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REPUBLIC OF ESTONIA

Selected Issues and Statistical Appendix

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Approved by European II Department

October 7, 2003

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Estonia: Basic Data

Social and demographic indicators, 2003	
Area	45,227 sq. km.
Population	1.3642 million
Rate of population growth	-0.9 percent per year
Life expectancy at birth 1/	70.6 years
Male	65.1 years
Female	76.4 years
Infant mortality rate (per 1,000 births) 1/	11.0
Hospital beds (per 10,000 inhabitants) 1/	74
Physicians (per 10,000 inhabitants) 1/	30

	1998	1999	2000	2001	2002
Nominal GDP (in million of EEK)	73,538	76,327	87,379	97,895	108,024
GDP per capita (in US$)	3594	3,597	3,760	4,086	4,786
Real GDP (percentage change)	4.6	-0.6	7.3	6.5	6.0
Sectoral distribution of GDP	(In percent of value added)				
Agriculture, hunting, forestry, and fishing	7.2	6.7	6.1	5.7	5.4
Mining, manufacturing, and energy	22.6	21.1	22.5	22.5	22.8
Construction and services	70.2	72.2	71.4	71.8	71.9
Trade	(In millions of kroons, unless otherwise specified)				
Total exports of goods	37,786	36,995	56,346	58,667	58,100
(in percent of GDP)	51.4	48.5	64.5	59.9	53.8
Total imports of goods	53,512	49,092	69,490	72,451	76,324
(in percent of GDP)	72.8	64.3	79.5	74.0	70.7
General government	(In millions of kroons, unless otherwise specified)				
Total revenue	29,558	29,688	33,062	36,887	42,786
(in percent of GDP)	40.2	38.9	37.8	37.7	39.6
Total expenditure	29,710	33,187	33,968	36,548	41,634
(in percent of GDP)	40.4	43.5	38.9	37.3	38.5
Net lending	77	-14	-329	-63	-132
(in percent of GDP)	0.1	0.0	-0.4	-0.1	-0.1
Overall surplus / deficit(-)	-229	-3,485	-577	402	1,284
(in percent of GDP)	-0.3	-4.6	-0.7	0.4	1.2
Money and credit (end-period)	(In millions of kroons, unless otherwise specified)				
Net foreign assets	5,112	8,022	9,098	12,285	7,756
Broad money (M3)	21,328	26,390	33,162	40,803	45,374
Domestic credit	24,223	26,542	33,758	41,994	53,568
Claims on general government (net)	-930	-197	-1,078	-575	-834
Other selected indicators	(Annual percentage change)				
GDP at current prices	14.8	3.8	14.5	12.0	10.3
Average CPI	8.1	3.3	4.0	5.8	3.6
Average nominal wage (in EEK) 2/	14.7	10.6	10.5	12.3	10.9

Sources: Estonian authorities; and Fund staff estimates.

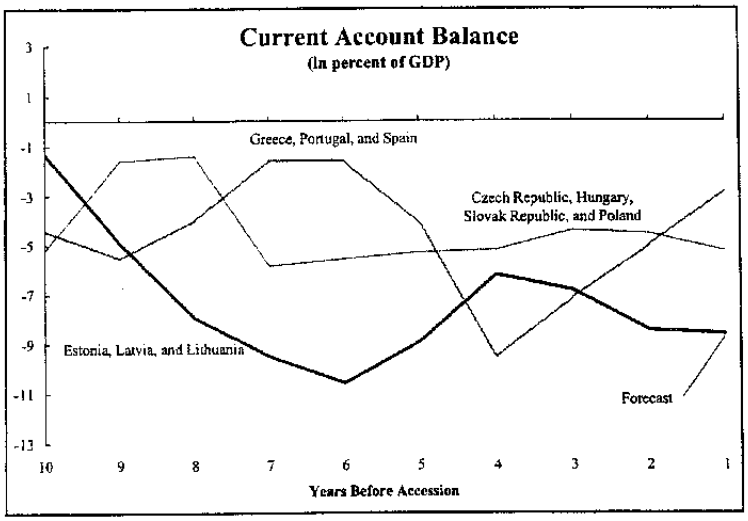
1/ Data for 2001.

2/ Annual average calculated as arithmetic mean of monthly average wages.

I. Current Account Sustainability in the Baltic Countries[1]

A. Introduction

1. The Baltic countries have experienced much larger current account deficits in the decade before the EU accession than other accession countries during the decade before their EU accession. For example, the current account deficit in the Baltic countries over the past 10 years was, on average, above 7 percent of GDP, while the current account deficits in the Central European accession countries (the Czech Republic, Hungary, Poland and the Slovak Republic) and Southern European accession countries (Greece, Portugal, and Spain) averaged around 4.5 percent of GDP in the ten years before they joined the EU.



2. A well educated labor force, advanced structural reforms, successful negotiations for EU accession, and prudent macroeconomic policies in the Baltic countries over the last decade bolstered productivity and created investment opportunities well in excess of domestic savings; this resulted in large current account deficits. Under these circumstances, the Baltic countries can be expected to have high current account deficits. Excessive current account imbalances, however, can increase vulnerabilities and raise the question of whether or not they are sustainable. This paper seeks to quantify to what extent, if any, the current account deficits observed in the Baltics are excessive and a cause for concern.

3. In the case of the Baltic states, an analysis of the current account sustainability is hampered by relatively short time series data. And, such an analysis is quite sensitive to changes in the underlying assumptions. Therefore, we use four, alternative methods in order to assess the sustainability of the Baltic current account deficits. Although the outcomes from these methods should be considered with caution, all four approaches come to remarkably similar conclusions and provide benchmarks, which may reveal potential macroeconomic imbalances. We use the following approaches:

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[1] Prepared by Emil Stavrev (EU2)

- A model of optimal borrowing and lending;
- A small open economy model with total factor productivity (TFP) shocks and adjustment costs to investment;
- An application of the Chin and Prasad (2000) study of the determinants of the current account to the Baltic countries;
- And an approach, which maintains a stable external debt to GDP ratio.

B. Current Accounts Deficits, Sustainability, and External Solvency

4. Current account imbalances and their sustainability can be approached from several different standpoints. A common approach is to treat the current account as a reflection of relative prices and competitiveness or relative productivity. Previous studies have analyzed competitiveness and productivity issues in the Baltic countries and their results suggest that Estonia remains relatively competitive in world markets (see, for example, Burgess et al. [2003]). A second approach is to examine the sustainability of the current account in a consumption smoothing framework (the first approach in Section III). A third method is to tackle the question by analyzing investment-savings balances and accounting for productivity shocks (the second approach in Section III). Finally, the sustainability of the current account could be analyzed from a longer-term perspective, by assuming that the current account will converge to the level experienced in other countries over a long time horizon or by requiring that the net foreign assets (NFA)-to-GDP ratio stabilize at a certain level (the stance taken in the third and fourth approaches in Section III, respectively).

5. In analyzing current account imbalances, one should address three related questions. Namely, are the current account deficits, in some sense, excessive; are the current account imbalances sustainable; and is the country solvent? Since the current account represents the rate at which a country accumulates/decumulates net foreign liabilities, one criterion in judging whether or not the current account level is a problem, is to check and see if it is consistent with the assumption that all external debts will be repaid—this is the notion of intertemporal *solvency*. Intertemporal solvency, however, is a relatively weak criterion, because it requires only that in the long-run all debts be repaid. A related, and somewhat stronger, criterion is s*ustainability*. According to this criterion, the current account is not sustainable if, under the assumption of unchanged policies, the country violates its intertemporal solvency constraint. Finally, if the actual current account exceeds benchmark levels implied by economic fundamentals, it is deemed to be *"excessive"* (the benchmark levels are calculated using the methods outlined in Section III).

C. Estimation of the Benchmark Current Accounts

The current account and a model of optimal borrowing and lending: the first approach

6. In order to answer the question whether or not a given path of the current account is "excessive", we first apply a model derived from the permanent income hypothesis of consumption and savings. In a small open economy with open capital markets the permanent income theory implies that temporary shocks may lead to large fluctuations in both national saving and the current account as agents strive to stabilize consumption. In what follows we briefly describe the model (for an extended discussion of the approach see Cashin and McDermott [1996], Milesi-Ferretti and Razin [1996], and Ostry [1997]).

7. In this model, we assume that a large number of similar consumers maximize their expected utility function subject to the budget constraint. The expected utility is given by:

$$V_t = E_t \sum_{j=0}^{\infty} \beta^j U(C_{t+j}) \tag{1}$$

where, E_t is the expectations operator, C_t is private consumption, $U(.)$ is a time separable utility function satisfying $U' > 0, U'' < 0$, and $\beta \in (0,1)$ is a discount factor that reflects preferences for current consumption relative to future consumption. The inter-temporal budget constraint of the consumers is give by:

$$\Delta B_{t+1} = rB_t + (Y_t - I_t - G_t - C_t) \tag{2}$$

where, Δ is a first-difference operator, r is a fixed world real interest rate, B_t is the stock of the economy's NFA at the beginning of period t, Y_t is output, C_t is private consumption, I_t is investment, and G_t is government spending. The budget constraint, equation (2), suggests that the change in NFA is given by net foreign investment payments (rB_t) and the national cash flow ($Z_t = Y_t - I_t - G_t$), less private consumption.

8. The optimal consumption path from the model is obtained by maximizing equation (1) subject to the budget constraint, equation (2), and the "no Ponzi game" condition[2] ($\lim_{T\to\infty}(1+r)^{-T} = 0$) and is given by:

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[2] The "no Ponzi game" condition excludes an indefinite increase (decrease) in NFA. If the "no Ponzi game" condition is negative, then the present value of the resources the home economy uses exceeds the present value of its output. As a result, the home economy continually borrows from foreigners to meet the interest payments on its foreign debt and NFA decrease indefinitely. In the opposite case, when the "no Ponzi game" condition is positive, the net present value of the resources the home economy uses is bigger than its output, implying that domestic residents are making an unrequited gift to foreigners and the home economy's NFA increase indefinitely.

$$C_t^* = \frac{r}{\theta}\left[B_t + (1+r)^{-1} \sum_{j=0}^{\infty} (1+r)^{-j} Z_j \right] \quad (3)$$

where, C_t^* is the optimal consumption path, θ is the consumption-tilting parameter, which results from differences between the world interest rate and the domestic rate of time preference. When $\theta < 1$ ($\theta > 1$) consumers tilt consumption towards the present (future), which results in current account deficits (surpluses) and growing foreign liabilities (assets)—see Chapter 2 in Obstfeld and Rogoff (1996) for a complete explanation.

9. We used the above model and panel data for the Baltic countries to estimate the consumption-tilting parameter and the optimal consumption-smoothing current account paths. First, we estimated the consumption tilting parameter, θ, using the following regression:

$$c_{it} = \frac{1}{\theta} r b_{it} + \beta z_{it} + \nu_{it} \quad (4)$$

where, c_{it} is real private consumption's share of GDP, r is real world interest rate, b_{it} is NFA as a percent of GDP, z_{it} is the national cash flow as a percent of GDP, and ν_{it} is an error term (the subscripts i and t denote the cross section and the time dimensions).

10. Next, we estimated the consumption-smoothing optimal current account. For this purpose we estimated the following reduced form, bivariate vector autoregression (VAR) system:

$$X_{it} = AX_{it-1} + \varepsilon_{it} \quad (5)$$

where, $X_{it} = (\Delta z_{it},\ ca_{it})'$ is a vector of dependent variables with ca_{it} being the estimated current account, ε_{it} is a vector of error terms, and A is a coefficient matrix. It is important to point out that, in estimating equation (5), we assume that the current account deficit today reflects all available information about future income streams. Therefore, the optimal current account is a function of the expected future stream of the national cash flow and the economy's existing stock of NFA.

The estimation results

11. Equation (4) was estimated using specific cross-section consumption-tilting coefficients. Conventional econometric tests suggest that the cross-section consumption-tilting parameters are not statistically different from one

Estimated Consumption-tilting Parameters

	θ	Standard errors	R^2/Asjusted R^2
Regression equation	$c_{it} = \frac{1}{\theta} r b_{it} + \beta z_{it}$		0.87 / 0.85
Estonia	0.895	0.068	
Latvia	0.817	0.056	
Lithuania	0.891	0.032	

Source: Author's calculation.
Note: The equation was estimated using panel data for the Baltic countries for the period 1993-2002.

another. The estimated consumption-tilting parameters are less than one for all three Baltic countries, implying a strong tendency for tilting consumption to the present and, as a result, high current account deficits.

12. The reduced form VAR system was estimated by OLS using pooled data for the Baltic countries; the econometric results are satisfactory. Using the estimated coefficients from the VAR system and the fact that $E_t[X_{t+j}] = A^j X_t$, the optimal path of consumption-smoothing current account balance was computed as:

Estimated VAR System

	Constant	ca_{it}	Δz_{t-1}	R^2/Asjusted R^2
Regression equation		$X_{it} = AX_{it-1} + \varepsilon_{it}$		
Current account equation				
Baltic countries	-0.0449	0.432	0.213	0.77 / 0.75
	(0.005)	(0.116)	(0.071)	
Change in cash flow equation	-0.0260	-0.285	0.052	0.16 / 0.10
Baltic countries	(0.011)	(0.141)	(0.178)	

Source: Author's calculation.
Notes: The equation was estimated using panel data for the Baltic countries for the period 1993-2002. Standard errors are in parenthesis.

$$\hat{ca}_t^* = [-1 \;\; 0]\left[(1+r)^{-1}\hat{A}\right]\left[I - (1+r)^{-1}\hat{A}\right]^{-1} X_t \qquad (6)$$

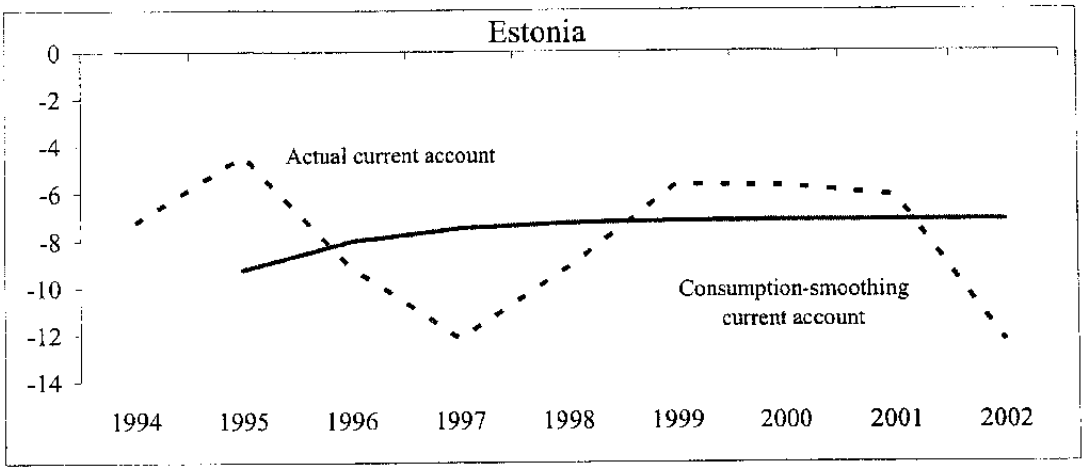
where, $\hat{A}$ is a matrix of estimated coefficients and I is a 2x2 identity matrix.

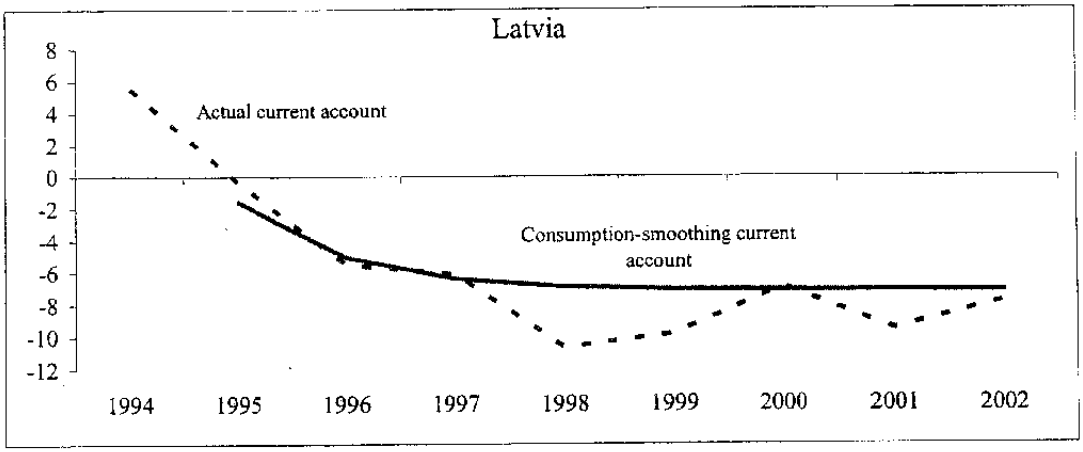
13. We deem the actual current account deficit as "excessive" if it exceeds the estimated path of the optimal consumption-smoothing current account. As shown below, the degree of deviation of the actual current account from its optimal path and the time profiles differ among the three Baltic countries. Estonia's current account was roughly in line with the optimal consumption-smoothing current account in 1999-2001, while in 2002 it substantially exceeded the optimal path, Latvia's current account has been broadly in line with the optimal path since 1995, while Lithuania's current account deficit is somewhat less than the optimal since 2000 after having been excessive in 1995-1999. Overall, on average, the calculated optimal consumption-smoothing current account deficit for the Baltic countries is about 7.5 percent of GDP.

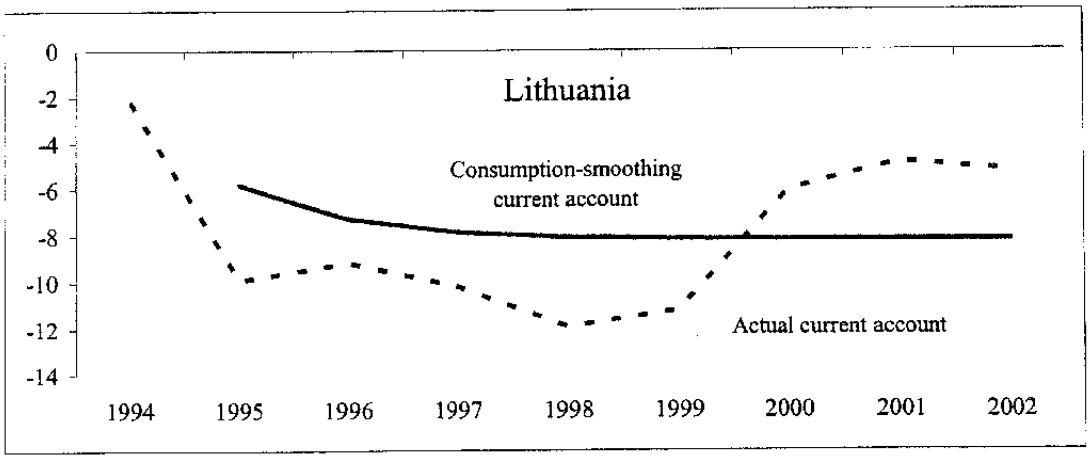
The current account determined by a small-country model with adjustment costs to investment: the second approach

14. In the above model we calculated the current account controlling for the future stream of income and the NFA stock. Now we focus on TFP shocks that affect both investment and the current account. For that purpose we apply a modified version of the framework developed in Glick and Rogoff (1995) to the Baltic countries.

Actual and Consumption-smoothing Current Account
(In percent of GDP)







15. The structure of this model is as follows[3]: (i) consumers can borrow at the riskless world real interest rate and maximize their expected utility subject to a budget constraint (exactly as in the model described above); (ii) the representative firm chooses the investment path that maximizes the present discounted value of future profits, but the installation of investment is costly (here a quadratic cost function is assumed); (iii) aggregate supply is given by a standard Cobb-Douglas production function and TFP is assumed to follow a first order autoregressive process (that is, productivity shocks are calculated from the production function as a residual, given labor and capital).

16. The intuition behind the model is that a permanent TFP shock will cause a rise in the current account deficit in excess of the corresponding rise in investment. The corresponding fall in domestic savings occurs because it takes time for the capital stock to adjust because permanent income rises by more than current income.

17. From the above structural model we derive the following two equations for the current account and investment, which we estimate using panel data for the Baltic countries.

$$\Delta CA_{it} = \alpha_1 I_{it-1} - \beta_1 \Delta A_{it} + \gamma CA_{it-1} + \nu_{it} \tag{7}$$

$$\Delta I_{it} = -\alpha_2 I_{it-1} + \beta_2 \Delta A_{it} + \eta_{it} \tag{8}$$

where, CA_{it} is the current account, I_{it} is real investment, Δ is the first-difference operator, A_{it} is TFP, and η_{it} and ν_{it} are white-noise error terms.

The estimation results

18. The estimation results suggest that adjustment costs to investment and TFP play a role in the determination of investment and the current account, but their effect is small. Adjustment costs to investment have a limited impact on the current account since α_1 is relatively small. TFP inclusion in the regression equations substantially improved the statistical properties of the estimated equations, in particular the normality of the residuals and the goodness of fit, although the coefficients on TFP appear to be insignificant.

Current Account and Investment Equations

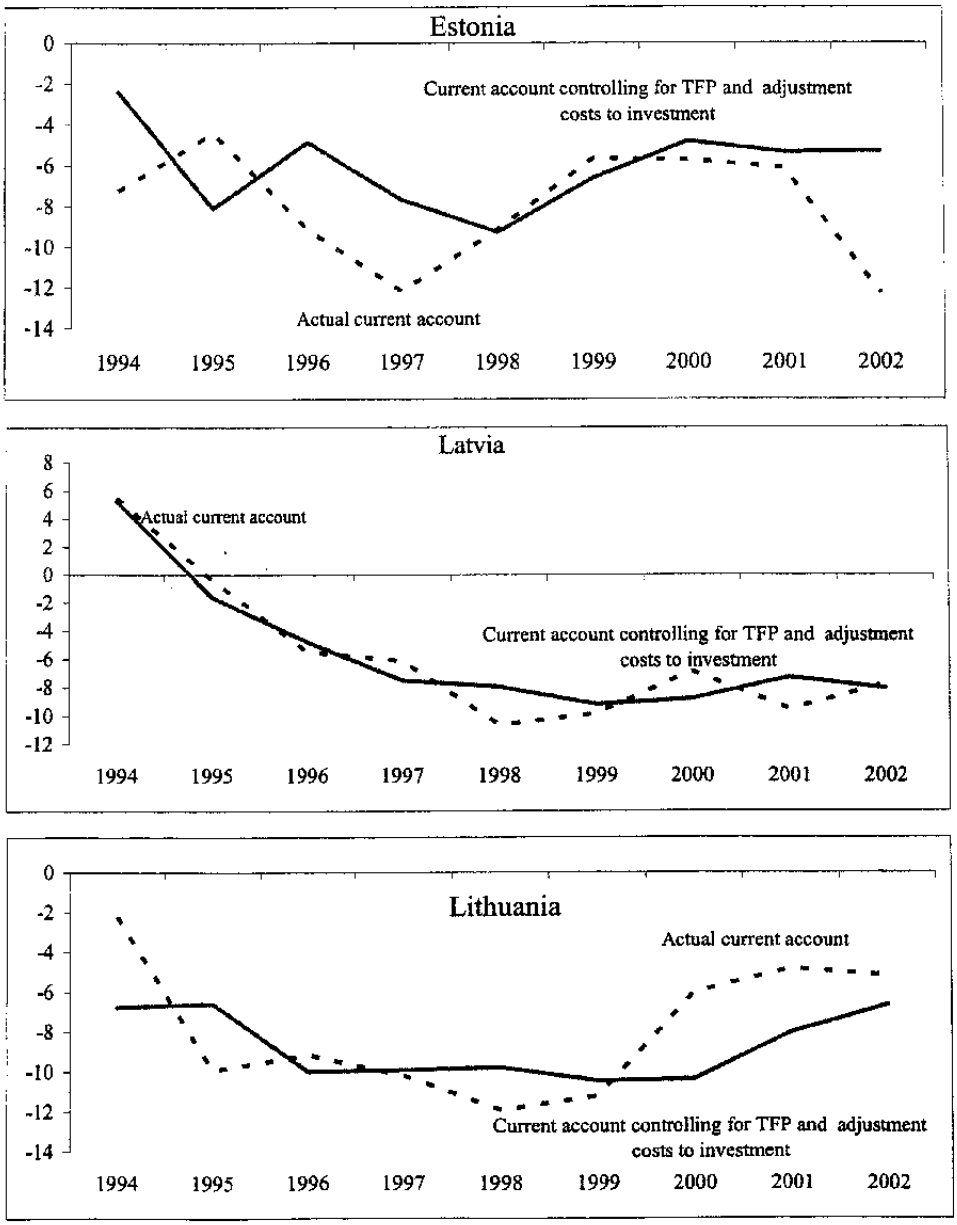
	Constant	α	β	γ	R^2/Asjusted R^2
Regression equation	$X_{it} = \alpha I_{it-1} + \beta \Delta A_{it} + \gamma CA_{it-1}$				
Current account equation					
Baltic countries	-0.0691	0.133	0.016	-0.426	0.70 / 0.67
	(0.025)	(0.090)	(0.049)	(0.085)	
Investment equation	0.0975	-0.313	0.021	n.a.	0.20 / 0.13
Baltic countries	(0.033)	(0.134)	(0.069)	n.a.	

Source: Author's calculation.
Notes: The equation was estimated using panel data for the Baltic countries for the period 1993-2002.
Standard errors are in parenthesis. $X_{it} = (\Delta CA_{it}, \Delta I_{it})'$

[3] For detailed description see Glick and Rogoff (1995).

19. The results from this model are in close agreement with the ones obtained from the consumption-smoothing model. In particular, Estonia's current account in 2002 is in excess of the one implied by investment and technological changes, Latvia's current account is in line with the one calculated from the model, and Lithuania's current accounts has been below the one implied by the model since 1999, but the gap has declined in the recent years. Overall, the implied current account deficit from the above model is around 7.5 percent of GDP, the same as in the consumption smoothing model derived above.

Actual and Controlling for TFP and Investment Costs Current Account
(In percent of GDP)



The current account deficit implied by the Chin and Prasad study: the third approach

20. Chin and Prasad (2000) view the current account from the longer-run perspective of saving-investment balances. The authors treat the current account as the outcome of variations in structural and macroeconomic determinants that influence the saving-investment balance. They use a panel of 89 countries over 25 years and find that the current account is determined by the following variables:

- Government budget balance—estimated significant positive impact on the current account;
- NFA-to-GDP ratio—expected negative effect on the current account. The estimated coefficient for the advanced economies is positive, while for developing economies it was insignificant;
- Per capita PPP GDP relative to US—expected negative sign. It is included in the regression to capture the effect of capital needs when a country converges to a high income level from a low income level;
- Old and young dependency ratios—the results indicate that higher relative dependency ratios are associated with larger deficits, but the magnitude differs among the various country groups;
- Financial deepening—proxied by the ratio of a monetary aggregate such as M2 to GDP. The expected sign is ambiguous. On the one hand, a sophisticated financial system could induce more savings, but on the other hand, this variable could be viewed as a proxy for the borrowing constraint of the individuals and could, therefore, lead to less private sector savings;
- Average GDP growth. The effect is ambiguous and depends on whether households perceive their increase in income as permanent or temporary;
- Terms-of-trade volatility. The effect is ambiguous. The cross-country results reveal a positive correlation between terms-of-trade volatility and current account deficits for developing countries. For industrial countries the correlation appears to be negative;
- And openness ratio measured as the sum of exports- and imports-to-GDP—estimated negative relationship with the current account for developing countries.

21. To calculate a benchmark current account for the Baltic countries, we used the estimated current account equation in the Chin and Prasad study and substituted the right-hand side explanatory variables with those from the Baltic countries. The estimated current account deficits are similar for all Baltic countries—about 5 percent of GDP. The magnitude

is somewhat less than the estimated values in the first two studies, which is to be expected, given the longer-term nature of the approach.[4]

The current account deficit consistent with a constant external debt to GDP ratio: the fourth approach

22. Here we calculate the current account deficit that is consistent with stabilizing the net foreign liabilities (NFL)-to-GDP ratio at 70 percent[5]. For that purpose we use the following equation[6]:

$$\Delta b_{t+1} = \left(\frac{r - g - \lambda\varepsilon - g\lambda\varepsilon}{(1+g)(1+\lambda\varepsilon)} \right) b_t - q_t \qquad (9)$$

where, b_t is the stock of net foreign liabilities in percent of GDP, r is real world interest rate, g is real GDP growth, λ is the fraction of NFL denominated in foreign currency, ε is the rate of real appreciation of the domestic currency, and q_t is the trade balance as a percent of GDP.

23. To calculate the current account deficits using equation (9), we assume the following values for the explanatory variables: (i) the world real interest rate is 3.5 percent; (ii) real appreciation of the domestic currency is 2 percent—since per-capita PPP GDP in the Baltic countries is less than 50 percent of the EU average we allowed for a Balassa-Samuelson effect (a tendency for a country with higher productivity growth in tradables compared with nontradables to have higher CPI-measured inflation); (iii) 100 percent of NFL is held in foreign currency, which is consistent with the data and sets an upper limit of the currency vulnerability; and (iv) real GDP growth is 5 percent, which is the average growth rate over the last decade and is supported by a previous study on potential growth for the Baltic countries (see Country Report 02/134). Substituting these values in equation (9) gives a current account deficit of around 5 percent, the same as the third model and somewhat less

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[4] The Chin and Prassad study covers a large sample of countries over a long time period and therefore the current account deficits obtained from this study can be considered as a longer term equilibrium.

[5] Ideally the steady state level of the NFL-to-GDP ratio should come as a solution to a parameterized structural model. However, given the short time series and data problems for the Baltic countries we opted for using a benchmark level calculated econometrically in the literature. For example, using a large sample of countries and accounting for the openness of the economy, the results presented in IMF (2002) suggest that the sustainable level of the NFL-to-GDP ratio is 60 percent when the export-to-GDP ratio is 20 percent and 60-80 percent when the export-to-GDP ratio is between 20 and 40 percent. Sensitivity analysis with a ± 5 percentage point change in the NFL-to-GDP ratio did not lead to substantially different results.

[6] Equation (9) is derived from equation (2) by dividing by GDP, allowing for any change in the real value of NFL held in foreign currency, and assuming constant growth rate of the domestic economy.

than the first two models. But, again, this is not surprising, given the longer term focus of the exercise.

D. Conclusions

24. Given the uncertainties and limitations associated with the above methods it is difficult to determine a sustainable level of the current account with good precision, however, , the approaches used in this study offer reasonable levels for the current account over the medium and longer-term. Logically, the more restrictive longer-run methods suggest lower sustainable levels of the current account deficit. In particular, the results from the first two methods, which could be interpreted as medium term benchmarks, suggest, on average, 7 ½ percent of GDP, while the estimated benchmark current account deficits from the third and fourth models, considered to give longer-run benchmarks, are 5 percent of GDP.

25. The results from the estimated models suggest that consumption-smoothing, productivity growth, and investment explain most of the current account deficits in the Baltic countries during the last decade. However, the results also suggest that current account deficits of 10-15 percent of GDP are in excess of the estimated benchmark levels and can not be sustained.

26. Given the sound macroeconomic policies, the high growth potential, the health of the banking system, and the confidence of international investors, temporarily high current account deficits should not cause macroeconomic instability, however, such levels do render the economy more vulnerable to external shocks.

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II. The Labor Market and Unemployment In Estonia[7]

27. **High and persistent unemployment continues to be a major challenge for policymakers in Estonia.** This paper describes labor market trends in Estonia after the transition and the institutional makeup of the market and its effects on unemployment. The paper also discusses developments in regional unemployment and the effects of regional disparities on average unemployment. The last section offers policy recommendations.

A. Labor market trends since the beginning of transition

28. **The officially recorded unemployment rate was low at the beginning of transition, but gradually increased to 9.8 percent in 1997 and, following the Russian crisis, to 13.6 percent in 2000.** As in other transition economies, the increase in unemployment was accompanied by a decline in the labor force participation rate, which fell by 7 percentage points between 1990 and 1995 and by a further 2 percentage points between 1996 and 2002 to 62.3 percent, approaching the level observed in EU countries. A rebound in GDP growth after the Russian crisis was associated with a reduction in the unemployment rate to 10.3 percent at the end of 2002, but—despite continued economic growth—there was no further fall in unemployment in the first half of 2003. Given the relatively stable labor force participation rate after 1996, employment mirrored the behavior of the unemployment rate, decreasing after the 1998 Russian crisis and increasing slightly after 2001. Figures below illustrate developments in labor force participation, unemployment, and employment rates, as well as the share of long-term unemployed in total unemployment.

29. **The aggregate unemployment rate has been persistent.** Tests for the presence of unit roots in the quarterly aggregate series indicate that it is integrated of order one, which means that economic shocks have a permanent effect on the unemployment rate. This result indicates that the behavior of unemployment in Estonia is similar to several EU countries, where unemployment exhibits strong persistence[8].

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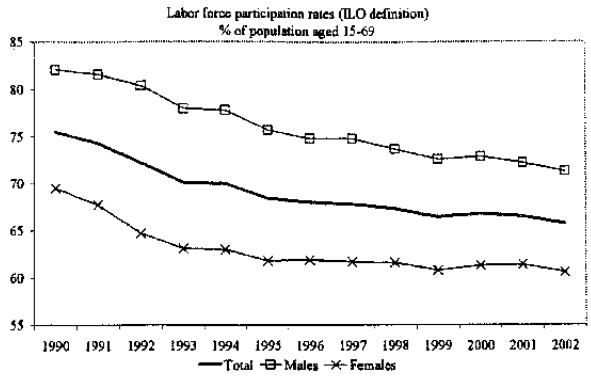
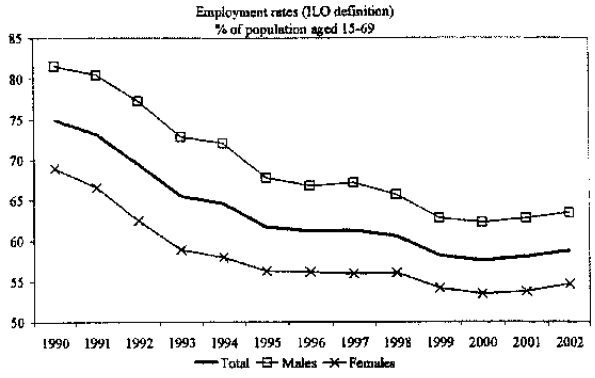
[7] Prepared by Wojciech Maliszewski (EU2).

[8] Leon-Ledesma and McAdam (2003), however, present evidence of a stationary, but non-linear dynamic in the unemployment rate in Estonia. In their model, the unemployment rate adjusts quickly to a time-varying equilibrium level.



Source: Estonia Statistical Office.



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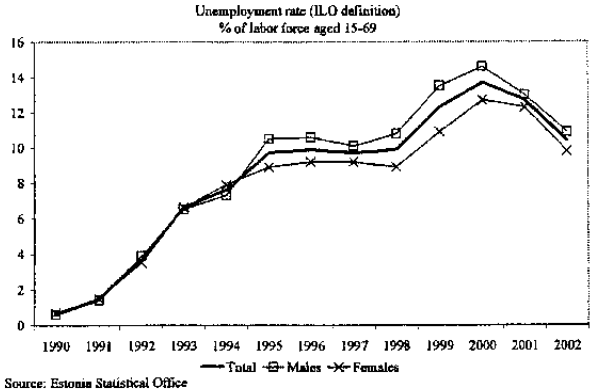
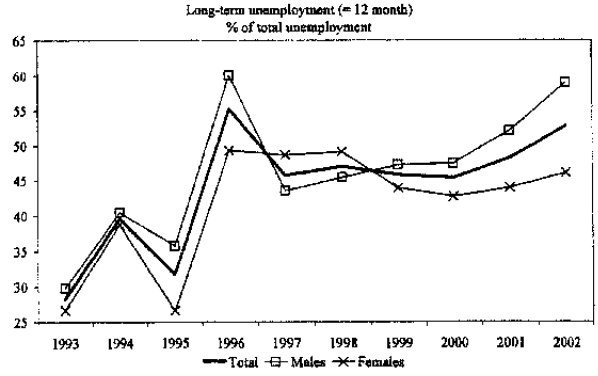


Source: Estonia Statistical Office



Source: Estonia Statistical Office.

30. **Labor flows increased considerably in the first years of transition, but declined at the end of the decade.** Labor turnover peaked in 1993-94 with both separation and hiring rates above 25 percent[9]. Riboud et al. (2002) compare job flows in Estonia and Slovenia—a country with stricter labor market regulations—and conclude that labor turnover was significantly higher in Estonia. In contrast, Boeri and Terrel (2001) show that flows between unemployment and employment, although high by transitional countries standards, were lower that average rates for the United States. Subsequently, labor mobility has declined, with job separation rates remaining relatively more stable than the quickly declining hiring rates. The lower labor turnover has led to a significant increase in the share of long term-unemployed. The share of long-term unemployment, after stabilizing at 45 percent of total

[9] Hiring rate is defined as $(EE_t+UE_t+IE_t)/E_{t-1}$ and separation rate is defined as $(EE_t+EI_t+EU_t)/E_{t-1}$. EE_t, UE_t, IE_t are, respectively, numbers of previously employed persons changing employment, previously unemployed persons finding employment, and previously inactive persons finding employment between periods t and t-1. EI_t and EU_t are numbers of employed persons moving to inactivity and unemployment. E_{t-1} is employment at time t-1. Labor turnover is defined as a sum of the hiring and separation rates.

unemployment between 1997 and 2000, started to rise again and reached 52 percent level in 2002.

Reallocation of labor

	Hiring rate	Separation rate
1990 1/	14.9	15.9
1991 1/	18.0	20.4
1992 1/	23.0	31.4
1993 1/	25.6	30.0
1994 1/	27.6	27.7
1995 1/	15.8	16.2
1996 1/	20.8	22.1
1997 2/	18.4	17.6
1998 2/	14.8	17.7
1999 2/	15.4	17.7

Sources: Cazes and Nesporova (2001) for 1990-96; Room (2002) for 1997-99.

B. Labor market institutions and other determinants of unemployment

31. Recent search-theoretical models (e.g., Mortensen and Pissarides 1999) underline the role of institutions in shaping labor market performance. While the effects of institutions on equilibrium unemployment rates are theoretically ambiguous and depend on the distribution of productivity shocks, stricter labor market regulations make the markets more sclerotic. High dismissal costs, generous unemployment benefits, and high taxes on wages tend to increase the duration of unemployment and the share of the long-term unemployed in total unemployment. Empirical studies exploring interactions between shocks hitting the economy and labor market institutions show that large shocks, in combination with rigid labor market institutions, lead to higher unemployment rates (Nickell et al. 1999; Blanchard and Wolfers 1999). The institutional makeup of Estonia's labor market, together with large shocks related to the transition period, may partly explain the high level of unemployment.

32. **Despite far-reaching, market-oriented reforms, the level of employment protection is slightly higher in Estonia than in the EU, on average.** There have been several attempts to quantify the severance of employment protection legislation (EPL) in transition economies; these are reported below together with comparable indicators for the EU and OECD countries. The EPL indices for Estonia are higher than both the corresponding average for the EU and the OECD. Employment protection has been relatively low for temporary contracts, but these temporary arrangements cover less than 10 percent of the total employment. The employment protection legislation in Estonia is, therefore, relatively restrictive when compared to other countries.

Employment protection legislation indices 1/					
	Index for regular contracts	Index for temporary contracts	Index for regular and temporary contracts	Difficulty of dismissals	Index for regular & temporary contracts & collective dismissals
Estonia 1/	2.9		2.1	2.9	2.4
Estonia 2/	3.1	1.4	2.3	4.1	2.6
Estonia 3/	3.3	2.1			
Transition average 1/	2.7		2.2	3.1	2.5
Transition average 2/	2.7	1.2		4.1	2.4
EU average 4/	2.4	2.1	2.2	3.2	2.4
OECD average 4/	2.0	1.7	1.9	2.9	2.0

Sources: 1/ Cazes (2002); 2/ Riboud et al. (2002); 3/ Paas et al. (2002); 4/ OECD (1999).

1/ The employment protection legislation index takes values from 0 (low protection) to 6 (high protection).

33. **Unemployment benefits in Estonia have been among the lowest in the Central and East European countries, with the benefits-to-average-wage replacement ratios remaining below 10 percent.** Because of the low level of benefits, the overall generosity of unemployment benefits (taking into account the recipients/unemployed coverage) is the lowest in transition countries (Vodopivec et al. 2003). In addition to the unemployment benefits, the unemployed are also eligible for other social benefits and the combined support—although low—may have a detrimental effect on the exit rate from unemployment. Vodopivec et al. show, using an empirical hazard function, that the exit from unemployment into employment significantly increases around the point of termination of unemployment benefit. Changes in the unemployment insurance system introduced in 2001, which became effective in 2003 and link unemployment benefits to previous salaries, will lead to a substantial increase in unemployment benefits. The table below gives a summary of changes in the Estonian unemployment benefit system.

Unemployment benefits					
Date	Reference period	Required minimum employment record	Max duration of benefits	Relation to individual's gross earnings	Unemployment benefit levels (minimum and maximum, expressed in % of minimum wage)
1991	12 months	180 days	6 months	Flat rate, determined as 60% of minimum wage	
1995	12 months	180 days	6 months (3 months extensions considered on individual basis)	Flat rate, determined as 60% of minimum wage	
2001 (effective 2003)	24 months	12 months	12 months	50% in the first 100 days, 40% thereafter	40% of the average wage - 150% of the average wage

Source: Vodopivec et al. (2003).

34. **While the minimum wage remains low; there are, however, plans to significantly raise it by 2008.** A tripartite commission responsible for setting the minimum wage, comprising representatives from the government, trade unions and employers, decided that the minimum wage would increase from its current level of 30 percent to 41 percent of the average wage by 2008. While the current level of minimum wages does not seem to be a binding constraint on the labor market, this increase may lead to some negative effects on employment, in particular in the high-unemployment regions.

35. **Tax rates on labor in Estonia are relatively high.** Payroll taxes amount to 33 percent of wages[10] and total taxes on labor (including taxes on income and consumption) reach 63.3 percent (Riboud et al. 2002). Among OECD countries, only France, Italy, Spain and Sweden have payroll tax rates above 30 percent, and no country has a rate exceeding 40 percent. Tax rates in transition economies, including Estonia, are significantly higher than average EU and OECD rates.

C. Regional Developments

36. **Unemployment has been concentrated in the northeastern part of the country, largely populated by the Russian-speaking community and severely hit by a demise of industries operating there before the collapse of the Soviet Union.** Unemployment in the south of Estonia, dominated by agriculture, was significantly higher then the national average between 1993 and 1998, but subsequently fell to the average; lower employment partly absorbed by a decline in labor participation rate. In contrast, the labor force participation rate in the northeast moved in line with the national average and the drop in employment was mirrored by higher unemployment. Figures below illustrate developments in regional unemployment, employment and labor participation rates, as well as GDP per capita as a percent of the country's average.

37. **Relative regional unemployment rates exhibit lower persistence than the country average.**[11] The available time-series on regional unemployment rates are short, reducing the power of unit root tests. Nevertheless, estimated parameters of autoregressive process for these series point to a low persistence of the relative rates, with the relative unemployment rate in the Northeast more persistent than in other parts of Estonia. Regional unemployment rates, with the exception of the northeast, converge to the country average and, therefore, are mostly driven by economy-wide shocks.

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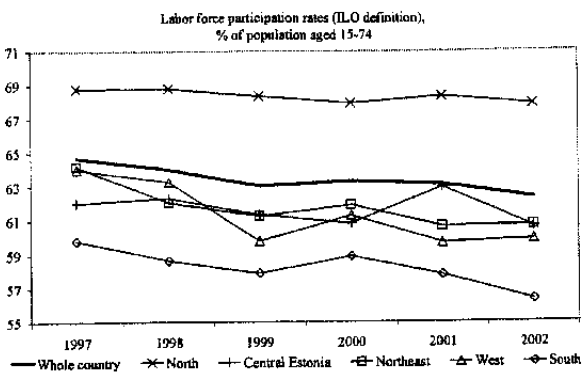
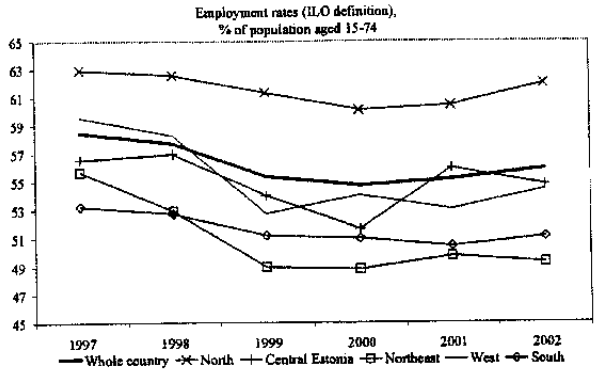
[10] Payroll taxes include contribution to the first pillar of the pension system and health insurance (respectively 20 percent and 13 percent of the gross payroll).

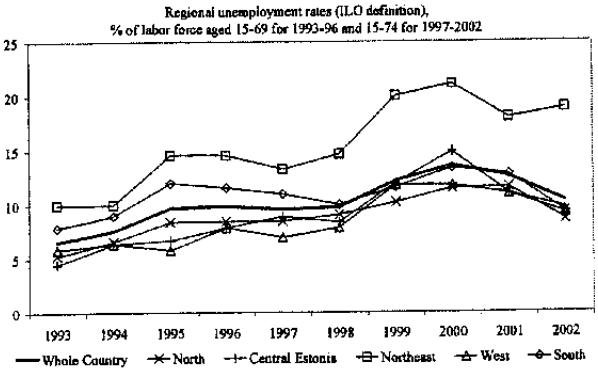
[11] Relative regional unemployment rates are defined as a difference between regional rates and the average country rate.



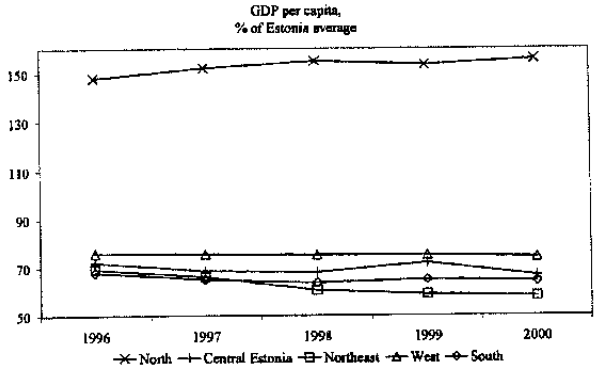
Source: Estonia Statistical Office.



Source: Estonia Statistical Office.



Source: Estonia Statistical Office.



Source: Estonia Statistical Office.

38. **Labor mobility from the northeast has been low due to regional differences in property prices and the language barrier faced by people of Russian origin.**[12] Recent research analyzes to what degree unequal regional developments impact the labor market (Kostoris and Schioppa, 1999) in the presence of limited mobility. In the "New Economic Geography" models, certain "core" regions grow faster than "peripheries" due to horizontal linkages between industries. Regional disparities are therefore expected to deepen with economic development, aggravating—if combined with low labor mobility—the unemployment problem in poor areas. Developments in the northeast part of Estonia—stagnant labor force and declining per capita GDP compared to the country average—closely resemble the theoretical results from the "New Economic Geography" models with low labor mobility.

[12] Rental market in Estonia has not yet fully developed due to limited supply of rentable properties. Commuting to work from the northeast has been limited due to relatively high transport costs (Estonia Ministry of Social Affairs, 2003).

39. **The high unemployment phenomenon has been attributed to a mismatch between the demand for high-skilled workers and the abundance of low-skilled labor.** The share of the labor force with university and other tertiary education is lower in northeastern Estonia than in other parts of the country. The relatively low skill level may partly explain the fact that growth has been below average in the northeast and unemployment there has been higher. However, the empirical evidence about the link between unemployment and educational achievements is weak. For example, in high-unemployment regions of southern Europe, the duration of unemployment tended to rise with the level of education, as better qualified young people rejected unattractive job offers more often (Kostoris and Schioppa, 1999). Similarly, estimates for Estonia show that higher education does not significantly increase probability of moving from unemployment into employment (Room, 2002).

D. Policy conclusions

40. **Recent legislative changes, such as the introduction of a more generous unemployment benefit system and plans to raise minimum wages, may lead to a further deterioration of the labor market situation, specially affecting the plight of the long-term unemployed.** Labor market institutions in Estonia are relatively liberal, but certain provisions of employment protection legislation are more restrictive than in the EU and OECD countries. Similarly, taxation of labor is higher than in many other countries. While regional shocks combined with low labor mobility partly explain persistently high unemployment rates in Estonia, the large share of long-term unemployment in the aggregate unemployment and a declining labor turnover suggest that labor market institutions may well play a role in explaining the behavior of unemployment.

41. **Liberalization of labor market institutions in the presence of limited labor mobility works only if economic growth rebounds in the depressed regions.** Labor market policies combined with lower labor costs and a relatively tight labor market in the Tallinn area may encourage large foreign and domestic companies to invest in the less developed regions of Estonia. The government could support specific vocational training in cooperation with large investors. Preliminary econometric evidence suggests that active labor market policies in Estonia, mainly in the form of vocational training, have been effective (Leetmaa and Võrk, 2003). While these programs provide job-specific rather than general skills, they might be an appropriate policy to support older unemployed in the job search process, especially if these policies are implemented in tandem with policies that encourage foreign and domestic companies to locate to the less developed regions. Educational reform, in turn, should promote a model of general education in place of job-specific vocational training. While such a policy may lead to a temporary increase in the duration of unemployment, the general education model increases labor force flexibility and the capacity to absorb foreign investments.

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Table 1. Estonia: Gross Domestic Product by Expenditure, 1998-2002

	1998	1999	2000	2001	2002
	(In million kroons, current prices)				
Consumption	59,999	62,276	67,326	74,313	83,177
Private consumption	42,927	43,922	48,584	53,795	60,810
General government consumption	16,651	17,851	18,109	19,609	21,311
Non-profit institutions consumption	421	503	633	908	1,056
Investment	21,572	18,715	24,253	28,248	33,930
Gross fixed capital formation	21,761	19,023	22,193	25,913	30,815
Changes in inventories	-189	-308	2,060	2,336	3,115
Domestic demand	81,571	80,990	91,579	102,561	117,107
Total exports (fob)	58,590	58,947	81,832	87,534	90,930
Exports of goods (fob)	37,786	36,995	56,346	58,667	58,100
Exports of services (fob)	20,804	21,952	25,486	28,867	32,831
Total imports (fob)	66,267	62,703	85,401	91,157	101,061
Imports of goods (fob)	53,512	49,092	69,490	72,451	76,324
Imports of services (fob)	12,755	13,610	15,911	18,706	24,737
Statistical Discrepancy	-356	-908	-775	-1,043	1,047
GDP	73,538	76,327	87,236	97,895	108,024
	(In million kroons, constant 2000 prices)				
Consumption	64,870	64,237	67,326	70,289	76,082
Private consumption	46,977	45,615	48,584	50,897	55,655
General government consumption	17,440	18,099	18,109	18,534	19,462
Non-profit institutions consumption	453	523	633	858	964
Investment	22,770	19,261	24,253	27,170	31,936
Gross fixed capital formation	22,971	19,583	22,193	24,907	28,925
Changes in inventories	-201	-322	2,060	2,263	3,011
Domestic demand	87,640	83,498	91,579	97,459	108,017
Total exports (fob)	63,336	63,646	81,832	81,687	86,560
Exports of goods (fob)	41,080	39,997	56,346	53,227	55,070
Exports of services (fob)	22,257	23,649	25,486	28,460	31,490
Total imports (fob)	70,603	66,768	85,401	87,167	96,059
Imports of goods (fob)	56,925	52,418	69,490	69,685	73,302
Imports of services (fob)	13,678	14,350	15,911	17,482	22,757
Statistical Discrepancy	1,576	1,055	-775	1,042	68
GDP	81,949	81,431	87,236	93,021	98,587

Source: National authorities.

Table 2. Estonia: Gross Domestic Product by Origin, 1998-2002

	1998	1999	2000	2001	2002
	(In million kroons, current prices)				
Agriculture and hunting	2,810	2,584	2,683	2,976	2,957
Forestry	1,614	1,812	1,888	1,779	1,990
Fishing	327	235	217	204	207
Mining and quarrying	796	754	772	892	987
Manufacturing	11,709	11,355	14,093	16,138	17,930
Electricity, gas and water supply	2,411	2,464	2,587	2,756	2,982
Construction	4,425	4,121	4,762	5,407	6,313
Services	41,955	45,687	51,000	57,598	62,831
Wholesale and retail trade	9,871	9,945	10,831	12,228	13,802
Hotels and restaurants	843	939	1,137	1,341	1,526
Transport, storage and communications	9,427	10,479	12,693	14,410	14,938
Real estate, renting and business activities	7,317	7,738	8,587	10,201	10,901
Financial intermediation	2,398	2,777	3,234	3,606	4,327
Public administration	2,900	3,506	3,677	3,864	4,363
Education	3,637	4,204	4,411	4,754	5,234
Health and social work	2,415	2,783	2,820	3,022	3,179
Other services	3,147	3,315	3,611	4,171	4,561
Total value added	66,048	69,011	78,002	87,750	96,196
FISIM 1/	962	1,093	1,250	1,450	1,632
GDP at basic prices	65,086	67,919	76,752	86,299	94,564
Net taxes on product	8,452	8,409	10,483	11,595	13,460
GDP at market prices	73,538	76,327	87,236	97,895	108,024
	(In percent of GDP)				
Agriculture and hunting	3.8	3.4	3.1	3.0	2.7
Forestry	2.2	2.4	2.2	1.8	1.8
Fishing	0.4	0.3	0.2	0.2	0.2
Mining and quarrying	1.1	1.0	0.9	0.9	0.9
Manufacturing	15.9	14.9	16.2	16.5	16.6
Electricity, gas and water supply	3.3	3.2	3.0	2.8	2.8
Construction	6.0	5.4	5.5	5.5	5.8
Services	57.1	59.9	58.5	58.8	58.2
Wholesale and retail trade	13.4	13.0	12.4	12.5	12.8
Hotels and restaurants	1.1	1.2	1.3	1.4	1.4
Transport, storage and communications	12.8	13.7	14.6	14.7	13.8
Real estate, renting and business activities	10.0	10.1	9.8	10.4	10.1
Financial intermediation	3.3	3.6	3.7	3.7	4.0
Public administration	3.9	4.6	4.2	3.9	4.0
Education	4.9	5.5	5.1	4.9	4.8
Health and social work	3.3	3.6	3.2	3.1	2.9
Other services	4.3	4.3	4.1	4.3	4.2
Total value added	89.8	90.4	89.4	89.6	89.1
FISIM 1/	1.3	1.4	1.4	1.5	1.5
GDP at basic prices	88.5	89.0	88.0	88.2	87.5
Net taxes on product	11.5	11.0	12.0	11.8	12.5
GDP at market prices	100.0	100.0	100.0	100.0	100.0

Source: National authorities.

1/ Financial intermediation services indirectly measured.

Table 3. Estonia: Real Gross Domestic Product by Origin, 1998-2002

	1998	1999	2000	2001	2002
	(In million kroons, constant 1995 prices)				
Agriculture and hunting	2,910	2,681	2,683	2,666	2,618
Forestry	1,742	1,917	1,888	1,677	1,801
Fishing	311	241	217	188	175
Mining and quarrying	855	766	772	879	964
Manufacturing	12,356	12,075	14,093	15,569	17,120
Electricity, gas and water supply	2,765	2,557	2,587	2,594	2,601
Construction	4,558	4,183	4,762	4,965	5,656
Services	47,362	48,379	51,000	54,713	57,209
Wholesale and retail trade	10,088	10,142	10,831	11,696	12,865
Hotels and restaurants	879	991	1,137	1,266	1,356
Transport, storage and communications	11,276	11,908	12,693	13,986	14,227
Real estate, renting and business activities	8,179	8,154	8,587	9,421	9,532
Financial intermediation	2,725	2,932	3,234	3,380	3,920
Public administration	3,605	3,634	3,677	3,716	3,829
Education	4,397	4,382	4,411	4,459	4,517
Health and social work	2,731	2,808	2,820	2,875	2,891
Other services	3,483	3,428	3,611	3,914	4,071
Total value added	72,858	72,797	78,002	83,251	88,144
FISIM 1/	1,034	1,137	1,250	1,372	1,490
GDP at basic prices	71,825	71,661	76,752	81,879	86,654
Net taxes on product	10,124	9,770	10,483	11,142	11,933
GDP at market prices	81,949	81,431	87,236	93,021	98,587
	(Year-on-year growth rates in percent)				
Agriculture and hunting	-3.9	-7.9	0.1	-0.6	-1.8
Forestry	8.2	10.0	-1.5	-11.2	7.4
Fishing	-3.6	-22.5	-9.8	-13.7	-6.6
Mining and quarrying	-7.1	-10.5	0.9	13.8	9.6
Manufacturing	5.4	-2.3	16.7	10.5	10.0
Electricity, gas and water supply	-7.7	-7.5	1.2	0.3	0.3
Construction	18.3	-8.2	13.8	4.3	13.9
Services	5.3	2.1	5.4	7.3	4.6
Wholesale and retail trade	5.1	0.5	6.8	8.0	10.0
Hotels and restaurants	11.8	12.8	14.7	11.3	7.1
Transport, storage and communications	10.0	5.6	6.6	10.2	1.7
Real estate, renting and business activities	11.2	-0.3	5.3	9.7	1.2
Financial intermediation	-7.9	7.6	10.3	4.5	16.0
Public administration	0.6	0.8	1.2	1.1	3.0
Education	1.5	-0.3	0.7	1.1	1.3
Health and social work	3.5	2.8	0.4	2.0	0.6
Other services	-0.1	-1.6	5.3	8.4	4.0
Total value added	4.9	-0.1	7.1	6.7	5.9
FISIM 1/	-25.5	10.0	10.0	9.7	8.7
GDP at basic prices	5.5	-0.2	7.1	6.7	5.8
Net taxes on product	-1.5	-3.5	7.3	6.3	7.1
GDP at market prices	4.6	-0.6	7.1	6.6	6.0

Source: National authorities.

1/ Financial intermediation services indirectly measured.

Table 4. Estonia: Gross Domestic Product by Income Approach, 1998-2002

	1998	1999	2000	2001	2002
	(In millions of kroons, current prices)				
Compensation of employees	37,478	41,049	42,334	46,509	51,817
Wages and salaries	28,433	31,096	32,049	35,181	39,232
Employer's social contributions	9,045	9,953	10,285	11,328	12,585
Consumption of fixed capital	10,111	11,429	12,397	14,123	14,617
Taxes on production and imports	10,034	9,966	12,123	13,476	15,421
Subsidies	805	899	852	963	1,133
Operating surplus and mixed income 1/	16,720	14,783	19,434	22,131	27,302
GDP at market prices	73,538	76,327	85,436	95,275	108,024

Source: National authorities.

1/ Does not include financial intermediation services indirectly measured.

Table 5. Estonia: Prices, 1998-2002

	Consumer price index					Producer price index	Export price index
	Overall	Goods	Services	Non regulated goods and services	Regulated goods and services		
	(Percent change)						
1998							
Period average	8.1	6.2	12.7	6.4	13.4	4.2	2.1
Dec.-on-Dec.	4.2	2.4	7.9	3.0	7.6	0.1	-0.8
1999							
Period average	3.3	0.3	9.7	0.8	10.1	-1.2	-0.4
Dec.-on-Dec.	3.8	1.8	8.2	1.5	10.1	2.2	7.1
2000							
Period average	4.0	3.3	5.4	2.7	7.3	4.9	7.8
Dec.-on-Dec.	5.0	4.3	6.5	4.0	7.4	6.0	6.4
2001							
Period average	5.8	4.9	7.6	5.9	5.5	4.4	32.9
Dec.-on-Dec.	4.2	3.5	5.6	5.2	1.7	1.7	35.0
2002							
Period average	3.6	1.9	6.8	2.8	5.4	0.4	-0.6
Dec.-on-Dec.	2.7	0.1	7.8	0.8	7.4	1.4	-9.3
	(Percent change on previous month)						
2003							
January	1.2	0.7	2.0	1.3	0.8	0.0	0.3
February	0.3	0.4	0.2	0.1	1.1	0.6	12.5
March	0.3	0.4	0.1	0.1	0.7	-0.1	0.2
April	-0.2	-0.1	-0.3	-0.1	-0.4	-0.5	-0.8
May	-0.4	-0.4	-0.1	-0.1	-1.0	-0.6	-0.3
June	-0.4	-0.6	0.0	0.0	-1.5	0.2	0.3

Source: National authorities.

Table 6. Estonia: Average Monthly Wage, 1998-2002

	Nominal wage in kroons	Real wage (1992=100) 1/	Nominal wage in US dollars
1998 2/	4,096	138	292
1999 2/	4,416	145	301
2000 2/	4,883	154	288
2001 2/	5,514	164	314
2002 2/	6,219	179	381
2001			
March	5,227	158	298
June 3/	6,206	184	341
September	5,376	159	313
December 3/	6,345	187	362
2002			
March	6080	176	340
June 3/	6973	200	425
September	6018	174	377
December 3/	7251	209	472

Source: National authorities.

1/ Nominal wage deflated by CPI.

2/ Annual average calculated as the arithmetic mean of monthly average wages.

3/ Includes mid-year and end-year bonus payments.

Table 7. Estonia: Average Monthly Wage by Sector, 1998-2002 1/

	1998	1999	2000	2001	2002
			(In kroons)		
Total 2/	4,125	4,440	4,876	5,511	6,110
Agriculture and hunting	2,535	2,385	2,788	3,241	3,846
Forestry	4,059	4,134	4,329	4,915	5,163
Fishing	3,674	3,496	3,578	3,778	4,638
Mining and quarrying	4,894	5,152	5,889	6,859	7,457
Manufacturing	4,081	4,117	4,769	5,157	5,628
Electricity, gas and water supply	5,561	5,705	5,920	6,737	7,306
Construction	4,196	3,877	4,354	5,161	5,793
Services	4,472	4,961	5,401	6,152	6,778
Wholesale and retail trade	3,627	4,302	4,662	5,416	5,884
Hotels and restaurants	2,624	2,336	2,990	3,612	3,416
Transport, storage and communications	5,122	5,534	5,991	6,472	7,062
Real estate, renting and business activities	4,566	5,014	5,003	6,407	8,203
Financial intermediation	8,914	9,786	11,002	12,258	13,296
Public administration	4,942	5,715	6,284	6,956	7,809
Education	3,370	3,964	4,200	4,769	5,382
Health and social work	3,690	4,154	4,383	4,781	4,977
Other services	3,390	3,840	4,099	4,697	4,977

Source: National authorities.

1/ Estimate based on quarterly data.

2/ Total average monthly wage calculated by aggregating across sectors.

Table 8. Estonia: Employment by Sector, 1998-2003
(thousands, period average, persons aged 15 to 74)

	1998	1999	2000	2001	2002	2003 Q1
Total	606.5	579.4	572.4	577.7	585.5	576.7
Agriculture, hunting and fishing	49.0	43.9	38.3	37.4	38.8	32.3
Forestry	4.8	3.1	2.9	2.7	1.9	1.6
Mining and quarrying	7.6	7.9	7.2	5.8	5.7	6.2
Manufacturing	131.8	122.8	129.2	134.1	128.2	135.0
Electricity, gas and water supply	17.2	16.5	14.7	11.4	10.5	11.3
Construction	44.1	38.9	39.7	39.3	38.9	39.5
Services	352.1	346.2	340.4	347.1	361.5	350.8
Wholesale and retail trade	85.7	81.9	79.3	83.6	86.3	77.7
Hotels and restaurants	13.7	13.0	19.9	17.4	17.9	13.5
Transport, storage and communication	55.3	59.4	56.9	53.7	54.5	48.7
Real estate, renting and business activities	8.1	8.6	7.7	7.2	7.9	6.3
Financial intermediation	37.4	37.4	40.0	38.2	44.3	43.6
Public administration	34.7	34.7	34.1	34.8	33.2	40.3
Education	54.2	50.3	44.6	51.0	55.7	54.4
Health and social work	34.0	31.3	28.5	30.9	31.6	35.2
Other services	29.0	29.7	29.6	30.3	30.1	31.1

Source: National authorities.

Table 9. Estonia: Labor Market Indicators, 1998-2003 1/

	1998	1999	2000	2001	2002	2003 Q1
			(In thousands)			
Working age population	1,051	1,047	1,047	1,047	1,047	1,047
Labor force	673	660	662	661	653	645
Employed	606	579	572	578	586	577
Unemployed	66	81	90	83	67	69
of which registered unemployed	32	44	46	54	48	54
Inactive	378	387	384	386	394	402
			(In percent)			
Unemployment rate (percent)	9.9	12.3	13.7	12.6	10.3	10.6
Registered unemployed rate (percent) 2/	4.7	6.7	7.0	8.2	7.4	8.3

Source: National authorities; and Fund staff estimates.

1/ Labor market indicators are taken from the Estonian Labor Force Survey, except for data on registered unemploymer which are taken from the Labor Market Board.

2/ The labor force based on the Labor Force Survey differs from the implied labor force from the Labor Market Board d Here, the labor force based on the Labor Force Survey is used.

Table 10. Estonia: Unit Labor Costs by Sector, 1998-2002 1/
(1995=100)

	1998	1999	2000	2001	2002
Total	134.5	139.2	141.7	150.8	159.9
Agriculture and hunting	161.8	148.1	151.1	172.2	216.1
Forestry	89.7	53.3	53.1	62.6	44.0
Fishing	111.1	143.2	147.0	144.8	187.0
Mining and quarrying	117.9	129.2	137.6	163.6	155.1
Manufacturing	150.4	148.9	131.3	99.4	91.4
Electricity, gas and water supply	229.6	224.9	235.2	264.1	283.0
Construction	116.2	111.7	106.8	128.0	130.2
Wholesale and retail trade	115.0	128.5	199.6	187.8	190.8
Hotels and restaurants	105.6	89.4	91.9	97.9	87.7
Transport, storage and communications	135.7	146.5	132.7	122.1	144.6
Real estate, renting and business activities	166.8	183.7	209.4	203.4	252.8
Financial intermediation	148.2	151.0	134.4	168.2	177.1
Public administration	159.9	170.2	163.9	205.7	244.5
Education	157.9	172.0	164.5	200.3	228.3
Health and social work	170.8	191.9	200.6	220.0	225.8
Other services	135.7	149.2	149.3	159.3	164.5

Sources: National authorities and Fund staff estimates.

1/ Unit labor costs are defined as average monthly wage multiplied by employment divided by real value added.

Table 11. Estonia: Summary of General Government Operations, 1998-2002

	1998	1999	2000	2001	2002
	(In million of kroons)				
Total revenue and grants	29,558	29,688	33,062	36,887	42,786
Tax revenue	26,684	26,849	29,393	32,073	37,173
Direct taxes	17,356	17,622	18,250	19,812	22,826
VAT	6,413	6,417	8,153	8,639	10,172
Excises	2,789	2,685	2,819	3,434	3,938
Other taxes	126	126	170	187	238
Nontax revenue	2,748	2,536	3,402	4,185	4,901
Grants	127	304	267	630	713
Total expenditure	29,710	33,187	33,968	36,548	41,634
Current expenditure	26,477	29,827	31,232	33,389	37,415
Goods and services	17,757	19,764	20,368	21,650	24,219
Current transfers and subsidies	8,381	9,755	10,568	11,481	12,929
Interest payments	339	309	296	258	267
Capital expenditure	3,233	3,360	2,736	3,158	4,219
	3,233	3,360	2,736	3,158	4,219
Financial surplus (+) / deficit (-)	-152	-3,499	-906	339	1,152
Net lending (-) 1/	-77	14	329	63	132
Overall balance	-228	-3,485	-577	402	1,284
Borrowing requirement	228	3,485	577	-402	-1,284
Domestic financing, of which:	710	3,833	920	1,639	670
Privatization proceeds	25	3,024	812	1,970	474
Foreign financing, of which:	-482	-349	-343	-2,035	-1,954
Change in government deposits held abroad (-, increase)	-563	-431	-23	-1,841	-2,692
	(In percent of GDP)				
Total revenue and grants	40.2	38.9	37.9	37.7	39.6
Tax revenue	36.3	35.2	33.7	32.8	34.4
Direct taxes	23.6	23.1	20.9	20.2	21.1
VAT	8.7	8.4	9.3	8.8	9.4
Excises	3.8	3.5	3.2	3.5	3.6
Other taxes	0.2	0.2	0.2	0.2	0.2
Nontax revenue	3.7	3.3	3.9	4.3	4.5
Grants	0.2	0.4	0.3	0.6	0.7
Total expenditure	40.4	43.5	38.9	37.3	38.5
Current expenditure	36.0	39.1	35.8	34.1	34.6
Goods and services	24.1	25.9	23.3	22.1	22.4
Current transfers and subsidies	11.4	12.8	12.1	11.7	12.0
Interest payments	0.5	0.4	0.3	0.3	0.2
Capital expenditure	4.4	4.4	3.1	3.2	3.9
Financial surplus (+) / deficit (-)	-0.2	-4.6	-1.0	0.3	1.1
Net lending (-) 1/	-0.1	0.0	0.4	0.1	0.1
Overall balance	-0.3	-4.6	-0.7	0.4	1.2
Borrowing requirement	0.3	4.6	0.7	-0.4	-1.2
Domestic financing, of which:	1.0	5.0	1.1	1.7	0.6
Privatization proceeds	0.0	4.0	0.9	2.0	0.4
Foreign financing, of which:	-0.7	-0.5	-0.4	-2.1	-1.8
Change in government deposits held abroad (-, increase)	-0.8	-0.6	0.0	-1.9	-2.5
Memorandum items:					
GDP (in million of kroons)	73,538	76,327	87,236	97,895	108,024

Sources: Estonian authorities; and Fund staff estimates.

1/ Net lending in 2000 includes EEK 303 million recovery of deposits from Maapank and EVEA bank.

Table 12. Estonia: General Government Revenue, 1998-2002

	1998	1999	2000	2001	2002
	(In million of kroons)				
Total revenue and grants	29,558	29,688	33,062	36,887	42,786
Revenue	29,432	29,385	32,795	36,257	42,073
Tax revenue	26,684	26,849	29,393	32,073	37,173
Direct taxes	17,356	17,622	18,250	19,812	22,826
Personal income tax	6,239	6,531	6,594	7,099	7,806
Corporate profits tax	1,914	1,635	855	748	1,348
Social security tax	5,303	5,520	6,297	6,988	7,712
Medical insurance tax	3,573	3,588	4,093	4,542	5,048
Unemployment insurance tax	...	...	...	...	493
Land tax	327	347	411	435	418
VAT	6,413	6,417	8,153	8,639	10,172
Excises, *of which:*	2,789	2,685	2,819	3,434	3,938
on alcohol	935	853	1,013	1,003	1,218
on tobacco	537	574	541	564	723
on fuel	1,222	1,150	1,126	1,707	1,822
other excises	91	107	138	159	175
Other taxes, *of which:*	126	126	170	187	238
taxes on international trade	0	0	35	40	38
Nontax revenue	2,748	2,536	3,402	4,185	4,901
Grants	127	304	267	630	713
	(In percent of GDP)				
Total revenue and grants	40.2	38.9	37.9	37.7	39.6
Revenue	40.0	38.5	37.6	37.0	38.9
Tax revenue	36.3	35.2	33.7	32.8	34.4
Direct taxes	23.6	23.1	20.9	20.2	21.1
Personal income tax	8.5	8.6	7.6	7.3	7.2
Corporate profits tax	2.6	2.1	1.0	0.8	1.2
Social security tax	7.2	7.2	7.2	7.1	7.1
Medical insurance tax	4.9	4.7	4.7	4.6	4.7
Unemployment insurance tax	...	...	...	...	0.5
Land tax	0.4	0.5	0.5	0.4	0.4
VAT	8.7	8.4	9.3	8.8	9.4
Excises, *of which:*	3.8	3.5	3.2	3.5	3.6
on alcohol	1.3	1.1	1.2	1.0	1.1
on tobacco	0.7	0.8	0.6	0.6	0.7
on fuel	1.7	1.5	1.3	1.7	1.7
other excises	0.1	0.1	0.2	0.2	0.2
Other taxes, *of which:*	0.2	0.2	0.2	0.2	0.2
taxes on international trade	0.0	0.0	0.0	0.0	0.0
Nontax revenue	3.7	3.3	3.9	4.3	4.5
Grants	0.2	0.4	0.3	0.6	0.7
Memorandum items:					
GDP (in million of kroons)	73,538	76,327	87,236	97,895	108,024

Sources: Estonian authorities; and Fund staff estimates.

Table 13. Estonia: General Government Expenditure, 1998-2002

	1998	1999	2000	2001	2002
	(In million of kroons)				
Total expenditure and net lending	29,787	33,173	33,639	36,485	41,502
Total expenditure	29,710	33,187	33,968	36,548	41,634
Current expenditure	26,477	29,827	31,232	33,389	37,415
Expenditure on goods and services	17,757	19,764	20,368	21,650	24,219
Wages and salaries	5,647	6,752	7,085	7,355	8,346
Other purchases of goods and serv	12,110	13,012	13,284	14,296	15,873
of which: healthcare	...	...	2,878	2,792	2,970
Current transfers and subsidies	8,381	9,755	10,568	11,481	12,929
Subsidies	693	689	682	805	1,138
Transfers to households o/w	7,688	9,066	9,886	10,676	11,791
Pensions	5,200	6,425	6,445	6,610	7,279
Family benefits	1,159	1,156	1,317	1,314	1,394
Sickness benefits	662	607	716	738	804
Unemployment benefits	57	120	120	133	104
Income maintenance	390	315	315	358	342
Disability benefits	...	...	64	441	564
Prescription drug benefits	...	...	430	644	766
Other	221	442	480	439	538
Interest payments	339	309	296	258	267
Capital expenditure	3,233	3,360	2,736	3,158	4,219
Net lending 1/	77	-14	-329	-63	-132
	(In percent of GDP)				
Total expenditure and net lending	40.5	43.5	38.6	37.3	38.4
Total expenditure	40.4	43.5	38.9	37.3	38.5
Current expenditure	36.0	39.1	35.8	34.1	34.6
Expenditure on goods and services	24.1	25.9	23.3	22.1	22.4
Wages and salaries	7.7	8.8	8.1	7.5	7.7
Other purchases of goods and serv	16.5	17.0	15.2	14.6	14.7
of which: healthcare	...	...	3.3	2.9	2.7
Current transfers and subsidies	11.4	12.8	12.1	11.7	12.0
Subsidies	0.9	0.9	0.8	0.8	1.1
Transfers to households	10.5	11.9	11.3	10.9	10.9
Pensions	7.1	8.4	7.4	6.8	6.7
Family benefits	1.6	1.5	1.5	1.3	1.3
Sickness benefits	0.9	0.8	0.8	0.8	0.7
Unemployment benefits	0.1	0.2	0.1	0.1	0.1
Income maintenance	0.5	0.4	0.4	0.4	0.3
Disability benefits	...	...	0.1	0.5	0.5
Prescription drug benefits	...	...	0.5	0.7	0.7
Other	0.3	0.6	0.6	0.4	0.5
Interest payments	0.5	0.4	0.3	0.3	0.2
Capital expenditure	4.4	4.4	3.1	3.2	3.9
Net lending (-) 1/	0.1	0.0	-0.4	-0.1	-0.1
GDP (in million of kroons)	73,538	76,327	87,236	97,895	108,024

Sources: Estonian authorities; and Fund staff estimates.

1/ Net lending in 2000 includes EEK 303 million recovery of deposits from Maapank and EVEA bank.

Table 14. Estonia: Fiscal Balances by Government Sector, 1998-2002
(In millions of kroons)

	1998	1999	2000	2001	2002
State government					
Budgetary operations					
Revenue	15,358	15,762	17,683	19,653	22831.6
Tax revenue	13,974	13,706	14,886	16,128	19120
Non-tax revenue	1,384	2,056	2,796	3,525	3175
Expenditure	15,415	17,601	18,415	19,323	22,408
Current	13,539	15,639	16,787	17,918	20,208
of which: inter-governmental transfers	2,799	1,875	2,060	3,172	3,585
Capital	1,876	1,926	1,628	1,405	2,201
of which: inter-governmental transfers	293	470	234	191	248
Domestic deficit (-)/surplus(+)	-57	-1,839	-733	330	423
Capital expenditure (foreign financed)	128	234	14	63	0
Net lending (-) 1/	97	37	-645	-120	-174
of which: net lending to local governments	...	43	-258	-67	46
Overall deficit (-)/ surplus (+)	-282	-2,110	-102	387	598
Local government					
Budgetary operations					
Revenue and transfers	6,252	6,597	6,667	9,064	10,519
Revenue (own)	4,634	4,752	4,963	5,701	6,736
Intergovernmental transfers	1,618	1,844	1,704	3,363	3,783
Expenditure	6,411	6,978	6,921	9,656	11,214
Current	4,968	5,364	5,593	7,775	8,949
Capital	1,443	1,614	1,328	1,881	2,266
Overall Deficit (-)/ surplus (+)	-159	-382	-255	-592	-692
Social Insurance Fund 2/					
Revenue	6,781	5,712	6,555	6,988	7,714
of which: inter-governmental transfers	1,403	295	389	376	0
Expenditure	6,563	6,460	6,476	6,644	7,248
Deficit (-)/ surplus (+)	217	-749	80	344	466
Medical Insurance Fund					
Revenue	3,627	3,613	4,094	4,566	5,082
Expenditure	3,618	3,919	4,084	4,242	4,615
Deficit (-)/ surplus (+)	9	-306	10	324	468
Unemployment Insurance Fund					
Revenue	...	...	...	...	497.5
Expenditure	...	...	...	...	7.2
Deficit (-)/ surplus (+)	...	...	...	...	490.3
Forestry Fund 3/					
Revenue	677	...	...	...	...
Expenditure	668	...	...	...	...
Deficit (-)/ surplus (+)	9	...	...	...	...
Environmental Fund 3/					
Revenue	137	...	...	...	...
Expenditure	157	...	...	...	...
Deficit (-)/ surplus (+)	-21	...	...	...	...
Overall general government deficit (-)/surplus (+)	-228	-3,485	-577	402	1,284
(In % of GDP)	-215	-3,590	-9	530	1,284
Memorandum item:					
Nominal GDP	73,538	76,327	87,236	97,895	108,024

Source: Estonian authorities; and Fund staff estimates.

1/ Net lending in 2000 includes EEK 303 million recovery of deposits from Maapank and EVEA bank.

2/ Prior to 1999, includes payment of family benefits financed through transfers from central government.

3/ The environmental and the forestry funds were closed in 1999.

Table 15. Estonia: Fiscal Balances by Government Sector, 1998-2002

(In percent of GDP)

	1998	1999	2000	2001	2002
State government					
Budgetary operations					
Revenue	20.9	20.7	20.3	20.1	21.1
Tax revenue	19.0	18.0	17.1	16.5	17.7
Nontax revenue	1.9	2.7	3.2	3.6	2.9
Expenditure	21.0	23.1	21.1	19.7	20.7
Current	18.4	20.5	19.2	18.3	18.7
of which: inter-governmental transfers	3.8	2.5	2.4	3.2	3.3
Capital	2.6	2.5	1.9	1.4	2.0
of which: inter-governmental transfers	0.4	0.6	0.3	0.2	0.2
Domestic deficit (-)/surplus(+)	-0.1	-2.4	-0.8	0.3	0.4
Capital expenditure (foreign financed)	0.2	0.3	0.0	0.1	0.0
Net lending 1/	0.1	0.0	-0.7	-0.1	-0.2
of which: net lending to local governments	...	0.1	-0.3	-0.1	0.0
Overall deficit (-)/ surplus (+)	-0.4	-2.8	-0.1	0.4	0.6
Local government					
Budgetary operations					
Revenue and transfers	8.5	8.6	7.6	9.3	9.7
Revenue (own)	6.3	6.2	5.7	5.8	6.2
Intergovernmental transfers	2.2	2.4	2.0	3.4	3.5
Expenditure	8.7	9.1	7.9	9.9	10.4
Current	6.8	7.0	6.4	7.9	8.3
Capital	2.0	2.1	1.5	1.9	2.1
Overall Deficit (-)/ surplus (+)	-0.2	-0.5	-0.3	-0.6	-0.6
Social Insurance Fund 2/					
Revenue 3/	9.2	7.5	7.5	7.1	7.1
of which: inter-governmental transfers	1.9	0.4	0.4	0.4	0.0
Expenditure	8.9	8.5	7.4	6.8	6.7
Deficit	0.3	-1.0	0.1	0.4	0.4
Medical Insurance Fund					
Revenue 3/	4.9	4.7	4.7	4.7	4.7
Expenditure	4.9	5.1	4.7	4.3	4.3
Deficit	0.0	-0.4	0.0	0.3	0.4
Unemployment Insurance Fund					
Revenue	...	...	...	...	0.5
Expenditure	...	...	...	...	0.0
Deficit (-)/ surplus (+)	...	...	...	...	0.5
Forestry Fund 4/					
Revenue	0.9	...	...	...	...
Expenditure	0.9	...	...	...	...
Deficit	0.0	...	...	...	...
Environmental Fund 4/					
Revenue	0.2	...	...	...	...
Expenditure	0.2	...	...	...	...
Deficit	0.0	...	...	...	...
General government deficit/surplus	-0.3	-4.6	-0.7	0.4	1.2
Memorandum item:					
Nominal GDP (in millions of kroons)	73,538	76,327	87,236	97,895	108,024

Source: Estonian authorities; and Fund staff estimates.

1/ Net lending in 2000 includes EEK 303 million recovery of deposits from Maapank and EVEA bank.

2/ Prior to 1999, includes payment of family benefits financed through transfers from central government.

3/ The environmental and the forestry funds were closed in 1999.

Table 16. Estonia Banking Survey and Monetary Authorities: 1998-2003 1/
(in millions of EEK, unless otherwise indicated)

	1998	1999	2000	2001	2002	2003 July
Banking Survey						
Net foreign assets	5,112	8,022	9,098	12,285	7,756	3,288
Net foreign assets (BOE)	10,493	12,932	15,167	14,319	14,890	15,687
Foreign assets 2/ 3/	10,909	13,334	15,540	14,573	14,995	16,049
Foreign liabilities	-415	-402	-373	-254	-105	-362
Net foreign assets (commercial banks)	-5,381	-4,910	-6,068	-2,034	-7,134	-12,399
Foreign assets	6,481	8,772	10,359	15,475	16,504	15,013
Foreign liabilities	-11,862	-13,682	-16,427	-17,510	-23,638	-27,412
Net domestic assets	16,216	18,368	24,064	28,518	37,619	44,404
Domestic credit	24,223	26,542	33,758	41,994	53,568	61,221
Net credit to general government	-930	-197	-1,078	-575	-834	-1,809
Credit to government (banks)	955	1,172	1,268	1,742	2,439	2,566
Government deposits (banks)	-1,882	-1,345	-2,343	-2,311	-3,268	-4,370
Net credit to government (BOE)	3	3	3	1	0	0
Government deposits (BOE)	-6	-27	-7	-8	-6	-5
Credit to nongovernment	25,153	26,739	34,837	42,570	54,402	63,030
Credit to nonfinancial public enterprises	226	372	263	142	245	274
Credit to private sector	18,590	19,877	22,203	26,321	31,512	36,485
Credit to enterprises	14,369	14,571	15,376	17,161	18,625	20,620
Credit to households	4,221	5,306	6,827	9,160	12,887	15,865
Credit to nonbank financial institutions	6,337	6,489	12,370	16,107	22,644	26,271
Other items (net)	-8,007	-8,174	-9,695	-13,476	-15,949	-16,817
Broad money	21,328	26,390	33,162	40,803	45,374	47,692
M1	13,120	17,336	20,869	24,948	27,275	29,445
Currency outside banks	4,539	5,711	6,201	6,952	6,995	7,150
Demand deposits	8,581	11,624	14,668	17,996	20,280	22,295
Time and savings deposits	8,208	9,054	12,293	15,855	18,100	18,247
Monetary Authorities						
Net foreign assets	10,493	12,932	15,167	14,319	14,890	15,687
Foreign assets 2/ 3/	10,909	13,334	15,540	14,573	14,995	16,049
of which: currency board cover 4/	9,070	11,526	13,207	11,910	11,732	12,547
Foreign liabilities	-415	-402	-373	-254	-105	-362
Net domestic assets	-1,423	-1,406	-1,960	-2,409	-3,158	-3,140
Net claims on Government	-3	-24	-4	-6	-5	-5
Claims on financial institutions	281	268	10	8	9	10
Claims on private sector	57	66	70	75	79	75
Other	-1,758	-1,716	-2,035	-2,486	-3,240	-3,220
Base money	9,070	11,526	13,207	11,910	11,732	12,547
Currency issue	5,391	6,649	7,277	8,067	8,113	8,137
Deposits of commercial banks	3,676	4,824	5,718	3,644	3,565	4,362
Other deposits at BOE	4	54	211	28	54	47
Memorandum items:						
Base money multiplier	2.35	2.29	2.51	3.43	3.87	3.80
Currency-to-deposit ratio	0.27	0.28	0.23	0.21	0.18	0.18
Bank reserves-to-deposit ratio	0.27	0.28	0.25	0.14	0.12	0.13
Velocity (period average)	3.39	3.14	2.78	2.57	2.20	2.07
Gross international reserves (in millions of US$) 2/	813	851	992	823	1,003	1,162
Net international reserves (in millions of euro) 6/	124	115	149	179	210	210
Government balances held abroad 7/	1,224	1,995	1,447	...	...	...
	(Percentage change from same period in preceding year)					
Net foreign assets of banking system	0.6	56.9	13.4	35.0	-36.9	-73.5
Net domestic assets of banking system	5.4	13.3	31.0	18.5	31.9	36.5
Credit of banking system to non-government	11.7	6.3	30.3	22.2	27.6	28.1
Credit to the private sector	9.7	6.9	11.7	18.5	19.7	24.8
Credit to nonbank financial institutions	21.1	2.4	90.6	30.2	49.6	32.6
Broad money	4.2	23.7	25.7	23.0	11.2	6.1
M1	-6.3	32.1	20.4	19.5	9.3	14.6
Base money	6.4	27.1	14.6	-9.8	-1.5	11.8

Source: Bank of Estonia and Fund staff estimates

1/ The monetary authorities' accounts and the monetary survey have been revised, following the recommendations of the 1999 STA mission on money and banking statistics. The main changes affect the monthly revaluation of the monetary authorities' gold, the coverage of government entities and depository institutions, and the inclusion of financial derivatives in the balance sheet of commercial banks.

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

3/ The Bank of Estonia's foreign assets rose sharply in December 1999 as commercial banks shifted funds into their accounts with the Bank of Estonia to enhance domestic liquidity in anticipation of Y2K problems.

4/ Currency board cover is equivalent to base money (e.g., the sum of currency issue plus the kroon liabilities of the Bank of Estonia in its correspondent accounts).

5/ Requirement to be met on the basis of daily average of deposits over month. Up to June 2000, it includes liquidity requirement equivalent to 3 percent of the reserve requirement base (imposed since December 1997). After June 2000, the liquidity requirement was incorporated in the reserve requirement. Starting in January 2001, 3 percentage points of the 13 percent reserve requirement can be met with high quality euro-denominated foreign instruments.

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

7/ Including balances in the Stabilization Reserve Fund (SRF).

Table 17. Estonia: Maturity and Currency Composition of Deposits, 1998-2003

	1998	1999	2000	2001	2002	2003 July
	(In million of kroons)					
Total deposits	21,470	26,412	34,773	42,680	48,745	52,412
Of which:						
Demand Deposits	12,763	16,627	21,198	26,762	30,357	34,838
In EEK	9,826	12,490	15,722	19,585	21,795	24,463
In Foreign Currency	2,938	4,137	5,476	7,177	8,562	10,375
Time Deposits	8,707	9,784	13,575	15,918	18,388	17,575
In EEK	5,572	5,713	7,243	10,244	12,953	13,326
Of which:						
up to 3 months	1,985	1,830	2,257	3,074	3,724	4,174
3-6 months	615	718	913	1,493	2,189	1,504
6-12 months	2,373	2,463	3,085	4,526	5,829	6,432
over 1 year	599	694	973	1,121	1,173	1,137
In Foreign Currency	3,135	4,071	6,332	5,675	5,435	4,249
Of which:						
up to 3 months	1,358	1,667	2,932	2,620	2,428	2,020
3-6 months	347	417	668	524	606	526
6-12 months	695	920	1,432	1,507	1,468	1,160
over 1 year	734	1,067	1,300	1,019	928	543
	(In percent of total deposits)					
Demand Deposits	59.4	63.0	61.0	62.7	62.3	66.5
In EEK	45.8	47.3	45.2	45.9	44.7	46.7
In Foreign Currency	13.7	15.7	15.7	16.8	17.6	19.8
Time Deposits	40.6	37.0	39.0	37.3	37.7	33.5
In EEK	26.0	21.6	20.8	24.0	26.6	25.4
Of which:						
up to 3 months	9.2	6.9	6.5	7.2	7.6	8.0
3-6 months	2.9	2.7	2.6	3.5	4.5	2.9
6-12 months	11.1	9.3	8.9	10.6	12.0	12.3
over 1 year	2.8	2.6	2.8	2.6	2.4	2.2
In Foreign Currency	14.6	15.4	18.2	13.3	11.1	8.1
Of which:						
up to 3 months	6.3	6.3	8.4	6.1	5.0	3.9
3-6 months	1.6	1.6	1.9	1.2	1.2	1.0
6-12 months	3.2	3.5	4.1	3.5	3.0	2.2
over 1 year	3.4	4.0	3.7	2.4	1.9	1.0
Memorandum Items:						
Total foreign currency deposits (in EEK millions)	6,073	8,208	11,808	12,852	13,997	14,624
Of which:	(In percent of total foreign currency deposits)					
DM/euro 1/	44.4	35.7	31.8	31.9	38.3	44.1
US $	47.1	58.7	63.0	62.4	56.5	50.3
Other	8.5	5.6	5.2	5.6	5.2	5.6

Source: Bank of Estonia.

1/ After January 1, 1999 includes deposits denominated in euros.

Table 18. Estonia: Maturity and Currency Composition of Loans, 1998-2003

	1998	1999	2000	2001	2002	2003 July
	(In millions of kroons)					
Total loans	23,898	26,660	34,237	40,693	49,960	58,709
Of which:						
Short term loans (one year and less) 1/	3,201	3,828	4,752	5,531	4,119	4,487
In EEK	1,182	1,050	1,539	1,766	1,793	2,160
In Foreign Currency	2,019	2,779	3,213	3,765	2,326	2,328
Long term loans (over one year)	20,697	22,829	29,482	35,159	45,840	54,222
In EEK	4,523	5,309	6,014	6,893	6,884	8,533
Of which:						
1-3 years	1,572	1,357	1,796	1,958	2,120	2,565
over 3 years	2,951	3,952	4,218	4,935	4,764	5,968
In Foreign Currency	16,174	17,520	23,468	28,266	38,956	45,689
Of which:						
1-3 years	4,743	4,118	4,949	4,770	4,335	4,474
over 3 years	11,432	13,402	18,519	23,496	34,621	41,215
	(In percent of total loans)					
Short term loans (one year and less) 1/	13.4	14.4	13.9	13.6	8.2	7.6
In EEK	4.9	3.9	4.5	4.3	3.6	3.7
In Foreign Currency	8.4	10.4	9.4	9.3	4.7	4.0
Long term loans (over one year)	86.6	85.6	86.1	86.4	91.8	92.4
In EEK	18.9	19.9	17.6	16.9	13.8	14.5
Of which:						
1-3 years	6.6	5.1	5.2	4.8	4.2	4.4
over 3 years	12.3	14.8	12.3	12.1	9.5	10.2
In Foreign Currency	67.7	65.7	68.5	69.5	78.0	77.8
Of which:						
1-3 years	19.8	15.4	14.5	11.7	8.7	7.6
over 3 years	47.8	50.3	54.1	57.7	69.3	70.2
Memorandum Items:						
Total foreign currency loans (in EEK millions)	18,193	20,301	26,684	32,031	41,282	48,017
Of which:	(In percent of total foreign currency loans)					
DM/euro 2/	89.9	88.0	86.7	90.0	95.5	93.5
US $	8.2	10.8	12.5	9.2	4.4	6.4
Other	1.9	1.3	0.8	0.7	0.1	0.1
	(In percent, unless otherwise indicated)					
Total assets of banking system (in EEK millions)	40,995	47,071	57,822	68,411	81,686	85,483
Total deposits/total assets	52.4	56.1	60.1	62.4	59.7	61.3
Total loans/total deposits	111.3	100.9	98.5	95.3	102.5	112.0
Short-term loans/total loans	13.4	14.4	13.9	13.0	8.5	8.6
Short-term deposits/total deposits	59.4	63.0	61.0	62.7	62.3	66.5

Source: Bank of Estonia.

1/ The bulk of short term loans have maturities in the 6-12 month range.

2/ After January 1, 1999 includes all loans denominated in euros.

Table 19. Estonia: Average Interest Rates of Deposits and Loans, 1998-2003
(In percent)

	1998	1999	2000	2001	2002	2003
						July
Kroon denominated						
Deposit rates 1/						
Time deposits						
up to 3 months	7.9	2.9	4.4	2.6	3.0	2.0
3 - 6 months	10.7	4.4	4.8	3.6	3.4	2.1
6 - 12 months	12.9	6.1	5.3	4.0	3.5	2.8
over 1 year	8.9	8.9	6.8	4.5	3.7	2.6
Lending rates 2/						
Loans up to 3 months	15.9	8.2	7.5	9.4	4.9	3.4
Loans 3 to 6 months	17.6	9.6	6.9	9.1	6.6	7.5
Loans 6 to 12 months	17.1	10.2	8.4	9.7	8.9	10.7
Loans 1-5 years	16.5	7.9	8.2	10.5	5.9	6.7
Loans 5 to 10 years	14.7	9.0	10.5	9.4	8.5	4.8
Loans over 10 years	14.5	10.6	9.7	9.7	7.8	4.8
Euro denominated						
Deposit rates 1/	...	3.0	4.5	2.7	2.8	2.0
up to 3 months	...	3.0	4.5	2.7	2.8	2.0
3 - 6 months	...	3.5	4.6	3.0	2.8	2.1
6 - 12 months	...	3.5	5.2	3.0	2.8	2.0
over 1 year	...	3.8	5.3	3.4	3.2	2.0
Lending rates 2/	...	7.1	8.4	9.8	5.9	5.3
Short term	...	4.6	7.6	9.4	5.6	5.5
Long term	...	7.9	8.9	10.1	6.6	5.2
Money market rates						
Interbank overnight loans 3/	16.0	...	5.5	3.5	...	...

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/ Absence of rate indicates there was no activity during that month.

Table 20. Estonia: Nonperforming Loans of Commercial Banks, 1998-2003

	1998	1999	2000	2001	2002	2003 Q2
	(In millions of kroons; end of period)					
Total	326	461	358	543	400	389
Overdue up to 30 days	75	14	40	64	35	72
Overdue from 30-60 days	27	12	3	13	13	17
Overdue over 60 days	224	435	315	466	352	300
	(In percent of total loan portfolio)					
Total	1.4	1.7	1.0	1.3	0.8	0.7
Overdue up to 30 days	0.3	0.1	0.1	0.2	0.1	0.1
Overdue from 30-60 days	0.1	0.0	0.0	0.0	0.0	0.0
Overdue over 60 days	0.9	1.6	0.9	1.1	0.7	0.5

Source: Bank of Estonia.

Table 21. Estonia: Commercial Bank Profits (on a consolidated basis), 1998-2003

	1998	1999	2000	2001	2002	2003 Q1
	(In millions of Kroons)					
Total profits (pre-tax)	-501	657	625	1,706	1,215	369
Of which:						
Net interest Income	1,391	1,721	1,932	2,183	2,370	559
Interest income	3,085	3,512	3,744	4,308	4,254	1,068
Interest expenses	1,694	1,791	1,812	2,126	1,883	509
Net commission income	466	575	709	780	869	219
Commission income	693	826	965	1,063	1,203	294
Commission expenses	228	251	256	283	333	75
Income from financial investments	21	134	36	708	73	29
Net income from financial operations	-235	417	506	443	359	94
Administrative expenses	1,069	1,319	1,375	1,584	1,758	390
Valuation adjustments	-961	-860	-1,106	-697	-557	-102
	(In percent)					
Memorandum items:						
Return on assets 1/	-1.2	1.4	1.1	2.5	1.5	...
Return on capital 2/	-6.4	7.8	8.6	18.8	12.2	...

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 22. Estonia: Balance of Payments 1998-2002

	1998	1999	2000	2001	2002
	(In millions of euro)				
Current Account	-432	-231	-326	-376	-846
Trade Balance	-1,005	-773	-840	-881	-1,165
Exports	2,415	2,364	3,601	3,750	3,713
Imports	-3,420	-3,138	-4,441	-4,630	-4,878
Services Balance	514	533	612	649	517
Receipts	1,330	1,403	1,629	1,845	2,098
of which:					
Transportation	636	658	785	887	1,140
Travel	484	518	549	569	585
Construction	52	29	43	88	82
Payments	-815	-870	-1,017	-1,196	-1,581
of which:					
Transportation	-368	-355	-456	-546	-809
Travel	-138	-202	-221	-214	-243
Construction	-28	-18	-19	-35	-141
Income	-74	-96	-223	-315	-350
Employee compensation	1	1	1	6	10
Investment Income	-75	-97	-223	-321	-361
of which:					
Direct Investment	-67	-90	-210	-317	-365
Portfolio Investment	31	23	20	29	31
Current Transfers	133	106	125	170	152
Capital and Financial Account	439	378	320	357	810
Capital Transfers	2	1	18	6	20
Financial Account	437	377	302	352	789
Direct Investment	511	205	358	377	167
From abroad 1/	516	284	425	603	307
of which:					
Equity	362	163	251	233	52
Reinvested dividends	25	46	116	248	215
Other capital	129	75	58	122	39
Outward (by Estonians)	-5	-79	-67	-225	-140
Net equity investment 1/	58	222	-31	51	59
Loans and other investments 2/	-131	-50	135	-124	622
of which:					
Banks	19	6	161	-104	340
Government	-53	-31	12	-133	-142
Monetary Authorities	-19	-13	-8	-13	38
Errors and Omissions	1	-33	-9	19	36
Overall balance	8	115	145	-47	59
Change in official reserves (- increase)	-8	-115	-145	47	-59
Memorandum Items:		(Units as indicated)			
Euro/US$ exchange rate (period average)	0.90	0.94	1.09	1.12	1.06
Gross International Reserves 3/ 4/ 5/					
(Euro millions)	697	852	992	930	958
In months of imports 6/	2.4	3.3	2.7	2.4	2.4
		(In percent)			
Trade Balance/GDP	-21.4	-15.8	-15.0	-14.1	-16.9
Current Account/GDP	-9.2	-4.7	-5.8	-6.0	-12.3

Sources: Bank of Estonia and Fund staff estimates.

1/ The large flows in 1998 were associated with the purchase by Swedish banks of substantial interests in the two largest Estonian banks.
2/ Includes operations in debt securities.
3/ Excludes Government deposits held abroad (including in the SRF).
4/ Changes in gross international reserves may differ from flows implied by overall balance of payments due to valuation changes.
5/ Gross international reserves at end-1999 were inflated by banks shifting resources from accounts abroad to the Bank of Estonia to enhance liquidity in anticipation of Y2K-related problems.
6/ Excludes imports of goods for processing.

Table 23. Estonia: Direction of Trade - Exports by Countries 1998-2002

	1998	1999	2000	2001	2002
	(In millions of kroons)				
Finland	8,310	8,239	17,432	19,588	14,096
Sweden	7,333	8,038	11,050	8,117	8,713
Germany	2,344	2,997	4,580	4,011	5,626
Latvia	3,295	2,937	3,790	3,983	4,213
Russia	3,940	1,915	1,278	1,587	1,915
Denmark	1,500	1,668	1,850	2,035	2,518
Great Britain	1,707	1,993	2,351	2,433	2,728
Lithuania	1,543	1,200	1,511	1,734	1,996
Netherlands	823	914	1,324	1,603	1,947
Italy	303	396	537	564	605
Other 1/	6,446	6,478	10,134	12,201	12,507
Total	37,545	36,774	55,837	57,856	56,863
	(Shares in total exports)				
Finland	22.1	22.7	31.2	33.9	24.8
Sweden	19.5	22.0	19.8	14.0	15.3
Germany	6.2	8.3	8.2	6.9	9.9
Latvia	8.8	8.0	6.8	6.9	7.4
Russia	10.5	5.3	2.3	2.7	3.4
Denmark	4.0	4.6	3.3	3.5	4.4
Great Britain	4.5	4.5	4.2	4.2	4.8
Lithuania	4.1	3.3	2.7	3.0	3.5
Netherlands	2.2	2.5	2.4	2.8	3.4
Italy	0.8	1.1	1.0	1.0	1.1
Other 1/	17.2	17.8	18.1	21.1	22.0
Total	100.0	100.0	100.0	100.0	100.0

Source: Bank of Estonia.

1/ Includes exports to "customs-free" zones that were established in November 1999.

Table 24. Estonia: Direction of Trade - Imports by Countries 1998-2002

	1998	1999	2000	2001	2002
	(In millions of kroons)				
Finland	20,543	18,624	27,163	22,486	18,369
Sweden	5,572	5,083	7,611	7,521	8,363
Germany	5,751	4,806	6,854	8,400	9,563
Russia	4,173	3,956	5,755	5,837	5,645
Latvia	2,194	2,177	2,991	3,005	3,226
Netherlands	1,941	1,642	2,259	2,921	3,824
Denmark	1,850	1,595	2,185	2,238	2,314
Italy	1,495	1,437	1,741	2,086	3,322
Lithuania	1,160	1,055	1,418	2,282	3,025
Great Britain	1,375	1,036	1,393	1,546	1,887
Other	9,162	9,085	12,846	16,753	19,930
Total	55,215	50,495	72,217	75,076	79,467
	(Shares in total imports)				
Finland	37.2	37.0	37.6	30.0	23.1
Sweden	10.1	10.0	10.5	10.0	10.5
Germany	10.4	9.5	9.5	11.2	12.0
Russia	7.6	7.8	8.0	7.8	7.1
Latvia	4.0	4.3	4.1	4.0	4.1
Netherlands	3.5	3.2	3.1	3.9	4.8
Denmark	3.4	3.1	3.0	3.0	2.9
Italy	2.7	2.8	2.4	2.8	4.2
Lithuania	2.1	2.1	2.0	3.0	3.8
Great Britain	2.5	2.0	1.9	2.1	2.4
Other	16.6	18.1	17.8	22.3	25.1
Total	100.0	100.0	100.0	100.0	100.0

Source: Bank of Estonia.

Table 25. Estonia: Composition of Trade - Exports by Commodities 1998-2002

	1998	1999	2000	2001	2002
			(In millions of kroons)		
Foodstuffs	4,969	3,237	3,819	4,635	4,713
Mineral products	977	915	1,322	1,234	1,516
Chemical industry products	2,760	2,432	3,328	3,652	4,007
Clothing, footwear, headgear	6,018	5,994	7,407	8,072	8,380
Timber and paper products	6,424	7,585	8,815	8,790	9,901
Metal and metal products	3,022	2,840	3,909	3,973	4,433
Machinery and equipment	8,335	8,539	20,250	19,128	14,103
Transport vehicles	1,248	1,072	1,410	1,862	2,342
Furniture	2,391	2,781	3,656	4,672	5,454
Other goods	1,400	1,380	1,921	1,837	2,014
Total	37,545	36,774	55,837	57,856	56,863
			(Shares in total exports)		
Foodstuffs	13.2	8.9	6.8	8.0	8.3
Mineral products	2.6	2.5	2.4	2.1	2.7
Chemical industry products	7.4	6.7	6.0	6.3	7.0
Clothing, footwear, headgear	16.0	16.6	13.3	14.0	14.7
Timber and paper products	17.1	19.7	15.8	15.2	17.4
Metal and metal products	8.0	7.6	7.0	6.9	7.8
Machinery and equipment	22.2	23.7	36.3	33.1	24.8
Transport vehicles	3.3	2.9	2.5	3.2	4.1
Furniture	6.4	7.7	6.5	8.1	9.6
Other goods	3.7	3.8	3.4	3.2	3.5
Total	100.0	100.0	100.0	100.0	100.0

Source: Bank of Estonia.

Table 26. Estonia: Composition of Trade - Imports by Commodities 1998-2002

	1998	1999	2000	2001	2002
	(In millions of kroons)				
Foodstuffs	6,260	5,461	6,176	7,062	7,681
Mineral products	3,198	3,044	4,416	4,617	4,853
Chemical industry products	6,382	6,450	8,050	8,859	9,850
Clothing, footwear, headgear	6,070	5,672	6,887	7,738	8,349
Timber and paper products	2,729	2,642	3,509	3,926	4,102
Metal and metal products	5,114	4,125	5,868	6,088	7,138
Machinery and equipment	16,262	15,482	27,789	25,135	23,596
Transport vehicles	5,305	3,852	4,998	6,687	8,588
Furniture	1,440	1,289	1,628	1,941	2,006
Other goods	2,454	2,477	2,896	3,024	3,305
Total	55,215	50,495	72,217	75,076	79,467
	(Shares in total imports)				
Foodstuffs	11.3	10.8	8.6	9.4	9.7
Mineral products	5.8	6.0	6.1	6.1	6.1
Chemical industry products	11.6	12.8	11.1	11.8	12.4
Clothing, footwear, headgear	11.0	11.2	9.5	10.3	10.5
Timber and paper products	4.9	5.2	4.9	5.2	5.2
Metal and metal products	9.3	8.2	8.1	8.1	9.0
Machinery and equipment	29.5	30.8	38.5	33.5	29.7
Transport vehicles	9.6	7.6	6.9	8.9	10.8
Furniture	2.6	2.6	2.3	2.6	2.5
Other goods	4.4	4.9	4.0	4.0	4.2
Total	100.0	100.0	100.0	100.0	100.0

Source: Bank of Estonia.

Table 27. Estonia: Foreign Direct Investment Inflows by Countries 1998-2002

	1998	1999	2000	2001	2002
	(In millions of kroons)				
Denmark	469	309	109	78	112
Finland	1,741	1,713	2,600	2,636	2,206
Germany	225	60	195	43	347
Latvia	-25	40	-6	123	-102
Lithuania	4	105	-14	177	42
Netherlands	46	-21	272	1,894	-486
Norway	231	191	52	-118	535
Russia	-193	74	-86	60	232
Sweden	4,780	1,435	2,645	2,282	1,709
United Kingdom	387	116	117	285	143
USA	145	400	144	1,593	-547
Other	261	26	617	376	610
Total	8,071	4,448	6,645	9,430	4,800
Memorandum Items:	(In percent of total)				
Finland	21.6	38.5	39.1	28.0	46.0
Sweden	59.2	32.3	39.8	24.2	35.6
USA	1.8	9.0	2.2	16.9	-11.4

Source: Bank of Estonia.

Table 28. Estonia: Foreign Direct Investment Outflows by Countries 1998-2002 1/

	1998	1999	2000	2001	2002
	(In millions of kroons)				
Finland	42	46	131	-8	73
Lithuania	-35	-689	-63	-2,352	-968
Latvia	-332	-694	-539	-786	-330
Russia	31	4	-97	1	-18
Sweden	-23	-21	-3	-4	-9
Ukraine	-76	-3	8	-40	-111
Other	312	118	-478	-339	-824
Total	-82	-1,240	-1,043	-3,528	-2,188
Memorandum Items:	(In percent of total)				
Latvia	406.7	56.0	51.7	22.3	15.1
Lithuania	43.1	55.5	6.1	66.7	44.3

Source: Bank of Estonia.

1/ A negative sign indicates an investment outflow.

Table 29. Estonia: Foreign Direct Investment Inflows by Sectors 1998-2002

	1998	1999	2000	2001	2002
	(In millions of kroons)				
Agriculture, Fishing, Energy, Gas, Water (inc. Mining)	281	425	326	2,147	-604
Manufacturing	1,545	1,145	1,101	1,466	858
Construction	161	25	197	268	284
Trade	942	443	421	1,484	989
Hotels and restaurants	37	41	270	91	22
Transports and communication	300	1,075	1,046	1,000	451
Financial intermediation	4,309	909	1,757	1,996	1,802
Real estate and business activities	424	263	1,249	727	801
Others	73	120	278	250	198
Total	8,071	4,448	6,645	9,430	4,800
Memorandum Items:	(In percent of total)				
Manufacturing	19.1	25.8	16.6	15.5	17.9
Transports and communication	3.7	24.2	15.7	10.6	9.4
Financial intermediation	53.4	20.4	26.4	21.2	37.5

Source: Bank of Estonia.

Table 30. Estonia: Foreign Direct Investment Outflows by Sectors 1998-2002 1/

	1998	1999	2000	2001	2002
			(In millions of kroons)		
Agriculture, Fishing, Energy, Gas, Water (inc. Mining)	...	-1.4	-10.5	-14	-3
Manufacturing	42	-327	-286	-618	95
Construction	4	5	-21	-29	-35
Trade	-179	-5	51	-73	-189
Hotels and restaurants	...	...	-2	...	-60
Transports and communication	390	37	-76	-447	-914
Financial intermediation	-317	-866	58	-1,908	-624
Real estate and business activities	-9	-83	-750	-420	-450
Others	-5	...	-7	...	-8
Total	-82	-1,240	-1,043	-3,528	-2,188
Memorandum Items:			(In percent of total)		
Manufacturing	-51.9	26.4	27.4	17.5	-4.3
Transports and communication	-477.3	-3.0	7.2	12.7	41.7
Financial intermediation	388.6	69.9	-5.5	54.1	28.5

Source: Bank of Estonia.

1/ ... denotes that data are not published due to confidentiality provisions (when there are less than 3 projects during the reporting period).

Table 31. Estonia: Gross External Debt, 1998-2002 1/

	1998	1999	2000	2001	2002
	(In millions of euro)				
Gross external debt	2,506	2,864	3,233	3,707	4,490
Public	201	238	211	192	233
general government	200	237	208	191	216
monetary authorities	1	1	3	1	16
Private	2,306	2,626	3,021	3,515	4,258
trade credits	277	316	394	392	432
bank liabilities	832	971	1,174	1,277	1,658
other private sector liabilities	1,197	1,339	1,453	1,846	2,167
Short term	706	870	1,112	1,201	1,395
Public	0	0	3	1	16
Of which: general government	0	0	0	0	0
Private	706	869	1,109	1,200	1,379
Of which: banks	294	415	592	637	820
Long term	1,800	1,994	2,120	2,507	3,095
Public	201	238	208	191	216
Of which: general government	200	237	208	191	216
Private	1,600	1,756	1,912	2,316	2,879
Of which: banks	537	556	581	640	838
	(In percent of GDP)				
Gross external debt	53.3	58.7	57.9	59.3	65.0
Public	4.3	4.9	3.8	3.1	3.4
general government	4.3	4.9	3.7	3.0	3.1
monetary authorities	0.0	0.0	0.1	0.0	0.2
Private	49.1	53.8	54.1	56.2	61.7
trade credits	5.9	6.5	7.1	6.3	6.3
bank liabilities	17.7	19.9	21.0	20.4	24.0
other private sector liabilities	25.5	27.4	26.0	29.5	31.4
Short term	15.0	17.8	19.9	19.2	20.2
Public	0.0	0.0	0.1	0.0	0.2
Of which: general government	0.0	0.0	0.0	0.0	0.0
Private	15.0	17.8	19.9	19.2	20.0
Of which: banks	6.3	8.5	10.6	10.2	11.9
Long term	38.3	40.9	38.0	40.1	44.8
Public	4.3	4.9	3.7	3.0	3.1
Of which: general government	4.3	4.9	3.7	3.0	3.1
Private	34.0	36.0	34.2	37.0	41.7
Of which: banks	11.4	11.4	10.4	10.2	12.1

Source: Bank of Estonia.

1/ External debt figures were substantially revised in 2000.

Table 32. Estonia: Foreign Assets, 1998-2002

	1998	1999	2000	2001	2002
	(In millions of euro)				
Foreign assets	1,943	2,363	2,733	3,252	3,672
Public	779	977	1,102	1,164	1,367
general government	84	129	111	229	411
monetary authorities	695	848	991	935	956
Private	1,164	1,386	1,631	2,087	2,305
trade credits	245	236	247	319	268
bank claims	420	579	622	836	901
other private sector claims	500	571	763	933	1,136
	0	0	0	0	0
Short term	1,630	1,990	1,764	1,929	2,106
Public	779	977	677	571	814
Of which: general government	84	129	85	44	124
Private	851	1,014	1,087	1,358	1,292
Of which: banks	351	529	542	748	819
Long term	313	373	969	1,323	1,566
Public	0	0	425	593	553
Of which: general government	0	0	27	185	287
Private	313	373	545	730	1,013
Of which: banks	69	51	80	87	82
	(In percent of GDP)				
Foreign assets	41.3	48.4	48.9	52.0	53.2
Public	16.6	20.0	19.7	18.6	19.8
general government	1.8	2.6	2.0	3.7	6.0
monetary authorities	14.8	17.4	17.7	14.9	13.8
Private	24.8	28.4	29.2	33.4	33.4
trade credits	5.2	4.8	4.4	5.1	3.9
bank claims	8.9	11.9	11.1	13.4	13.1
other private sector claims	10.6	11.7	13.7	14.9	16.4
Short term	34.7	40.8	31.6	30.8	30.5
Public	16.6	20.0	12.1	9.1	11.8
Of which: general government	1.8	2.6	1.5	0.7	1.8
Private	18.1	20.8	19.5	21.7	18.7
Of which: banks	7.5	10.8	9.7	12.0	11.9
Long term	6.7	7.6	17.4	21.1	22.7
Public	0.0	0.0	7.6	9.5	8.0
Of which: general government	0.0	0.0	0.5	3.0	4.2
Private	6.7	7.6	9.8	11.7	14.7
Of which: banks	1.5	1.0	1.4	1.4	1.2

Source: Bank of Estonia.

Table 33. Estonia: Net External Debt, 1998-2002

	1998	1999	2000	2001	2002
	(In millions of euro)				
Gross external debt	2,506	2,864	3,233	3,707	4,490
Foreign Assets	1,943	2,363	2,733	3,252	3,672
Net external debt	563	500	499	456	818
Public sector	-578	-739	-891	-972	-1,134
general government	116	108	96	-38	-195
monetary authorities	-694	-847	-987	-934	-940
Private sector	1,142	1,240	1,390	1,428	1,952
Trade credits	32	80	148	73	164
bank liabilities	412	391	552	441	757
other private sector liabilities	697	768	690	914	1,032
Short term	-924	-1,121	-652	-728	-711
Public	-779	-977	-674	-570	-797
Of which: general government	-84	-129	-85	-44	-124
Private	-145	-144	22	-158	87
Of which: banks	-56	-114	50	-112	1
Long term	1,487	1,621	1,151	1,184	1,529
Public	201	238	-217	-402	-337
Of which: general government	200	237	181	6	-71
Private	1,287	1,384	1,368	1,586	1,866
Of which: banks	468	505	502	553	755
	(In percent of GDP)				
Gross external debt	53.3	58.7	57.9	59.3	65.0
Foreign Assets	41.3	48.4	48.9	52.0	53.2
Net external debt	12.0	10.3	8.9	7.3	11.9
Public sector	-12.3	-15.2	-16.0	-15.5	-16.4
general government	2.5	2.2	1.7	-0.6	-2.8
monetary authorities	-14.8	-17.4	-17.7	-14.9	-13.6
Private sector	24.3	25.4	24.9	22.8	28.3
Trade credits	0.7	1.6	2.6	1.2	2.4
bank liabilities	8.8	8.0	9.9	7.1	11.0
other private sector liabilities	14.8	15.7	12.4	14.6	14.9
Of which: debt liabilities under FDI					
Short term	-19.7	-23.0	-11.7	-11.6	-10.3
Public	-16.6	-20.0	-12.1	-9.1	-11.5
Of which: general government	-1.8	-2.6	-1.5	-0.7	-1.8
Private	-3.1	-3.0	0.4	-2.5	1.3
Of which: banks	-1.2	-2.3	0.9	-1.8	0.0
Long term	31.6	33.2	20.6	18.9	22.1
Public	4.3	4.9	-3.9	-6.4	-4.9
Of which: general government	4.3	4.9	3.2	0.1	-1.0
Private	27.4	28.4	24.5	25.4	27.0
Of which: banks	10.0	10.4	9.0	8.8	10.9

Source: National authorities and staff calculations based on Table 31 and 32.