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**On the Fast Track to EU Accession:
Macroeconomic Effects and Policy Challenges for Estonia**

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Abstract

This paper assesses the macroeconomic impact and policy challenges related to Estonia's prospective accession to the EU and its potential adoption of the euro. Our analysis of the trade, financial, and fiscal channels includes a model-based illustrative scenario using MULTIMOD. We conclude that the welfare enhancing effects for Estonia of further EU integration are likely to outweigh the drawbacks of more pronounced macroeconomic imbalances that could accompany this process. To smooth Estonia's accession-related adjustment, its fiscal and structural policies should be geared toward mitigating domestic demand pressures, promoting saving, and ensuring efficient public investment.

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I. Introduction

Estonia attaches high priority to rapid accession to the European Union (EU) and participation in Economic and Monetary Union (EMU). It has moved ahead quickly and vigorously in deregulation, price liberalization, and enterprise restructuring, and privatization with the objective of establishing a market-oriented economy. In recognition of its efforts to integrate into the world economy and Western Europe, Estonia was invited to start membership negotiations with the European Union as part of a first group of accession candidates.¹ The challenges arising from the transition process are thus being supplemented by the challenges of meeting the remaining requirements for EU membership. Estonia has already aligned large parts of its legal framework with those of EU member states and has addressed many structural adjustments necessary for EU accession. As regards economic convergence, adhering to the EU's common market for goods, services, capital and labor will lead to even stronger linkages. These will be deepened even further following eventual participation in EMU and the adoption of the euro as the national currency.

Closer and more formal economic integration with the EU will entail both benefits and costs for Estonia. On the one hand, for all accession candidates, there is an expectation that the longer term economic gains from joining the EU's common market will outweigh the related adjustment costs incurred in the transitory period. This view is supported by evidence from countries that joined the EU before the 1990s, with the favorable growth performance of Portugal, Spain, and, especially, Ireland, clearly dominating the less favorable experience of Greece. While these country experiences point to the significance of the domestic policies pursued in earlier years, the integration process had a bearing on their choice of policies. The assumption of a favorable impact of accession is also underpinned by model simulations which suggest a positive real income effect for EU membership candidates from Central and Eastern Europe.²

On the other hand, apart from the costs related to a reallocation of means of production, further integration will restrict the scope for autonomous policy choices given the need for "policy convergence" and the discipline imposed by the Copenhagen criteria (see below), the Maastricht criteria, and the Stability and Growth Pact. Estonia has already lived within such constraints since the currency board, at best, leaves very limited room for an independent monetary policy. Moreover, there are likely to be sizable additional budgetary outlays as well as resource implications from other "adjustment challenges" (EBRD, 1998) which will arise from the need to comply with numerous EU regulations and standards and the requirement for large public sector investments in infrastructure, the environment, and other sectors. In the case of Estonia, which currently has no import tariffs or other trade restrictions, EU

¹ This group of countries includes Cyprus, the Czech Republic, Estonia, Hungary, Poland, and Slovenia. The following Central and Eastern European countries (CEECs) are also membership candidates: Bulgaria, Latvia, Lithuania, Romania, and Slovakia.

² See, for example, Baldwin et al. (1997), IMF (1994), IMF (1997), and Feldman et al. (1998).

accession will also lead to the introduction of tariffs and trade barriers that could divert trade, reduce efficiency, and cause welfare losses.

This paper is organized as follows: Section II gives an overview of Estonia's current relations with the EU. Sections III and IV address the possible benefits, costs, and policy challenges related to EU accession focusing on trade, capital flows, and fiscal policies. Section V broadens the discussion to include the requirements and implications of an eventual adoption of the euro. Section VI looks at the potential trade-off between higher growth and containing external sector imbalances which could emerge with further economic integration.³ This assessment includes a model-based illustrative scenario of the macroeconomic impact related to accession. In conclusion, the paper identifies some areas in which policy adjustments appear warranted.

A few caveats are in order pertaining to the substantive scope and analytical instruments used. First, while projecting future policies and developments is generally difficult and necessarily judgmental, the analysis undertaken is complicated by the fact that many domestic policies are yet to take shape as accession negotiations are still at an early stage. In addition, the policy framework of the EU as well as EMU are both "moving targets", i.e., they are likely to undergo important changes in the coming years.⁴ A prominent example in this context is the Common Agricultural Policy (CAP) which may be further reformed before Estonia joins the EU. Second, the net effects of EU accession and EMU participation cannot be well isolated and quantified. Determining the specific impact of the membership scenario as compared to a plausible alternative, or counterfactual, is elusive.⁵ Third, the analysis is made even more complicated by the fact that Estonia's economic integration with the EU, and other European countries, is already well advanced and set to intensify during the pre-accession period. EU accession and participation in EMU can usefully be interpreted as further stages of an ongoing process.

³ The general question of current account and external sustainability in transition economies is, however, not addressed. See for example Roubini and Wachtel (1998).

⁴ As Havrylyshyn (1998) points out, it is also important to acknowledge that EU enlargement and EMU are not the only mechanisms of further economic integration in Europe. These include, for example, the various forms of cooperation among the states surrounding the Baltic Sea.

⁵ Without the option of EU accession, Estonia may have joined not only EFTA but also the European Economic Area, where much of the regulatory requirements are modelled on those of the EU (notably EU policies on mergers, state aid, consumer protection, labor markets, and the environment). In such a scenario, it would have had to carry out many of the policy reforms that are now implemented in the context of EU accession. In addition, some EU requirements also coincide with Estonia's other international commitments. Most notably, the impact of EU accession will occur alongside the general process of growing international interdependence in which access to world financial markets plays an increasing role. An important challenge for the EU accession candidates in this context will be the evolving international role of the euro, which replaced 11 European currencies at the beginning of 1999. See Feldman et al. (1998).

Table 1. Estonia: Selected Macroeconomic Indicators, 1993-98

	1993	1994	1995	1996	1997	1998
Real GDP growth (in percent)	-8.2	-2.0	4.3	4.0	10.6	4.0
CPI (change in percent, period average)	89.0	47.7	28.9	23.1	11.2	8.2
Fiscal balance (in percent of GDP)	-0.6	1.3	-1.2	-1.5	2.0	-0.3
Current account balance (in percent of GDP)	1.4	-7.5	-5.2	-9.6	-12.9	-9.2
Gross official reserves (in millions of U.S. dollars)	388	447	583	640	760	813
Broad money (change in percent)	57.8	30.4	29.9	36.8	38.0	7.0
<i>Memorandum items:</i>						
GDP (in millions of U.S. dollars)	1,634	2,284	3,550	4,356	4,634	5,201
Exchange rate, kroon per U.S. dollar (period ave.)	13.2	13.0	11.5	12.0	13.9	14.1

Sources: Bank of Estonia; Fund staff estimates

II. Relations with the European Union

Estonia applied for EU membership in 1995 and two years later was included by the European Council in the first group of countries invited to start membership negotiations together with Cyprus, the Czech Republic, Hungary, Poland, and Slovenia. This represented a recognition of Estonia's efforts toward integrating into the world economy and strengthening its economic and political ties with Western Europe. It was also in large part the result of Estonia's rapid transition to a market economy based on strong macroeconomic and structural policies that had led to major progress in disinflation, external stability, and sustainable growth (Table1).

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

Box 1: The Process of EU Enlargement

As part of its pre-accession strategy, the EU has concluded Association Agreements with Central and Eastern European countries (CEECs) aimed at supporting the preparations by these accession candidates to fully adopt the *acquis communautaire*. These so-called “Europe Agreements” define the lines of cooperation in a wide range of policy areas, triggering far-reaching adjustments in the legal and regulatory frameworks, particularly in trade-related areas such as competition, state subsidies, customs, product standards, and intellectual property rights.¹ Underlying these agreements is the understanding reached at the European Council in Copenhagen in 1993 that all associated CEECs should be admitted to join the EU, provided they fulfil all the necessary conditions, including their ability to adhere to the aims of economic and monetary union. A number of criteria were defined which serve as a benchmark for assessing the progress on the way to economic and political compatibility with the EU. These *Copenhagen criteria* refer to (i) the existence of stable institutions guaranteeing democracy, the rule of law, human rights, and respect for the protection of minorities; (ii) the existence of a functioning market economy and the capacity to cope with competitive pressures and market forces within the EU; and (iii) the ability to take on the obligations of membership, including adherence to the aims of political, economic, and monetary union (Temprano-Arroyo and Feldman, 1998).

The EU has further intensified its dialogue with prospective new members through “Accession Partnerships” as set out in the European Commission’s Agenda 2000. In this context, the Commission reports regularly on the progress made by the accession candidates with regard to the Copenhagen criteria. Based on such favorable assessments of the Commission on membership, the European Council decided in December 1997 to start accession negotiations with Cyprus, the Czech Republic, Estonia, Hungary, Poland, and Slovenia, that were formally launched in March 1998. In this process several of the 31 chapters subject to negotiation have already been closed (i.e., negotiations have been concluded) but may be reopened at a later stage in light of further developments of the *acquis* and the final negotiation offers. In parallel with these accession negotiations, a thorough screening of national legislation aimed at identifying remaining discrepancies relative to the EU’s *acquis* is in progress with all accession candidates. Given the challenges that eastward enlargement presents for the EU’s internal decision making procedures and financing structures, there will be limited scope for the applicants to influence the pace of the negotiations. EU enlargement beyond its present size of 15 members is bound to be a lengthy process and it is currently expected that Estonia and the other CEE candidates will not become EU members before the year 2003.

¹ For details on the general nature and contents of these agreements see Temprano-Arroyo and Feldman (1998) or Pautola (1996). To provide guidance regarding the most important items of the EU internal market legislation, the European Commission issued a “White Paper” in May 1995. Support in strengthening administrative capacities to implement the *acquis* is given through the process of “twinning” under the PHARE program, which makes technical and administrative expertise of EU member countries available to accession candidates.

Estonia has achieved a significant degree of compatibility with the regulatory and economic environment prevalent in the EU, much enhanced by the government's commitment to free trade and unrestricted capital flows.⁶ In its first annual report on Estonia's progress in meeting the Copenhagen criteria (Box 1), issued in November 1998, the European Commission gave a broadly favorable assessment, but also highlighted a number of shortcomings as regards administrative capacity. On the economic criteria, the report concluded that "...Estonia can be regarded as a functioning market economy, and should be able to cope with competitive pressure and market forces within the Union in the medium term, provided that prudent macroeconomic management continues to limit the risks associated with its large external imbalances" (European Commission, 1998a). Estonia's domestic agenda for meeting the requirement for EU membership is contained in its "National Programme for the Adoption of the Acquis" which is updated on a yearly basis.

III. Trade and Financial Flows

A. Openness and Redirection of Trade

Estonia is a small and very open economy. It has no external tariffs and only very limited restrictions on international capital mobility in the form of rules on FDI in some sectors (e.g., aviation, maritime sector, land sales). Free trade agreements are in force with all main trading partners except Russia.⁷ Underpinned by a currency board arrangement, the Estonian kroon is fully convertible and its exchange rate to the deutsche mark has remained unchanged at 8:1 since 1992.⁸ This transparent and liberal external policy framework has helped boost Estonia's trade with Western countries and has played an important role in attracting foreign investors since independence in 1991.

⁶ In amending the Association Agreements with the CEECs in 1997, the EU extended the right for the cumulation of local value added to a significantly larger group of countries, including Estonia. Since then "originating products" can be moved around more widely while still qualifying for preferential tariff treatment. This *pan-European cumulation of origin* removed potential obstacles for cost-efficient specialization in production and intra-industry trade within the EU periphery and notably improved Estonia's trade and investment environment. After Turkey was included at the beginning of 1999, these cumulation provisions now apply to 32 countries, namely the members of the EU, EEA and EFTA, the 10 associated CEECs, as well as Andorra, San Marino, and Turkey. See Temprano-Arroyo and Feldman (1998).

⁷ Estonia has signed bilateral Free Trade Agreements with Hungary, Poland, the Czech Republic, Ukraine, the Slovak Republic, Slovenia and Turkey. It is a member of EFTA and has ratified the Baltic Free Trade Agreement with Latvia and Lithuania. Estonia gained WTO membership status in late 1999. For a detailed analysis of Regional Trade Arrangements with Estonian participation see Sorsa (1997).

⁸ Estonia accepted the obligations of Article VIII of the IMF's Articles of Agreement in August 1994. Its currency board arrangement has been analyzed by Bennett (1992, 1994), Pautola and Backé (1998), Sepp (1995), and Baliño et al. (1997).

Estonia has successfully integrated into the global trading system. Its external openness has grown over time, as evidenced by a ratio of goods and services exports and imports to GDP of 170 percent. This is, by far, the highest degree of openness among all transition countries (Table 2). Havrylyshyn and Al-Atrash (1998) have shown that Estonia and other Central and Eastern European countries (CEECs) have by now become economies that are as open as market economies of similar size and per capita income. Since 1991, the direction of trade has shifted progressively and markedly toward the West and away from Russia and other CIS countries (Tables 3-5). Specifically, trade with Finland and Sweden across the Baltic Sea has risen strongly in recent years. The share of trade with Russia had already declined substantially through mid-1998, and triggered by the August 1998 events it fell even more in the second half of 1998. By contrast, the share of exports to EU countries rose from 48 percent in 1993 to about 62 percent in 1998.

Table 2. Trade Indicators for Central and Eastern European Countries, 1998

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

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

1/ Trade (exports plus imports) in goods and non-factor services as a share of GDP.

2/ Trade (exports plus imports) in goods with the EU as a share of total trade in goods.

Estonia has developed into a favorable location for Scandinavian and other Western high-technology firms seeking to outsource assembly work. Partly because of this, Estonia's trade structure, and its export profile in particular, has converged with that of current EU members as the share of manufactured exports, mainly electronics, in the commodity composition of trade has increased substantially. These "new exports" are characterized by a high value added and substantial potential for exports to the rest of the world. By contrast, the share of traditional, mostly agriculture-based exports to Russia and the CIS has declined (Table 4). As

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

Table 3. Reorientation of Central and Eastern European Countries' Trade in Goods
With the European Union, 1993-98 1/
(In percent of each country's total exports/imports)

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

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

1/ Based on EU-15.

Table 4. Estonia: Composition of Exports by Countries and Commodities, 1994-98

(i) By Countries

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

(ii) By Commodities

	1994	1995	1996	1997 1/		1998	
				1st half	2nd half	1st half	2nd half
	(In percent of total exports)						
Foodstuffs	22.2	16.4	15.8	15.1	17.1	15.6	10.8
Mineral Products	8.2	8.1	7.2	5.2	3.8	2.9	2.4
Products of Chemical Industry	8.6	10.3	11.0	8.8	8.1	8.1	6.6
Textiles and Textile Articles	16.4	16.1	17.1	17.4	15.3	15.7	16.4
Wood, Paper and Articles thereof	11.0	13.5	13.4	17.0	16.1	17.8	16.5
Metals and Articles thereof	8.0	6.8	6.4	6.5	7.1	7.1	9.0
Machinery, Mech.Appl, Electronics	9.3	13.0	13.4	15.8	19.9	19.4	25.0
Vehicles, Aircrafts, Vessels	7.6	6.9	6.4	3.8	3.4	3.5	3.1
Furniture, Sportswear	5.4	5.7	6.0	6.3	5.5	6.1	6.6
Other Manufactured Articles	3.3	3.1	3.4	3.9	3.6	3.9	3.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>Of which:</i>							
Consumption Goods 2/	51.9	45.5	46.1	45.0	43.6	43.4	39.3
Investment Goods	48.1	54.5	53.9	55.0	56.4	56.6	60.7

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

1/ From 1997 adjusted for transit trade.

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

Table 5. Estonia: Composition of Imports by Countries and Commodities, 1994-98

(i) By Countries

	1994	1995	1996	1997 1/		1998		
				1st half	2nd half	1st half	2nd half	
	(In percent of total imports)							
<i>European Union</i>	63.5	66.0	66.4	74.3	76.1	74.7	76.6	
Denmark	2.9	2.9	2.9	3.1	3.2	3.3	2.8	
Finland	37.1	38.6	36.3	37.8	36.4	34.0	37.3	
Germany	8.8	8.4	8.9	9.9	10.8	10.0	9.5	
Netherlands	3.5	3.5	3.7	4.0	3.7	3.6	3.2	
Sweden	9.5	9.0	8.4	9.6	11.3	9.5	9.7	
United Kingdom	1.7	1.9	2.7	2.6	2.4	2.1	2.3	
<i>Baltics</i>	4.9	4.9	5.6	5.5	5.6	5.7	5.8	
Latvia	2.0	2.9	3.3	3.4	3.7	3.9	4.0	
Lithuania	2.9	2.0	2.3	2.1	1.9	1.8	1.9	
<i>CIS</i>	20.4	19.0	16.7	11.3	9.7	10.3	8.5	
Russia	16.2	15.5	13.0	9.4	7.7	7.1	5.8	
Ukraine	1.6	1.0	1.6	0.9	1.1	1.0	0.4	
<i>Other Countries</i>	11.2	10.1	11.4	8.9	8.5	9.3	9.1	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

(ii) By Commodities

	1994	1995	1996	1997 1/		1998		
				1st half	2nd half	1st half	2nd half	
	(In percent of total imports)							
Foodstuffs	16.0	14.2	15.6	13.3	12.2	11.7	11.0	
Mineral Products	14.1	11.5	9.8	8.0	7.9	5.9	5.7	
Products of Chemical Industry	11.5	12.6	13.7	12.5	12.0	11.9	11.2	
Textiles and Textile Articles	12.8	12.5	11.6	12.1	10.1	11.0	10.9	
Wood, Paper and Articles thereof	4.0	4.9	4.7	4.8	4.6	5.1	4.8	
Metals and Articles thereof	5.9	7.1	7.8	8.0	8.8	9.6	8.9	
Machinery, Mech.Appl, Electronics	19.7	21.6	21.9	23.9	26.4	26.7	32.3	
Vehicles, Aircrafts, Vessels	8.6	7.9	7.5	9.9	11.1	11.3	7.9	
Furniture, Sportswear	2.8	2.9	2.7	2.6	2.6	2.5	2.8	
Other Manufactured Articles	4.6	4.9	4.7	5.0	4.2	4.3	4.6	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
<i>of which:</i>								
Consumption Goods 2/	41.3	39.2	39.1	38.9	35.9	36.3	33.9	
Investment/Production Goods	58.7	60.8	60.9	61.1	64.1	63.7	66.1	

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

1/ From 1997 adjusted for transit trade.

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

Estonia has experienced major foreign capital inflows which were sufficient to cover its large savings-investment imbalance. The current account deficit amounted to 13 percent of GDP in 1997 and more than 9 percent of GDP in 1998 (Figure 1). The composition of capital inflows has recently improved markedly in favor of non-debt creating flows and longer maturities.⁹ Foreign direct investment (FDI) increased sharply in 1998 as the two largest commercial banks benefited from large capital injections from Scandinavian investors. In early 1999, the (partial) privatization of the major telecommunications parastatal (Eesti Telekom) provided a further large inflow of capital. Whereas during 1989-98, the Czech Republic, Hungary, and Poland received most FDI in absolute terms, Estonia was the second largest recipient of FDI on a per capita basis. Most of Estonia's FDI inflows originated from the EU (Tables 6-7).

Table 6. Foreign Direct Investment (FDI) Indicators for
Central and Eastern European Countries, 1989-98

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

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

⁹ For detailed discussions of debt levels and profiles in the Baltics, Russia and other states of the former Soviet Union see Odling-Smee and Zavoico (1998) and Kapur and van der Mensbrugge (1997).

Table 7. Estonia: Shares of Net Foreign Direct Investment (FDI) Inflows
by Countries of Origin and Fields of Activity, 1994-98

(i) By Countries of Origin

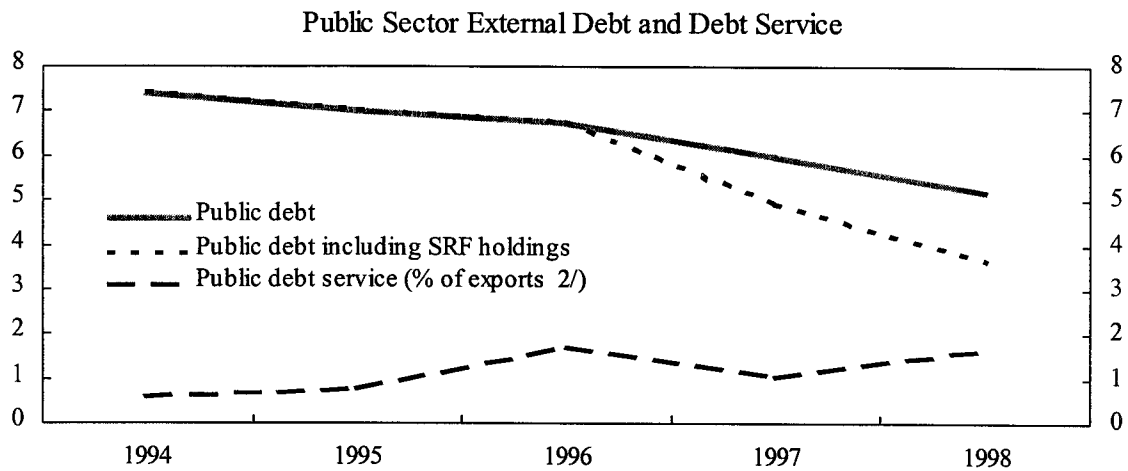
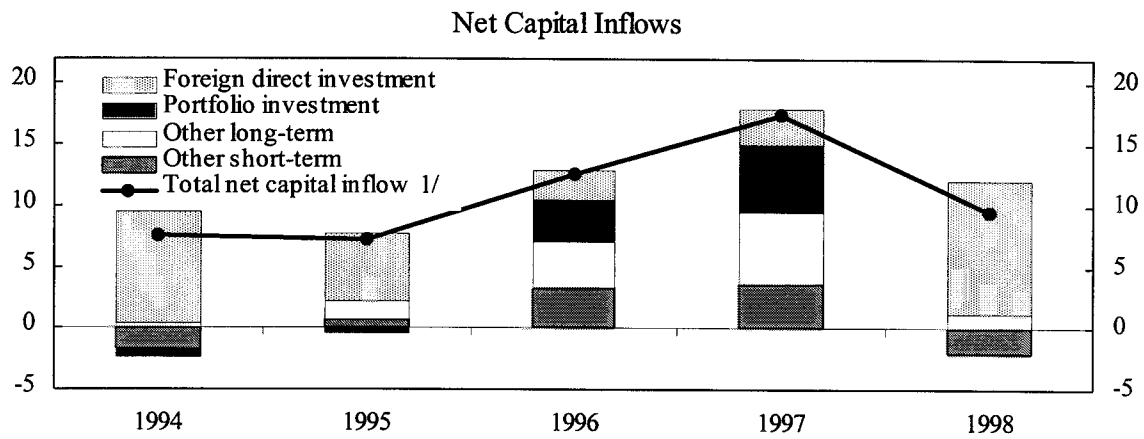
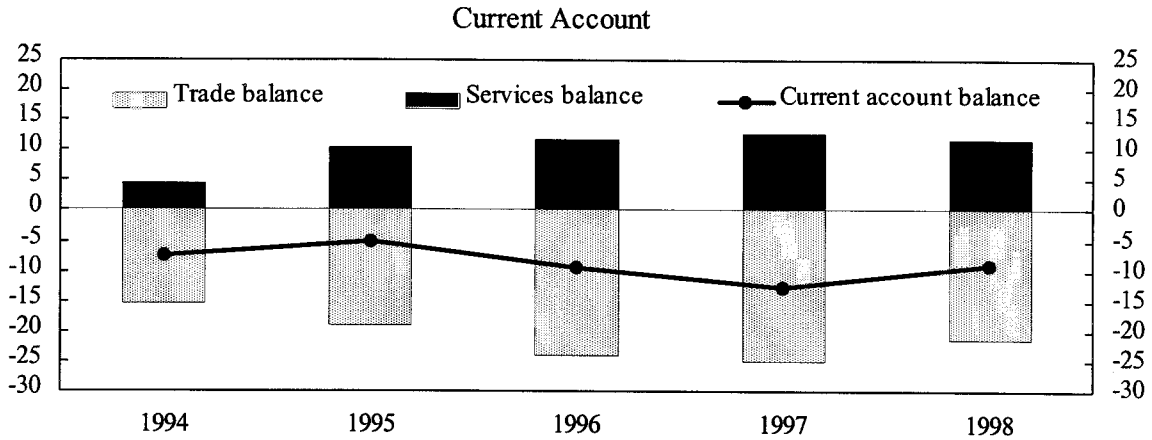
	1994	1995	1996	1997		1998	
				1st half	2nd half	1st half	2nd half
	(In percent of total net inflows)						
<i>European Union</i>	59.9	74.7	53.1	55.0	32.0	79.6	98.1
Finland	22.3	8.3	27.8	27.5	15.1	35.3	14.2
Sweden	18.7	48.8	7.8	4.7	8.0	15.3	77.0
USA	5.2	8.6	19.9	3.9	1.4	5.4	1.4
Russia and Ukraine	15.4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

(ii) By Fields of Activity

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

Source: Bank of Estonia.

Figure 1. Estonia: External Sector, 1994-98
(In percent of GDP unless otherwise specified)



Sources: Bank of Estonia; Fund staff estimates.

1/ Includes government transfers to the Stabilization Reserve Fund (SRF) abroad.

2/ Exports of goods and non-factor services.

On this evidence, Estonia has been making good use of its international comparative advantages which should enable it to reap considerable gains from free trade and access to international capital. Due to its extraordinary openness and a legal framework largely aligned to the *acquis*, the Estonian economy is thus already incurring many of the integration-related benefits and is coping with the adjustment needs brought about by the EU accession process. While increasing its exposure to external shocks, the liberal framework for trade and capital movements also enhances the economy's adaptability to changes in the external environment. Formal accession may, however, lead to some welfare losses as Estonia has to introduce tariffs and other restrictive provisions of the EU's common market (e.g., CAP).

The patterns of trade and capital flows outlined above point to the types of additional economic effects to be expected from EU accession. Both trade and financial linkages are important determinants of this impact.¹⁰ Broadly speaking, trade-induced welfare effects are bound to be determined by the previous level of protection and the new common tariff regime to be adopted. The welfare impact of free capital mobility hinges on the macroeconomic policies followed and on the regulatory environment, level of development and soundness of the domestic financial system.

B. The Trade Channel

The evolution of trade during the transition process as well as theoretical considerations presage that Estonia's trade-orientation toward Western markets is likely to intensify further with closer integration. Trade theory suggests that international economic integration improves the allocation of available resources (static effect) and leads to gains from increased competition on goods and factor markets (dynamic effect). This process involves a possibly disruptive shift of these resources to more productive uses and the adjustment of the economic structure to the more competitive environment. By strengthening its economic ties across borders, a country can take better advantage of a larger market with its partner countries, although it could also be more strongly affected by cyclical downturns in those countries. While the advantages from participating in a free trade area or customs union mainly accrue from a more efficient use of domestic resources through trade specialization, joining a common market also entails the elimination of obstacles to capital and labor mobility.¹¹

As regards individual countries, it is ultimately an empirical question whether the benefits of trade creation will exceed the costs of trade diversion. In this context, it has been argued that the current system of bilateral EU association agreements may in fact exacerbate trade

¹⁰ For a more detailed theoretical discussion of these linkages and relevant empirical evidence see Russo (1998), Feldman et al. (1998), and Köhler and Wes (1999).

¹¹ If the equalization of factor prices between two countries were to fully happen through trade, a further strengthening of the economic linkages via joining a common market would not enhance allocative efficiency. However, given economies of scale as well as differences in technology, economic structures, and innovative capacity, increased factor mobility is still likely to lead to allocative welfare gains. See Robson (1987).

diversion and effectively reduce trade as well as investment activity among the associated CEECs (Baldwin, 1994). Through the so-called "hub-and-spoke effect" the EU membership candidates ("spokes") may be marginalized to the benefit of the EU ("hub"). However, these considerations become less of a concern as the level of integration among the accession candidates is raised (e.g., through regional free trade initiatives such as the Baltic Free Trade Agreement). In addition, the extent of possible discrimination will depend on the existing regime for rules of origin and the regulations on market access for services.

Rather than dismantling barriers to trade at the border, Estonia will have to introduce certain restrictions on imports, particularly tariffs on agricultural products, which in principle could have an adverse impact on trade. Such welfare losses are largely determined by the *previous level of trade protection toward non-EU members*. It is indeed the case that EU accession will result in higher quantitative and non-quantitative trade barriers *vis-à-vis* non-EU members.¹² However, all of Estonia's main trading partners are also part of the EU's extensive network of Free Trade Agreements and Partnership and Cooperation Agreements with ten CIS countries (including Russia and the Ukraine). With the general level of trade protection thus being low, the potential for trade diversion appears to be limited. Exports from only a few countries are expected to be affected by the introduction of tariffs.¹³ The already large share of EU imports in overall imports also points to minor welfare losses from adopting external tariffs.

By contrast, trade links with the EU are bound to deepen further, given the close economic ties and the alignment of the legal and regulatory frameworks with EU norms. Also, trade with the EU can be expected to increase further to the extent that more FDI will flow into export production. Studies based on gravity models have shown that, in general, there is a potential for further expansion of CEEC exports to the EU, with an expected share of CEEC exports to the EU of 70 percent or more.¹⁴ Given that Estonia's share of exports to the current 15 EU members reached 62 percent on 1998 (65 percent in the second half, see Table 4), there appears to be some room for further expansion.

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

¹² For example, it has been shown that trade barriers versus non-EU members increased following the creation of the European single market in January 1993. See Taube (1992).

¹³ The main countries affected are Australia, Canada, Japan, New Zealand, Taiwan Province of China, and the United States to which the EU accords only most-favored-nation (MFN) treatment. The impact is limited for Russia and the Ukraine which have preferential access to the EU market on the basis of their Partnership and Cooperation Agreements.

¹⁴ For a summary of these studies see Feldman et al. (1998).

common market. Upon accession, the impact will be smaller if Estonia prepares itself well with regard to meeting the requirements of the single market during the pre-accession period.

As regards the EU's CAP, Estonia has started preparing the institutional and policy framework needed for its introduction.¹⁵ This will subsequently lead to protection from non-EU agricultural imports and, in general, shield the agricultural industry from such competition, which will tend to reduce efficiency. At the same time, Estonia's agricultural producers will not be discriminated against in other EU countries. These changes foster exports of agricultural exports to the EU and other CEECs. As regards services, better opportunities for the services sector due to gaining market access to the EU, especially in the transport sector, will partly compensate for the negative impact from the application of external EU tariffs at the Eastern Estonian border. There is also a good chance for travel services receipts to increase further as visa-free travel to and from most EU countries has already become possible.

Last but not least, EU accession is likely to further enhance domestic competition and spur structural change. This points to the importance of the *intensity of competition from abroad* in determining the effects from trade in goods and services over time. Although Estonia's liberal trade regime already facilitates market entry by foreign firms, there appears to be further scope for additional dynamic integration gains from increased competition due to EU accession. It is this *dynamic impact* of joining the EU's common market in the form of spurring competitive pressures and fostering restructuring as well as innovation that is likely to be the predominant integration effect in the medium term. It promises to lead to a sustained increase in output capacity as well as a rise in total factor productivity.¹⁶

C. The Financial Channel

As with trade, the additional impact of accepting those elements of the EU's common market relating to capital transactions, particularly the provision of cross-border financial services, cannot be easily isolated. The additional welfare impact from capital mobility is strongly influenced by the regulatory environment, the macroeconomic policy stance, and the soundness and level of financial deepening of the domestic financial system. Due to its open capital account and full currency convertibility, Estonia already has relatively easy access to international capital markets.¹⁷ This has increased competitive pressure in the domestic financial sector and raised the efficiency of financial intermediation.

Insofar as EU accession strengthens the case for sustained capital inflows and facilitates real sector adjustment there are likely to be gains from membership. Its liberal policy regime has

¹⁵ On the possible fiscal implications of the CAP see further below.

¹⁶ See for example the analysis of welfare effects of the European Communities' Common Market Program by Emerson et al. (1988).

¹⁷ The major rating agencies have recently confirmed Estonia's investment grade rating on foreign currency denominated long-term debt (Moody's: Baa1, Standard and Poor's: BBB+, FitchIBCA: BBB; situation end-September 1999).

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

FDI and portfolio inflows to Estonia are likely to remain high over the short to medium term. In the past few years, these inflows have provided a major stimulus to economic growth through the provision of new equipment, up-to-date technology, and modern management practices. At the same time, they have more than offset the large current account deficits, resulting in substantial increases in foreign exchange reserves. Although external deficits and large capital inflows have also made Estonia potentially vulnerable to a reversal of capital flows, which could trigger painful real economic adjustments, this risk appears modest as long as the macroeconomic policy framework continues to remain stability-oriented, underpinned by strong economic linkages and institutional ties with its Western neighbors. The odds are favorable that Estonia will continue to attract foreign investors, including from non-EU countries, given its improved access to an enlarged EU market and its proximity to Russia and other CIS countries. Macroeconomic stability, progress in structural reforms to increase productivity, and maintaining a qualified labor force will, however, also be essential in preserving this attractiveness.

Accession is bound to enhance *domestic financial sector deepening*. Additional welfare effects will arise from stronger competition in the domestic financial sector fostered by free market access for providers of financial services. Adherence to EU regulations on capital movements and financial services and minimum standards for bank regulation and supervision can also be expected to contribute to improved financial sector intermediation.¹⁸ This environment is bound to spur securities trading, increase portfolio flows, and render the stock market more liquid. Foreign bank borrowing and equity financing abroad should become easier not just for large, but also for medium-sized Estonian enterprises, while firms should also be able to benefit from intensified cooperation among the Baltic stock exchanges, which is already underway. Fiercer competition on both domestic and EU-wide financial markets should not only strengthen financial systems, but also result in better access and lower interest rates.

A direct effect from EU accession on economic activity in Estonia will result from the *amount of transfer payments* to and from the EU, with grant and loan financing as inflows and EU contributions as outflows. According to the EU budget provisions of Agenda 2000

¹⁸ The EU financial sector directives include a large body of regulations on banking, capital markets and insurance. For a description of the EU framework in this area and the degree of compliance by Estonia see Cavalcanti and Oks (1998).

which were adopted by the European Council in March 1999, there will be pre-accession financing available for all membership candidates, namely for infrastructure and environmental projects, for agriculture, and for technical assistance and training (through PHARE). Financial support from these instruments will be available from 2000 to 2006 or until a country becomes a EU member.¹⁹ The EU has also agreed to an indicative medium-term financial framework for an enlarged EU comprising 21 countries which, from 2002, sets aside substantial financial support exclusively for new members (Table 8). It remains to be seen how these pre-accession and membership funds will be allocated within this group and, what the financing obligations of these countries with regard to the EU budget will be. According to staff estimates, net transfer receipts for Estonia could amount to about 2 percent of GDP per year over the medium-term (implying a net transfers of approximately US\$ 160 million for 2003, the earliest possible year of membership). In subsequent years, this sum would rise by about US\$ 10 million per year in line GDP growth.²⁰

Table 8. EU Financial Support for Accession Candidates, 2000-06

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

Source: European Council Berlin 1999.

EU membership is also likely to influence creditors' perception of sovereign and currency risk, thereby *reducing the risk premium on domestic interest rates*. Financing would become cheaper and interest rate arbitrage using debt instruments denominated in deutsche mark would become less profitable. Lower capital costs should foster increased domestic financing and spur demand for credit in Estonia which will support economic activity. This effect can be expected to be even more pronounced if Estonia adopts the euro (see below).²¹

¹⁹ From the date of membership, the regular EU support mechanisms will apply while funding through PHARE will cease.

²⁰ Staff estimate on current growth projections. For further discussion on these issues see below.

²¹ This highlights the importance of the introduction of the euro, which will accelerate the emergence of a larger and more liquid Europe-wide financial market, for the CEECs. Countries closely linked to the euro area will benefit from the tendency for lower interest

IV. Fiscal Policy Challenges and the Budgetary Impact

EU accession will bring about a number of important fiscal policy changes and is likely to have a significant impact on budgetary performance. Fiscal policy challenges will comprise the need for further harmonizing tax policies, streamlining budget formulation and management, and rationalizing public administration. The net budgetary impact of EU accession is, however, difficult to project since future fiscal and other domestic policies as well as EU related fiscal measures are uncertain. Also, the size of grant and loan financing that may become available due to EU accession remains vague.²²

Estonia's fiscal policies in the past have generally been prudent, which has been key for supporting its currency board arrangement since 1992. Fiscal deficits have remained limited, and in 1997 and the first half of 1998 sizable fiscal surpluses were achieved. These fiscal surpluses, together with large privatization proceeds, were saved abroad in the Stabilization Reserve Fund (SRF).²³ External public debt stood at 5 percent of GDP in 1998, but was even lower, at 3.3 percent of GDP, if SRF holdings are included. By this measure, the level of debt declined to below 2 percent of GDP in March 1999 due to the addition of considerable privatization revenues to the SRF. As a benchmark for satisfactory fiscal performance, Estonia comfortably met the Maastricht criteria on the fiscal deficit and public debt in 1998 (Table 9). The observance of these criteria is not a requirement for EU accession but has a bearing, at a later stage, on participation in the euro area (see below).

A. The Fiscal Policy Framework

EU accession will require further, albeit limited, tax harmonization for Estonia, which has a relatively transparent, simple, and efficient tax system, especially as regards enterprise profit and personal income taxation (flat tax of 26 percent).²⁴ This puts Estonia in a relatively favorable position *vis-à-vis* current and other prospective EU members. It is thus hardly vulnerable to possible tax revenue losses due to outmigration of enterprises or workers. On the contrary, Estonia's simple tax structure is one possible explanation for its continued attractiveness among foreign investors.

As regards the direct tax system, only relatively minor adjustments would appear necessary to comply with EU requirements.²⁵ Changes required in the area of indirect taxation may be

rates in the euro area, which is bound to foster investment and output growth in the EMU periphery. See Russo (1998).

²² Additional grant and loan financing may also become available bilaterally from current EU members.

²³ As of end-March 1999, fiscal reserves in the SRF amounted to EEK 2.8 billion, equivalent to 3.5 percent of projected 1999 GDP.

²⁴ See Kopits (1992), Tanzi and Zee (1998) for discussions of tax harmonization and competition issues in the context of EU integration.

²⁵ It is, however, likely that the EU will require the abolition of the recently introduced profit tax deductibility of fixed costs for all enterprises outside Tallin over and above the customary

of greater significance, including, in particular, the introduction of customs tariffs. Currently, Estonia has no external tariffs, whereas the average ad valorem external tariff of the EU is 5.5 percent.²⁶ While customs tariffs will be collected by Estonia on accession, they will be fully paid to the EU budget (apart from a deduction made for collection costs) and will thus generate no additional revenue. As regards VAT, the EU requires that the standard rate should not be lower than 15 percent, implying that Estonia could reduce its standard VAT rate of 18 percent by up to 3 percentage points. Estonia is also in compliance with the requirement that the preferential rate should not be lower than 5 percent. However, there will be a need for Estonia to abolish a few VAT exemptions and to eliminate the zero rate currently applied to heating costs. Necessary adjustments in excise tax rates have already been undertaken and more increases are likely to follow over the next few years on the basis of an already prepared medium-term plan.

During the pre-accession phase and beyond, budget revenues could rise from buoyant tax collection in line with prospects for stronger real GDP growth, higher excise tax rates, and the newly introduced property tax. These receipts could be offset by a lowering of selected tax rates, including the standard 18 percent VAT rate, considering that the tax burden in Estonia's economy is already fairly high.

On the expenditure side, EU accession is likely to cause significant additional pressure, mostly because of the need for increased public sector investment on infrastructure and the environment.²⁷ The recurrent expenditure burden on the budget is likely to increase only moderately, reflecting the need to comply with EU standards and the creation of the necessary legal and institutional preconditions for EU membership.²⁸ However, as the Estonian public sector is already relatively large, efficiency gains in other parts of the public administration and the re-deployment of staff may offer scope for dampening spending increases. According to staff estimates, the general government wage bill and other current expenditures would need to rise by less than 2 percent due to EU membership.²⁹ No

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

²⁶ For agricultural goods, the average trade-weighted external tariff of the EU is 16.4 percent.

²⁷ Budgetary spending will also be affected significantly by decisions in other, non-EU related domestic policy areas, including pension reform.

²⁸ For example, the EU has identified the need to increase staffing in the Customs Board, the National Tax Board, the State Audit Office, and institutions responsible for enforcing veterinary and sanitary conditions and controls as well as health and safety standards at work.

²⁹ Assuming an increase in the number of general government employees by not more than 2,000 persons over and above the current level of slightly less than 140,000.

significant expenditure impact would be expected from a change in interest rates, given Estonia's small public debt and debt servicing burden.

Table 9. Prospective European Union Members: Fiscal and Convergence Indicators, 1998

	Maastricht Fiscal Indicators		GDP per capita		
	Government balance/GDP	Government debt/GDP	In US\$	In percent of euro area average	In percent of poorest euro area country (Portugal)
	(In percent)				
Cyprus	-6.5	57.2	11,528	51.9	105.0
Czech Republic	-2.1	10.7	5,170	23.3	47.1
<i>Estonia</i>	-0.3	7.4	3,501	15.8	31.9
Hungary	-4.7	60.4	4,712	21.2	42.9
Poland	-3.0	43.4	3,854	17.3	35.1
Slovenia	-1.4	25.1	10,044	45.2	91.5
Euro area	-2.1	73.4	22,220
Reference value	-3.0	60.0

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

B. Investments and EU Transfers

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

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

Sizable funding from the EU will become available to meet the considerable investment needs. As indicated above, the EU's new medium-term budgetary framework includes significant pre-accession expenditure for the countries which are actively seeking membership. As a vehicle for financial support targeted at infrastructure and environmental

projects, the “Instrument of Structural Policies for Pre-Accession” (ISPA) will provide a yearly amount of EUR 1.04 billion for seven years starting in 2000. To access its share of these funds, Estonia will have to meet additionality requirements, which calls for co-financing and therefore real increases in domestic spending on proposed projects or programs.³⁰ During the same period, PHARE funding up to EUR 1.56 billion per year for institution building, training, and investment in other areas will be made jointly available for the accession candidates. Estonia will continue to benefit from these transfers until becoming a member.

Estonia can also expect to receive transfers directed at the agricultural sector. During the pre-accession period, the EU is committed to make available agricultural aid of EUR 520 million per year (for seven years starting in the year 2000) to the accession candidates to facilitate CAP implementation. The magnitude of these projected transfers may yet change should further reforms of the CAP take hold. For Estonia, the size of pre-accession agricultural funding and subsequent CAP transfers is likely to be limited considering the small, and declining, share of agriculture in GDP (about 5 percent of GDP). The importance of external farm support is further reduced by the fact that it will substitute rather than complement Estonia’s present, modest, budgetary support for the agricultural sector.³¹

³⁰ EU financial assistance for ISPA projects is normally 75 percent of the public expenditures of a project, although the European Commission can propose to increase it to 85 percent in exceptional circumstances. The costs of technical support and feasibility studies can be financed exceptionally at 100 percent, but the costs for such operations cannot exceed 2 percent of the ISPA budget. The Commission has indicated that Estonia’s share of total ISPA resources will be in the range of 2 to 3.5 percent.

³¹ Introducing the CAP will of course have a direct favorable impact on producers and an immediate negative impact on real incomes of consumers. Leaving redistributive effects aside, the net effect on aggregate GDP should be minimal or zero according to World Bank estimates.

The considerable scale of financing under the pre-accession instruments will continue upon accession. As a new EU member, Estonia will be a net recipient of EU transfers given its low per capita GDP.³² It will qualify for grant and loan funding from the European Structural Funds (ESF) and the Cohesion Fund (CF).³³ The EU's Agenda 2000 as endorsed at the meeting of the European Council in March 1999 sets out an upper limit of 4 percent of GDP for total annual receipts by any member state from these structural operations (European Council Berlin, 1999).

However, actual external financing would be somewhat lower than this ceiling if Estonia's limited absorption and implementation capacity prevented it from tapping EU funds fully. Furthermore, transfers receipts will be partly offset by Estonia's contribution to the financing of the EU. Currently, member states' annual contribution is equivalent to about 1 percent of national GNP. On a prudent estimate, therefore, net transfer receipts from the EU in the magnitude of about 2 percent of GDP per year over the medium term (and beyond) appear plausible.³⁴ Most of these inflows are likely to be channeled through the public sector.

All in all, government spending in Estonia can be expected to increase significantly during the pre-accession period and following accession, mostly on account of higher investment spending. The substantial amount of foreign grant financing expected should contain the pressure on the overall fiscal balance as well as the impact on public debt over the medium-term.

V. Prospects for Adopting the Euro

A. Preconditions for Joining the Euro Area

The EU has made accession conditional on subscribing to the objectives of EMU. Prospective new EU members cannot avail themselves of an "opting-out" clause that has been granted to the United Kingdom and Denmark. While this implies a requirement for membership candidates to prepare themselves for eventually adopting the euro, it does not

³² Under current rules, EU Structural Funds are available to member countries if their GDP per capita is lower than 75 percent of the EU average measured at purchasing power parity levels. With a per capita income of roughly 30 percent of the EU average, Estonia falls well below the current threshold. Enlargement, which will result in a lower EU average, will not change this situation. See Oxford Analytica (1998).

³³ The Structural Funds include the Social Fund (ESF), the Regional Fund (ERDF), part of the support for agriculture (EAGGF), and aid for fishing communities (FIFG). For the period 1994-99, total assistance provided to members through the Structural Funds was ECU 138 billion (Begg 1998).

³⁴ This rough estimate does not account for CAP-related transfers. Note that an increase in capital spending will have potentially sizeable recurrent cost implications. In the absence of credible estimates and projections, these have not been considered in the analysis here.

require that would-be EU members fulfil the macroeconomic convergence criteria for participation in the euro area at the time of EU accession. In fact, the additional financial burden of adopting the *acquis* may make it more difficult in the short-run to make progress in meeting the Maastricht criteria. During the pre-accession period, the EU requests that membership candidates primarily focus on meeting the Copenhagen economic criteria and implementing structural reforms with the objective to complete the transition to a market economy. The Maastricht convergence criteria are reference points and will become relevant only upon accession. Estonia's good track record of prudent macroeconomic policies nevertheless already provides a good basis for meeting some Maastricht benchmarks. Budget deficits have been limited or non-existent, and public debt has remained low. Further convergence will, however, be critical with respect to inflation and interest rates. While substantial progress has been made in reducing inflation in 1998 and 1999, interest rates have remained persistently above those in Germany and other EU members despite the peg of the kroon to the deutsche mark.

More immediate institutional implications for CEE candidates arise from the need to meet all legal and institutional requirements that apply to EU countries not participating in the euro area. As so-called "member states with a derogation" they will have to comply with a range of conditions aimed at establishing the preconditions for participation in EMU.³⁵ These include the complete liberalization of capital flows both *vis-à-vis* EU and third countries, the establishment of an independent central bank which pursues price stability as a primary goal and is prohibited from direct or indirect financing of the government as well as the participation in the European System of Central Banks. Also, governments are obliged to treat economic policy, in particular exchange rate policy, as a matter of common interest and engage in the EU's policy coordination and surveillance procedures.³⁶ Among the CEE accession candidates, Estonia is well advanced in meeting these legal and institutional accession requirements. The central bank's role and functions were suitably defined in the context of setting up the currency board in 1992. It is statutorily independent with price stability as its primary objective and it is prohibited from purchasing government securities in the primary market. Also, capital movements were liberalized early on in transition, which should facilitate linking the domestic payments system with the network of cross-border settlements systems of the euro area.

³⁵ The "derogations" are temporary, except for the United Kingdom and Denmark. The inclusion of actual transitory periods in the EU accession treaties concerning these institutional criteria appears unlikely since the membership applicants have expressed their preference to join as soon as possible. Even if these accession candidates make rapid progress on institutional reform and macroeconomic convergence, however, concerns on the side of the EU about real and structural convergence remain. See Feldman et al. (1998).

³⁶ The most important of coordination and surveillance procedures are the broad economic policy guidelines, the convergence programs and the excessive deficit procedure. For detailed indications on the respective rights and obligations see Temprano-Arroyo and Feldman (1998), and Köhler and Wes (1999).

Countries may also choose to enter into a formal exchange rate arrangement with the EU at the time of accession, an area which is not covered in detail in the Association Agreements. Currencies of EU members that have not adopted the euro can be linked to the euro through the Exchange Rate Mechanism II (ERM II).³⁷

B. Economic Implications: Further Efficiency Gains

Due to the peg to the deutsche mark, and thus since January 1, 1999 also to the euro, Estonia's monetary policy stance is already largely determined by euro area monetary policy. While switching from the present currency board to the euro as the national currency would amount to a formal change in the monetary policy regime, it would nevertheless imply continuity. Under EMU, the Bank of Estonia would be part of the European System of Central Banks with limited influence on euro area monetary policy making. However, Estonia would maintain its responsibility for regulating and supervising the domestic financial sector.³⁸

In terms of economic impact, the replacement of the currencies of most EU members with the euro represents a deepening of the EU's common market. Monetary union reduces the costs from doing business within the euro area by removing currency fluctuations and making the hedging of currency risks unnecessary. Furthermore, the improvement in price-transparency across borders is bound to spur competition in the goods and services sectors over the medium term, leading firms to reassess their current business strategies based on separate national markets.³⁹ Estonian firms will be exposed to these mounting competitive

³⁷ ERM II is designed as a flexible system with wide standard fluctuation bands (± 15 percent), timely realignments, and the possibility of progressively tighter exchange rate links. Participation will be voluntary. The system is asymmetric to the extent that any intervention in the foreign exchange markets by the ECB must not interfere with the ECB's primary objective of price stability. The costs of intervention and realignment are thus largely borne by the country outside the euro area. For a discussion of the implications of EMU for exchange rate policies in Central and Eastern Europe see Kopits (1999).

³⁸ Under EMU, banking sector supervision remains a prerogative of national supervisory authorities. With a view to the cross-border activities of banks, regular meetings of these authorities with the ECB are held. The central bank will also need to assure to make the domestic payments system compatible with the Europe-wide real time gross settlement system (TARGET) through which the ECB conducts monetary policy.

³⁹ With competition bound to intensify, the introduction of the euro may yet prove to be a catalyst for economic restructuring in Europe. This argument in support for monetary union rests on the notion that once intra-European market segmentation has vanished, governments will necessarily tackle structural rigidities on the labor and product markets. It contrasts the reasoning based on the theory of optimal currency areas which sees the exchange rate as an essential policy instrument as long as factor mobility and public transfers do not ensure a certain degree of economic homogeneity among countries. Under such circumstances, the

pressures but will also be able to take advantage of the opportunities gained in being part of the euro area. These include, in particular, cost reductions in trade within the large “home” market as well as in financing business activities. The latter should follow the emergence of a large and liquid pan-European financial market which would improve direct access for large and medium-sized firms to capital markets abroad and reduce the costs of financing business activities.⁴⁰ Enterprise borrowing is therefore unlikely to suffer, although it is probable that the role of Estonia’s small domestic financial market will diminish over time.

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

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

While some convergence may be expected, full convergence is neither required nor likely for *long-term interest rates*. However, the policy credibility gained via participation in the euro area will further improve Estonia’s sovereign ratings and its standing on the financial markets. The perceived reduction in sovereign risk and the elimination of currency risk will be reflected in a reduction of today’s risk premium charged to Estonian as compared to euro area debtors. Long-term financing for Estonian borrowers could thus also become considerably cheaper, spurring investment activity by Estonian firms and supporting growth.⁴¹

VI. EU Accession: Trade-off between Growth and External Adjustment?

The further strengthening of legal, institutional, and economic linkages to the European economy will affect Estonia’s growth performance positively over the medium and long term

loss of sovereignty over monetary and exchange rate policies is deemed to impose excessive adjustment cost on the real economy.

⁴⁰ For a presentation of the various channels of transmission through which EMU will affect non-EU countries see European Commission (1998b) and Feldman et al. (1998).

⁴¹ While the introduction of the euro has removed currency risks as a source of interest rate differentials within the euro area, the remaining interest rate spreads mirror differences in country risk, in part linked to diverging fiscal and structural policies and performance.

through the various channels discussed above. Additional supply-side effects are likely to materialize, particularly supported by increased competition on goods and factor markets and (mutual) market access for services and agricultural products. The adoption of the EU's well established legal and policy framework comprising extensive and regular intergovernmental consultations strengthens the private sector's perception of Estonia as a stable, market-oriented business location. This should help attract continued foreign investment and raise the potential growth path, provided the external financing will be efficiently employed.

However, the analysis of the financial and budgetary channels above suggests that domestic demand could rise faster than supply. Both the fiscal stance and monetary conditions are likely to become looser in the course of the accession process, with domestic activity being spurred by increased EU transfer payments and related public expenditures, i.e., a fiscal stimulus, on the one hand, and a decline in the interest rate risk-premium translating into better availability and lower financing costs for Estonian borrowers on the other.

These fiscal and monetary impulses for domestic activity, which *per se* are a desirable consequence of the accession process, are, however, also bound to foster demand for foreign goods and services and could thus compound the economy's dependence on foreign financing. Increased external financing and gradual interest rate convergence to euro area levels could widen the current account deficit both directly via higher imports of consumption and investment goods related to EU credits, and indirectly through the increase in GDP and import demand. Although, presumably, inflows of foreign capital will help to expand and modernise Estonia's production capacity, it is conceivable that this capacity build-up will not keep step with the possible rapid rise in aggregate domestic demand that could be triggered by EU accession. Although the growth-enhancing macroeconomic conditions which accompany the accession process will thus help Estonia to more quickly narrow the income gap relative to the EU average, its potential consequences are excessive domestic demand and a widening of the current account imbalance.⁴²

The following analysis seeks to build on the qualitative assessment above and shed light on the potential trade-off between higher growth and containing external sector imbalances on the basis of a comprehensive macroeconomic country model. As an approximation of the structural and behavioral relationships within the Estonian economy, a *small open economy*

⁴² In principle, an increase in the current account deficit need not be harmful at Estonia's stage of economic development and in light of the policy credibility derived from a successful EU accession strategy. Concerns about the sustainability of an accession-related widening of the current account deficit seem nevertheless generally warranted in situations where this deficit is already high. This seems particularly relevant in the context of a currency board under which a shortage of foreign capital inflows will automatically be reflected in higher domestic interest rates. In a crisis scenario, such a built-in increase may not be enough to attract foreign capital or prevent a reversal of inflows. The scope for the central bank to raise interest rates remains very limited even under these circumstances.

model is used.⁴³ Such a stylized approach yields useful reference values on the development of key macroeconomic indicators over time. Illustrative estimates are derived by using a single country block of the IMF's MULTIMOD Mark III.⁴⁴ Within this framework, a scenario is simulated that assumes (i) an increase in public expenditures by up to 2 percent of GDP over three years reflecting EU-related spending needs and domestic co-financing of infrastructure and environmental projects, facilitated by the availability of significant EU transfers; and (ii) a decline in long-term interest rates by a total of 100 basis points within four years anticipating a partial convergence to euro area levels (Table 10). The chosen magnitudes of these "shocks" have been informed by the analysis on the fiscal and financial channels above.

While the standard MULTIMOD application does not include a grant-based component in the fiscal accounts, this feature needs to be introduced to accommodate the particular situation of Estonia. Accordingly, the model is customized to allow for inflows of grants in addition to debt and tax financing. Foreign grants are assumed to cover 70 percent of the additional public expenditure. The simulation outcomes for the fiscal balance and the current account thus reflect expected EU transfer payments.⁴⁵

⁴³ The process of EU accession lends itself well to a model-based simulation since it affects all sectors of the economy and requires a forward-looking perspective. Also, the small open economy model is likely to be good proxy for Estonia given its small size, openness to trade and capital flows and strong international economic linkages as outlined above.

⁴⁴ This model contains parameter estimates for a small open industrial economy. Most notably, developments in such a small economy have no bearing on international prices, excluding any feedback effects. For further specifications of the model see Appendix. For a detailed technical description of the underlying theoretical assumptions and the structure of the latest version of MULTIMOD see Laxton et al. (1998). A description of MULTIMOD and the equations defining the small industrial country model are also accessible on the IMF website.

⁴⁵ While the bulk of EU-related inflows is likely to involve investment grants, some current transfers (e.g., technical assistance, CAP support) will also take place. According to the IMF's Balance of Payments Manual (Fifth Edition, 1993), investment grants should be classified as capital transfers.

Table 10. Combined Fiscal and Monetary “Shock” Related to EU Accession, 2000-06 1/

	2000	2001	2002	2003	2004	2005	2006
<i>(1) Permanent increase in public expenditure</i>							
	(In percent of GDP)						
Rise in the public expenditure level, including domestic co-financing for infrastructure projects and environmental upgrading	+0.5	+1.0	+1.5	+2.0	+2.0	+2.0	+2.0
<i>(2) Permanent reduction in interest rate premium 2/</i>							
	(In basis points)						
Reduction in the risk premium for Estonian borrowers	-20	-40	-60	-80	-100	-100	-100

Source: Fund staff estimates.

1/ For the country-specific assumptions underlying the simulation see Appendix.

2/ Estonia does not issue government bonds. The interest rate charged to the City of Tallin in April 1999 for an issue of 5-year bonds for 17.5 million euros was used as a proxy for the domestic interest rate in calculating differentials versus the euro area. The interest rate of this loan is six-month Euribor plus 165-180 basis points (i.e., 4.25-4.5 percent), to be determined anew every six months. This indicates a risk premium of about 180 basis points.

As expected, the combined “shock” yields expansionary results triggered by both rising consumption and higher investment spending. In the short to medium term, domestic demand supported by additional public expenditure expands rapidly, resulting in upward pressure on wages and non-tradeable prices. As the inflation differential with the euro area widens, the real exchange rate is expected to appreciate. Higher investment fueled by lower capital costs adds to this excess demand even as domestic output capacity increases with a lag. The results are strongly dependent on the model assumptions about the time-horizon and the consumption and savings behavior of economic agents. In order to acknowledge this sensitivity of the results, a range of outcomes is presented here, reflecting different values for the intertemporal elasticity of substitution (IES) between consumption and savings in the model. In essence, this amounts to assuming different choices between consumption and savings by households following the decline in interest rates.⁴⁶

⁴⁶ See Appendix for a description of these behavioral assumptions. Simulations were also made without accounting for foreign grant financing. These suggest that in the absence of EU transfers there would likely be a significant financing shortfall as well as a stronger external imbalance than shown in this scenario.

The results of the simulations are presented in Table 11 and Figure 2. These findings take the form of *shock-versus-baseline results*, indicating changes relative to a baseline outcome for Estonia over a ten-year horizon.⁴⁷ The main results can be summarized as follows:

- There is an strong positive impact on real GDP early on, reflecting foremost rising private consumption demand. Although this initial growth impulse abates over the medium term (implying temporarily slightly slower growth rates than in the baseline), the level of real GDP is still between 0.2 to 0.6 percent higher in 2005 relative to the baseline. In the outer years supply-side effects become more dominant, supporting a roughly 1.2 percent higher level of real output.
- Inflation is being spurred on account of increased domestic demand in the first few years which is reflected in a higher CPI of, at most, between 1.4 to 2.1 percent in 2003. As potential output expands over time, supply-side effects become dominant, reducing the CPI to 0.9 percent below the baseline in 2010.⁴⁸
- The combined fiscal and monetary “shock” gradually raises the level of potential output of the Estonian economy by an additional 0.7 percent in 2005 and by approximately 1.2 percent after a decade as production capacity expands on account of higher investment.
- While EU-related spending needs exert pressure on the public budget, significant foreign grant financing is projected to compensate a potential financing gap, leading to an improvement of the fiscal balance by roughly 0.8 percentage points after five years relative to the baseline. After a decade, the budget outcome would still be positive and of a similar magnitude.
- The current account deficit widens initially due to strong import demand and possibly some loss in export competitiveness stemming from upward pressure on domestic prices and wages. In line with the receding demand impulse, the additional effect on the external deficit declines to about 0.2 percentage points in the medium term. The external imbalance will widen again thereafter and increase the current account deficit by 0.7 to 1.3 percentage points in 2010 relative to the baseline.

⁴⁷ The baseline outcome reflects the projections included in the IMF’s World Economic Outlook (WEO). For the recent medium-term macroeconomic framework for Estonia see IMF (1999). In this baseline, a zero fiscal balance and a gradual decline of the current account deficit are assumed over the medium term.

⁴⁸ The level of consumer prices is likely to rise following the introduction of the CAP since the CAP includes reference prices for agricultural products. This effect is not taken into account in this scenario. Estonia’s inflation path will be particularly relevant with a view to meeting the Maastricht convergence criteria and joining the euro area.

These model-based findings are tentative and further analysis will be required to re-examine the evidence presented here in light of country-specific information for Estonia, taking account of the distinct nature of the linkages between the domestic sectors and with the rest of the world. Most importantly, the simulation focuses on two specific “shocks” which limits its information content. The simulation is partial and does not capture the entire economic dimension of the EU accession process, including changes in the policy stance by the authorities in response to economic developments. These caveats need to be kept in mind when considering the results for policy purposes.⁴⁹

The simulation results project the current account deficit to widen somewhat after the onset of the combined “shock” in parallel with the increase in real GDP, as happened in Estonia in 1997 and early 1998. This supports the proposition that the EU accession process may emphasize the trade-off between higher growth and external sector imbalances, in the absence of policy adjustments. While external sector vulnerability is currently of limited concern for Estonia as discussed above, the findings nevertheless strengthen the case for addressing such macroeconomic stress factors related to further economic integration with Western Europe in a timely manner.

⁴⁹ In particular, the simulation does not accommodate changes in economic policies beyond those underlying the WEO baseline scenario.

Table 11. Estonia: Impact of a Combined Fiscal and Monetary "Shock" Related to EU Accession, 2001-2010:
Simulation Results Using MULTIMOD

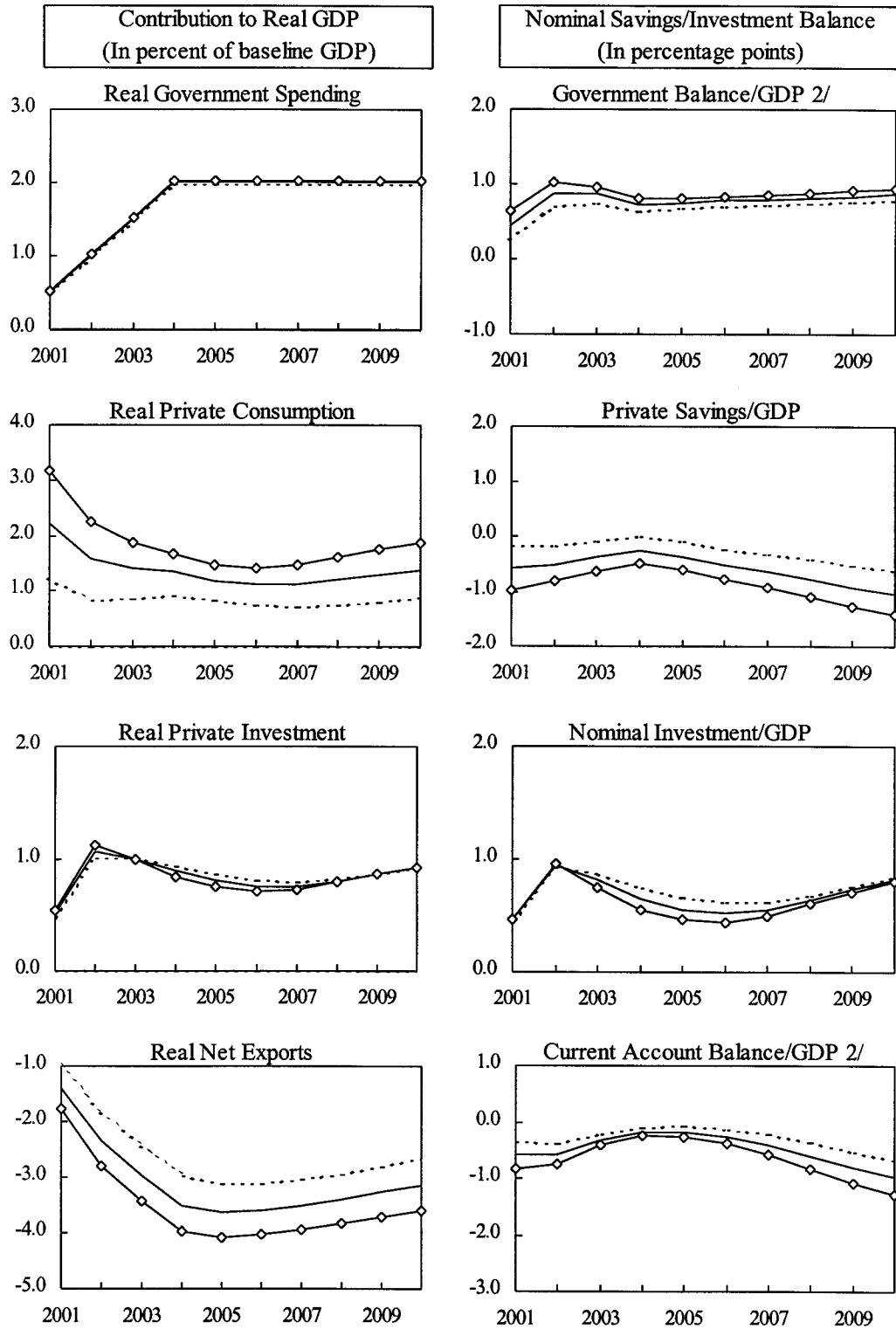
	IES 1/	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
		(Deviations from baseline, in percent)									
Real GDP	0.8	1.2	1.0	0.9	0.9	0.6	0.4	0.5	0.7	0.9	1.1
	1.0	1.8	1.3	1.0	0.7	0.4	0.3	0.4	0.6	0.9	1.2
	1.2	2.4	1.6	0.9	0.5	0.2	0.1	0.3	0.6	0.9	1.2
Potential GDP	0.8	0.1	0.3	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2
	1.0	0.1	0.3	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2
	1.2	0.1	0.3	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2
CPI inflation	0.8	0.7	1.3	1.4	1.1	0.6	0.1	-0.4	-0.7	-0.8	-0.8
	1.0	1.0	1.7	1.8	1.3	0.6	-0.1	-0.6	-0.9	-1.0	-0.9
	1.2	1.4	2.2	2.1	1.5	0.6	-0.2	-0.8	-1.1	-1.1	-0.9
<i>Contribution to real GDP</i>		(Deviations from baseline, in percent of baseline GDP)									
Real government spending	0.8	0.5	1.0	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	1.0	0.5	1.0	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	1.2	0.5	1.0	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Real private consumption	0.8	1.3	0.8	0.9	0.9	0.8	0.7	0.7	0.8	0.8	0.9
	1.0	2.2	1.6	1.4	1.3	1.2	1.1	1.1	1.2	1.3	1.4
	1.2	3.2	2.2	1.9	1.7	1.5	1.4	1.5	1.6	1.8	1.9
Real private investment	0.8	0.5	1.0	1.0	0.9	0.9	0.8	0.8	0.8	0.9	0.9
	1.0	0.5	1.1	1.0	0.9	0.8	0.8	0.8	0.8	0.9	0.9
	1.2	0.5	1.1	1.0	0.8	0.8	0.7	0.7	0.8	0.9	0.9
Real net exports	0.8	-1.0	-1.8	-2.4	-3.0	-3.1	-3.1	-3.0	-2.9	-2.8	-2.7
	1.0	-1.4	-2.3	-3.0	-3.5	-3.6	-3.6	-3.5	-3.4	-3.3	-3.2
	1.2	-1.8	-2.8	-3.4	-4.0	-4.1	-4.0	-3.9	-3.8	-3.7	-3.6
<i>Nominal savings/investment balance</i>		(Deviations from baseline, in percentage points)									
Government balance/GDP 2/	0.8	0.3	0.7	0.8	0.6	0.7	0.7	0.7	0.7	0.8	0.8
	1.0	0.5	0.9	0.9	0.7	0.8	0.8	0.8	0.8	0.8	0.9
	1.2	0.6	1.0	1.0	0.8	0.8	0.8	0.9	0.9	0.9	0.9
Private savings/GDP	0.8	-0.2	-0.2	-0.1	0.0	-0.1	-0.2	-0.3	-0.4	-0.5	-0.6
	1.0	-0.6	-0.5	-0.4	-0.3	-0.4	-0.5	-0.6	-0.8	-0.9	-1.0
	1.2	-1.0	-0.8	-0.6	-0.5	-0.6	-0.8	-0.9	-1.1	-1.3	-1.4
Nominal investment/GDP	0.8	0.4	0.9	0.9	0.8	0.7	0.6	0.6	0.7	0.8	0.8
	1.0	0.5	1.0	0.8	0.7	0.6	0.5	0.6	0.6	0.7	0.8
	1.2	0.5	1.0	0.8	0.6	0.5	0.4	0.5	0.6	0.7	0.8
Current account balance/GDP 2/	0.8	-0.4	-0.4	-0.2	-0.1	-0.1	-0.1	-0.2	-0.4	-0.5	-0.7
	1.0	-0.6	-0.6	-0.3	-0.2	-0.2	-0.3	-0.4	-0.6	-0.8	-1.0
	1.2	-0.8	-0.8	-0.4	-0.2	-0.3	-0.4	-0.6	-0.8	-1.1	-1.3

Source: Fund staff estimates.

1/ On the choice of the intertemporal elasticity of substitution (IES) see Appendix.

2/ Including foreign grant financing (EU transfers).

Figure 2. Estonia: Impact of a Combined Fiscal and Monetary "Shock"
 Related to EU Accession, 2001-2010 1/
 (Deviations from baseline)



Source: Fund staff calculations.

1/ MULTIMOD simulation results using intertemporal elasticities of substitution (IES) of 1 (solid lines), 0.8 (broken lines), and 1.2 (lines with squares) see Table 11.

2/ Including foreign grant financing (EU transfers).

VII. Concluding Remarks

Membership in the EU and adoption of the euro will have important implications for Estonia's macroeconomic policies and performance. Estonia is well placed to benefit via the trade, financial, and fiscal channels from further formal integration with Europe. Greater market access and increased trade as well as reduced costs and more competition will spur real growth. The expected reduction in the risk premium and further integration into Western European financial markets are likely to improve access to financing on more favorable terms. On the fiscal side, there are gains to be reaped from significant transfer payments, providing non-debt creating financing and alleviating budgetary pressures.

Notwithstanding the favorable perspective overall, the accession process gives rise to important macroeconomic policy challenges. There will be demands for additional expenditure, largely on account of the required investments in the environment and infrastructure sectors, which could result in a notable increase in the share of public expenditure to GDP. To the extent that an expansionary effect on domestic demand ensues, spurring imports of consumer products and project-related investment goods, the current account position could be significantly affected. Lower interest rates which tend to boost domestic investment could compound an eventual widening of the external imbalance, although this is not predetermined. In the event, the supply-side response of the economy could be quicker and stronger than anticipated which may expand the consumption of domestically produced goods at the expense of imports. Together with rising potential output, export capacity for goods and services is also likely to expand which would diminish the need for foreign savings. Most notably, the net effect of EU membership on the balance of payments will depend on private savings behavior and the fiscal policy stance.

The limited availability of macroeconomic policy instruments to respond to such developments calls for a determined fiscal and structural policy agenda. In the absence of the exchange rate instrument, the adjustment process will largely operate through the real economy via adjustments in domestic prices, wages, and employment. The policy instruments available will need to be geared toward mitigating domestic demand pressures and promoting saving. This will help to improve the consistency of Estonia's external position with its stability-oriented macroeconomic policy framework. In pursuit of these objectives, Estonia would be well advised to continue pursuing prudent fiscal policies with the objective to contain the demand effects of the expected increase in government spending due to EU accession. Further policy priorities should include maintaining a flexible labor market and fostering competition on the domestic goods markets; finalizing pension reform; further adjusting, and ultimately liberalizing, the remaining administered prices; and ensuring sound and efficient financial intermediation by further improving financial sector supervision. In light of the expected additional capital inflows, the efficient use of funds for public investment also seems critical.

The analysis presented in this paper suggests that the welfare enhancing effects of EU accession are likely to outweigh the downsides in the form of more pronounced macroeconomic imbalances that could accompany this process. This outcome reflects Estonia's prospects for sizable foreign grant financing. If Estonia maintains and strengthens

its policy stance along the lines suggested above, it should be able to cope with the expansionary effects related to higher fiscal expenditure and lower interest rates as well as with possible pressures on the current account. During the pre-accession period and beyond, Estonia holds considerable sway over its fiscal and structural policies to smooth the accession-related adjustment and take advantage of the potential economic benefits to be had from this process.

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Model Properties and Simulation Results

The results of the simulations of a combined fiscal and monetary “shock” related to EU accession for Estonia reflect the properties of the small open economy country block in MULTIMOD and the partial nature of the analysis. By using this model, a number of *general model specifications* are implicitly accepted, including a non-linear relationship between inflation and unemployment and a finite planning horizon driving the savings and investment behavior of economic agents. In particular, the model assumes the standard intertemporal model of consumption-savings behavior by economic agents, including, in a stylized way, the following effects: (i) a fall in interest rates decreases the return on assets thereby triggering a reduction in present consumption (income effect); (ii) a fall in interest rates raises the inclination to consume at present rather than in the future (substitution effect); and (iii) a fall in interest rates raises consumption by increasing permanent income (i.e., wealth) via lowering the discount rate (discounting or wealth effect).

The first two channels affect consumption by determining whether the marginal propensity to consume (MPC) will rise or fall in response to an interest rate change. MULTIMOD stipulates that the income effect strongly dominates the substitution effect, i.e. an intertemporal elasticity of substitution (IES) significantly below 1 is assumed. The MPC will thus fall with lower interest rates. However, whether consumption (and not just the MPC) falls with interest rates depends on whether the MPC effect outweighs the wealth effect.⁵⁰

In this analysis for Estonia, simulations were carried out with different IES parameters to account for the sensitivity of the results to the choice of the IES and acknowledge the existence of a wealth effect. Based on the IES values of 0.8 (i.e., dominance of the income effect), 1 (i.e., income and substitution effects cancel each other out), and 1.2 (i.e., dominance of the substitution effect) a range of plausible outcomes are derived.⁵¹

In fact, one could argue that using an IES value of 1 or greater than 1 may be more appropriate for Estonia than a value of less than 1, for the following reasons: (i) the model for a small open industrial economy could significantly overstate the stock of assets available in a transition economy like Estonia and thus the size of the income and MPC effects; (ii) there is likely to be a notable wealth effect since the level of public and household debt is small, and considerations on debt servicing or the tax burden in the future can be assumed to play a

⁵⁰ The magnitude of the MPC effect depends on the initial level of wealth, while the wealth effect depends on the change in wealth due to a change in interest rates.

⁵¹ No estimates for the IES and the magnitude of the wealth effect exist for Estonia. For indications on IES values for lower-middle income countries see Ogaki et al. (1997).

APPENDIX

lesser role than in a small industrialized economy; and (iii) there continues to be a significant catch-up potential for private consumption in a transition economy. Also, the well-functioning financial system does not suggest that consumers are strongly credit constrained.

In addition to the choice of the IES, a number of *country-specific assumptions* have been made. These reflect realistic premises on Estonia's currency regime and future public financing expenditure patterns: (i) a fixed exchange rate monetary rule applies (the nominal effective exchange rate toward the rest of the world remains unchanged); (ii) 70 percent of the "fiscal shock" is grant financed; (iii) additional tax revenues are limited to 0.5 percent of GDP from 2001 onward; and (iv) 50 percent of the "fiscal shock" is public investment spending, mainly targeting infrastructure and environmental upgrading; these development expenditures are assumed to enhance dynamic efficiency in the economy, so that a one percent of GDP increase in public investment raises private investment by 0.3 percent of GDP.