
Of which:																	
Households & individuals	184	506	738	834	1,108	1,401	1,799	2,212	2,877	3,668	4,114	4,148	4,174	4,254	4,181	4,255	4,258
Enterprises	2,710	4,039	5,303	5,812	6,353	6,921	7,667	8,554	9,334	11,261	12,506	13,825	14,427	14,972	14,319	13,802	13,703
Nonbank financial institutions	9	12	629	827	1,021	1,475	2,026	2,499	3,499	4,434	4,980	4,860	5,600	5,767	6,326	5,943	5,992
Net credit to general government	-697	-1,418	-1,820	-1,513	-1,701	-1,707	-1,501	-1,541	-2,118	-3,186	-2,762	-2,347	-2,552	-2,851	-1,469	-1,999	-1,915
Other items (net) 1/	1,818	2,138	2,484	2,348	2,708	2,847	-3,438	-4,422	-5,116	-6,337	-4,766	-6,476	-7,486	-6,663	-7,939	-7,394	-7,225
Broad money	6,080	7,880	10,344	10,876	12,235	13,011	14,154	15,254	17,042	18,465	19,509	20,392	21,146	20,749	20,798	21,525	22,086
Memorandum items:																	
	(Change as a percent of broad money at beginning of period)																
Net foreign assets	33.7	19.4	9.6	-6.9	7.9	-2.8	-2.1	2.4	3.9	1.1	-17.3	5.2	3.6	-8.1	-0.1	7.2	1.7
Net domestic assets	24.1	10.2	21.7	12.1	4.6	9.2	10.8	5.4	7.8	7.2	23.0	-0.7	0.1	6.2	0.3	-3.7	0.9
Broad money	57.8	29.6	31.3	5.1	12.5	6.3	8.8	7.8	11.7	8.4	5.7	4.5	3.7	-1.9	0.2	3.5	2.6
	(Ratio)																
Base money multiplier	1.6	1.8	2.0	2.2	2.2	2.4	2.3	2.4	2.5	2.4	2.3	2.7	2.3	2.5	2.3	2.8	2.2

Sources: Bank of Estonia; and Fund staff estimates.

1/ The authorities revised the data on deposit money banks' foreign liabilities in December 1998 by including substantial amounts of bonds issued in foreign liabilities that had hitherto been included in other items (net).

Table 39. Estonia: Consolidated Account for the Rest of the Banking System, 1994-99 1/

(In millions of kroons, end of period)

	1994	1995	1996				1997				1998				1999
	Dec		Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sept	Dec	Mar	Jun	Sept	Dec	Mar
Net foreign assets	2,327	2,083	1,426	1,672	1,231	214	292	366	-686	-5,013	-2,914	-4,088	-4,859	-5,381	-2,573
Foreign assets	3,021	3,697	3,291	3,914	4,027	4,009	4,962	6,061	6,368	8,078	9,469	8,335	7,250	6,481	10,144
Foreign liabilities	694	1,614	1,865	2,242	2,796	3,795	4,670	5,695	7,054	-13090	-12383	-12423	-12109	-11862	-12717
Net domestic assets	2,481	4,457	5,640	6,348	7,646	9,669	10,666	12,064	14,376	19,881	18,824	20,366	21,010	21,637	19,599
Domestic credit	3,228	5,283	6,395	7,226	8,485	10,485	12,231	14,109	16,558	19,578	20,795	21,869	22,375	23,586	22,271
Net claims on government	-1,306	-1,721	-1,413	-1,628	-1,634	-1,432	-1,468	-2,045	-3,112	-2342	-2,278	-2,439	-2,725	-1,466	-1,996
Claims on general government	405	649	709	745	1,050	1,007	1,149	1,078	1,059	1087	978	995	856	946	860
General government deposits	1,711	2,371	2,122	2,373	2,685	2,439	2,616	3,123	4,172	-3429	-3,256	-3,434	-3,581	-2,412	-2,857
Claims on nonfinancial public enterprises	346	334	334	373	322	425	433	442	308	320	240	107	107	226	267
Claims on private sector	4,176	6,041	6,646	7,461	8,323	9,465	10,766	12,212	14,929	16,620	17,973	18,602	19,226	18,501	18,057
Claims on households & individuals	497	738	834	1,108	1,401	1,799	2,212	2,877	3,668	4,114	4,161	4,188	4,269	4,181	4,255
Claims on enterprises	3,679	5,303	5,812	6,353	6,921	7,667	8,554	9,334	11,261	12,506	14,843	15,452	16,110	14,319	13,802
Claims on other financial institutions	12	629	827	1,021	1,475	2,026	2,499	3,499	4,434	4,980	4,860	5,600	5,767	6,326	5,943
Other items (net)	-527	-815	-755	-879	-836	-815	-1,565	-2,045	-2,182	303	-1,971	-1,503	-1,365	-1,950	-2,671
Reserves	1,208	1,293	1,219	1,342	1,385	1,923	2,090	2,181	3,014	3,885	3,111	4,397	3,564	4,510	3,261
Credit from monetary authorities	402	89	90	78	63	48	50	33	33	23	24	17	17	-0,015	-0,015
Capital accounts	994	1,835	1,911	2,262	2,394	2,774	3,100	3,671	4,470	5,796	7,005	6,392	6,846	-8,797	-8,872
Counterpart funds	112	102	103	75	76	73	72	73	72	68	67	-	-	-	-
Government lending funds	487	819	858	830	856	915	966	850	702	672	783	686	707	-0,555	-0,564
Other assets (net)	-39	-726	-988	-1,025	-1,165	-1,071	-534	-401	-82	744	451	2,456	1,268	-0,201	-0,311
Monetary liabilities	4,808	6,540	7,066	8,020	8,877	9,884	10,958	12,430	13,690	14,868	15,911	16,278	16,151	16,255	17,026
Demand deposits	3,249	4,400	4,540	5,314	5,745	6,514	6,864	8,030	8,782	8,582	8,823	8,939	8,258	8,208	8,768
Nonfinancial public enterprises	589	529	556	542	553	517	588	613	720	505	626	434	411	3,917	457
Private enterprises	1,659	2,187	2,072	2,347	2,662	3,012	2,980	3,458	3,777	3,826	4,001	4,147	3,674	3,855	4,150
Households & individuals	983	1,618	1,843	2,304	2,425	2,846	3,121	3,811	4,079	4,021	3,853	4,155	3,818	3,782	3,904
Time & savings deposits	684	1,015	1,318	1,435	1,736	1,835	2,146	2,417	2,720	3,160	4,239	4,169	4,640	4,701	4,526
Nonfinancial public enterprises	76	70	115	180	88	144	259	384	197	148	205	165	270	185	154
Private enterprises	147	236	317	262	478	381	359	345	680	709	976	833	1,214	1,380	1,153
Households & individuals	419	634	765	827	948	1,082	1,285	1,426	1,609	2,029	2,736	2,846	2,953	2,198	2,274
Foreign currency deposits	875	1,126	1,208	1,271	1,396	1,535	1,948	1,982	2,188	3,126	2,849	3,170	3,253	3,346	3,732
Nonfinancial public enterprises	95	67	124	90	54	50	58	52	48	49	46	78	81	53	108
Other	781	1,060	1,083	1,180	1,342	1,485	1,890	1,929	2,140	3,077	2,803	3,092	3,173	3,293	3,624
Memorandum items:															
Total assets	10,616	15,747	16,422	18,709	20,831	23,233	26,364	30,941	36,162	41,031	43,422	43,235	42,225	41,986	44,022
Domestic credit in foreign currency	316	911	1,179	1,740	2,654	3,705	5,006	7,995	10,416	11,492	13,511	14,704	16,182	17,472	17,748
Domestic FC credit as a percent of credit to nongovernment	7.0	13.0	15.1	19.7	26.2	31.1	36.5	49.5	52.9	52.4	58.6	60.5	64.5	69.7	73.1

Source: Bank of Estonia.

1/ Comprises authorized banks, and savings and loan associations.

Table 40. Estonia: Average Interest Rates of Kroon Deposits and Loans, 1993-99

(In percent)

	1993	1994	1995	1996				1997				1998				1999
	Dec			Mar.	Jun.	Sep.	Dec.	Mar.	Jun. 3/	Sep	Dec	Mar	Jun	Sep	Dec	Mar
Deposit rates 1/																
Demand deposits	2.6	2.7	2.6	2.6	2.6	2.5	2.5	2.5	...	...	...	...	...	...	...	...
Time deposits total	12.7	10.1	7.2	6.0	7.2	4.2	5.3	4.1	3.8	5.3	12.2	10.5	5.8	6.8	8.1	4.2
Lending rates 2/																
Loans up to 1 month	31.4	26.7	15.6	16.1	9.4	8.8	20.6	10.2	...	...	...	...	...	...	...	...
Loans 1-3 months / up to 3 months	29.2	23.2	15.4	13.7	12.7	11.9	10.8	10.8	8.7	10.3	20.6	13.4	14.3	11.2	15.9	10.2
Loans 3 to 6 months	30.4	25.2	16.3	17.8	14.9	16.3	13.8	12.3	10.2	12.9	14.0	15.2	14.1	16.2	17.6	13.6
Loans 6 to 12 months	22.1	21.3	16.1	16.6	16.5	15.6	13.8	12.1	14.1	11.9	15.1	14.8	15.0	15.6	17.1	14.1
Loans 1 to 3 years / 1-2 years	21.9	19.1	16.8	17.4	16.1	17.3	17.2	13.1	12.9	14.1	13.6	13.3	16.7	13.6	...	...
Loans 2-3 years	...	...	...	...	...	...	...	...	8.8	13.0	9.0	16.7	18.9	15.7	...	...
Loans 3 to 5 years / 1-5 years	12.1	16.8	15.0	16.2	15.3	13.3	12.0	11.0	11.4	11.4	13.7	16.4	14.9	15.6	16.6	9.3
Loans over 5 years / 5 to 10 years	9.6	13.0	13.0	8.4	12.4	13.3	11.1	9.3	12.9	10.0	10.9	11.9	12.3	11.3	14.7	13.4
Loans over 10 years	...	...	...	...	...	...	...	...	10.6	6.4	7.4	8.5	10.9	10.6	14.5	13.9
Money market rates																
Bank of Estonia CD auction rate 4/	6.1	5.6	4.4	4.4	4.0	3.9	4.2	...	4.7	...	...	...	...	...	...	...
Interbank overnight loans	6.3	5.4	4.3	4.1	3.4	3.4	3.6	3.8	3.3	5.7	17.1	12.9	6.5	11.2	16.0	...

Source: Bank of Estonia.

1/ Weighted average annual interest rates on deposits placed with commercial banks by individuals and companies.

2/ Weighted average annual interest rates on loans granted to individuals and companies by commercial banks.

3/ From April 1997, changes in Bank of Estonia reporting requirements resulted in data for a different set of rates being available.

4/ During 1997 and 1998, there were occasions when no CDs were bought by banks and therefore no rate was set.

Table 41. Estonia: Maturity Structure of Kroon Loans of Banking Sector, 1995-99 1/

	1995	1996	1997				1998				1999
	Dec		Mar.	Jun.	Sep	Dec	Mar	Jun	Sep	Dec	Mar
Total lending	853	1,151	1,018	965	1,544	864	899	477	906	394	254
Of which:											
Loans up to 1 month	61	89	200	16	...	...	...	...	...	...	...
Loans 1 month and up to 3 months	119	223	191	669	843	622	545	184	672	100	40
Loans 3-6 months	111	126	116	63	120	53	153	96	53	78	34
Loans 6-12 months	268	215	146	58	67	34	85	50	15	18	23
Loans over 1 year	293	499	365	158	514	156	116	147	166	161	156
Loans up to 1 month	7.2	7.7	19.6	1.7	...	...	...	...	...	...	...
Loans 1 month and up to 3 months	14.0	19.4	18.8	69.4	54.6	72.0	60.6	38.6	74.2	25.5	15.7
Loans 3-6 months	13.0	10.9	11.4	6.5	7.8	6.2	17.0	20.1	5.8	19.7	13.5
Loans 6-12 months	31.4	18.7	14.4	6.1	4.3	3.9	9.5	10.5	1.7	4.5	9.2
Loans over 1 year	34.4	43.3	35.8	16.4	33.3	18.0	12.9	30.8	18.3	41.0	61.5

Source: Bank of Estonia.

1/ Excludes interbank loans.

Table 42. Estonia: Maturity Structure of Foreign Currency Loans of Banking System, 1995-99 1/

	1995	1996	1997				1998				1999
	Dec		Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar
					(In thousands of kroons)						
Total lending	100	1,200	1,324	621	1,113	853	1,407	1,039	1,092	1,202	1,385
Of which											
Loans up to 1 month 2/	8	713	732	...	...	...	...	...	...	...	...
Loans 1month and up to 3 months	13	92	32	115	185	226	261	236	205	98	122
Loans 3-6 months	14	35	38	33	119	187	91	99	56	109	20
Loans 6-12 months	40	53	106	42	40	34	287	94	99	30	21
Loans over 1 year	25	307	417	431	768	406	768	610	733	959	1,222
					(Percentage of total distribution)						
Loans up to 1 month	8.0	59.4	55.3	...	...	...	...	...	...	...	...
Loans 1 month and up to 3 months	13.3	7.7	2.4	18.5	16.6	26.5	18.6	22.7	18.7	8.2	8.8
Loans 3-6 months	13.9	2.9	2.9	5.3	10.7	21.9	6.4	9.5	5.1	9.0	1.4
Loans 6-12 months	39.5	4.5	8.0	6.8	3.6	4.0	20.4	9.1	9.0	2.5	1.5
Loans over 1 year	25.3	25.6	31.5	69.4	69.1	47.6	54.6	58.7	67.1	79.8	88.2

Source: Bank of Estonia.

1/ Data are for loans issued during the month.

2/ After April 1997, separate data are not available for "loans up to 1 month".

Table 43. Estonia: Nonperforming Loans of Commercial Banks, 1993-99

	1993	1994	1995	1996				1997				1998				1999
		Dec		Mar.	June	Sep.	Dec.	Mar.	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar
							(In millions of kroons; end of period)									
Total	195	159	209	236	252	266	283	247	268	213	241	273	249	308	326	764
Overdue for 1-30 days	32	26	53	26	30	32	34	48	42	25	66	60	84	95	75	200
Overdue 31 days to 3 months 1/	11	33	36	45	34	60	38	26	15	6	14	19	19	45	27	119
Overdue over 3 months 2/	151	100	120	165	187	174	211	173	211	182	161	194	146	168	224	445
							(In percent of total loan portfolio)									
Total	7.1	3.6	3.1	3.1	3.0	2.7	2.4	1.9	1.7	1.1	1.2	1.2	1.1	1.3	1.4	3.2
Overdue for 1-30 days	1.2	0.6	0.8	0.3	0.4	0.3	0.3	0.4	0.3	0.1	0.3	0.3	0.4	0.4	0.3	0.8
Overdue 31 days to 3 months 1/	0.4	0.7	0.5	0.6	0.4	0.6	0.3	0.2	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.5
Overdue over 3 months 2/	5.5	2.3	1.8	2.2	2.2	1.8	1.8	1.3	1.3	0.9	0.8	0.9	0.6	0.7	0.9	1.9

Source: Bank of Estonia.

1/ From April 1997, this category refers to 30-60 days overdue.

2/ From April 1997, this category refers to over 60 days overdue.

Table 44. Estonia: Structure of Loans and Deposits in the Banking System, 1996-99

	1996	1997				1998								1999		
	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
								(In millions of kroons)								
Total loans	11,476	13,262	16,014	19,477	20,263	22,237	23,411	23,628	23,984	24,010	23,407	24,269	23,898	23,685	23,707	23,658
In kroons	7,789	8,269	7,865	8,689	8,780	7,953	7,770	7,617	7,383	7,007	6,419	6,240	5,705	5,515	5,422	5,273
Short-term	1,910	2,213	2,112	2,436	2,669	2,209	2,176	2,140	1,687	1,680	1,493	1,401	1,182	1,141	1,143	1,010
Long-term	5,879	6,056	5,753	6,253	6,111	5,744	5,594	5,477	5,696	5,327	4,925	4,838	4,523	4,371	4,277	4,259
In foreign currency	3,687	4,993	8,149	10,788	11,483	14,284	15,641	16,011	16,601	17,003	16,989	18,029	18,193	18,170	18,285	18,385
Short-term	969	1,224	1,279	2,316	2,172	2,582	3,121	3,151	2,538	2,149	2,015	2,238	2,019	2,277	2,002	1,719
Long-term	2,718	3,769	6,870	8,472	9,311	11,702	12,520	12,860	14,063	14,854	14,973	15,791	16,174	15,893	16,284	16,665
Total deposits 1/	9,884	10,958	12,430	13,690	14,868	15,911	16,278	16,193	16,189	16,151	15,168	15,579	16,255	15,955	16,729	17,143
Of which: Foreign currency	1,535	1,948	1,982	2,188	3,126	2,849	3,170	3,163	3,052	3,253	3,180	3,205	3,346	3,584	3,660	...
								(In percent, unless otherwise indicated)								
Memorandum items:																
Total assets (in EEK millions)	23,233	26,364	30,941	36,162	41,031	43,422	43,235	43,611	43,825	42,225	40,243	41,447	41,986	42,482	43,662	42,968
Total deposit/total assets	0.425	0.416	0.402	0.379	0.362	0.366	0.377	0.371	0.369	0.382	0.377	0.376	0.387	0.376	0.383	0.399
Loans/deposits	116.1	121.0	128.8	142.3	136.3	139.8	143.8	145.9	148.1	148.7	154.3	155.8	147.0	148.4	141.7	138.0
Short-term/total loans	25.1	25.9	21.2	24.4	23.9	21.5	22.6	22.4	17.6	15.9	15.0	15.0	13.4	14.4	13.3	11.5

Sources: Bank of Estonia; and Fund staff estimates.

1/ Excludes non-resident and general government deposits.

Table 45. Estonia: Bank Profits, 1994-99

	1994	1995	1996	1997	1998	1998				1999
	Year					Q1	Q2	Q3	Q4	Q1
	(In millions of kroons)									
Total profits (pre-tax)	68	330	564	1,070	-501	335	-327.3	50.8	-560	137.4
Of which:										
Net interest Income	631	763	1,026	1,441	1,391	422	445	101	423	462
Interest income	944	1,177	1,723	2,659	3,085	959	941	335	850	968
Interest expenses	313	414	697	1,217	1,694	537	496	234	427	506
Net commission income	...	...	317	548	466	155	161	46	104	129
Commission income	...	...	450	799	693	214	249	70	161	184
Commission expenses	...	...	133	251	228	59	87	24	57	55
Income from financial investments	5	23	166	117	21	120	44	-51	-92	-38
Net income from financial operations	...	...	371	715	-235	111	-142	-156	-48	104
Administrative expenses	612	781	1,027	1,247	1,069	376	386	35	272	296
	(In percent)									
Memorandum items:										
Return on assets 1/	0.6	2.1	2.4	2.6	-1.2	0.8	0.0	0.1	-1.2	0.3
Return on capital 2/	6.8	17.9	20.3	18.5	-5.7	4.8	-5.1	0.9	-5.7	...

Sources: Bank of Estonia; and Fund staff estimates.

1/ Defined as ratio of pre-tax profits to total assets.

2/ Defined as ratio of pre-tax profits to capital.

Table 46. Estonia: Direction of Trade - Exports by Countries 1994-98 /1

	1994	1995	1996	1997	1998	1997				1998			
						Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
						(In millions of kroons)							
Denmark	581	700	763	999	1,426	230	245	191	333	355	328	322	420
Finland	3,057	4,579	3,950	5,497	8,281	1,215	1,353	1,367	1,561	1,589	1,815	2,183	2,694
Germany	1,169	1,539	1,520	1,878	2,305	435	527	453	463	551	608	548	599
Latvia	1,410	1,598	1,780	2,411	3,099	521	567	615	708	715	809	826	749
Lithuania	929	1,002	1,236	1,310	1,521	272	312	337	389	360	414	419	328
Netherlands	539	993	634	797	772	198	222	185	191	151	205	201	215
Russia	3,963	3,754	3,540	4,729	4,998	908	1,078	1,242	1,502	1,596	1,424	948	1,030
Sweden	1,859	2,309	2,490	4,929	7,303	929	1,026	1,301	1,673	1,777	1,944	1,673	1,908
Ukraine	525	800	1,081	1,130	1,187	216	263	298	353	349	350	278	210
United Kingdom	477	697	747	1,231	1,672	260	349	289	333	413	452	415	392
Other	2,633	3,344	3,792	4,149	4,980	845	1,097	1,010	1,197	1,228	1,339	1,146	1,267
Total	17,142	21,315	21,532	29,060	37,545	6,029	7,038	7,289	8,704	9,086	9,686	8,960	9,813
						(Export shares in total exports)							
Denmark	3.4	3.3	3.5	3.4	3.8	3.8	3.5	2.6	3.8	3.9	3.4	3.6	4.3
Finland	17.8	21.5	18.3	18.9	22.1	20.2	19.2	18.8	17.9	17.5	18.7	24.4	27.5
Germany	6.8	7.2	7.1	6.5	6.1	7.2	7.5	6.2	5.3	6.1	6.3	6.1	6.1
Latvia	8.2	7.5	8.3	8.3	8.3	8.6	8.1	8.4	8.1	7.9	8.3	9.2	7.6
Lithuania	5.4	4.7	5.7	4.5	4.0	4.5	4.4	4.6	4.5	4.0	4.3	4.7	3.3
Netherlands	3.1	4.7	2.9	2.7	2.1	3.3	3.2	2.5	2.2	1.7	2.1	2.2	2.2
Russia	23.1	17.6	16.4	16.3	13.3	15.1	15.3	17.0	17.3	17.6	14.7	10.6	10.5
Sweden	10.8	10.8	11.6	17.0	19.5	15.4	14.6	17.9	19.2	19.6	20.1	18.7	19.4
Ukraine	3.1	3.8	5.0	3.9	3.2	3.6	3.7	4.1	4.1	3.8	3.6	3.1	2.1
United Kingdom	2.8	3.3	3.5	4.2	4.5	4.3	5.0	4.0	3.8	4.6	4.7	4.6	4.0
Other	15.4	15.7	17.6	14.3	13.3	14.0	15.6	13.9	13.7	13.5	13.8	12.8	12.9
Total	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

Source: Bank of Estonia.

1/ 1994-96 based on general trade system; 1997-98 based on special trade system

Table 47. Estonia: Direction of Trade - Imports by Countries 1994-98 1/

	1994	1995	1996	1997	1998	1997				1998			
						Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
						(In millions of kroons)							
Denmark	631	841	1,006	1,439	1,687	254	358	384	443	410	498	415	364
Finland	8,093	11,285	12,385	16,862	19,652	3,360	4,187	4,402	4,913	4,435	5,010	5,234	4,974
Germany	1,913	2,457	3,022	4,747	5,381	841	1,140	1,305	1,460	1,351	1,438	1,370	1,222
Latvia	440	854	1,127	1,630	2,165	312	368	412	537	549	533	566	517
Lithuania	630	577	768	914	1,029	200	221	243	251	231	280	257	262
Netherlands	769	1,020	1,250	1,760	1,883	386	416	401	556	566	442	447	428
Russia	3,533	4,542	4,421	3,858	3,583	983	902	809	1,163	1,025	956	757	844
Sweden	2,064	2,644	2,865	4,814	5,288	862	1,051	1,204	1,698	1,272	1,365	1,269	1,382
Ukraine	343	295	533	470	408	101	88	114	167	163	123	58	63
United Kingdom	372	546	925	1,123	1,224	226	291	290	316	262	327	316	319
Other	3,030	4,170	5,819	7,916	12,916	1,529	1,885	1,983	2,520	2,842	3,739	3,216	3,120
Total	21,817	29,230	34,122	45,530	55,216	9,053	10,907	11,547	14,023	13,106	14,711	13,904	13,494
						(Import shares in total imports)							
Denmark	2.9	2.9	2.9	3.2	3.1	2.8	3.3	3.3	3.2	3.1	3.4	3.0	2.7
Finland	37.1	38.6	36.3	37.0	35.6	37.1	38.4	38.1	35.0	33.8	34.1	37.6	36.9
Germany	8.8	8.4	8.9	10.4	9.7	9.3	10.5	11.3	10.4	10.3	9.8	9.9	9.1
Latvia	2.0	2.9	3.3	3.6	3.9	3.4	3.4	3.6	3.8	4.2	3.6	4.1	3.8
Lithuania	2.9	2.0	2.3	2.0	1.9	2.2	2.0	2.1	1.8	1.8	1.9	1.8	1.9
Netherlands	3.5	3.5	3.7	3.9	3.4	4.3	3.8	3.5	4.0	4.3	3.0	3.2	3.2
Russia	16.2	15.5	13.0	8.5	6.5	10.9	8.3	7.0	8.3	7.8	6.5	5.4	6.3
Sweden	9.5	9.0	8.4	10.6	9.6	9.5	9.6	10.4	12.1	9.7	9.3	9.1	10.2
Ukraine	1.6	1.0	1.6	1.0	0.7	1.1	0.8	1.0	1.2	1.2	0.8	0.4	0.5
United Kingdom	1.7	1.9	2.7	2.5	2.2	2.5	2.7	2.5	2.3	2.0	2.2	2.3	2.4
Other	13.9	14.3	17.1	17.4	23.4	16.9	17.3	17.2	18.0	21.7	25.4	23.1	23.1
Total	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

Source: Bank of Estonia.

1/ 1994-96 based on general trade system; 1997-98 based on special trade system.

Table 48. Estonia: Direction of Trade - Exports by Commodities 1994-98 /1

	1994	1995	1996	1997	1998	1997				1998			
						Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	(In millions of kroons)												
Foodstuffs	3,803	3,497	3,392	4,703	4,969	895	1,080	1,186	1,542	1,510	1,427	1,085	946
Mineral Products	1,400	1,730	1,551	1,284	977	319	364	289	312	274	261	225	217
Products of Chemical Industry	1,469	2,187	2,366	2,459	2,760	527	629	643	661	737	778	652	593
Textiles and Textile Articles	2,816	3,435	3,678	4,731	6,018	1,142	1,137	1,108	1,344	1,468	1,473	1,500	1,578
Wood, Paper and Articles thereof	1,890	2,873	2,885	4,801	6,424	982	1,239	1,235	1,344	1,539	1,794	1,495	1,596
Metals and Articles thereof	1,366	1,457	1,376	1,983	3,022	353	500	486	645	613	727	761	921
Machinery, Mech.Appl, Electronics	1,592	2,781	2,891	5,257	8,335	962	1,109	1,402	1,784	1,736	1,899	2,009	2,692
Vehicles, Aircrafts, Vessels	1,303	1,480	1,368	1,036	1,248	222	269	269	277	327	332	292	297
Furniture, Sportswear	931	1,213	1,291	1,714	2,391	384	444	399	486	553	597	592	649
Other Manufactured Articles	570	662	735	1,092	1,400	244	267	271	310	329	398	349	323
Total	17,142	21,315	21,532	29,060	37,545	6,029	7,038	7,289	8,704	9,086	9,686	8,960	9,813
	(Export shares in total exports)												
Foodstuffs	22.2	16.4	15.8	16.2	13.2	14.9	15.3	16.3	17.7	16.6	14.7	12.1	9.6
Mineral Products	8.2	8.1	7.2	4.4	2.6	5.3	5.2	4.0	3.6	3.0	2.7	2.5	2.2
Products of Chemical Industry	8.6	10.3	11.0	8.5	7.4	8.7	8.9	8.8	7.6	8.1	8.0	7.3	6.0
Textiles and Textile Articles	16.4	16.1	17.1	16.3	16.0	18.9	16.2	15.2	15.4	16.2	15.2	16.7	16.1
Wood, Paper and Articles thereof	11.0	13.5	13.4	16.5	17.1	16.3	17.6	16.9	15.4	16.9	18.5	16.7	16.3
Metals and Articles thereof	8.0	6.8	6.4	6.8	8.0	5.8	7.1	6.7	7.4	6.8	7.5	8.5	9.4
Machinery, Mech.Appl, Electronics	9.3	13.0	13.4	18.1	22.2	16.0	15.8	19.2	20.5	19.1	19.6	22.4	27.4
Vehicles, Aircrafts, Vessels	7.6	6.9	6.4	3.6	3.3	3.7	3.8	3.7	3.2	3.6	3.4	3.3	3.0
Furniture, Sportswear	5.4	5.7	6.0	5.9	6.4	6.4	6.3	5.5	5.6	6.1	6.2	6.6	6.6
Other Manufactured Articles	3.3	3.1	3.4	3.8	3.7	4.0	3.8	3.7	3.6	3.6	4.1	3.9	3.3
Total	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

Source: Bank of Estonia.

1/ 1994-96 based on general trade system; 1997-98 based on special trade system.

Table 49. Estonia: Direction of Trade - Imports by Commodities 1994-98 /1

	1994	1995	1996	1997	1998	1997				1998			
						Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
						(In millions of kroons)							
Foodstuffs	3,494	4,147	5,323	5,783	6,260	1,281	1,382	1,442	1,678	1,609	1,646	1,540	1,465
Mineral Products	3,074	3,356	3,356	3,596	3,198	818	770	813	1,195	797	835	714	852
Products of Chemical Industry	2,508	3,674	4,660	5,571	6,382	1,093	1,400	1,429	1,648	1,513	1,796	1,593	1,480
Textiles and Textile Articles	2,782	3,649	3,944	4,992	6,070	1,121	1,286	1,162	1,422	1,476	1,597	1,512	1,485
Wood, Paper and Articles thereof	881	1,431	1,610	2,144	2,729	453	512	544	635	709	707	695	618
Metals and Articles thereof	1,295	2,071	2,668	3,855	5,114	713	888	1,083	1,171	1,201	1,463	1,403	1,047
Machinery, Mech.Appl., Electronic	4,298	6,303	7,477	11,505	16,262	2,127	2,636	2,931	3,812	3,509	3,915	4,310	4,528
Vehicles, Aircrafts, Vessels	1,874	2,318	2,547	4,817	5,305	786	1,180	1,348	1,502	1,400	1,754	1,116	1,035
Furniture, Sportswear	605	854	936	1,192	1,440	241	275	282	394	319	366	353	402
Other Manufactured Articles	1,005	1,426	1,599	2,076	2,454	420	578	514	565	572	633	666	583
Total	21,817	29,230	34,122	45,530	55,216	9,053	10,907	11,547	14,023	13,106	14,711	13,904	13,494
						(Import shares in total imports)							
Foodstuffs	16.0	14.2	15.6	12.7	11.3	14.1	12.7	12.5	12.0	12.3	11.2	11.1	10.9
Mineral Products	14.1	11.5	9.8	7.9	5.8	9.0	7.1	7.0	8.5	6.1	5.7	5.1	6.3
Products of Chemical Industry	11.5	12.6	13.7	12.2	11.6	12.1	12.8	12.4	11.8	11.5	12.2	11.5	11.0
Textiles and Textile Articles	12.8	12.5	11.6	11.0	11.0	12.4	11.8	10.1	10.1	11.3	10.9	10.9	11.0
Wood, Paper and Articles thereof	4.0	4.9	4.7	4.7	4.9	5.0	4.7	4.7	4.5	5.4	4.8	5.0	4.6
Metals and Articles thereof	5.9	7.1	7.8	8.5	9.3	7.9	8.1	9.4	8.3	9.2	9.9	10.1	7.8
Machinery, Mech.Appl, Electronics	19.7	21.6	21.9	25.3	29.5	23.5	24.2	25.4	27.2	26.8	26.6	31.0	33.6
Vehicles, Aircrafts, Vessels	8.6	7.9	7.5	10.6	9.6	8.7	10.8	11.7	10.7	10.7	11.9	8.0	7.7
Furniture, Sportswear	2.8	2.9	2.7	2.6	2.6	2.7	2.5	2.4	2.8	2.4	2.5	2.5	3.0
Other Manufactured Articles	4.6	4.9	4.7	4.6	4.4	4.6	5.3	4.5	4.0	4.4	4.3	4.8	4.3
Total	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

Source: Bank of Estonia.

1/ 1994-96 based on general trade system; 1997-98 based on special trade system.

Table 50. Estonia: Foreign Direct Investment Inflows by Countries 1994-98

	1994	1995	1996	1997	1998	1997				1998			
						Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
						(In millions of kroons)							
Denmark	34	80	168	212	425	14	128	42	29	51	131	66	177
Finland	635	193	629	1,128	1,694	446	227	264	191	550	345	683	116
Germany	35	56	80	188	203	60	21	49	58	47	51	50	55
Latvia	1	2	-3	5	-30	17	-11	2	-3	-12	24	-17	-24
Lithuania	0	1	-7	-37	4	16	-1	-4	-47	-2	27	-18	-3
Netherlands	198	-10	12	205	46	146	28	50	-19	-69	149	25	-59
Norway	4	57	76	747	304	-3	172	496	83	57	-13	11	249
Russia	423	-60	-5	-54	-189	48	-1	-60	-41	5	-41	-99	-54
Sweden	532	1,141	180	366	4,624	221	-105	39	212	236	139	2,178	2,070
United Kingdom	89	183	42	188	382	-3	38	105	48	56	240	28	58
USA	149	201	459	139	213	63	34	72	-30	16	119	128	-50
Other	720	470	184	606	266	131	220	227	27	45	133	-26	114
Total	2,819	2,313	1,814	3,694	7,942	1,157	748	1,280	509	981	1,304	3,009	2,648

Source: Bank of Estonia.

Table 51. Estonia: Foreign Direct Investment Outflows by Countries 1994-98

	1994	1995	1996	1997	1998	1997				1998			
						Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
						(In millions of kroons)							
Denmark	0	0	0	0	0	...	0	...	0	0	0	0	0
Finland	0	-1	-11	-26	32	-4	-5	-30	13	27	-6	19	-9
Germany	0	6	0	1	0	...	...	...	1	...	...	0	...
Latvia	0	-23	-115	-878	-385	-115	-259	-219	-285	-201	-345	149	12
Lithuania	0	-14	-26	-480	-22	-75	-99	-64	-242	-124	-85	94	93
Netherlands	0	0	0	0	0	...	0	0	0	0	0	0	0
Norway	0	0	0	0	0	...	...	...	...	...	0	0	...
Russia	-4	3	-6	-102	-7	2	-38	-19	-47	-10	-6	-2	11
Sweden	0	-3	0	-1	-16	0	...	...	-1	-1	-3	-15	2
United Kingdom	0	0	0	0	0	0	...	0	...	...	...	0	...
USA	0	0	0	0	0	0	0	...	...	0	0	0	0
Other	-26	3	-326	-427	327	-11	31	-187	-259	545	13	-17	-214
Total	-30	-29	-485	-1,913	-71	-203	-370	-519	-821	237	-432	228	-104

Source: Bank of Estonia.

Table 52. Estonia: Foreign Direct Investment Inflows by Sectors 1994-98

	1994	1995	1996	1997	1998	1997				1998			
						Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
						(In millions of kroons)							
Agriculture, Fishing, Mining	44	41	-113	19	93	10	26	-20	3	93	32	-26	-6
Manufacturing	1,508	1,138	419	1,301	1,509	512	285	632	-128	259	602	650	-2
Construction	9	2	30	10	165	19	-5	9	-13	11	58	4	92
Trade and repairs	377	573	638	329	1,061	-30	190	29	140	266	296	254	244
Hotels and restaurants	39	61	59	73	37	4	63	-22	27	13	19	6	-1
Transports,communication	517	343	164	931	46	389	25	366	150	102	63	-167	48
Financial intermediation	104	156	407	575	4,269	131	78	289	76	31	17	2,133	2,089
Real estate and business activities	78	23	39	172	385	82	26	1	63	127	111	53	94
Other	144	-24	172	284	378	37	59	-3	191	81	106	101	91
Total	2,819	2,313	1,814	3,694	7,942	1,157	748	1,280	509	981	1,304	3,009	2,648

Source: Bank of Estonia.

Table 53. Estonia: Foreign Direct Investment Outflows by Sectors 1994-98

	1994	1995	1996	1997	1998	1997				1998			
						Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
						(In millions of kroons)							
Agriculture, Fishing, Mining	0	0	0	0	0	...	...	...	...	...	...	...	...
Manufacturing	1	-6	-47	-198	36	-1	-112	-69	-16	-16	14	0	39
Construction	0	0	0	-9	-2	-1	-1	1	-8	3	0	2	-6
Trade and repairs	-7	-20	4	-81	-42	-17	-6	-14	-44	-20	-24	13	-11
Hotels and restaurants	0	0	0	0	0	0	0	0	...	...	...	...	0
Transports,communication	0	-3	-256	-325	334	-8	35	-114	-238	583	35	-18	-266
Financial intermediation	0	0	-69	-381	-336	-19	-86	-20	-256	-254	-416	222	112
Real estate and business activities	0	4	-109	-854	-42	-155	-193	-295	-210	-36	-31	-11	36
Other	-24	-4	-7	-64	-19	-1	-7	-8	-49	-23	-10	22	-8
Total	-30	-29	-484	-1,913	-71	-203	-370	-519	-821	237	-432	228	-104

Source: Bank of Estonia.