A WORLD BANK COUNTRY STUDY

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Estonia

Implementing the EU Accession Agenda

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TABLE OF CONTENTS

BOXES

FIGURES

TEXT TABLES

ABSTRACT

This country study is based on the work of several World Bank missions that visited Estonia between October 1997 and July 1998. The study focuses on selected issues in the Estonia's EU accession agenda. The selection emphasizes areas where there is greatest overlap between the accession agenda and measures to strengthen economic management. These areas of overlap include upgrading financial sector supervision and strengthening budget management. It also includes reforms in areas where there is complementarity between reforms designed to facilitate accession and structural reforms that will support long term growth and economic integration. These are the modernization of public administration, the adherence to EU quality standards, the continuous improvement of the operations of the customs board, and the completion of land reform. Finally, the last two chapters of the study examine areas where implementing the accession agenda entail either a fundamental change in Estonia's trade policy regime, or have high compliance costs. These are the adoption of the EU's Common Agricultural Policy (CAP), as it evolves, and complying with EU environmental standards.

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The report was prepared by Carlos Cavalcanti (principal author), based on a series of contributions from the team members: Daniel Oks, Kristjan Kitvel, and Andrus Viirg (financial sector integration); Vera Wilhelm (public administration reform); David Tarr (harmonization with EU internal market directives); Csaba Csaki, Alberto Valdes, and Achim Foch (agriculture and rural development); Kari Homanem, and Ismo Tiamen (environment); and Zhicheng Li (research assistance). Mmes. Anita Correa and Linda Osborne were responsible for processing this report.

Mr. Bernard Brunet, from the European Commission, also made important contributions to the report, participating in the first mission in October 1997 and latter contributing with a background paper on the links between the accession process and economic and social convergence.

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The report was prepared under the guidance of Mr. Marcelo Selowsky, Chief Economist; Mr. Basil Kavalsky, Country Director; Mr. Pradeep Mitra, Sector Director; and Mr. Kyle Peters, Sector Leader.

CURRENCY AND EQUIVALENTS UNITS
(As of 03/01/99)

Currency Unit = EEK

US$1.00 = EEK 14.38; EUR 1.00 = EEK 15.64; EEK 1.00 = US$00.070; EEK 1.00 = EUR 00.064

ABBREVIATIONS AND ACRONYMS

AP	Accession Partnership
BOE	Bank of Estonia
CAP	Common Agricultural Policy
CAR	Capital Adequacy Ratio
CEEC	Central and Eastern European Countries
CIS	Commonwealth of Independent States
CPI	Consumer Price Index
CSCS	Council of Senior Civil Servants
DEM	Deutsche Mark
EA	European Agreement
EAGGF	European Agricultural Guidance and Guarantee Fund
EBRD	European Bank for Reconstruction and Development
ECD	Estonian Central Depository
EC	European Commission
EEK	Estonian Kroon
EIB	European Investment Bank
EIO	European Integration Office
EU	European Union
EUR	Euro
FTA	Free Trade Agreement
GDP	Gross Domestic Product
ISPA	Instrument for Structural Policies for Pre-accession
LIBOR	London Interbank Offered Rate
NPAA	National Program for the Adoption of the *Acquis*
OECD	Organization for Economic Cooperation and Development
PHARE	Poland and Hungary: aid for economic restructuring
PPI	Producer Price Index
PPP	Purchasing Power Parity
SAPARD	Support for Pre-accession in Agriculture and Rural Development
SEB	Skandinaviska Enskilda Banken
SMD	Single Market Program
TALIBOR	Tallinn Interbank Offered Rate
TSE	Tallinn Stock Exchange
WTO	World Trade Organization

Fiscal Year
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EXECUTIVE SUMMARY

Economic integration that leads to the convergence of incomes and living standards is at the heart of the EU accession process. The assumption is that trade integration combined with institutional harmonization will lead to sustainable capital flows from European Union member countries to acceding countries. This will contribute to investment, stimulate growth and generate employment, allowing incomes and living standards to converge over time. The agenda for EU accession is designed to create condition for realizing this scenario. It is built on early trade and cooperation agreements, and increasingly emphasizes the harmonization of policies and regulations that facilitate a greater integration of capital, goods and service markets.

A candidate country can, however, get easily mired in the legal details of harmonization. This report aims therefore at answering 'how can Estonia best implement the EU accession agenda without losing sight of the broader strategic objectives of income and living standards convergence?'. There are two main findings. First, Estonia should emphasize those areas where there is greatest overlap between the accession agenda and measures to strengthen economic management. These areas of overlap include upgrading financial sector supervision and strengthening budget management. There is also complementarity between reforms designed to facilitate accession and structural reforms that will support long term growth and economic integration. These include completing land reform, adhering to quality standards, strengthening the operations of the customs board, and modernizing public administration. Second, in areas where there is no overlap between the accession agenda and measures to strengthen economic management, policies and reforms need to be carefully sequenced. These policies and reforms entail either a fundamental change in Estonia's policy regime, or have high compliance costs. Examples include adopting the EU's Common Agricultural Policy (CAP), as it evolves, and complying with EU environmental standards.

The focus on the areas of overlap between the accession agenda and the day-to-day management of the economy leaves out however a number of reforms that will become increasingly important over time. These include (i) strengthening local government funding and administrative capacity, ensuring adequate delivery of public services such as education, health, and social assistance; and (ii) developing instruments of regional policy to address imbalances resulting from slower growth in rural areas and the restructuring of the oil shale industry in Northeast Estonia. These reforms are key for convergence in living standards. They are also very important in building Estonia's capacity to effectively manage the pre-accession funds available from 2000 onwards.

The EU Accession Agenda

On March 30, 1998, Estonia, the Czech Republic, Hungary, Poland and Slovenia formally began accession negotiations. These negotiations will have two distinct phases. The first phase (currently ongoing) consists of the bilateral and multilateral screening of the *acquis communautaire*. The second phase involves actual decision-making on a timetable for completing harmonization and effectively implementing the *acquis*. To allow however the conclusion of the accession negotiations within the expected timeframe, the European Council also established the Accession Partnerships to support the acceding countries' efforts in designing sound economic policies, strengthening administrative capacity, and securing

investments to fully comply with the *acquis*. In doing so, the Partnership documents outline mutually shared priorities for policy action and indicate funding for these priorities that will be made available by the EU.

In the case of Estonia, the Accession Partnership document identified, inter alia, the following priority actions:

- The reinforcement of institutional and administrative capacity, in particular regulatory and monitoring bodies, and the development of a comprehensive national training strategy for civil servants. Also important is the development of a strategy and timetable for the consolidation of the various supervisory agencies in the financial sector.

- The reinforcement of institutional and administrative capacity at central and local level to ensure efficient management of the public sector. Emphasis is given to the budgetary process, internal financial control, statistics, customs controls, agriculture, and the environment.

- Institutional strengthening for enforcement of internal market directives, particularly in the fields of public procurement, intellectual and industrial property, financial services, taxation, technical legislation and competition (especially the transparency of state aids).

- In agriculture, emphasis is placed on veterinary and phytosanitary measures, border control and inspection arrangements, the further restructuring of agro-food sector, the acceleration of the process of property restitution, and the hastening of land reform with a view to increase private ownership. In addition, the document mentions the need to develop the capacity to implement and enforce the Common Agricultural Policy.

- In environment, the priorities for alignment with the *acquis* include the development of control structures to monitor and enforce environmental regulations, and the continuous planning and implementation of approximation programs related to individual legal acts. Also, especial attention is given to the water and waste sectors, including radioactive waste.

While the Accession Partnership document goes a long way toward identifying priorities, an action plan providing more detailed objectives, activities, timetables and available resources is still needed. A first step in this direction was of the Estonian 'National Program for the Adoption of the *Aquis*' (NPAA). However, while the NPAA provides a comprehensive strategy for the harmonization of the EU's legal directives, the link between the accession process and the wider social, economic and administrative context is still missing. This report aims at contributing toward bridging this gap.

Recent Economic Developments

Estonia's case for accession is built, to a large extent, on a record of sound economic management. Indeed, since regaining independence in 1991, Estonia has successfully implemented a broad agenda of stabilization and structural reform policies. This agenda included the introduction of a new currency under a currency board arrangement, far reaching trade liberalization, and an extensive privatization program. The agenda was implemented against a backdrop of prudent economic management. The Estonian authorities restrained public expenditures to available tax revenues and limited borrowing from domestic and foreign sources. Also, a hard budget constraint was imposed on public and private enterprises, including instances when a no bailout policy for financial institutions was enforced.

This commitment to sound economic management has yielded positive results. Inflation has dropped from over 1,000 percent in 1992 to around 90 percent in 1993, and then steadily declined to 6.5 percent in 1998. Economic recovery swiftly followed stabilization, with real GDP growth averaging just under 6 percent during the 1995-98 period. Also, the stable currency and progress in structural reforms helped Estonia successfully reintegrated into Western Europe. Exports to Western Europe account today for over two-thirds of total exports, compared to less than 5 percent in 1991. In this process, Estonia managed to move up the ladder of trade, shifting from the re-export of raw material from Russia (e.g., petroleum and metals) to the processing of EU inputs for further export (e.g., textile, clothing, and machinery products).

At present, however, Estonia is experiencing a sharp economic slowdown as a result of two major external shocks – the Asia crisis and the Russia crisis, which has been reinforced by the recent growth deceleration in the EU. This is the first slowdown in growth since the beginning of the transition. Indeed, real GDP growth in the fourth quarter of 1998 is estimated to have reached 0.2 percent, down from a 5.6 percent average in the first three-quarters of 1998. This economic slowdown has had two important implications. There has been a marked deceleration in tax revenue collection, exacerbating the problems in implementing the 1999 budget. Also, producer prices has been dropping to accommodate the collapse in exports to Russia and other CIS countries. This deflation has increased the costs of debt obligations for some producers, further contributing to the economic slowdown.

The decline in producer prices and the ensuing increase in real interest rates is, however, an integral part of the adjustment to an external shock under the currency board arrangement. Indeed, these adjustments are key to restoring external balance. Lower prices help improve export competitiveness, while the increase in real interest rates due to lower prices reduces domestic demand, having a contractionary impact on imports. There are already signs of improvements in the trade deficit, although a large share of this improvement is due the decline in imports exceeding the slowdown in exports.

This automatic adjustment process should not be seen, however, as a sustainable formula for restoring external balance. Estonia's engine of growth is the processing of imported inputs for further export. While this places a premium on the country's ability to add value at competitive costs, it should not be achieved through rising unemployment, slower wage growth and declining producer prices. This is only the response to an external shock. Over the medium to long term, sustaining export growth will depend on maintaining sound economic management, and on increasing productivity and improving the quality of Estonian products. This in turn

requires strengthening the institutions of economic management, maintaining current levels of investment in physical capital, and increasing investment in human capital.

The reforms discussed in this report should play an important part in assisting Estonia lay the foundations for a sustainable recovery. Indeed, one of the themes of this report is that the implementation of the accession agenda should emphasize institution building that strengthens economic management, and structural reforms that encourage a broad-based increase in productivity. Institution building to strengthen economic management includes: (i) upgrading financial sector supervision allowing prudential regulations to better reflect financial market developments; and (ii) strengthening the budget process so that new demands for public spending are met by shifting resources to programs that reflect both accession priorities and more productive uses of these resources. Structural reforms to encourage a broad-based increase in productivity include, among others: (i) strengthening public administration to ensure quality in the design and implementation of government policies and programs; (ii) developing trade-related institutions (e.g., standards, metrology, accreditation and testing bodies) to help broaden access of Estonian goods to EU markets; and (iii) completing land reform to increase the competitiveness of the agricultural sector.

Completing Financial Sector Integration

The single most important challenge of Estonia's strategy for financial sector integration into the EU is the further upgrading of its supervisory capacities. This is key for gaining the recognition of financial sector supervisors in EU-member countries. This also happens to be a crucial complement to sound economic management, particularly in view of the central role that banks play in the transmission mechanism of capital flows under a currency board arrangement. Indeed, under the currency board banks have been able to arbitrage between domestic and foreign financial markets, increasingly funding themselves abroad. Such arbitrage has become the key funding source for credit expansion, contributing to the current account deficit. The risks associated with market volatility justified the tightening of prudential regulation and supervision pursued by the Estonian authorities in 1998. These improvements in prudential regulations now need to be followed by upgrading banks' risk management systems (to manage the ever more complex operations and diverse markets in which they engage) and the development of the country's supervisory capacity. This should be a priority because the institutional development of banks and the supervision authority have lagged behind market developments.

To achieve the twin objective of gaining recognition of financial sector supervisors in EU-member countries and complementing sound macroeconomic management, the report proposes the following strategy:

- *Review the governance and organizational structure, as well as staffing and remuneration arrangements of the supervisory agencies.* The review should aim at: (i) strengthening the autonomy of the agencies; (ii) facilitating the training and retaining of its personnel through competitive salaries and better career prospects; (iii) reinforcing the on-site and off-site analytic capabilities; and (iv) arranging programs of exchange with the EU to facilitate from the outset the design of an institutional structure acceptable by other EU agencies.

- *Develop a complete, consistent and effective regulatory framework for capital markets.* For completeness, the Estonian capital markets regulatory framework needs to include segments, which are currently unregulated such as corporate, mortgage and municipal bonds. For consistency, it needs to apply a basic common set of principles. A guiding principle in the elaboration of such framework is that it should avoid creating incentives for market participants to engage in regulatory arbitrage by placing activities under oversight of the regulator with the least burdensome requirements. This is the case for banks and broker-dealers engaged in securities activities, and pension funds and life insurance companies involved in the administration of pension schemes.

- *Give attention to strengthening the capacity of the Securities Inspectorate.* The Securities Inspectorate is the weakest link in financial sector supervision. Indeed, delays in upgrading its supervisory powers and capacity have already lead to some financial instability and is increasingly responsible for the lack of trust in securities trading in Estonia. Also, strengthening the Securities Inspectorate is an important first step toward consolidated financial sector supervision, since consolidated supervision is more easily built from strong supervisory agencies. Measures to strengthen the Securities Inspectorate include: (i) revising the Securities Law, spelling out clearer reporting requirements and specifying rules for transparency, disclosure of information, and restraining insider trading; (ii) matching the amendments to the legal framework with better staffing and funding of the Securities Inspectorate; and (iii) developing operations manuals to guide on-site and off-site inspection of the Securities Inspectorate.

Managing Public Expenditure

Effective management of public expenditure is key for encouraging a broad-based increase in productivity. The reasons are two-fold. First, fiscal accounts must bear the brunt of macroeconomic stabilization under a currency board arrangement. In the next several years, the Estonian authorities are faced with a very tight budget situation. Effective expenditure management needs to ensure the fiscal discipline necessary for the smooth operation of the currency board. Otherwise, an increase in spending would lead to an increase in the relative price of non-tradable goods and services, reducing the long run competitiveness of Estonian exports. Second, the pre-accession period will place very specific demands on public expenditure, ranging from large public investments in environment-related infrastructure to new transfers programs for agricultural producers. Effective expenditure management is important to ensure that EU pre-accession funds can be used to leverage a shift in funding towards programs that reflect accession priorities and more productive uses of resources.

Measures to balance these demands while not missing the opportunity to strengthen fiscal discipline and achieve a more efficient allocation of public resources include the following:

- *Budgeting in advance counterpart funding for public investments.* Indeed, one requirement for accessing EU pre-accession funds is that domestic funds for the proposed projects or programs increase in real terms to match the contribution from the EU. Taking steps toward meeting this so-called additionality requirement during

the budget preparation stage will be a factor contributing to aggregate fiscal discipline. It will also define in advance expenditure priorities. This can be achieved, for instance, by setting aside funds in the Public Investment Program (PIP) for counterpart funding. It will require, however, a few changes in the PIP, notably three-year budgeting will need to reflect actual commitments. At present only the first year of the PIP is committed, the second and third years are indicative.

- *Prioritizing non-distortive investments.* The allocation of any additional funds during the pre-accession period should prioritize investment projects where the needs are greatest. These are primarily investment projects where the benefits extend beyond the local community, and where there is no displacement of private investments. These include costly investments to meet EU environmental standards, investments in education and health, and improvements in human resources. Examples of the latter are training for government officials, judges, and financial sector supervisors, as well as workers aiming to improve skills, such as teachers and nurses.

Strengthening Public Administration

Strengthening public administration is key to ensure quality in the design and implementation of government policies and programs. It also happens to be an important step toward EU accession, since administrative capacity to take on obligations of EU membership has become increasingly important in the accession process. Indeed, according to the European Commission, acceding countries are expected to 'develop the public services required to implement EU directives with the same guarantee of effectiveness as member states'.

The Estonian authorities are well aware of the need to strengthen public administration. There has been an ongoing debate on how to increase the productivity of the public sector, encourage cost effective uses of budget resources, and improve service delivery. The slow progress is taking steps to achieve these objectives is attributed to an impasse on the critical issues of public sector employment and pay policy. To resolve this impasse, the Estonian authorities need to collect sufficient information to guide their decisions. This requires the introduction of a management information system for public sector employment.

This information system would guide a functional review of all levels of administration, and help enforce control mechanisms that keep in check the expansion of agencies. Indeed, taking stock of the number of actually employed public servants throughout the administration is clearly an important first step in strengthening public administration. The functional review will then allow the allocation of resources to those functions that are considered a priority, reducing the resources available to functions that are duplicated or obsolete. Also, the management information system for public sector employment is key for effectively enforcing the recent decree on the establishment of new agencies requiring coordination between line ministries and the Ministry of Finance. It would provide the Ministry of Finance the necessary information to limit the opportunities for unrestricted expansion of the public sector.

Also, the Estonian authorities should consider the following options for improving public sector performance:

- *Strengthen control functions within the administration.* This is a crucial step to improve the operation of the public sector and prepare for devolution of functions and contracting out. External controls could be improved by strengthening the capacity for external auditing of public spending, and by devising and implementing clearer rules for the hiring and firing of public servants (including detailed job descriptions, performance evaluations, etc.). More internal controls should be introduced and strengthened via internal audits within ministries at the central, regional and local level to ensure proper accountability for the management of funds and the execution of projects. Efficiency or management audits would permit better control of value for money in public service delivery (facilitated by the development of standards for service quality), and an identification of weaknesses in the functioning and management of government institutions.

- *Review the roles and objectives of the multitude of state agencies in Estonia.* The review would aim at achieving two objectives: establish a complete inventory and clear regulations for the creation of new agencies, and differentiate agencies between administrative and commercial activities. Some of the activities of commercial agencies could be devolved to the private sector or civil society. Also, a review of the roles and objectives of agencies could help define better the accountability of agency managers, and establish greater control and supervision requirements.

Broadening Access to EU Markets.

Broadening Estonia's access to EU markets is key for sustaining export growth rates to Northern Europe. An appropriate sequencing in harmonizing internal market directives can contribute toward achieving this objective. Indeed, if Estonia moves swiftly to comply with EU competition policy and provide an inventory of state aids before accession, it may seek early assurances that Estonian exports will not be subject to antidumping laws and other forms of contingent protection in EU markets. This would benefit the Estonian export sector and allow the country to attract export-oriented investments that would, otherwise, arrive only after accession.

Another key step toward facilitating trade developments is strengthening customs administration, especially since most of Estonia's trade with the EU is based on processing of imported inputs for further export. While Estonia has made considerable progress toward harmonizing with EU customs legislation and procedures, given the highly complex directives in this area, further progress is still required. The following are some of the priorities that the Estonian authorities should consider:

- *Conform the Estonian customs code to the EU's.* High priority should be given to making the Estonian customs code conformable with the EU's Combined Nomenclature. At the eight-digit level the two customs systems are already identical, but the Estonian code is not as detailed. Thus, the Estonian customs code will need to be harmonized in finer detail. Given the administrative costs of setting up a separate code and the fact that Estonia does not presently use its tariff for revenue, it is likely to be simplest to adopt the EU customs code at a finer level of detail. Moreover, since the Estonian code is not for revenue purposes, there are some procedures, like

tariff suspension, which are not included in the Estonian code. The Estonian customs administration is currently rewriting the Code which it hopes will bring it into conformity with the *Acquis* during 1999.

- *Improve enforcement against counterfeit and pirated goods.* Although there are laws against counterfeit and pirated goods in Estonia, enforcement both at the border and inside the country remains weak. Estonia needs to sustain the enforcement effort initiated in the first half of 1998. Also, membership in the WTO places further priority in improving protection of intellectual property.

- *Computerization of the customs administration.* In order to assess the principal problems seen by industry, the Government of Estonia and the World Bank commissioned a survey on the operations of the customs administration. The results indicate that that many companies are concerned about delays in customs procedures at various stages, and suggest that the lack of computerization has contributed to some problems. This is a problem also identified by the European Commission. Given the speed at which it can be implemented, the authorities should proceed with the plan to adopt the ASYCUDA system by Estonian Customs October 1999. This should help to resolve or reduce these types of delay. As trade continues to expand, experience may show that the ASYCUDA system will be strained. Then eventually Estonia may want to model it customs computerization after one of the member countries of the EU.

Finally, Estonia can expect considerable economic benefits from meeting EU quality standards. It will lower the administrative barriers faced by Estonian exporters, and increase the demand for Estonian goods. Reaping these benefits, however, will require considerable involvement from the private sector in defining and enforcing quality standards. Indeed, in defining how to proceed in the harmonization of product standards, it is important to distinguish areas where the government must play an active role, from the role of the industry associations and the role of independent laboratories. The government has an important role to play in metrology, accrediting laboratories, in implementing into law EU Directives relating to norms and standards in regulated or fully harmonized products, and in performing market surveillance since products sold in Estonia will circulate freely throughout the EU. Laboratories and testing facilities should however be independent of the government. At present, only about 60-70 percent of the laboratories are private in Estonia. The participation of industry associations in the defining of standards, especially when standards are regulated by essential requirements, with the detailed standards defined by the industry associations, is very important. Further progress with gaining industry participation and in setting up laboratories that are independent of the government is therefore very much needed.

Preparing Agriculture for Accession

Trade integration with the EU is also of major importance for Estonian agriculture. At present, the EU accounts for over 50 percent of Estonia's agricultural and food imports, but less than one-third of exports. Over two-thirds of agricultural and food exports are bound to markets in the East and to neighboring Baltic countries. Success in preparing the agricultural sector for

EU accession will hinge therefore on developing an agricultural system that is competitive in world markets.

The rapid completion of structural reforms in agriculture is the most effective way of achieving this objective. The rapid completion of land reform is key for giving rural land users titles to be used as collateral for bank borrowing. Also, strengthening of the institutions designed to define and enforce agricultural and phyto-sanitary standards is a very important first step toward ensuring that Estonian agricultural exports meet EU quality standards.

Meanwhile, careful consideration needs to be given in deciding about the options for adopting the EU's Common Agricultural Policy (CAP), as it evolves. Early adoption of the EU CAP could end up subsidizing non-competitive agricultural producers at the expense of the Estonian consumers. Indeed, a simulation of alternative scenarios for adopting the CAP prior to accession indicates that the gains to Estonian producers are entirely offset by losses borne by Estonian consumers. Also, in an environment like the present, with strong deflationary pressures, policies to support production tend to postpone adjustments in production levels and crop mixes, adding to deflationary pressures. The best alternative at the moment is to emphasize agricultural support programs designed to increase efficiency, such as investment grants and support to agricultural extension programs.

Tackling Environmental Problems

Meeting EU environmental requirements will also require careful sequencing because of the high compliance costs. Estimates indicate that total cumulative investment could reach US$ 2 billion until 2010. The net present value of this investment stream, where at least 38% of these investments (US$ 760 million) needs to be realized before 2005, is US$ 833 million, or the equivalent to 18 percent of 1998 GDP. In view of the size of these investments, Estonia needs to devise a clear strategy for meeting EU environmental directives. This strategy should focus on (i) minimising costs; (ii) meeting international obligations that are important for Estonia's EU neighbours; (iii) identifying areas where there is greatest overlap between the EU requirements and local priorities; and (iv) establishing credible interim compliance targets.

The greatest degree of overlap between EU requirements and local priorities is in areas that have a direct impact on human health. This includes reducing air pollution, improving the quality of drinking water, and reducing the contamination of agricultural products. While the implementation of the polluter's pay principle should facilitate the transfer of some of these environmental investments to the private sector, a sizable share of the investments will remain a public sector responsibility for the foreseeable future. This includes, municipal water supply, sewerage treatment, waste management, and oil shale mining -- as long as the State retains substantial ownership.

CHAPTER 1: IMPLEMENTING THE EU ACCESSION AGENDA

1.1 Economic integration that leads to the convergence of incomes and living standards is at the heart of the EU accession process. The assumption is that trade integration combined with institutional harmonization will lead to sustainable capital flows from European Union member countries to acceding countries. This will contribute to investment, stimulate growth and generate employment, allowing incomes and living standards to converge over time. The agenda for EU accession is designed to create condition for realizing this scenario. It is build on early trade and cooperation agreements, and increasingly emphasizes the harmonization of policies and regulations that facilitate a greater integration of capital, goods and service markets (Box 1).

1.2 A candidate country can, however, get easily mired in the legal details of harmonization. This report aims therefore at answering "how can Estonia best implement the EU accession agenda without losing sight of the broader strategic objectives of income and living standards convergence"? There are two main findings. First, there is a large degree of overlap between the accession agenda and measures to strengthen economic management. The areas of overlap include upgrading financial sector supervision and strengthening budget management. There is also complementarity between reforms designed to facilitate accession and structural reforms that will support long term growth and economic integration. These include completing land reform, adhering to quality standards, strengthening the operations of the customs board, and modernizing public administration. Second, in areas where there is no overlap, policies and reforms need to be carefully sequenced. These policies and reforms entail either a fundamental change in Estonia's policy regime, or have high compliance costs. Examples include adopting the EU's Common Agricultural Policy (CAP), as it evolves, and complying with EU environmental standards.

A. Introduction

1.3 On March 30, 1998, Estonia, the Czech Republic, Hungary, Poland and Slovenia formally began accession negotiations.[1] The decision to commence negotiations with Estonia was taken by the European Council when it met in December 1997, in Luxembourg, to review the European Commission's (EC) official "Opinion on Estonia's Application for EU Membership". According to the Opinion, Estonia presented the characteristics of a democracy, with stable institutions, guaranteeing the rule of law, human rights and respect for and protection of minorities. Also, Estonia could be regarded as a functioning market economy, able to make the progress necessary to cope with competitive pressures and market forces within the Union. However, the country needed to make considerable progress in transposing and implementing the *acquis communautaire* relating to the single market. This included measures to ensure sound

[1] It is important to note that accession negotiations mark another important step in a process of approximation between Estonia and the European Union. Approximation began at independence (1991) with the establishment of diplomatic relations, and the enlargement of the Phare program to include Estonia and the two other Baltic countries. It gained strong momentum with when the Free Trade Agreement came into force in January 1, 1995. This replaced the earlier Trade and Cooperation agreement signed in 1992, and the FTAs signed with Finland and Sweden in 1992. That same year Estonia applied for EU membership. The following year (1996) Estonia concluded the more comprehensive Europe Agreement (EA), incorporating provisions on the political dialogue, and providing for a gradual and complete liberalization of trade and services, and in the free movement of workers and capital. The European Agreement came into force on February 1, 1998, following the completion of the ratification process.

policy making, strengthen the country's administrative capacity to enforce the *acquis* effectively, and secure investments to comply fully with the *acquis* in sectors such as environment.[2]

1.4 *Negotiations.* The negotiations are to be divided in two phases. The first phase (currently ongoing) consists of bilateral and multilateral screening of *acquis communautaire.* This is designed as an opportunity to explain the *acquis,* taking stock of where the candidate countries stand in adopting the *acquis.*[3] The second phase of negotiations is the decision-making phase. In this phase, parties need to reach an agreement encompassing all thirty-one areas of the *acquis,* including a timetable for completing harmonization and effectively implementing the *acquis.*

1.5 *Accession Partnerships.* In parallel with the negotiations, the candidate countries are expected to implement the Accession Partnerships (AP). These will support the candidate countries' efforts in designing sound economic policies, strengthening administrative capacity, and securing investments to fully comply with the *acquis.* The Partnership document outlines mutually shared priorities for policy action and indicates funding for these priorities made available by the EU.[4]

1.6 The Estonia Accession Partnership (AP) was published on March 25, 1998. The policy actions included in Estonia's AP emphasized the need for sound economic management and institution building and strengthening. The former was reflected in the need for regular reporting by Estonia to the European Commission on medium-term economic policy priorities.[5] The AP called for the annual presentation of medium-term economic strategy, to be jointly assessed with the European Commission, outlining a policy framework for sustaining the high growth rates of recent years, reducing inflation and increasing the level of national savings. The institution building and strengthening agenda accounted for the largest share of the priority actions agreed in the 1998 AP. This part of the agenda included the following priority areas:

- The reinforcement of institutional and administrative capacity; in particular regulatory and monitoring bodies, and the development of a comprehensive national training strategy for civil servants. Also important is developing a strategy and timetable for the consolidation of the various supervisory agencies in the financial sector.

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[2] European Commission (1997). Agenda 2000 -- For a stronger and wider Union. Bulletin of the European Union. Supplement 5/97.

[3] Between April and October, 1998, the screening of 12 out of the 32 negotiating chapters had been completed, with agreement reached in 7 chapters (common foreign and security policy; small and medium sized enterprises; science and research; education and training; telecommunications; industrial policy; cultural and audio-visual).

[4] While the current funding for implementing the AP comes from the 1995-99 Phare program, beginning in 2000 the EU will make available to applicant countries additional funds. These include EUR 500 million a year for agricultural development through the Support for Pre-accession in Agriculture and Rural Development program (SAPARD), and another EUR 1 billion for transport and environment-related infrastructure available through the Instrument for Structural Policies for Pre-accession (ISPA). This is in addition to the EUR 1.5 billion available to the ten applicant countries through the 2000-04 Phare program.

[5] Also, the European Commission will separately report progress in Estonia's harmonization process to the European Council. These are yearly reports in the form of updated Opinions designed to measures progress on the legislative agenda, assess economic performance, and account for new initiatives, including initiatives directly linked to the Accession Partnership Agreements.

- Institutional strengthening for enforcement of internal market directives, in particular in the fields of public procurement, intellectual and industrial property, financial services, taxation, technical legislation and competition (especially the transparency of state aids).

- The reinforcement of institutional and administrative capacity at central and local level to ensure efficient management of the public sector. Special attention is to be paid to the budgetary process, internal financial control, statistics, customs controls, agriculture, and the environment.

- In agriculture, emphasis is placed on veterinary and phytosanitary measures, border control and inspection arrangements, further restructuring of agro-food sector, the acceleration of the process of property restitution, and the acceleration of land reform with a view to increase private ownership. In addition, the document mentions the need to develop the capacity to implement and enforce the Common Agricultural Policy.

- In environment, the alignment with the *acquis* includes the establishment of control structures to monitor and enforce environmental regulations, and the continuous planning and implementation of approximation programs related to individual legal acts. A particular emphasis was given to the water and waste sectors including radioactive waste.

1.7 While the Accession Partnership document goes a long way in identifying policy priorities, an action plan providing more detailed objectives, activities, timetables and available resources is still needed. A first step in the direction of defining the government's EU strategy was the 'National Program for the Adoption of the Acquis' (NPAA), a mandatory requirement of the Accession Partnership. The National Program provides a comprehensive strategy for the harmonization of the Community's legal directives. Also, the strategy provides details on those articles that required harmonization, the institution with responsibility for the harmonization, and the costs of implementation. Each major law was placed on the Government Activity Program, together with a timetable for submission to Cabinet.

1.8 The main weakness of the National Program for the Adoption of the *Acquis* as a strategy document is, however, the absence of any linkage to the wider social, economic and administrative context. The National Program focuses primarily on the harmonization of laws, discussing neither sequencing, nor strategic prioritization in this process. This report aims at contributing to bridge this gap. In doing so, it identifies three sets of challenges in implementing the accession agenda.

1.9 The first challenge is maintaining the record of sound economic management during the pre-accession period. This should contribute to stability and growth, making it easier to implement the accession agenda. Meeting this challenge will, in turn, require:

- ***Completing financial integration since adequate financial sector policies are an integral component of sound economic management.*** In Estonia's case, the key toward completing financial sector integration into the EU is the further upgrading of its supervisory capacities. This is an important step toward gaining the recognition of financial sector supervisors in EU-member countries. This also happens to be a crucial complement to sound economic management, particularly in view of the central role that banks play in the transmission mechanism of capital flows under a currency board arrangement. Indeed, under the currency board banks have been able to arbitrage between domestic and foreign financial markets, funding themselves abroad. Such arbitrage has become the key funding source for credit expansion, contributing to the current account deficit. The risks associated with market volatility justified the tightening of prudential regulation and supervision pursued by the Estonian authorities in 1998. These improvements in prudential regulations now need to be followed by upgrading banks' risk management systems and the development of the country's supervisory capacity. This priority agenda is discussed in Chapter 2.

- ***Managing public expenditure by making the best use of Estonia's limited financial and organizational resources.*** The pre-accession period will place two demands on Estonia's public expenditure management. Estonia will need to commit resources for new public investment and for strengthening public administration to effectively implement the *acquis communautaire*. Estonia will also need to develop a framework to manage and report on the use of the pre-accession funds that will be made available by the EU. These funds are designed to assist Estonia in meeting some of the accession requirements and, hopefully, enhance the country's convergence prospects. The experience from previous EU enlargements indicates, however, that contribution of these funds to economic growth depends heavily on a credible fiscal and structural adjustment program. Otherwise, these funds end up financing consumption, negatively affecting export growth. To absorb these funds productively Estonia will need to enforce strict limits on public expenditures, and develop the ability to shift resources to programs that reflect both accession priorities and more productive uses of these resources. Chapter 3 outlines therefore elements of a budget process that should facilitate the management of public expenditure during the pre-accession period.

1.10 The second challenge in implementing the EU accession agenda is building institutions that will facilitate economic management and EU integration. While it will entail significant costs in the short term, full benefits should accrue in the medium term. This institution building includes:

- ***Strengthening public administration to ensure quality in the design and implementation of government policies and programs.*** This happens to be an important step toward EU accession, since administrative capacity to take on obligations of EU membership has become increasingly important in the accession process. Candidate countries are expected to 'develop the public services required to implement EU rules with the same guarantee of effectiveness as current member

states'.[6] Chapter 4 focuses therefore on the challenge of strengthening public administration in Estonia.

- ***Developing the trade-related institutions (e.g., standards, metrology, accreditation and testing bodies) that will help broaden access of Estonian goods to the EU market.*** Deeper trade integration is a key assumption behind the accession scenario. Trade integration should lead to closer links between producers of final and intermediate goods, fostering a virtuous circle of investment, specialization and innovation that acts as a stimulant to long term growth. This appears to be the case in Estonia. Foreign direct investment and sub-contracting arrangements have allowed the country to move up the value-added ladder from re-exporting raw material from Russia (e.g., oil and metals) to processing EU inputs for further export. Sustaining economic growth through trade integration will require however that Estonia broaden its access to European markets by upgrading quality standards. This also happens to be an important step in complying with EU internal markets directives. Thus, while enforcing the *acquis* in the areas of standards, metrology, accreditation and testing is expected to be an enormous administrative task for the public and the private sectors in Estonia, Chapter 5 argues that it should also entail considerable economic benefits by broadening access of Estonian goods to the EU market.

1.11 The third challenge in implementing the EU accession agenda is reforming agriculture and environment. The reforms in these two sectors call for careful sequencing, aiming at establishing credible strategies for harmonization. This should maximize the benefits for the Estonian population. The sequencing should aim at:

- ***Completing structural reforms in the agricultural sector.*** The challenge of trade integration is the greatest in the agricultural sector, since deepening trade integration with Northern Europe is of major importance for Estonian agriculture. At present, over two-thirds of Estonian agricultural and food exports are bound to markets to the east. Chapter 6 argues that success in deepening trade integration with Northern Europe will hinge on developing an agricultural system that is competitive with world markets. The most effective means of achieving this objective is the rapid completion of structural reforms in agriculture. This includes completing land reform, building the institutions responsible for defining and enforcing quality standards for agricultural products.

- ***Minimizing the costs of investments in environment-related infrastructure.*** Investments in environment-related infrastructure are expected to be the single largest item in Estonia's public investment program for the foreseeable future. Indeed, it is estimated that the public sector alone would be required to invest at least US$180 million during the period 1998-2000 to approximate four key EU environmental directives.[7] These investments should have a considerable impact on human health,

[6] European Commission, New Policy guidelines for the Phare Program in the Framework of Pre-Accession Assistance, March 1997.

[7] The Urban Waste Water Directive, the Drinking Water Directive, the Landfill of Waste Directive, and the Motor Vehicle Emissions Directive.

improving Estonia's population living standards. They also happen to be critical steps in meeting the environmental requirements of the *acquis communautaire* -- requirements that Estonia's EU neighboring countries attach significant importance. Chapter 7 reviews therefore Estonia's strategy for upgrading Estonia's environment-related infrastructure, focussing on options for minimizing costs and defining credible compliance targets.

1.12 The rest of the chapter examines key challenges in designing and implementing the EU accession agenda. Section B reviews recent economic developments, and the challenges and opportunities these developments create for the accession agenda. Section C examines how institutional aspects of policy making and coordination need to change to better implement the accession agenda.

Box 1: EU Initiatives Toward Central and Eastern European Countries

Free Trade and Co-operation Agreements
EC and the CEE countries arrange a series of bilateral agreements covering trade and co-operative measures starting in the late 1980s. Hungary the first to sign (September 1988), then Czechoslovakia (December 1988), Poland (September 1989), the Soviet Union (December 1989), German Democratic Republic and Bulgaria (both May 1990), Romania (March 1991), Albania, Estonia, Latvia, Lithuania, and Slovenia (1992).

Generalized System of Preferences (GSP) membership
Extended to the Visegrad Four from 1990-92, Bulgaria and Romania from 1990-1993, Estonia, Latvia and Lithuania from 1992-1994 and the CIS and Georgia from 1993 onwards.

PHARE program
Established at the June 1989 Group of 24 (G24) meeting as an endeavor to support Poland and Hungary through their early reform process (PHARE stands for the Poland and Hungary Assistance Reconstruction Economic program). Initial program measures consisted of finance to help restructure and modernize industry, widened market access to Western markets, setting up the European Bank for Reconstruction and Development (EBRD), funds to relieve pressing environmental problems and vocational training for managers, executives and students in key roles. It was extended to include Estonia, Latvia and Lithuania in 1991.

By mid-1990s, PHARE had become the EU's main instrument for economic and technical assistance under the Europe Agreements and was extended in 1995 to allow more funding for infrastructure on a multi-annual financial framework. Ten countries now benefit from the program and its allocated funds have tripled. Main aim remains to support economic reform and structural adjustment. Continues to work closely with the EBRD and the European Investment Bank (EIB), approximately EUR 7 billion allocated for expenditure over 1995-1999.

Europe Agreements
A ten-year timetable for phasing out trade barriers on industrial goods between the EU and Central and Eastern European countries. The EU is to phase out its tariffs within the first five years and then the Central and Eastern European to do the same in the second five years. Tariffs and other protectionist measures still applied by EU on a variety of "sensitive" industrial products (i.e. steel, textiles, chemicals).

Other aspects of these agreements include technical and financial assistance, a more developed framework for political dialogue, compliance to some aspects of EU law, information exchange and cultural co-operation. Operated since 1992 for Visegrad nations, since 1993 for Bulgaria and Romania and since 1995 for Estonia, Latvia and Lithuania. Russia and Ukraine signed Partnership and Co-operation Agreements with the EU in 1994.

The 1995 White Paper
Identified key measures required in each sector to prepare the Central and Eastern European countries for integration into the Single Market Program (SMP). Suggested a sequence in which the approximation of legislation should be introduced. To complement this, the Paper laid out plans to establish the adequate structures required to facilitate integration and ensure future compliance and enforcement of the *acquis communautaire*. Provisions on social, environmental and other policy fields were also included to lend balance to the Paper's proposals.

Source: Adapted from Dent (1997).

B. Implementing the Economic Agenda for EU Accession

1.13 Estonia's case for accession is built, to a large extent, on a record of sound economic management. Indeed, since regaining independence in 1991, Estonia has successfully implemented a broad agenda of stabilization and structural reform policies. This agenda included the introduction of a new currency under a currency board arrangement, far reaching trade liberalization, and an extensive privatization program. The agenda was implemented against a backdrop of prudent economic management. The Estonian authorities restrained public expenditures to available tax revenues and limited borrowing from domestic and foreign sources. Also, a hard budget constraint was imposed on public and private enterprises, including instances when a no bailout policy for financial institutions was strictly enforced.

1.14 This commitment to sound economic management has yielded positive results. Inflation dropped from 1,069 percent in 1992, to 90 percent in 1993, and further to 6.5 percent in 1998. Economic recovery swiftly followed stabilization. Real output began recovering in 1994, recording positive growth rates of around 4 percent in 1995 and 1996, before reaching a dazzling 11.4 percent in 1997 and returning to 4.2 percent in 1998. Economic recovery has also witnessed improvements in living standards. Real wages increased over 20 percent since the beginning of the recovery, and GDP per capita has risen 40 percent in dollar terms during this same period (Table 1).

Table 1: Selected Economic Indicators, 1992-98

	Real GDP Growth (%)	GDP Per Capita[a] (US$ 000)	Current Account (% of GDP)	Consumer Price Index[b] (%)	Domestic Credit Expansion[b] (%)	Real Wage Index[b] (1992-IV=100)
1992	-25.8	...	...	1,069	...	...
1993	-8.5	...	1.3	89.9	44.5	109
1994	-1.8	2,680	-7.1	47.7	30.9	120
1995	4.3	3,060	-5.1	29.0	61.0	127
1996	4.0	3.210	-9.1	23.1	104.2	129
1997	10.7	3,300	-12.0	11.2	86.2	139
1998p	4.0	3,420	-8.6	6.5	23.1	148

a) Current prices.
b) End of year figures.
p) Figures for 1998 are preliminary estimates, except for the consumer price index and domestic credit expansion.
Source: Estonian Statistical Office, Bank of Estonia; World Bank staff calculations.

1.15 The recovery, however, was accompanied by a widening current account deficit. The current account swung from a 1.3% of GDP surplus in 1993 to 5.1% of GDP deficit in 1995, and further to 12% of GDP in 1997. While the initial increase in the current account deficit was driven by the investment opportunities resulting from the bold economic reform program, by late 1996 the widening of the current account deficit was increasingly being driven by the arbitrage opportunities provided by the currency board arrangement. Owing to the exchange guarantee explicit under the currency board, banks were able to borrow abroad and re-lend these funds domestically at higher interest rates. Commercial bank-intermediated capital inflows became, as a result, increasingly important, accounting for over 10% of GDP in 1997. This lead to very rapid credit expansion, raising concerns about overheating and the further widening of the current account deficit.

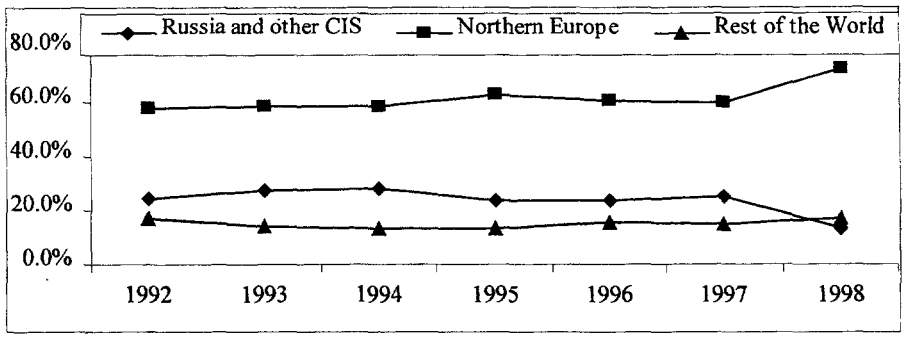
1.16 The Estonian authorities responded to these developments with the usual degree of economic prudence. In the second half of 1997 and the first half of 1998, the authorities took steps to slowdown credit expansion by raising the threshold for bank prudential regulations, and tightening the country's fiscal stance. Most of the prudential regulations were aimed at transferring the banks liquidity management to the central bank (and away from the interbank money market), and at increasing the cost of foreign funding, in particular short term funding. In end-1997, the Bank of Estonia increased the bank's minimum capital adequacy ratio (CAR) from 8% to 10%, and extended reserve requirements to include net borrowing from abroad.[8] Also in end-97, the Estonian government further tightened domestic credit by establishing the Stabilization Reserve Fund (SRF), withdrawing EEK 700 million of its deposits in commercial banks and transferring them abroad. Further withdrawals occurred during 1998, and continued in 1999 with the transfer of a large share of the proceeds from the privatization of Eesti Telekom to the Stabilization Reserve Fund.

1.17 The concerns of the first half of 1997, however, were quickly replaced by others following the East Asia crisis in the fall of 1997. The sudden liquidity tightening in international capital markets limited the inflow of foreign funds into banks, sharply reducing domestic credit expansion. Tighter liquidity lead to the collapse of the stock market, reducing the value of bank collateral and increasing concerns with the quality of loan portfolios. These problems were compounded by the Russian default in the late summer of 1998. Despite limited direct exposure by Estonian banks, their loan portfolios were affected by enterprises with large trade orientation to Russia. Indeed, between August and September exports to Russia alone fell by over 40%, with export of food products falling by one-third. As a result, by the second half of 1998 the economic recovery had come to a stand still. Real GDP growth in the fourth quarter of 1998 had slowed to 0.2 percent, down from 1.8 percent in the third quarter. This was a sharp slowdown when compared to real GDP growth of 9.3 percent and 5.7 percent in the first and second quarters of 1998, respectively.

1.18 One of the implications of the Russia crisis was the acceleration of Estonia's economic integration with the rest of Europe. Between August and November 1998, Estonian exports to Northern Europe rose by around 23 percent, increasing their share in total exports to around 70 percent. This happened despite the recovery of exports to Russia and other CIS markets by late 1998 (Figure 1). Also, investors from Finland and Sweden took larger ownership positions in Estonian enterprises (especially food processing industries) and banks. Indeed, by end-1998, two leading Swedish banks, Swedbank and Skandinaviska Enskilda Banken (SEB), had acquired controlling stakes in the two largest Estonian banks, accounting for over three-quarters of the Estonian banking market.

[8] In October 1997, the risk adjustment on loans to local governments was increased from 50 to 100 percent, and the minimum daily liquidity (cash in vaults) requirement for banks was increased from 20 to 40 percent. To avoid over-taxing the banks, however, legal reserves above the daily minimum could be used to offset liquidity mismatches resulting from daily operations including the interbank market. Similarly, reserves above the monthly minimum began being remunerated by the Bank of Estonia at the Deutsche Bundesbank's discount rate valid on the last banking day of the month. In early July 1998, measures to increase the cost of bank operations (on and off balance sheet operations) also became effective. The cash component of the mandatory reserve requirements was increased from 20 to 30 percent, thereby raising the reserve holdings at the central bank. Also, mandatory reserve requirements were extended to include guarantees provided by commercial banks to other financial institutions. Finally, in late September 1998, measures designed to increase the cost of foreign funding, in particular short-term funding, came into effect. The extent to which foreign interbank liabilities could be offset against assets for the purpose of calculating reserve requirements was limited to 50 percent. In addition, non-remunerated reserve requirements were imposed on short-term (up to 2 years) liabilities toward financial institutions and on newly issued short-term securities.

Figure 1: Estonian Exports by Major Markets of Destination Jan. 1992/Dec. 1998 – % of Total Exports



Source: Bank of Estonia; World Bank staff calculations.

1.19 The increase in foreign ownership in these two largest banks was key to broadening their capital base, enhancing their access to international capital markets, and strengthening corporate governance. More importantly, however, it helped counter an outflow of capital associated with a concentration of principal repayments of foreign bonds and loans (Table 2). Indeed, it mitigated many of the concerns that emerged following the East Asia crisis in the fall of 1997, when the combination of reduced access to international capital markets and a concentration of principal repayments was draining funds out of the banking system, contributing to the economic slowdown.

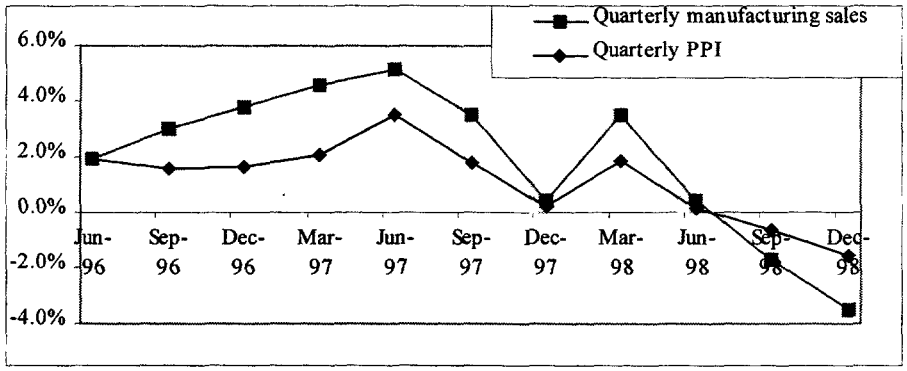
Table 2: Capital Flows, 1993-98 (% of GDP)

	1993	1994	1995	1996	1997	1998p
Current Account	1.3	-7.1	-5.1	-9.2	-12.0	-8.6
Foreign Direct Investment	9.4	9.1	5.5	2.5	2.7	10.7
O/w Reinvested Earnings	...	1.8	0.4	0.4	2.0	0.1
Portfolio Investment	0.0	-0.6	-0.6	3.4	5.6	0.3
O/w Bonds issued by Banks		0.0	-0.5	-0.4	3.3	-0.8
Other Investment	0.0	-1.2	2.1	6.3	10.5	-1.6
O/w Banks	0.0	-2.8	1.2	4.5	8.0	-1.4
Short term		0.0	0.0	0.0	5.4	-1.9
Long term		-2.8	1.2	4.5	2.6	0.5
Memo item: net capital flows intermediated by banks	0.0	-2.8	0.7	4.1	11.3	-2.2

p) Preliminary.
Source: Bank of Estonia; World Bank staff calculations.

1.20 Another important development is that the decline in output following the collapse of the Russian market has been to a large degree accommodated by price deflation and slower growth of real wages (Figure 2). Indeed, the 0.2 percent decline in the producer price index (PPI) in 1998 is almost entirely explained by the sharp drop in the prices of goods exported to Russia and other CIS market. This includes processed food (primarily meat and dairy products), textiles, and chemical products. Further declines in industrial sales, such as the 13.2 percent decline between the first two months of 1999 and the first two months of 1998 might accentuate this trend.

Figure 2: Quarterly Changes in Manufacturing Sales and the Producers Price Index Jun. 1996 to Dec. 1998

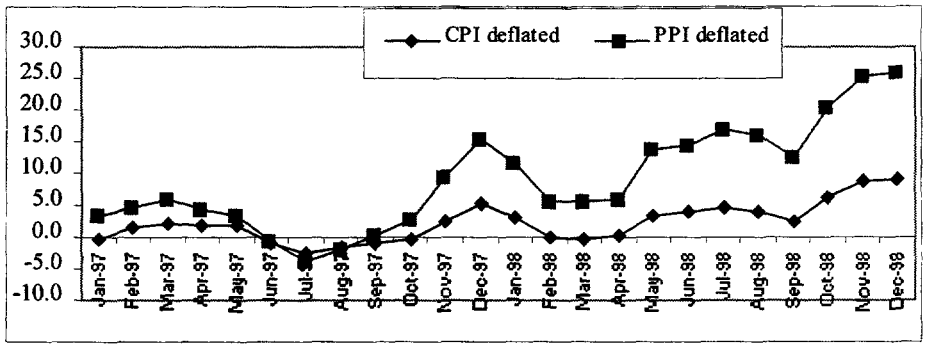


Source: Estonian Statistical Office; World Bank staff calculations.

1.21 The economic slowdown and the downward pressure on prices have lead to two important spillovers. First, there has been a marked slowdown in tax revenue collection. This began in late 1998, and is likely to continue at least during the first half of 1999. It results to a large degree from Estonia's dependence on revenues from the value-added tax and the excise taxes. Together these taxes account for around 40 percent of total tax collection, and over 90 percent of their net revenues are collected from imports. A contraction in import demand has therefore a related impact on tax revenue collection. This slowdown in tax revenue however compounds the problems of implementing the 1999 budget. It envisions an 17 percent increase in expenditures. If the Government aims at meeting its 1999 fiscal accounts, the authorities will need to revise expenditure downwards.

1.22 Second, the rapid decline in price inflation has implied a further increase in real interest rates. The rise in interest rates began in the second half of 1997 with the monetary contraction that followed the East Asia crisis, and reached new heights in the second half of 1998 with the rapid decline in Estonian inflation following the Russia crisis (Figure 3). This is an important development, since before end 1997 real interest rates in Estonia had been very low or even negative. The average real interest rate on Kroon denominated loans deflated by the consumer price index was –6.7% in 1996, and 0.7% in 1997, compared to 3.8% in 1998. Similarly, the average real interest rate on Kroon denominated loans deflated by the producers price index was 2.0% in 1996, and 2.9% in 1997, compared to10.6% in 1998.

Figure 3: Annual Real Interest Rates on Loans Denominated in Estonian Kroons -Jan.97 - Dec.98 (%)



Source: Estonian Statistical Office; World Bank staff calculations.

1.23 This decline in producer prices and ensuing increase in interest rates are an integral part of adjustment to an external shock under the currency board arrangement, playing a key role in helping restore external balance (Box 2). Lower prices help improve export competitiveness, while the increase in real interest rates due to lower prices reduces domestic demand, having a contractionary impact on imports. Indeed, there are already signs of improvements in the trade deficit, although a large share of this improvement is due the decline in imports exceeding the increase in exports in the fourth quarter of 1998. When comparing the fourth quarter of 1998 with the fourth quarter of 1997, there was a 2.1 percent increase in exports and 10.5 percent decline in imports. For the year as whole, however, exports and imports increased by 19 and 13 percent, respectively.

Box 2: The Automatic Balance of Payments Adjustment under a Currency Board Arrangement

One of the features of currency board arrangements is the so-called 'automatic adjustment mechanism' that restores equilibrium in the balance of payments. This automatic adjustment mechanism is also known as the gold-standard adjustment mechanism, and the 'price-specie-flow mechanism' first described by David Hume in 1752. To understand how this automatic adjustment mechanism works, consider the case of a country with a balance of payments deficit. The loss of international reserves implied by the balance of payments deficit brings the money supply goes down, raising interest rates, which in turn will stem capital outflows and/or attract capital inflows. Also, higher interest rates should exert a deflationary pressure on demand, reducing domestic absorption and helping to improve the current account balance. Finally, to the extent that internal prices are flexible, the lower pressure on demand will reduce prices, making exports more competitive. Ultimately, this should permit output to rise back to previous levels without generating a balance of payments deficit.

Key for this automatic adjustment mechanism to work is that the currency board not buy domestic assets. This precludes the currency board from financing fiscal deficits and playing the role of lender of last resort for commercial banks. The rule of not financing fiscal deficits means in practice that the public sector can only run deficits by borrowing abroad or from domestic capital markets. Also, the absence of a lender of last resort forces banks to run down their own reserves to meet the demand for foreign currency associated with a balance of payments deficit. This requires banks to sell assets and call in loans in order to replenish reserves. This in turn raises local currency interest rates, introducing a market force that stems the outflow of funds and/or attracts new inflows.

Even if these conditions are met, this does not ensure the smoothness of the automatic adjustment. Indeed, the decline in domestic demand required to reduce imports and bring down domestic prices to increase export competitiveness might imply a sharp drop in domestic output. The output cost of adjustment is higher the more rigid the factor markets, such as the labor market. For instance, if wages do not decline as fast as the initial reduction in output, the economy might slide into a deep recession before export competitiveness is restored. Also, some domestic banks might become insolvent before higher interest rates are able to stem capital outflows and/or attract capital inflows. This is true when larger issues concerning investor confidence, such as political stability, the credibility of the exchange rate peg, or the soundness of the banking system, drive capital flows. The soundness of the banking system can indeed come into question if the required increase in interest rates implies a severe deterioration in the quality of bank loan portfolios.

Source: Adapted from Cavalcanti (1999).

1.24 This automatic adjustment process should not be seen, however, as a sustainable formula for restoring external balance. Estonia's engine of growth is the processing of imported inputs for further export. While this places a premium on the country's ability to add value at competitive costs, it should not be achieved through rising unemployment, slower wage growth and declining producer prices. This is only the response to an external shock. Over the medium to long term, sustaining export growth will depend on maintaining sound economic management, and on increasing productivity and improving the quality of Estonian products. This in turn

requires strengthening the institutions of economic management, maintaining current levels of investment in physical capital, and increasing investment in human capital.

1.25 The reforms discussed in this report should play an important part in assisting Estonia lay the foundations for a sustainable recovery. Indeed, one of the themes of this report is that the implementation of the accession agenda should emphasize institution building that strengthens economic management, and structural reforms that encourage a broad-based increase in productivity. Institution building to strengthen economic management includes: (i) upgrading financial sector supervision allowing prudential regulations to better reflect financial market developments; and (ii) strengthening the budget process so that new demands for public spending are met by shifting resources to programs that reflect both accession priorities and more productive uses of these resources. Structural reforms to encourage a broad-based increase in productivity include, among others: (i) strengthening public administration to ensure quality in the design and implementation of government policies and programs; (ii) developing trade-related institutions (e.g., standards, metrology, accreditation and testing bodies) to help broaden access of Estonian goods to EU markets; and (iii) completing land reform to increase the competitiveness of the agricultural sector.

1.26 *Strengthening institutions for economic management.* Strengthening institutions for economic management is where, in the immediate short-run, Estonia has most to gain. The present economic situation calls for a revision of some of the bank prudential regulations introduced in late 1997 and early 1998, and a renewed resolve to enforce fiscal discipline. Indeed, revising some of the more distortionary financial sector regulations, while keeping overall fiscal accounts balanced, should help foster a private sector-lead recovery. This new policy mix requires however investments in institution building. The revision of bank prudential regulations needs to be followed up by an across-the-board upgrading of financial sector supervision. Only stronger financial sector supervisors can allow some of the more distortionary measures to be revised without the risk of problems re-emerging some time in the future. Similarly, balancing fiscal accounts requires strengthening of the institutions that manage the budget. Otherwise, there is the risk of recourse to ad hoc expenditure cuts that could compromise the delivery of essential public services and, as a result, lower the living standards of the Estonian population.

1.27 *Revising financial sector regulations.* The most obvious place for revising financial sector prudential regulations is the very high and non-remunerated reserve requirements introduced in late 1997. Credit expansion has already slowed down considerably, down to 23.1 percent in the twelve months ending in December 1998, compared to 86.2 percent for the same period ending in December 1997. Also, credit expansion in 1998 was not fueled by net foreign borrowing by banks,[9] and, since Estonian banks face again large repayment of foreign borrowing made in 1997 and 1998, it is unlikely there will be any considerable increase in net foreign borrowing by bank in 1999.

[9] Indeed, total liabilities of commercial banks to foreign credit institutions stood in December 31, 1998, at EEK 5.33 billion, compared to EEK 5.78 billion in December 31, 1997 and EEK 5.79 billion in July 31, 1998. The total amount of issued debt securities in July 31, 1998, was EEK 4.2 billion, compared to EEK 3.92 billion in December 31, 1997.

1.28 *Eliminating tax exemptions.* Another measure that requires revisiting is the tax exemption on interest income earned from deposits in Estonian banks, and on bonds issued by the Compensation Fund (CF) introduced in 1998. These measures were aimed at encouraging deposit in the bank system and the purchase of CF bonds. They also helped offset some of the more stringent bank prudential regulations introduced in late 1997 and early 1998. This preferential access given to domestic banks and the Compensation Fund, however, distorts the development of the domestic capital market, skewing savings and investments toward debt-financed projects. The revision of bank prudential regulations should open the opportunity to eliminate these tax exemptions without unduly burdening the banks.

1.29 *What lies ahead?* The implementation of the accession agenda provides other opportunities to facilitate economic recovery and sustainable growth. This is especially true in cases where the implementation of the accession agenda leads to deeper trade and investment relations with Europe, and provides additional funding for key public investment. Taking the most out of these opportunities however will depend on the country's institutional capacity to implement this agenda. The following section turns therefore to Estonia's institutional capacity for policy formulation and coordination.

C. The Institutional Capacity for Implementing the Accession Agenda

1.30 The design of the EU accession agenda is only the first step in implementing this agenda. It also requires the institutional capacity to formulate and coordinate policies envisioned under this agenda. Indeed, this is where the distinction between legal harmonization and policy harmonization is drawn. This section therefore assesses the country's institutional capacity in these two areas. It begins with an assessment of general policy making, turning next to the management of the EU accession agenda.

1.31 *Institutional arrangements for policy formulation.* Estonia has a unicameral parliamentary system comprising a separate executive, legislature and judiciary. The institutional arrangements for executive and regulatory power and are defined by the Government of the Republic Act, 1996. The Act defines the cabinet, chaired by the Prime Minister, as the main decision making forum for government business. The functions of the Cabinet include developing the government policy program, submitting acts to Parliament, making Government Decrees on administrative issues (which are subordinate to Parliamentary Acts), agreeing on policy decisions by issuing government instructions, and arbitrating between ministers on conflicting policy issues.[10]

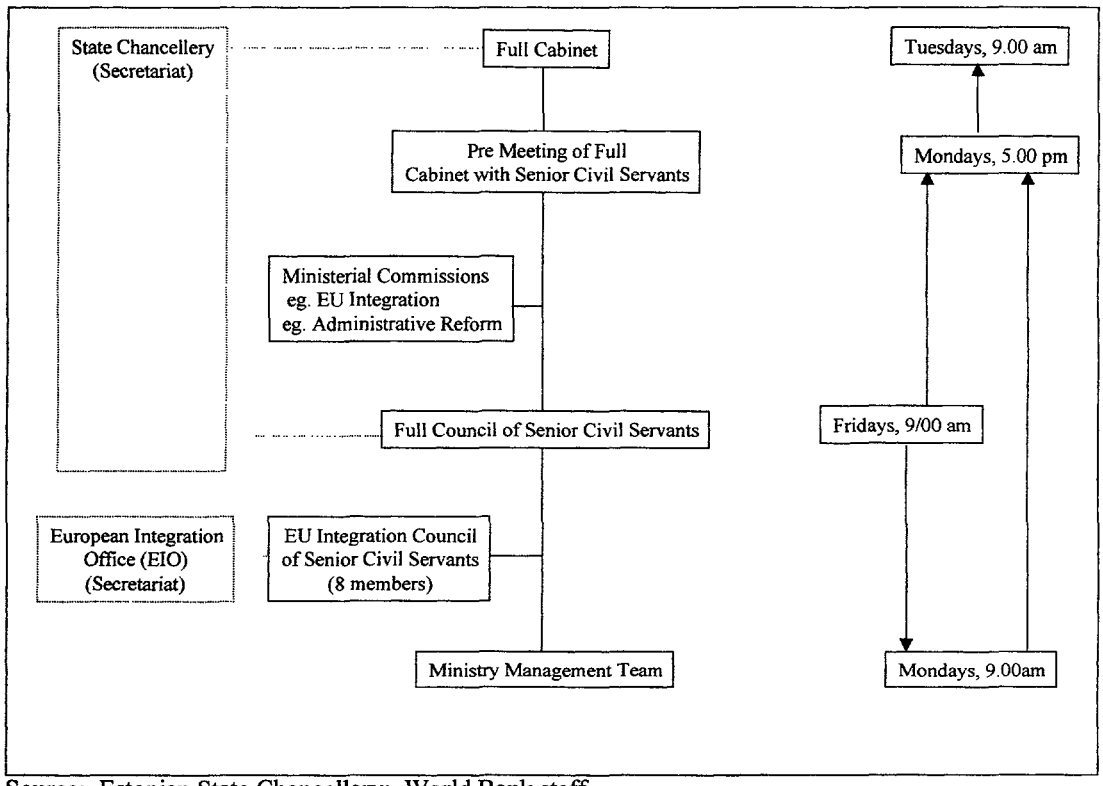
1.32 The full cabinet (Quorum) meets every Tuesday to discuss a pre-arranged agenda that has been prepared by the cabinet secretariat two weeks beforehand. In principle, decisions should be made upon majority vote, with the Prime Minster holding a casting vote. In practice, these occasions rarely occur, and decisions are almost always reached by consensus. Before cabinet meetings, a pre-meeting of all Senior Civil Servants (Secretary-Generals, also called

[10] All executive bodies report to a member of the cabinet. These executive bodies are: government agencies (financed by the state budget and holding executive power), including the state chancellery, ministries, county governments, executive agencies and inspectorates, and their regional offices; and state agencies administered by government agencies, which provide services to governmental agencies in areas of culture, education or other areas.

Chancellors, and/or their deputies) takes place on the previous Friday to resolve any issues and highlight any problems. This forum is important for filtering out documents that can be dealt with at an administrative level, and for agreeing on administrative items that do not require political decisions of the cabinet. The State Secretary, who also acts as the secretariat for the Cabinet, chairs the meeting of Senior Civil Servants. Following the Council of Senior Civil Servants meeting, there is a full cabinet pre-meeting on Monday afternoons which is also attended by senior civil servants and used to resolve further issues prior to the cabinet meeting (the following morning).

1.33 There are also a number of ministerial commissions that have been created as temporary bodies to direct policy development for issues such as EU integration. However, these commissions do not take policy decisions, since these are referred to the full cabinet. Similarly, there are meetings of senior civil servants for relevant issues, such as EU Integration, also chaired by the State Secretary or relevant designated Secretary General. The reporting relationships between these institutions are shown below (Figure 4).

Figure 4: The Organization of Policy Making



Source: Estonian State Chancellery; World Bank staff.

1.34 Overall, the institutional arrangements are well defined in law and in practice. The various forums for filtering information and making decisions are reported by the State Chancellery to work well. However, the presence of the pre-meeting of the cabinet for a small civil service (albeit with a considerable workload of pre-accession policies – 60 bills over the next six months) suggests that the civil service is perhaps referring too many decisions to cabinet that could be dealt with elsewhere. It was certainly felt by some officials who have attended cabinet that a significant proportion of documents could have been dealt with at lower levels.

This phenomenon is partly because of the large reliance on developing laws that need careful legal screening instead of other types of policy.

1.35 Also, an analysis of policy coordination suggests that the clearing process for determining the government agenda, allocating responsibility for actions to ministers, and tracking cabinet decision making is effective. Each year the government produces its manifesto that consists of its main policy priorities, including any relevant domestic priorities established from previous years. The State Chancellery then produces a six monthly work program that details the deadline for the submission of legal acts to cabinet and allocates responsibility to the appropriate minister. The weekly cabinet agenda (normally 25 to 40 items per week) is comprised of discussions of the government's work program items, including legal acts (normally one third of items) and other non-programmed items such as parliamentary acts or in-year policy issues.

1.36 The State Chancellery acts as cabinet secretariat and has three full-time staff who operate a computerized control system, including a policy tracking system called SEIRA and a letters logging system called TRIP introduced by the Swedish government. The two systems are linked to ensure the timely turnaround of letters and other documents. The SEIRA system enables the State Chancellery to issue weekly bulletins (on Mondays) on the progress of policy submissions and requests updates from ministries on any delays or otherwise of their required policies. The secretariat provides a rolling agenda and plans two weeks in advance. The SEIRA system also allows the State Chancellery to undertake three tasks: (i) search previous decisions by date and context; (ii) monitor actions required and conditions to be fulfilled before a regulation can be submitted; and (iii) log any changes to the government program due to delays or decisions by the Prime Minister to speed up submission.

1.37 Despite an effective coordination and clearing procedures, there remain four weaknesses in the development of government policy: (i) imperfections in draft laws submitted to Cabinet, leading to delays in approving legislation; (ii) insufficient cost-benefit analysis of laws being proposed due to the wrong mix of policymaking skills; (iii) absence of cross sectoral strategic thinking to inform the government's policy making agenda; and (iv) little or no policy impact assessment to review whether implemented policies have been effective. The following paragraphs consider actions to address these weaknesses:

1.38 *Strengthen the legal capacity of line ministries.* Administrative clearing is considered to be effective, with 95 percent of items submitted to Cabinet decided upon immediately, requiring no further work. However, roughly two out of five major bills tend to require two or more submissions, mainly due to legal questions raised by the Legal Chancellor. Some of these issues could probably be avoided with closer consultation with the Legal Chancellor's department prior to Cabinet submission. Yet nothing can replace the strengthening of the legal capacity of line ministries, since it is important that the Legal Chancellor's position remain independent of political control. Public consultation of policies is satisfactory since it is a requirement for all laws to have been discussed with user groups, and for public reactions to be indicated as part of the policy submission. Cross-sectoral policies that affect more than one minister require the signature of all relevant ministers. In the event of a disagreement, the government will make the final decision, subject to other constitutional rules.

1.39 *Establish a central policy making unit.* At present, there is very little integration of sectoral policies. A cross-sectoral strategic thinking unit that informs the government's policy-making agenda should prepare this. This is essential to ensure that the implementation of the EU accession agenda accounts for Estonia's social, economic and administrative priorities. There might be an initial resistance to such a concept given the reluctance to adopt anything resembling central planning. However, countries that have previously acceded to the EU have found that a strategic planning unit has greatly assisted in the implementation of an accession agenda.

1.40 *Improve cost-benefit analysis.* The formulation of policies is unnecessarily focused on the need to develop regulations and other types of legal decisions. The 'Government Internal Procedures' of 1996 requires all policies to be supplied with a cover sheet stating the benefits of the policy, the cost of implementation, and any EU directives which are applicable. Interviews suggest, however, that the quality of impact assessment and cost-benefit analysis is much weaker than the logic and quality of the laws themselves. This is generally because policy development tends to be driven by the legal process and by lawyers, and there is consequently a lack of relevant policy making skills.

1.41 *Introduce performance-monitoring procedures.* At the cabinet level, policies (usually laws) are passed with little in the way of requirements for post-implementation evaluation. Laws generally have an implementation section at the end of the law determining the transition arrangements associated with a given regulation. However, there is no mandated requirement on the implementers of a law to subsequently review their impact. This results in a failure to demonstrate value for public money. Such evaluations should be undertaken to accomplish three objectives: (i) inform the public on the success and costs of policies; (ii) inform the government and implementing ministry of costs and benefits so that improvements can be made to the policy and other related policies; and (iii) encourage policy makers to be more concerned with implementation costs and viability, rather than legal sophistication. Indeed, the Estonian authorities should require that all policies be evaluated in cost-benefit terms, and the method and timing for post implementation evaluation be attached to the policy submission (or contained in the implementation chapter of a law). The introduction of policy evaluation procedures would require a significant generation of skills not currently sufficient among policy makers, but that could be addressed within the national training strategy being developed.

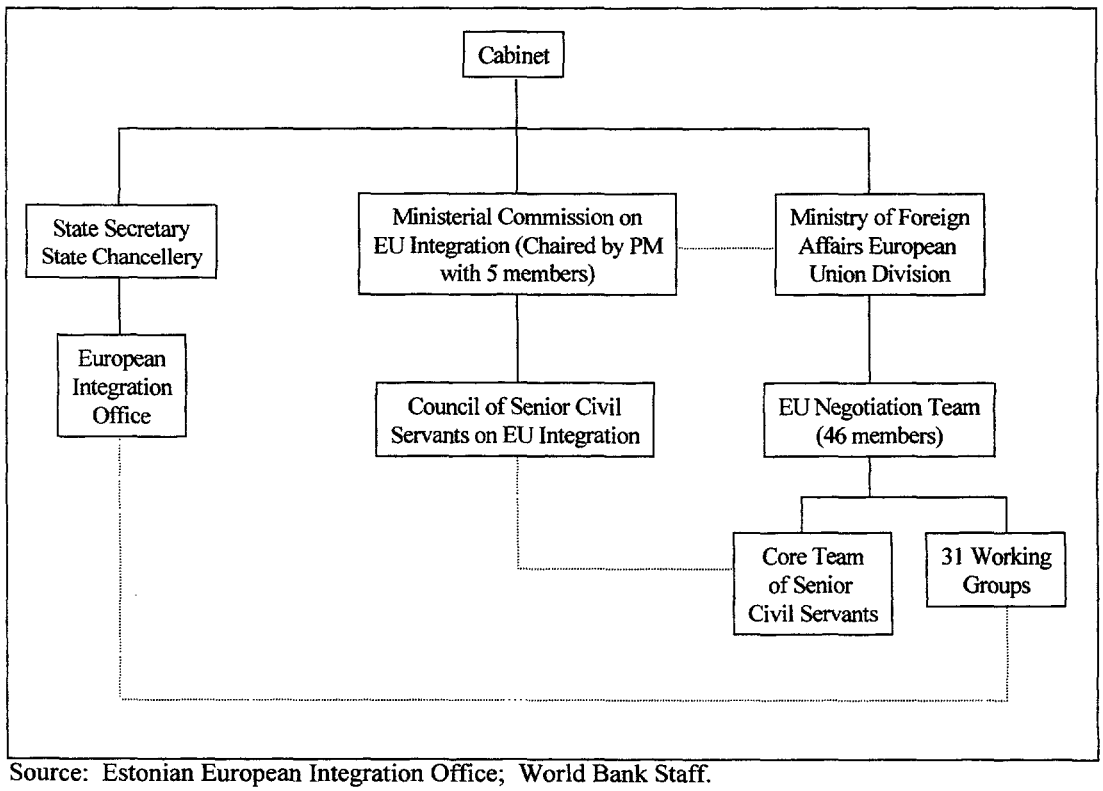
1.42 Although the Government of the Republic Act requires the State Chancellery to monitor the performance of ministries, this has not been undertaken in terms of services delivered to the population. Instead, the only formal performance monitoring is for the turnaround of government policy (generally law) making or financial compliance.[11] As Estonia enters the EU there will be greater emphasis on open governance and the involvement of citizens in setting national standards and demanding high quality services. It is recommended therefore that the Estonian authorities establish a concept of national results oriented management. In institutional terms, this will require a body to develop the philosophy behind and orchestrate the setting of national standards and monitoring of key performance indicators, including public satisfaction. In order to develop this theme, the Estonian authorities should consider establishing a performance unit in the State Chancellery. While this would expand the role of the State Chancellery, it would only be in terms of ensuring accountability to citizens. Policy control would, rightly, remain the role of ministries and their agencies.

[11] Financial compliance is audited by the State Audit Office.

1.43 *Managing the EU accession agenda.* The EU accession agenda is an important sub-set of the government's overall policy agenda. It covers a broad range of issues and is being implemented under a very tight time schedule. This raises the risk of allowing the accession agenda to get detached from the overall policy agenda. The following paragraphs therefore examine the institutional arrangement managing the EU accession agenda, and its coordination of the overall policy agenda.

1.44 The institutional arrangement for EU integration was established in a Government Decree (January 1996) and updated in May 1997 to give overall responsibility for EU matters to the Prime Minister. The principal actors in this institutional arrangement are shown in Figure 5. There are five bodies responsible for pre-accession strategy, and four bodies in charge of the negotiation process itself.

Figure 5: Institutional Arrangements for EU Accession Management



Source: Estonian European Integration Office; World Bank Staff.

1.45 The five bodies responsible for the pre-accession strategy are the following:

- The *Commission of Ministers* for EU affairs. It meets monthly and is chaired by the Prime Minister. Its members include the Ministers of Foreign Affairs, Economic Affairs, and Justice, as well as the State Secretary. The commission is responsible for directing EU integration policy, presenting policies and issues to the Government and overseeing the work of the Council of Senior Civil Servants.

- The *Council of Senior Civil Servants* for EU affairs (CSCS). This council meets fortnightly and is supervised by the State Secretary. It is chaired by Head of the

European Integration Office, and includes senior representatives (usually Deputy Secretary Generals) of key ministries and representatives of the central bank. The role of the CSCS is to develop EU strategy and review policies produced by sectoral working groups before submission to the Commission of Ministers.

- Twelve Sectoral *Expert Groups* in the following areas: legislation; finance; internal market; foreign trade; agriculture; standards; technology; energy; telecommunications; environment; social affairs; and internal affairs. These expert groups are chaired by representatives of the relevant ministers and include experts from the lead ministry and other co-operating ministries.

- The *European Integration Office* (EIO) located in the State Chancellery. It is the main pre-accession coordinating body and reports directly to the Prime Minister. The EIO is responsible for acting as secretariat to the Commission of Ministers and the CSCS, and for leading policy development on: approximation of legislation; technical assistance needs; EU training of civil servants; and promotion of public awareness issues. The EIO plays a major part in managing the EU Accession process, although it is comparatively short staffed (16 managers and specialists) compared to some other countries.[12]

- *Ministerial European Integration Units.* These units act as the ministerial interface for the EIO, providing ministerial coordination to the EU Accession strategy.

1.46 The EU negotiations process is the responsibility of four bodies:

- The *European Division of the Ministry of Foreign Affairs*, which is responsible for the negotiation agenda.

- The *Negotiation Team,* consisting of 46 members from state agencies. It has recently been proposed in a draft decree and would include members of the 31 working groups and core negotiating team. At the time of writing, the terms of reference of this unusually large team have not been specified and its mandate is not known at this time.

- The *Core Team* of negotiators responsible for overall sectoral negotiations and comprised of senior civil servants drawn from the CSCS.

- The 31 *Working Groups,* reflecting the chapters in the *acquis* and responsible for harmonization of EU laws across all sectors. Each member of the core team is also part of one or more working groups.

1.47 In addition to the above groups, Estonia created an ad hoc *parliamentary committee* on European Affairs in January 1997, in order to cooperate with the government on the EU integration process and work closely with the European Parliament and other EU institutions.

[12] Poland and Hungary have, respectively, 160 and 100 staff employed in EU integration offices.

1.48 *Management of the EU accession agenda.* Although the institutional arrangements have been worked out in consultation with the European Commission, a cohesive approach to EU integration is still lacking. This is attributable to the processes and skills used by the different bodies, rather than the institutional arrangements themselves. The following recommendations could therefore help improve the management of the accession agenda:

1.49 *Increase the EIO's staff.* The EIO has skilled staff with expert knowledge of EU integration matters but is limited by too few resources. Indeed, there is evidence of the office working in a reactive fashion because the deadlines for turning around documents are very tight, leaving little time for planning. For example, requests for ministries' technical assistance requirements were made without creating a pro-forma because it was said that this would have taken too long, with the end result being that the information provided was in different formats, which actually took longer to analyze. The EIO should ensure that its requests for information is met in common format.

1.50 *Improve compliance by harmonizing the EIO's and the Cabinet Secretariat's policy tracking systems.* The EIO makes use of technology in managing EU integration, including a database of ministries' training needs and technical assistance requirements. Email is used to transfer information between the office and ministry EIUs. However, one weakness is the lack of integration between the cabinet secretariat SEIRA system, which monitors the government's program (including its EU program), and the EIO database, which also tracks the progress of law harmonization. There is thus an overlap and source of variance between the two systems. It would be advantageous to operate one system that can be used for tracking all policies.

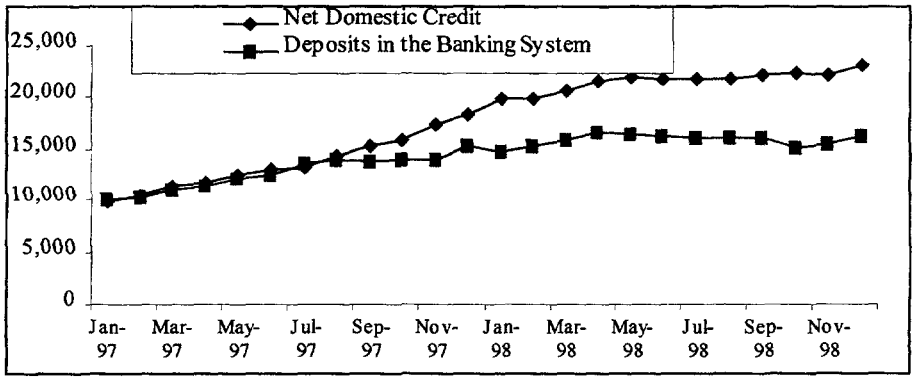
CHAPTER 2: COMPLETING FINANCIAL SECTOR INTEGRATION

2.1 The integration of international capital markets has accelerated over the last few years. The swift move toward further integration includes the creation of increasingly complex contractual instruments, the unbundling of the components of risk into separate financial products, and the rapid growth of financial conglomerates. All of this is designed to enable more efficient financial intermediation. These transformations however also pose new challenges for financial institutions, as well as financial sector regulators and supervisors. This is particularly true in the case of Estonia, where financial sector regulators and supervisors face the formidable challenge of simultaneously dealing with existing weaknesses in the financial sector, while adapting to the rapidly changing environment characterized by the dismantling of geographic, functional, and institutional frontiers. This chapter attempts to respond how to best meet this challenge. Section A identifies the risk faced by Estonian banks in intermediating savings for investment, especially foreign savings. Section B reviews the main regulatory gaps with the EU. Section C outlines a strategy for bridging this gap and mitigating the risks of financial integration. The proposed strategy is based on the strengthening of prudential regulation and supervision, taking into account key macroeconomic-related risks. This also happens to be a key step toward gaining recognition from financial sector regulators and supervisors from EU member countries.

A. Managing Financial Integration

2.2 Completing financial sector integration will hinge upon the ability of Estonian banks to better manage risk. The recent experience with intermediating large capital inflows illustrates this quite well. Access to foreign sources of funding allowed banks to overextend themselves, with credit growth greatly exceeding expansion in their deposit base (Figure 6). Banks allowed intermediation margins to drop along with interest rates, hurting profitability. They also sought increasingly riskier operations, including lending to their own non-bank financial institutions.

Figure 6: Net Domestic Credit and Deposits in the Estonian Banking System
Jan. 97 – Dec. 98 – EEK Million



Source: Bank of Estonia; World Bank staff calculations.

2.3 This section identifies, by way of introduction, the four main sources of financial risk the banks and other financial institutions are likely to face with greater integration: output volatility, asset price volatility, liquidity shocks, and off-balance sheet risks. These are risks that banks

typically face, although some of them are heightened by financial integration. This is especially true for banks operating under a currency board arrangement. Indeed, while the currency board does facilitate integration by ensuring currency stability and, therefore, interest rate convergence, it also encourages increased financial intermediation. The latter is a concern particularly in environments with high capital mobility and weak banking supervision. This is not to stay that a different exchange rate arrangement would yield markedly lower risks. However, the currency board places a premium on strong banking supervision and close monitoring of the banks asset and liability structure, not least because of the loss of exchange rate flexibility and the limited role for the lender of last resort.

2.4 *Output volatility and credit risk management.* Under a currency board arrangement, the loss of exchange rate flexibility to smooth out the recessionary effects of a monetary tightening, increases the volatility of output. The increased output volatility makes it harder to assess the quality of the bank's loan portfolios. For example, during the expansionary part of the cycle the forecasts of borrower's repayment capabilities tend to be optimistic. This biased perception may be wrongly validated by the likely decline in the share of bad loans, which may be also the consequence of fast credit growth. This may change dramatically during economic downturns, when borrowers face difficulties in servicing loans. Banks tend therefore become more conservative, contributing to the cyclical downturn, and lowering further the quality of bank's portfolios. This problem is compounded by the fact that periods of rapid credit growth are usually not matched by an equally rapid institutional development (neither of the banks, nor of the supervisory authority) to ensure portfolio quality.

2.5 *Asset price volatility.* The absence of an exchange rate cushion under a currency board implies that market pressures translate more often into asset price volatility. This tends to exacerbate banks' exposure to market risks, particularly interest rate and equity risks. The interest rate risk is derived from large maturity mismatches between deposits and loans. In Estonia, most deposits are under 3 months, while 76 percent of the loans are over one year -- only 5 percent of the deposits are over 1 year. A hike in interest rates thus rapidly shrinks spreads. Even though semi-annual indexation of most loans to their base rates or the Tallinn Interbank Offered Rate (TALIBOR) partially compensates for this risk, sharp interest rate hikes severely affect the profitability of commercial banks

2.6 The equity risk emerges from two different sources: equity held as collateral for loans granted, and the bank's own equity holdings that compose their capital and their trading portfolio. The former is a significant source of risk for Estonian banks given the practice of granting loans on margin - that is, using as collateral stock owned by the borrower. The equity risk is accentuated by the high volatility of the Tallinn Stock Exchange (TSE) since it is small, dominated by relatively few listings (mostly banks), and relies primarily on self-regulation. The latter, in particular, increases the scope for insider trading which can lead to a rapid loss of confidence or concerted anti-competitive operations. While the growth of the market was spectacular until October 1997, the recent correction may have a lasting impact on the risk perception of small investors and it may take time before confidence returns.

2.7 *Liquidity shocks.* The limited role played by the Bank of Estonia as a lender of last resort under the currency board arrangement provides a greater incentive and implies that Estonian banks face a greater risk of liquidity shocks. These liquidity shocks can affect the banking

system as a whole (aggregate shocks), or be limited to one or only a few banks (idiosyncratic shocks). Aggregate liquidity shocks result most often from events that happen abroad. For instance, the tightening of monetary policy in large industrial countries that leads to an overall increase in interest rates, or a major crisis in another country or region (e.g., the East Asia crisis, the recent Russian default) that can change investor's perception about the riskiness of emerging markets.

2.8 Another potential source of aggregate liquidity shocks is a sudden change in the government's deposits in the banking system. The government accounts for around one-third of deposit in the banking system. A sudden withdrawal to cover a shortfall in revenues or an unexpected increase in expenditures could leave some banks, if not the entire banking system, in a tighter liquidity position. Examples of events that could lead to a change in the government's deposits in the banking system includes: an unanticipated increase in pension benefits financed by drawing down reserves of the Social Insurance Fund (SIF), or lower revenues than anticipated, especially in the first months of the year, when the government usually needs to draw down its deposits in the banking system.

2.9 Idiosyncratic liquidity shocks emerge from the change in perception about the solvency of one or a few banks. Depositor may decide to withdraw their funds to protect their investment, leading to insolvency. While idiosyncratic liquidity shocks can be limited in impact, they are also rapidly transmitted through the interbank market to the rest of the economy. Indeed, a liquidity shock transmitted through the interbank market was one of the most important aspects of the events that took place in October 1997. A few commercial banks had overextended themselves and began borrowing in the interbank market to fund new operations. The interbank interest rate increased three-fold before transactions dried up. In the scramble for liquidity, banks liquidated investment positions pushing stock prices down. Lower stock prices forced many banks to call margin loans, putting further downward pressure on share prices.

2.10 *Off-balance sheet risks.* Intense competitive pressures has already led banks to meet more sophisticated liquidity and risks management needs of their clients through off-balance sheet operations. These include loan commitments, credit lines, guarantees, swaps and hedging transactions, and securities underwriting.[13] Some of these operations are aimed at increasing income fees; others allow banks to escape regulations such as minimum capital requirements. Tightening regulations therefore can only partially address the risks that result from off-balance sheet operations. To deal with risks that derive from financial innovations regulators need to encourage the flow of information between banks and supervisors, harmonize rules between markets, develop meaningful and transparent accounting standards, and establish adequate documentation for new instruments. Indeed, a market-oriented, risk-based framework is what is intended with the 1995 amendment to the Basle Capital Accord. Under this amendment banks will have to incorporate capital charges for the market risk arising from their trading activities and from their open positions in foreign exchange and commodities. The amendment permits banks to use their own internal models as a basis for measuring risk as an alternative to using a standardized measurement framework. As Estonia moves to adopt the new standards for market risk (which are already part of the EU Capital Adequacy Directive), Estonian banks will have to

[13] From an accounting point of view, none of these operations correspond to a genuine liability (or asset) for the bank, only to a random cash flow. This is why they are classified as off-balance sheet operations.

move fast to implement risk management systems. At present, most banks still do not run control systems to monitor the risk derived from their off-balance sheet activities, especially derivatives. A similar weakness in the Banking Supervision Department of the Bank of Estonia also means that the resulting risks can go unchecked.

2.11 *Consolidation.* The acknowledgement of these risks has already contributed to the rapid consolidation of the banking sector. Between June and October 1998, nine of the eleven Estonian banks, accounting for over 95 percent of bank assets in the country, were either closed or chose to merge. Three banks were closed and the other six banks merged into three larger banks (Hansapank, Uhispank and Optiva Pank). Furthermore, in October and November, two leading Swedish banks (Swedbank, and SEB) acquired controlling stakes in two of these three largest banks (Hansapank and Uhispank), broadening their capital base, enhancing access to international capital markets, and strengthening corporate governance.

2.12 The emergence of three large commercial banks, accounting for over 90 percent of the Estonian banking market, raises three important issues for Estonia's financial sector regulators and supervisors. First, regulators and supervisors will come under increased pressure to monitor the activities of these very large banks, while still overseeing smaller and more fragile banks. It is important therefore that the process to deal with insolvent institutions be unambiguously spelled out. Authorities should take steps to ensure that management will always lose their jobs and shareholders their capital in the event of failure. This will greatly reduce the moral hazard associated with operating banks, minimizing the potential contagion effect. Banking prudential regulations are at the core of macroeconomic management, particularly the mechanisms of intervention and/or liquidation of institutions and the deposit insurance law.

2.13 Second, these large Estonian banks are likely to face increasing foreign competition. While the larger Estonian banks appear to be prepared to operate in the more competitive environment that will emerge with EU integration,[14] they should expect flatter margins. In particular, they should expect greater competition in other financial subsectors such as insurance and brokerage. In these subsectors the size of foreign companies, as well as technological, organizational and marketing skills will place foreign companies at a significant advantage. The greater competition in the financial system may also accentuate the usual problems associated with the implementation of deposit insurance for all banks, as EU Directives require, adding new stresses to Estonia's integrated supervision structure.

2.14 Third, while the presence of foreign financial institutions does imply that the home-country supervisory authority has the responsibility for ensuring the solvency of these institutions, host-country supervisors are still responsible for ensuring the liquidity of these institutions. Indeed, host-country supervisors are better equipped to assess liquidity because of their knowledge of the local market conditions (e.g., movements in government deposits). This division of labor will require close contact and cooperation between host and home-country supervisors.

[14] The free entry of branches and subsidiaries of foreign banks has always been allowed.

B. Bridging the Regulatory and Institutional Gaps with the EU

2.15 The other important step toward financial integration is bridging Estonia's regulatory and institutional gaps with the EU. This step is important for two reasons. First, the EU will not establish an EU level regulatory body. It will rely, instead, on national financial supervision bodies. The harmonization of financial sector legislation with EU Directives is therefore essential to allow international transactions to be carried out without running into conflicting rules and regulations. Second, a reliable regulatory framework is key for adequate risk management, particularly, in view of the expected high volatility resulting both from Estonia's currency board arrangement and increases competition in the EU single market.

2.16 *EU financial sector Directives.* The EU financial sector Directives aim at "coordinating the minimum requirements for the different type of institutions in order to create a minimum standard and a more level playing field as the basis for home country control and the single license".[15] The EU White Paper - Preparation of Central and Eastern Europe countries for integration into the internal market of the EU - proposes to address the measures for harmonization in two stages (see Table 3). Stage one concerns all those measures that address fundamental principles and provide the overall framework for more detailed legislation. Stage two consists of measures to reinforce the prudential regulation and are more closely linked with the creation of the EU's internal market. However, the order in which the measures are *de facto* implemented should ultimately depend on the specific needs of Estonia's financial sector.

2.17 The following paragraphs examine the EU 1992 program for complete financial market integration in banking, securities and insurance. In doing so, they highlight Estonia's key legal harmonization and institutional gaps vis a vis EU Directives.

2.18 *Banking.* The EU financial integration program covers two broadly defined sets of regulations. The first set includes a series of Directives issued between 1977 and 1989 dealing with basic harmonization issues such as common annual account formats, consolidation requirements, own funds definitions, solvency, common standards for bank licenses and disclosure requirements for foreign branches. The second set of regulations, known as the second banking Directive, is the core regulation enabling a single market in banking. It was issued in December 15, 1989 and has been effective since January 1993.

2.19 *The second banking Directive.* The second Directive defines the three main principles for banking operations in the EU: (i) a common minimum capital requirement - EUR 5 million for new banks; (ii) a single banking license; and (iii) the principle of home country control. The single banking license allows a bank licensed in any of the EU countries to provide services and establish branches in all other countries without any need for permission from the host country. The principle of home country control authorizes credit institutions to perform activities anywhere in the EU. Since there is not going to be an EU wide supervision authority, the harmonized licensing procedure raises the issue who will supervise banking activities by foreign credit institutions. Host country supervision is not really possible because of the liberal attitude towards cross-border services and branching. This Directive therefore is anchored on the concept of mutual recognition, coupled with the requirement to supervise credit institutions on a

[15] Financial Services Chapter of the White Paper, European Commission.

consolidated basis. Supervision is to be performed by the home country and will be recognized as adequate by all countries in which the institution under supervision is active. However, while overall solvency of the bank is the responsibility of the home country, the host country supervises the liquidity in the branches.

Table 3: EU Financial Sector Directives

	Banking Directives		Capital Market Directives		Insurance Directives	
Stage One	First Banking	1977	Stock Exchange Listing	1979	First Non-Life Insurance	1973
	Own Funds	1989	Invest. Funds (UCITS	1985	First Life Insurance	1979
	Solvency Ratio	1989	Major Holding Notification.	1988	Second Non-Life Insurance	1988
	Money Laundering	1991	Public Offer Prospectus	1989	Insurance Accounts	1991
	Deposit Guarantee	1994	Insider Trading	1989		
	Second Banking	1989	Investment Services	1993	Third Non-Life Insurance	1992
	Large Exposures	1992	Capital Adequacy	1993	Third Life Insurance	1992
Stage Two	Annual Accounts and And Consolidated Accounts	1986				
	Consolidated Supervision	1992				
	Capital Adequacy	1993				

Source: European Commission

2.20 *Mutual recognition of supervisory authorities.* For mutual recognition to work some assurances of minimum quality supervision are clearly necessary to avoid regulatory arbitrage. A series of Directives has attempted to impose minimum prudential standards across the EU. These Directives established common rules on investments,[16] connected lending exposure, and aggregate large loan exposure.[17] Moreover, these Directives establish common definitions of capital,[18] and a common approach to prudential regulation in implementing the Basle standards for capital adequacy.[19]

2.21 *Capital adequacy.* The Capital Adequacy Directive covers both the capital adequacy of credit institutions and investment firms. It deals with risks other than credit risk. The latter is covered under the Solvency Directive. This Directive affects the trading book of a bank and the capital of a bank to position risk. This includes hedged positions (which carry much reduced requirements), foreign exchange rate risk, and settlement risk. Also, to insure a level playing field, common standards for deposit insurance have been imposed requiring deposits of up to EUR 20,000 to be insured.

2.22 This network of regulations is clearly essential for EU-wide financial integration to work effectively without increasing financial system fragility, maintaining the soundness of the banking system. It is not obvious this will be enough, as higher competition will eventually lead to lower profit margins and more risk taking by banks. Hence the importance of adequate supervision. In banking, this is likely to be the main sticking point during accession negotiations.

[16] The maximum share a bank can hold in a single non-financial firm is 15% of its own funds, and these shareholdings cannot cumulatively exceed 60%.

[17] Large loan exposure cannot exceed 25% of own funds to a single borrower, and 800% on aggregate.

[18] The Own Funds Directive distinguishes between core and supplementary capital.

[19] The Basle standards require the bank's own funds to be at least 8% of risk-adjusted value of assets and off-balance sheet business.

2.23 *What are the gaps in the Estonia banking legislation?* Estonia's legislative harmonization efforts in the area of banking are noteworthy. Most EU Directives have already been incorporated into applicable legislation. This includes legislation concerning credit risk (large exposures, connected lending, definition of own funds, solvency ratios) as well as investment restrictions and other EU requirements (prevention of money laundering and banking secrecy). It also includes the Capital Adequacy Directive, whose many details were in the new Banking Law. The changes encompass many prudential regulations concerning market (non-credit) risks[20]. In addition, it introduces reporting requirements for consolidated supervision and a deposit insurance law.[21]

2.24 *Capital markets*. The capital markets Directive focuses on establishing general principles underlying the operations of capital markets. This includes adequate information provision to the public and equal treatment of investors. Rules were also established on price manipulation, secrecy and publication requirements for listed companies, and minority shareholder rights in case of takeovers. Listing requirements include minimum size, the obligation to publish annual reports satisfying certain standards, and the duty to publish price sensitive information forthwith. Later Directives addressed the emergence of new types of investment companies and issues concerning mutual recognition and information requirements.

2.25 The key Directive in the capital markets is the 1993 Investment Services Directive. It is equivalent to the second banking Directive. This Directive established the single license rule, mutual recognition and home member state supervision for investment firms. It allows firms (brokerage houses, portfolio managers, professional investment advisors, etc.) to offer their services throughout Europe. It is similar to the license banks received to engage in securities activities on a pan-European basis. Another key Directive, the 1993 Capital Adequacy Directive, defines minimum capital requirements (ranging between EUR 125,000 and EUR 730,000). It also defines rules on capital for different types of operators, requiring consolidation where two or more investment firms belong to the same group. In case there is a bank in the financial group, the banking consolidation Directive applies. No agreement however has been reached yet on eliminating national restrictions on investment portfolios by pension funds.

2.26 *What are the gaps in the Estonian Capital Markets Legislation?* The Estonian Securities Market Act of 1993 provides the legal framework for the operation of Estonian capital markets. It was amended recently to incorporate the rights and obligations of the supervisory agency. It also covers general aspects concerning the issue and registration of securities, disclosure by issuers, licensing of brokers, definition of insiders, and monitoring and supervision by the Supervisory Board. However, regulation and supervision of securities only covers EU Directives to a limited degree and constitutes the weakest spot of Estonian securities markets. The largest regulatory gap is on the application of the EU Capital Adequacy Directive. On the supervision side, there are no clear rules and processes for supervisory authorities. Also, the regulation of the Tallinn Stock Exchange (currently self-regulated) greatly constrains the enforcement of the legislation. There are limited reporting requirements and a lack of specificity in the rules for

[20] This includes off-balance sheet risks, underwriting commitment risks, derivative risks, and equity position (own and trading portfolio) risks. These items will be incorporated in the calculation of the capital-adequacy ratio.

[21] The deposit insurance law guarantees 90% of both private and company deposits up to a maximum of EKK 20,000 (EUR 1,250); the limit will be gradually increased to EUR 20,000 over a 15 year period.

transparency, disclosure of information, and insider trading. The main exception to the above concerns investment funds. The Investment Funds Act of 1997 was drafted with the objective of harmonization with the EU Investment Funds Directive. As a result, the effectiveness supervision of investment funds is more effective than that of securities.

2.27 Securities brokers recognize the need for strengthening the regulatory and supervisory framework of the Securities Inspectorate. Reliance on the self-regulatory standards that the TSE and ECD impose is perceived to be inadequate in the face of prospective market growth. A larger market will make it more difficult for all market participants to be informed about the activities of peers, and to use peer pressure to enforce standards. While the growing importance of self-regulation has played a positive role in capital market development, in the absence of enhanced regulation and supervision, capital markets run the risk of discouraging potential new entrants - new firms that join the TSE will seek comfort on legally binding regulatory mechanisms - setting in motion anti-competitive pressures to the disadvantage of clients and the overall reputation of the market.

2.28 A new Law on Central Register of Securities, to be submitted to Parliament in 1999, will improve harmonization with the EU in the following areas: central register, primary and secondary market of securities and investment services. Also, the Government plans to establish consolidated supervision of the financial sector, which might facilitate the comprehensive implementation of the EU Capital Adequacy Directive. This will apply to banks and to investment companies competing with banks in the securities markets.

2.29 Notwithstanding plans to establish consolidated financial sector supervision, the Estonian authorities need to take immediate action to upgrade the capacity of the Securities Inspectorate to effectively perform its responsibilities. This includes revising the Securities Law, spelling out clearer reporting requirements and specifying rules for transparency, disclosure of information, and restraining insider trading. Amendments to the legal framework need to be matched with better staffing and funding of the Securities Inspectorate. Authorities need to increase funding for the Securities Inspectorate either through special budget allocations, or from contributions from market participants.

2.30 There are two arguments for immediate action in upgrading the capacity of the Securities Inspectorate. First, the Securities Inspectorate is the weakest link in financial sector supervision. Delays in upgrading its supervisory powers and capacity pose a risk to financial stability and growth. Second, strengthening the Securities Inspectorate is an important first step toward consolidated financial sector supervision -- a key step toward facilitating the implementation of the EU Capital Adequacy Directive -- since consolidated supervision is more easily built from strong supervisory agencies.

2.31 *Insurance*. EU Directives in the insurance sector follow the same principles in the Banking Sector Directive: free trade and investment, mutual recognition and home country control. A strict separation is maintained between life and non-life insurance. The same Directive sets guidelines for solvency margins and requires a guarantee fund and defines different classes of life insurance. The Insurance Accounts Directive acknowledges the considerable convergence in the EU (for example, in terms of premium calculation, asset's valuation, investment rules and policies) in non-life insurance. There is however far less

convergence in life insurance. The latter Directive is aimed at harmonizing the information disclosure needs in order to facilitate the standard of comparability that the EU internal market requires. Later amendments dealt with harmonizing regulatory issues such as large shareholder disclosure rules, and, most importantly, established the single license and home country rule (1992).

2.32 *What are the main gaps in Estonia insurance legislation?* The 1992 Estonian Insurance Law provides the basic framework for regulating the life and non-life insurance activities in Estonia. While the law defines many of the EU requirements, such as investment rules, solvency, licensing, and disclosure requirements, it lacks precision on enforcement procedures. For example, regulations need to make more explicit the processes for calculating reserves, licensing and supervising companies. The law also contains some inconsistencies. It defines local government bonds as safe assets, despite the recent Bank of Estonia decision to increase the risk attached to the bonds from 50 percent to 100 percent for the purpose of calculating bank capital adequacy ratios. The Insurance Act (currently under preparation) will help to address some of these weaknesses and also contains provisions on insurance supervision. The institutional framework and capacities for insurance supervision have yet to be developed. Adequate supervision, therefore, is the most important barrier to eventually join the EU internal market, given the time, continuous commitment and funds it requires.

C. A Pre-Accession Strategy to Strengthen Regulations and Supervision

2.33 The single most important challenge of Estonia's strategy for financial sector integration into the EU is the further upgrading of its prudential regulation and supervisory capacities to gain recognition from its EU counterparts. This also happens to be a crucial complement to macroeconomic policy and the stabilization strategy, particularly in view of the central role that banks play in the transmission mechanism of capital flows under a currency board. Indeed, under the currency board banks have been able to arbitrage between domestic and foreign financial markets, increasingly funding themselves abroad. Such arbitrage has become the key funding source for credit expansion, contributing to the current account deficit. The risks associated with market volatility justified the tightening of prudential regulation and supervision pursued by the Estonian authorities in 1998. These improvements in prudential regulations now need to be followed by upgrading banks' risk management systems (to manage the ever more complex operations and diverse markets in which they engage) and the development of the country's supervisory capacity. This should be a priority because the institutional development of banks and the supervision authority have lagged behind market developments.

2.34 The proposed pre-accession strategy for Estonia's financial sector is as follows:

Banking

- *Conduct a comprehensive diagnostic review of the governance and organizational structure, staffing and remuneration arrangements of the supervisory agency.* The recommendations from such study should be aimed at (i) strengthening the autonomy of the agency: (ii) facilitating the training and retaining of its personnel through competitive salaries and better career prospects; (iii) reinforcing the on-site and off-site analytic capabilities (see below); and (iv) arranging programs of exchange with

the EU to facilitate from the outset the design of an institutional structure acceptable by other EU agencies. The autonomy for the supervisory agency could be strengthened by, for example, entrusting the director and board of the agency for fixed term mandates, and by placing the agency directly under the presidency of Bank of Estonia or a Committee with wider representation including the Ministry of Finance, the Bank of Estonia, and the Prime Minister's office. Finally, the structure of the supervisory agency could be strengthened by creating *two separate units* -- one responsible for regulatory policy, another one responsible for investigation and enforcement.

- *Establish an early warning system for troubled banks.* In view of the recent events of bank failure, especially the failure of Eesti Maapank, it is important to put in place a system of early warning for troubled banks. This system would include publicly known criteria, agreed to by the Bank of Estonia, the banks, and the Deposit Insurance Fund. This would include a 'ladder of compliance actions', indicating the actions to be taken by the Banking Supervision Department of the Bank of Estonia in case the financial condition of a bank worsens. For instance, the 'ladder of compliance actions' would rank actions according to where the bank stood in following cases: (i) No problems/normal activities, basically a good bank performing well; (ii) Stage 1, early warning of trouble; (iii) Stage 2, risk to financial viability or solvency; (iv) Stage 3, future financial viability in serious doubt; (v) Stage 4, non-viability/insolvency imminent. Clearly, the supervisory actions would increase in severity as a bank moved from stage 1 to stage 4. The advantage of publishing this kind of ladder of intervention is ensuring transparency in regulatory actions, and clarifying at what point would the Deposit Insurance Funds be involved.

- *Raise the number and the skills of the staff in the supervisory agency.* Supervisors should be trained to detect cases of connected lending, which may be shielded by parallel companies; and identify cases in which overdue loans are rolled over or not fully declared overdue. For example, in some cases only the overdue interest and principal are declared in default. Training on the job is crucial for this purpose. External auditors could, while performing their job, provide training to the agency's employees. The agency could also seek technical assistance support and engage in twinning arrangements with other agencies, possibly from EU countries. Donors' grants to fund consultants that provide support in the field and to fund training abroad of the agency's employees will be non-distortionary and highly beneficial to the strengthening of the supervision function.

- *Implement plans to introduce consolidated supervision for banking, insurance, securities, and, in the future, pensions.* While consolidated supervision may facilitate the comprehensive implementation of EU Capital Adequacy Directive, it should not provide an excuse for delays and inaction in upgrading the country's supervisory capacity under its current structure. The Ministry of Finance and Bank of Estonia should therefore consider the following intermediary steps: (i) an across the board upgrading of supervisory agencies, (ii) the revision of secrecy provisions that limit information flows across supervisory agencies and across country borders; and (iii) joint on-site inspections and off-site supervision exercises that would prepare staff for

consolidated supervision. The Bank of Estonia has taken the initiative to require from the banking groups consolidated reports to be able to apply consolidated reliability norms. However, the Bank of Estonia and the Ministry of Finance have been slow in taking steps to improve their capacity to carry out these new responsibilities. The Bank of Estonia's Banking Supervision Department and the Ministry of Finance's Securities Inspectorate are still understaffed and underfunded relative to what is needed to effectively perform their responsibilities.

- *Seek closer coordination with regulatory and supervisory agencies of Northern Europe and the other Baltic countries, as currently planned by the Bank of Estonia.* This will become increasingly important as Estonia's financial sector continues to integrate into Northern Europe and Estonian banks continue expanding into neighboring countries - particularly the other Baltics. Also, building working relationships with EU counterparts and maintaining the on-going relationship with the Basle Committee of Banking Supervision will in the end be critical for a smooth transition to EU membership and to remain abreast of major trends in supervision, particularly, integrated supervision.

- *Proceed with the planned introduction of regulations to deal with a number of key market risks.* The new market risks covered include equity risks and underwriting commitment risks. The former should be measured on a gross basis and applied to the minimum capital adequacy requirements of both the credit institution and the consolidated banking group. There is also a need to make more explicit the regulation for provisioning against bad credits. The present regulation concedes considerable amount of discretion to supervisors in determining on a case by case basis whether the corresponding bank is pursuing conservative practices or not for loans overdue less than 150 days. The tightening will facilitate the work of the supervisor and eliminate the scope for subjective and inconsistent treatment across banks or over time. Estonia should also consider regulating interest rate risks.

- *Increase the transparency of information and the frequency of disclosure of bank's risks to the supervisory agency and to the broader public.* The commercial banks should report to the Bank of Estonia on an on-line basis: daily money market and overnight market positions, balance sheets including forward exchange rate contracts every 10 days; monthly Capital Adequacy Rate and liquidity positions; quarterly profit and losses; and annual ownership structure. All this information should also be made available to the public. This will facilitate the monitoring of bank's own creditworthiness and liquidity situation by depositors and institutions that perform credit risk analysis. The above list of indicators to be disclosed could be widened to include specific indicators of market risk (such as interest rate risk, underwriting commitment risk, equity risk), the share of foreign currency loans of borrowers with a net foreign currency cash flow, as well as a domestic credit rating from an independent and reputable credit rating agency. In particular, disclosure of the risks which the banks own risk management systems identifies as critical can help to impose discipline on market participants.

- *Training of the treasury departments of commercial banks in currency and interest rate hedging, as well as in risk management of options and derivatives trading.* The implementation of asset-liability risk management systems needs to be extended to all commercial banks, particularly the smaller ones. On-site training and twinning arrangements are likely to be the most effective. Credit risk capabilities, particularly of the smaller and medium-sized banks, need to be strengthened since the large banks are so far leading the efforts in training. Short credit histories and relatively inexperienced analysts are shortcomings that could be compensated with more conservative economic and financial scenarios and greater reliance on cash-flow analysis. Smaller banks in particular rely excessively on collateral securities, often misjudging. Some of the larger banks use instead independent valuators.

- *Financial and technical innovation and the pace of growth of banks ought to be balanced against the need to radically increase efficiency.* There is the need to reduce costs and, possibly, employment. Overstaffing could erode profit margins in view of the relatively fast wage growth of skilled labor and increased competition in the wake of EU accession. The fast expansion of Estonian banks, both domestically and in neighboring countries, provides an opportunity to exploit economies of scale and scope, and of technical efficiency in general.

- *Proceed with the planned introduction of the new interbank payment system.* This is a critical step toward upgrading Estonia's financial sector infrastructure ahead of accession, especially since the new system is fully compatible with the TARGET system for cross-border payments in the Euro zone. This system will be based on two sub-systems. The Designated Time Net Settlement System (DNS) for processing retail payments, and the Real Time Gross Settlement System (RTGS) for processing high value and urgent interbank payments. In addition, the RTGS system will be linked to the securities market regarding the transaction payments leg in the Delivery versus Payment (DvP) mode. The upgrading of the payment system would allow better control of systemic risk of bank failure by monitoring large deposit inflows and outflows. Also, the new payment system should help control money laundering by providing the ability to trace suspicious transactions. Finally, timely implementation of these plans would minimize the risks associated with the year 2000(Y2K) problem, since part of the Bank of Estonia's accounting system is still based on an old Soviet software application.

Capital Markets and Insurance

2.35 While most of the efforts to bridge the regulatory gaps are correctly pointed at the banking system, Estonia also needs to develop a complete, consistent and effective regulatory framework for capital markets. For completeness, the Estonian capital markets regulatory framework needs to include segments that are currently unregulated such as corporate, mortgage and municipal bonds. For consistency it needs to apply a basic common set of principles. A guiding principle in the elaboration of such framework is that it should avoid creating incentives for market participants to engage in regulatory arbitrage by placing the securities activities under oversight of the regulator with the least burdensome requirements. For instance, banks and broker-dealers engaging in securities activities or pension funds and life insurance companies

engaged in the administration of pension schemes. The key elements to achieve these two objective are the following:

- *Avoid incentives for tax arbitrage that leads to the artificial creation of intermediaries to minimize the tax bill.* For example, the income tax on insurance premiums is very low (1%), especially when compared to other forms of financial intermediation. This simply creates artificial (and socially costly) financial intermediaries. The Estonian authorities need to remedy this problem by setting the income tax on premiums at the same level as other sources of income (26%), and then make insurance policies tax deductible, like in most other countries, since it is a regular cost of business operation.

- *Harmonize the EU Directive on capital adequacy since it will be applied on a consolidated basis.* At present banks are more heavily regulated and supervised than securities firms. The latter need also be subject to greater scrutiny, tightening rules and regulations on information disclosure and transparency, and insider trading. This will require strengthening the supervisory agencies, particularly the Insurance and the Securities Boards. This includes dealing with the staffing and training needs, upgrading reporting requirements, information systems, and application of licensing standards. This also includes granting greater autonomy to the Boards, reducing staff turnover through better pay and increasing the power to enforce regulations. Finally, other recommendation made above for banking supervision also applies to capital markets and insurance. For instance, training on the job by on-the-field consultants and twinning arrangements would greatly improve Estonia's regulatory capacity in these fields.

CHAPTER 3: MANAGING PUBLIC EXPENDITURE

3.1 One of the principal challenges of the pre-accession period is managing public expenditure. The compliance with and the enforcement of the *acquis communautaire* will require additional expenditures ranging from recruitment and training of new staff to public investments in transport and environment-related infrastructure. On the other hand, the pre-accession period will also provide Estonia access to additional funding for needed public investment. These funds are designed to assist Estonia in meeting some of the accession requirements and, hopefully, enhance the country's convergence prospects. The experience from previous EU enlargements indicates, however, that contribution of these funds to economic growth depends heavily on a credible fiscal and structural adjustment program. Otherwise, these funds end up financing consumption, negatively affecting export growth. To absorb these funds productively Estonia will need to enforce strict limits on public expenditures, shifting resources to programs that reflect both accession priorities and more productive uses of these resources. This will require strong political commitment, plus sound decision-making in key areas of public expenditure. This chapter presents an agenda for meeting this challenge. Section A reviews public expenditure requirements during this pre-accession period. Section B examines changes in the budgetary process that strengthen fiscal discipline. Section C considers options for strategic prioritization. Section D focuses on technical efficiency issues, leading the discussion on public administration reform in the next chapter.

A. Introduction

3.2 The pre-accession period will place very specific demands on expenditure management in Estonia, ranging from large public investments in transport and environment-related infrastructure to new transfers programs for agricultural producers. These demands will require attention from the Estonian authorities because they are technically complex, needing changes in legislation and improvements in administration to implement new programs. They will also entail significant additional expenditures, and imply changes in sectoral priorities. The increase in spending in some areas will therefore need to be offset by cuts in other areas to keep overall expenditure within the budget envelope.

3.3 The pre-accession period also provides opportunities for reform that can make public expenditure management more effective. For instance, during the pre-accession period the Estonian authorities will need to improve public administration, recruiting and training staff to negotiate and execute new programs. Auditing and evaluation will become increasingly important because of the need to report on effectiveness in the use of EU pre-accession funds. Finally, pre-accession will require that Estonia introduce changes in tax legislation that will broaden the tax base, adding greater stability to tax revenues and allowing better expenditure management.[22]

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[22] These changes include amendments to the laws on the value added tax and the excise tax to reduce exemptions on some imported goods (gold purchased by the Bank of Estonia, books, etc.), to introduce rules of origin for goods and services, and to raise minimum rates on motor fuel, electricity generated by wind and water, and heating sold to residential consumers to conform with EU rates. Also required for tax harmonization purposes is the establishment of excise warehouses that suspend taxation of goods moving between authorized tax warehouses without payment of duty. This covers mineral oils, alcohol and alcoholic beverages, and manufactured tobacco.

3.4 Meeting these requirements while not missing the opportunities to improve expenditure management will require that the Estonian authorities balance some of the following demands:

- *Strengthen public administration.* EU membership presupposes a highly developed and effective public administration, able to implement and enforce the *acquis*. Indeed, the *Avis* had already identified the need for adequate staffing in the Customs Board, the Competition Board, the National Tax Board, the State Audit Office, and the inspection bodies responsible for enforcing veterinary and phyto-sanitary controls, health and safety standards at work. Preliminary estimates place the demands of Estonia's public administration at around 2,000 additional staff. This would imply additional annual expenditures of around 0.8% GDP.

- *Increase investments in environment-related infrastructure.* Compliance with EU environmental standards will require significant investments. Estimates presented by the Estonian authorities place short term investment demands (1998-2000) at between US$ 450 and US$ 470 million, or annual investments of around 3% of GDP during this period.[23] This does not include administrative and operating costs that would be, at least partially, covered by user charges. Environment-related infrastructure is, therefore, the single most important public investment expenditure during the pre-accession period.

- *Prepare the agricultural sector for EU accession.* Agriculture will also require additional expenditures during the pre-accession period. The overall amounts involved will depend on how Estonia chooses to sequence the adoption of the Common External Tariff and the Common Agricultural Policy (CAP).[24] Irrespective of the sequencing chosen by Estonia, however, there are priority expenditures that will need to be funded from the budget during this pre-accession period. This includes (i) improvement of border controls for inspection of phyto-sanitary standards and quality control; (ii) restructuring measures to allow the agriculture and agro-processing sectors to withstand the competitive pressures of the single market, such as the acceleration of land reform, and the review of post-privatization programs for agro-processing enterprises; and (iii) an increase the public support to agriculture with the gradual adopting programs similar to the Common Agricultural Policy (CAP).

- *Manage pre-accession funds.* Under the Accession Partnership, Estonia and the other nine applicant countries are entitled to receive financial support through the EU Phare program and other pre-accession funds. Indeed, the European Commission has proposed annual allocations, from 2000 onwards, of EUR 0.5 billion for agriculture (SAPARD) and of EUR 1.0 billion for investment in transport and environment-related infrastructure (ISPA). This is in addition to the EUR 1.5 billion annual allocations that will be made available through the EU Phare program. To access these funds, however, Estonia will need to set aside funds from its own budget to partially match the EU's contribution. It will also need to develop the administrative

[23] Government of Estonia (1998).

[24] See Chapter 6: Preparing Agriculture for Accession.

capacity to formulate and implement structural policies and establish the legal framework for five-year planning and budgeting. This is important because the legal and administrative structures developed to manage these funds will also provide, once Estonia has become a EU member, the basis for accessing the Structural Funds, the Cohesion Funds and funds available under the Common Agriculture Policy (CAP).

3.5 The rest of this chapter examines issues of public expenditure management in light of the demands generated during the pre-accession period. Section B discusses the challenges of enforcing aggregate fiscal discipline, identifying factors that either contribute or hinder fiscal discipline. Section C reviews issues to be considered by the Estonian authorities when working toward improving strategic prioritization. Section D examines the options for increasing public sector technical efficiency during this pre-accession period – a period when the Estonian government will need to increase staff and take on new responsibilities.

B. Enforcing Aggregate Fiscal Discipline

3.6 One of the challenges for the Estonian authorities is meeting these pre-accession expenditure requirements without losing sight of the three overarching expenditure management requirements: maintaining aggregate fiscal discipline, improving strategic prioritization, and encouraging technical efficiency in the use of budget resources. Aggregate fiscal discipline requires balancing revenues and expenditures to meet overall budget targets. Moreover, this balance needs to be achieved in a purposeful way. For the foreseeable future, macroeconomic considerations such as the need to increase public savings to offset the balance of payments current account deficit will be determining the overall limits on public expenditure. Improving strategic prioritization requires identifying the best expenditure mix given the overall budget envelope. Meeting this challenge will depend on the capacity of the Estonian authorities to shift resources from old programs to new ones that reflect both accession priorities and more productive uses of resources. Increasing technical efficiency should progressively reduce the running costs of government agencies and the unit costs of services they deliver. Indeed, if the Estonian authorities hope to meet the fiscal requirements of EU accession while still maintaining aggregate fiscal discipline, they will need to strive to increase efficiency in the public sector.

3.7 *Aggregate fiscal discipline.* Estonia's legal framework for budget management has the main elements needed for sound fiscal management. The budget process is defined adequately by the State Budget Law of 1993 and several other pieces of legislation pertaining to the treasury function for budget execution, to external audit, and to the formulation of local government budgets. The Budget Law also establishes an explicit calendar for budget preparation by the government, approval by Parliament (the Riigikogu), and reporting on budget execution by the executive to Parliament.[25] During the pre-accession period, however, there are six measures that can help enforce aggregate fiscal discipline, and three factors that will contribute to undermine aggregate fiscal discipline.

[25] The fiscal year is from January 1 to December 31 of the calendar year. Budget preparation starts in February when the Ministry of Finance presents the main macroeconomic parameters for the following fiscal year. By June the Ministry of Finance sends to all line ministries a budget circular with instructions to fill out budget requests and overall expenditure ceilings. All ministries are given three ceilings: for personnel, for other current expenditures, and for capital investment. The Government must present the draft of the state budget to the Riigikogu no later than three months before the beginning of the budget year (Article 115 of the Constitution).

3.8 The six measures that might contribute toward maintaining aggregate fiscal discipline during this period are the following:

- *Meeting the additionality requirement.* One requirement for accessing EU pre-accession funds is that domestic funds for the proposed projects or programs increase in real terms to match the contribution from the EU. To access these funds therefore Estonia will need to budget in advance counterpart funding for pre-accession funds. Taking steps toward meeting this so-called additionality requirement during the budget preparation stage will be the main factor contributing to aggregate fiscal discipline. This can be achieved, for instance, by setting aside funds in the Public Investment Program (PIP) for counterpart funding. Indeed, one the main sources of counterpart funding for EU pre-accession funds is likely to be those funds that currently are allocated to priority investment under the PIP. This will require a few changes in the PIP, notably the three-year budgeting will need to reflect actual commitments. At present only the first year of the PIP is committed, the second and the third year of the PIP are indicative.

- *Defining multi-year budget targets.* Access to EU pre-accession funds will also require multi-year planning and budgeting because funding for these programs and projects extend beyond the one-year budget cycle. Defining multi-year budget targets that are consistent with the additionality requirement above will both help guarantee counterpart funding and encourage aggregate fiscal discipline. Multi-year budget targets will also compel the government to assess the impact of new investment projects on future budgets, since capital expenditure always entails recurrent costs.

- *Defining ceilings for major expenditure items.* To achieve multi-year budget targets, Estonia also needs to set expenditure ceilings for major expenditure items. Otherwise, the government may be unable to withstand pressures to increase total spending when individual spending claims are considered. The other risk is that the government meets aggregate fiscal targets by postponing key investments or by resorting to nonrecurring revenue sources (e.g., privatization revenues), which is clearly unsustainable in the medium to long run. To ensure broad agreement in meeting the ceilings for major expenditure items, sector expenditure ceilings should be set only after the overall fiscal target is defined. Also, once these sector expenditure ceilings are defined, the sectoral ministries and agencies should have some discretion in reallocating resources available under these ceilings.

- *Reducing budget fragmentation.* The efficient management of public expenditures will require that all government programs and agencies compete fairly, openly and simultaneously at the time of budget preparation. This will not be possible if Estonia's budget management continues to be fragmented, leading to a sub-optimal allocation of scarce budget resources -- one that does not reflect Government's expenditure priorities. This means in practical terms that the government will continue spending on programs that have a lower return or priority than other potential programs that are denied funds. The fragmentation of budgetary decisions in Estonia takes place through: earmarking tax revenues for budgetary funds and segmenting decision on foreign-financed expenditures. The latter is a large risk

during pre-accession because of the size and number of funds that will become available from the EU, other donors, and multilateral financing agencies.

- *Improving revenue projections.* Adequate revenue projections are of critical importance for setting spending plans and meeting budget targets. Indeed, meaningful expenditure targets can only be agreed upon once there is an agreement on revenue projections. Otherwise, additional expenditures are accommodated by simply increasing revenue projections. If the Estonian authorities hope, therefore, to manage public expenditure during the pre-accession period they need to strengthen the forecasting capabilities of the Macroprognosis and Analyses Department of the Ministry of Finance.

- *Building support for aggregate fiscal discipline.* The accession negotiations, and the ongoing policy dialogue between the Estonian government and the European Commission, will provide the opportunity to build support for maintaining aggregate fiscal discipline. Indeed, the Ministry of Finance cannot maintain aggregate fiscal discipline without strong support from within and outside the government. The Ministry of Finance needs both political allies who accept the political imperative of aggregate fiscal discipline, and managerial allies who agree to operate within budget targets. Understandably, as fiscal targets become binding, there is a greater incentive to underestimate the budgetary impact of laws approved by Parliament, resort to extra-budgetary funds, and increase taxes. The Estonian society needs to understand that the benefits of accession will only accrue to those countries that manage to sustain aggregate fiscal discipline, since it will ensure access to funding and sustain macroeconomic stability that is key for economic convergence.

3.9 The four factors that may undermine aggregate fiscal discipline during this pre-accession period are the following:

- *Entitlement programs.* During the pre-accession period Estonia will be under greater pressure to increase social assistance transfers to mitigate income inequalities. An increase in open-ended transfers, where spending rises to satisfy all legally-sanctioned demands, may undermine aggregate fiscal discipline in case they are not properly budgeted. To preserve the legitimate demands for these transfers, the Estonian authorities may consider revising periodically the eligibility criteria for these transfers, helping to keep spending in line with available resources. This can be achieved by setting sunset clauses for these transfers, after which they can be dropped or reinstated in a revised form.[26]

- *Support to agricultural producers.* Also, during this period Estonia may chose to increase public support to agriculture, gradually adopting programs similar to the evolving Common Agricultural Policy (CAP). At present, the support program for agricultural producers makes transfers according to the level of production. Support

[26] Note that failure to consider options to preserve transfer programs within a tight budget ceiling may lead to underspending in these programs. This is currently the case for social spending in Estonia, where the real value of income support programs, unemployment compensation and family benefits have been allowed to erode over the years.

payments to agricultural producers are bonded to the two most important production activities: milk and cereal. For milk producers an annual amount of approximately EEK 700 per cow is paid. The requirements for producers to be eligible are (i) recording milk production; (ii) minimum yield of 260 kg of fat and protein per cow; and (iii) minimum of 5 cows. The support to cereal producers is approximately EEK 200 per hectare. The law requires that the producer use an agronomically acceptable way of farming and a minimum crop area of 10 hectares. These programs however also run the risk of becoming open-ended since they support production rather than emphasize increased efficiency and downsizing production. Indeed, agricultural production support in an environment with strong deflationary pressures only postpone adjustments in production levels and crop mixes, adding to deflationary pressures. Programs designed to increase efficiency include investment grants and support to agricultural extension programs.

- *Pension reform.* Another entitlement program that could pose problems in the future is the State pension scheme. While the current pay-as-you-go (PAYG) scheme does not entail an explicit liability for the government, because benefits are defined as a share of contributions collected in any given year, preliminary calculations indicate that at the current contribution rate of 20 percent, and given the current eligibility criteria, the ratio of the average pension benefit to the average wage would decline from 31.5 percent in 1998 to around 23 percent by 2008. This coincides with the period when a cohort of current contributors, who's retirement has been delayed because of increases in the retirement age, would be retiring. This poses a difficult intra-generation equity problem. Contributors who saw their retirement age increase relatively close to retirement would also see their pension benefit as a share of the average wage decline markedly. The Estonian authorities need to establish a rule-based mechanism to build up reserves, partially funding these implicit liabilities. This is the only guarantee for the provision of old-age security in the next century without unduly burdening the next generation.

- *Across-the-board expenditure cuts.* Sometimes it is easier to meet budget targets by imposing across-the-board expenditure cuts, rather than selectively withdrawing from areas that are not core government activities. Over the last five years, the Government of Estonia has successfully redirected public expenditure toward core public sector activities. Expenditure on health, education, social transfers (including pension), environment, and public safety account for just under two-thirds of government expenditures. Public investment has also been refocused toward these core activities, with rehabilitation and maintenance, including energy conservation in public buildings, receiving top priority. An across-the-board cut in government expenditures to meet budget targets would jeopardize the delivery essential public services and investment, creating bottlenecks and slowing growth. In this case, an across the board cut is not sustainable in the medium to long run and could undermine aggregate fiscal discipline by creating future sources of fiscal pressure.

C. Strengthening Strategic Prioritization

3.10 Enforcing aggregate fiscal discipline during the pre-accession period is only one of the challenges faced by Estonian policymakers. Another equally important challenge is to distribute the available resources to government programs and projects that are strategic priorities. Since this is a difficult challenge to meet, the Estonian authorities need to guard themselves against the temptation of avoiding reallocation altogether by orienting the budgeting process only towards allocating incremental resources -- primarily EU pre-accession funds. While this does not appear to be the case the Estonian authorities still need to consider the following issues when moving toward a budget that integrates fully pre-accession requirements:

- *Avoid setting priorities by establishing different nominal growth rates for major expenditure items.* In a multi-year expenditure framework, there is a temptation to agree on budget reallocations by simply setting lower growth rates for existing budget programs. For instance, in 1998, the Estonian government adopted a resolution that essentially froze wages in the central government administration in 1998 and 1999. While it may appear to be a tough decision, in practice there was no hard decisions being made about the continuity or not of an existing budgetary program. The negotiations centered instead around the nominal growth rate for particular expenditure items. At best, the reallocation is done at the margin; at worse agencies find a way of getting around the budget target by creating special categories of spending. This allowed existing programs to continue in the budget regardless of their effectiveness in meeting public policies or their strategic priority.

- *Decentralize intra-sectoral reallocation of resources.* While the Statement of Government Priorities issued by the Cabinet of Ministers at the beginning of the budget calendar should continue to set the main priorities across sectors, the reallocation of resources within a sector should be the responsibility of the sector ministries and decentralized agencies. This might appear counterintuitive to the Ministry of Finance, since its the ministry's responsibility to enforce fiscal discipline, ensuring that the cost of proposed programs and projects are accurately reflected in the budget. This would require that it also play a role in defining intra-sectoral allocation of resources. However, if the Estonian authorities expect substantial reallocation to accommodate the large expenditure increases during the pre-accession period, the Ministry of Finance should concentrate on setting targets, leaving to the sector ministries to allocate additional funds and identify savings. The Ministry of Finance would also be responsible for issuing guidelines for submission of budget applications and defining benchmarks for evaluating implementation.

- *Develop an effective framework to circulate information.* Effective reallocation can only occur in an environment where all participants have information on key aspects of the programs and projects being undertaken, as well as the status of their implementation. This enhances the accountability of both the implementing and the supervising agency. It also allows better coordination between programs and projects that are physically and financially interdependent, and projects involving the public and the private sector.

- *Improve monitoring and evaluation of public investment programs.* Proper monitoring and evaluation of public programs is key information for policymakers to reallocate budgetary resources. Indeed, if the government aims at redirecting the activities of the public sector without recourse to *ad hoc* expenditure cuts, it needs to strengthen the external and internal audit functions now carried out by the State Audit Office and the Internal Audit and Control Divisions in the Ministry of Finance and the line ministries. This will require increasing the size of these units, providing training, and developing further the manuals and procedures for auditing. Once this capacity is developed, there will be information on public sector activities available to give public sector managers more discretion in increasing efficiency and achieving policy objectives, while still leaving to the policy makers (Parliamentarians and Ministers) the responsibility for setting and monitoring the achievements of these policy objectives.

- *Prioritize non-distortive investments.* The reallocation of funds should prioritize be allocated to investment projects that where the needs are greatest because of benefits extend beyond the local community and there is no displacement of private investments. This includes costly investments to meet EU environmental standards, investments in education and health, and improvements in human resources (training for teachers, nurses, government officials, judges, financial sector supervisors, regulators, etc.).

Box 3: Education and Training Programs

Education and training programs provide a good example of how the rules for strategic prioritization can work in practice. The EU has several education and training programs funded by Phare. These include the Trans European Mobility Program for University Studies (TEMPUS) that promotes partnership projects between higher education institutions in acceding countries and EU member countries, and the *Leonardo* program that promotes the quality and capacity innovation in vocational training. These programs clearly meet many of Estonia's strategic priorities.

Indeed, given Estonia's slow demographic growth, worker's contribution to growth will depend primarily on their productivity level. While worker's productivity is closely associated with the level of investment, it can also be enhanced through education and training activities. Also, a stronger link between education and labor markets is warranted in Estonia because youth unemployment is very high (17% according to the labor force survey, compared to around 10% for the entire working age population). This problem is compounded by the fact that on-job-training opportunities are limited, since many of the small and medium-size enterprises cannot afford to train their own workforce.

The following rules for strategic prioritization can therefore help shift resources to these programs:

Leveraging EU pre-accession programs by providing job counseling already in the last years of school. Counseling in the last years of school can increase the effectiveness of the training programs at very low costs. Indeed, the provision of qualified job counseling, already in the last years of school, should help bridge the existing gap between the educational system and the labor market. This should help mitigate the higher than average youth unemployment.

Re-allocating resources within a sector by reconsidering the emphasis on vocational training, and giving greater attention to higher education. At present roughly equal numbers of students are enrolled in the vocational and academic schools. The costs of vocational training are relatively high and the job market advantages to be gained from specialist training are rapidly diminishing in most disciplines due to the rapid pace of technical change and market developments. A very strong academic education is likely to be not only cheaper to provide but also more effective in equipping workers with the skills required by rapidly changing job markets.

Prioritizing non-distortive investments by focusing on maintenance of school buildings. The European Commission's Opinion on Estonia calls for investment in school buildings and equipment. Indeed, the maintenance of schools buildings has been seriously neglected. The consequences of this neglect have been compounded by the fact that many schools are housed in historic structures that require considerable attention to ensure their preservation and economical operation. Many other schools were constructed during the 1970s and 1980s using low quality materials and construction techniques. The under-maintenance of buildings is now threatening structural integrity and student safety. Leaky roofs and poor drainage of storm water from around the foundations of buildings has already produced significant damage to finishes and furnishings. If ignored much longer, these problems will lead to the collapse of roofs and walls, and a need for costly replacement of buildings. In addition, both historical and recently constructed buildings were designed and built with little regard for the cost of energy and thus are now very expensive to operate. The cost of education might be reduced by as much as 10 percent if buildings were better sealed and insulated, and heating and lighting systems both better controlled and more efficiently designed. Clearly, not all of these savings could be achieved economically, but perhaps two-thirds of the potential savings could be realized with very small initial investments and correspondingly brief pay-back periods. An inventory of buildings and their condition should be conducted, an assessment of the likely economic returns on various improvements should be prepared, and an agenda for renovating or replacing facilities should be devised that maximizes the return on these expenditures.

Source: World Bank (1997b).

D. Achieving Technical Efficiency

3.11 Increasing public sector technical efficiency is by far the most difficult challenge during this pre-accession period. It requires that the Estonian government progressively reduce the costs of government operations during a period when additional funds for investment will be made available, expenditures will be increasing, and new staff being hired. The temptation is therefore to improve efficiency by controlling costs, limiting the amounts that may be spent on each expenditure category (personnel, supplies, equipment, etc.). This is, for instance, the thrust of the Ministry of Finance's proposal to define budget norms, where each employee would be allocated a unit cost, including pay, heating, lightning, etc.

3.12 The experience of OECD countries suggests, however, that defining expenditure norms fails to keep costs under control and delays improvements in operational efficiency. The result is that stagnant productivity leaves governments with very little choice but to accommodate the demands from spending agencies with more resources, since otherwise the delivery of services will suffer. This compromises aggregate fiscal discipline, the very goal that was trying to be achieved by imposing cost controls.

3.13 *Managing EU pre-accession funds.* An effective division of responsibilities between public sector managers will be key to ensuring technical efficiency and a competent management of EU pre-accession funds. Indeed, the experience of other countries suggests that a well-balanced combination of centralized negotiations, central units for monitoring and evaluation of programs, and decentralized implementation has achieved the best results. To achieve this balance, the Estonian authorities should consider the following recommendations:

- *Delegate the responsibility for negotiating pre-accession funds to one ministry.* This centralization will allow for greater mutual understanding between the EC and Estonia, avoiding costly negotiation delays and permitting more rapid responses by the Estonians to eventual changes in EU policies regarding these pre-accession funds. The centralization of the negotiation authority should not preclude a considerable

amount of discussion within the government about the objectives to be accomplished with these funds and the instruments available to reach them.

- *Centralize review of applications for pre-accession funds.* One agency should be responsible for organizing applications, assessing projects, and verifying budgets. This agency would have operational capacity but no responsibility for negotiations. This agency should be supported by one unit responsible for the appraising the social and economic impact of the proposed projects, and another unit in charge of overseeing their implementation. The agency should also be independent from political pressures to ensure that whatever is agreed at the negotiations table is implemented in the most effective way. This will ensure that lessons from implementation are provided to those responsible for negotiations and for defining structural policies. To achieve this objective, this agency should set clear guidelines for application procedures, eligibility of projects, and compliance with EU and local provisions with respect to, for example, competitive practices and environmental targets. Guidelines should also be issued for project costs irrespective of whether funding would be available or not.

- *Require careful and transparent project appraisal.* The centralization of applications for pre-accession funds is especially important in view of the fact that pre-accession funds will likely be subject to a cap defined as a percentage of GDP. The funds available to any candidate country will therefore be fixed, so projects will be in direct competition with one another. This has the important implications, even where the EU share of financing is as high as 85 percent. The opportunity cost of any project will always be the full cost of the project, not just the co-financing proportion, implying the need for careful and transparent project appraisal.

- *Improve governance at the local government level.* Improving governance at the local level is key to achieving the objectives of structural policies, not least because decentralization of project implementation will place enormous demands on smaller and less developed local governments.[27] Indeed, if the local governments that are in most need are unable to access these funds, the purpose of having these programs is defeated.

3.14 *The experience of OECD countries.* The recent experience in OECD countries aimed at improving performance in the public sector also suggest options for improving technical efficiency in Estonia. The three common elements of reforms undertaken in OECD countries to improve public sector performance were: (i) the combination of strong external and internal control with broader managerial discretion; (ii) improvements in the budget process; and (c) strengthening of public administration. Indeed, stronger control mechanisms are essential to increase trust between central units and line managers, build confidence between citizens and government, and encourage managers to internalize an ethics of proper behavior. Greater managerial discretion allows managers to take initiative, and assume responsibility for identifying savings. This however can only be achieved in an environment where budgets are

[27] Two-thirds of the local governments in Estonia have populations of under 3,000.

realistic and objectives clearly defined, otherwise managers cannot be accountable, and controls are not meaningful.

3.15 The most important step toward improving technical efficiency in the public sector however is strengthening public administration. This is key for establishing the capacity to formulate and coordinate policies, defining efficient and effective public service delivery systems, and having motivated and capable staff. The next chapter therefore turns its attention to Estonia's public administration reform agenda.

CHAPTER 4: STRENGTHENING PUBLIC ADMINISTRATION

4.1 Strengthening public administration is key to ensure quality in the design and implementation of government policies and programs. It also happens to be an important step toward EU accession, since administrative capacity to take on obligations of EU membership has become increasingly important in the accession process. Indeed, acceding countries are expected to 'develop the public services required to implement Community rules with the same guarantee of effectiveness as member states'.[28] This chapter focus therefore on four dimension of public administration reform in Estonia. Section A describes recent progress in public administration reform and how to proceed with these reforms. Section B reviews public service employment and pay policy. Section C examines options for improving public performance. Section D examines some of the demands on the public administration resulting from regular dealings with the European Commission.

A. Introduction

4.2 The Estonian public administration has undergone six reorganizations since 1987, the most recent one being in 1995. The 1995 reforms were aimed at partially restructuring and downsizing the central administration. About 800 positions were cut, mainly in the Ministries of Transport and Communication, and Environment. However, public administration reform gained new momentum in June 1997 when in response to the *Avis*, a large expert committee was put in place to prepare a Public Administration Development Concept (PADC).[29] Three separate concept papers then followed up the PADC on remuneration training, and public service laws. These were prepared, respectively, by the Ministry of Finance, the State Chancellery and the Ministry of Justice.

4.3 The PADC represented a comprehensive effort to develop a reform strategy involving a broad rage of experts from different parts of the administration. It aimed at lifting the deadlock that had affected reform efforts, especially in the areas of pay reform and human resource management. The main technical problem had been attributed to the ongoing debate on changing the current system of open public employment in favor of a strict career system for civil service. Underlying political problems however was a lack of commitment and leadership, the absence of an independent body to push reforms, and the missing readiness to deal with related costs.

4.4 *What does the PADC cover*? The PADC covers a broad agenda and addresses (although implicitly) the main goals and objectives of public administration reform, such as: increased productivity of the public sector, cost effective use of budget resources and improved service delivery. In the context of EU accession, this also means the effective implementation of international obligations and standards through an effective public administration with adequate skills, institutions and resources. The PADC therefore stresses the need to define the role of government institutions and to make them more efficient and outcome (goal) oriented. It places

[28] European Commission, New Policy guidelines for the Phare Program in the Framework of Pre-Accession Assistance, March 1997.

[29] The expert group consisted of 23 members from different ministries, the parliament, and county and local governments.

great emphasis on decentralization and delegation of functions to lower levels of government, the private sector and the civil society. The paper also highlights the lack of coordination between different parts of the administration, the duplication of functions, the lack of transparency and internal controls, deficiencies in the implementation of legislation, and lack of human capacity and resource management.

4.5 *What does the PADC not cover?* While touching these burning issues for reform, the analysis of the PADC remains at a rather general level. A follow up report needs to take a more systematic and analytical approach.[30] For instance, the PADC mentions three stages of reform, but does not differentiate the timing,[31] the order of priority, and the assignment of responsibilities. The recommendations remain rather general and open-ended, and sometimes inconsistent. The authors approve of the decentralized nature of the Estonian public administration (open employment, decentralized training), but seem to favor a more centralized training and evaluation system.

4.6 *What does the PADC say about EU accession?* Regarding the accession to the European Union (EU), the concept paper merely mentions the creation of new institutions as a necessity to be able to cope with additional tasks. Although the requirements of Avis are described in an explanatory letter to the concept paper, their implications for Estonia are not analyzed as such.[32] The follow–up discussions with the ministries taking place right now should help to generate a more action oriented plan for the implementation of the reform strategy. Also, more links need to be created between public administration reform measures and their relevance in the context of European Union accession.

4.7 *What are the employment demands emerging during the pre-accession process?* The accession process has created demands for a large number of new positions to be filled, managed, and integrated into the existing system. Demands on qualified labor are already high, as Estonia's economy is expanding rapidly and has only limited human resources. New staffing needs in view of EU accession exacerbate this problem. Examples are the patent office, where out of 95 positions, only 75 could be filled, or accreditation and standardization services, where 2.5 staff try to accomplish the work which is usually done by 30 or more. As a result, different ministries requested more than 2,000 positions to fulfill accession requirements, including more than 200 for health protection purposes and around 130 for the strengthening of border controls. The Ministry of Agriculture forwarded a request to increase its personnel by 400 new officials, representing three times its existing staff, mostly to be located in field offices. Although these estimates might be overestimated, the underlying problem still remains. The pre-accession period will witness an increase in demand for qualified staff.

4.8 *How does the PADC propose to respond to these demands?* At present there is no proposal on how to respond to these demands. The PADC merely states that the creation of new

[30] For example, reform objectives, principles of implementation and means to achieve objectives are not clearly separated; the same issues are discussed in different sections, and there is no clear separation of recruitment, salary, training, and evaluation issues.

[31] Drafting of legal acts (1998), passing of legal acts (1999) and implementation (after 1999).

[32] Although its not mentioned in the PADC, the Avis notes the need to improve staffing in the Customs Board, the Competition Board, the National Tax Board, the State Audit Office, and the inspection bodies responsible for enforcing veterinary and phytosanitary controls, health and safety standards at work.

agencies is considered necessary to perform additional tasks. An explanatory note to the PADC adds that Estonia has to analyze to what extend it can diverge from EU regulations, taking into account its small size and limited resources. Estonia is not likely however to have a strong negotiating position and it seems doubtful that it can be exempted on the implementation of EU regulations. Therefore, priority needs to be given to the efficient reallocation of existing resources to demands that are even more pressing.

B. Building an Information System on Public Sector Employment and Pay

4.9 The first step in public administration reform should be the introduction of a management information system for public sector employment. This would be followed up by a functional review of all levels of administration, and the enforcement of control mechanisms that keep in check the expansion of agencies. This is especially important in view of the demands on public administration during the pre-accession period. This section aims at taking the step in this direction. It begins by summarizing the information available on public sector employment, moving next to analysis of public sector pay policy.

4.10 *Public Sector Employment.* Estimates from 1997 place total public sector employment at around 150,000. There were 33,840 employees funded directly from the state budget, with the remainder funded from transfers to local government, state agencies reporting to ministries, and self-financed agencies. Within the group of employees funded from the budget, there were an estimated 24,992 civil servants, distributed as follows (Table 4):

Table 4: Budgetary Sector Employment in Estonia

Item	Employment (No. of authorized positions)
Civil Service	**24,992**
Of which:	
Central Government	20,422
Non central Government	4,500
Public Service	**149,660**
Of which:	
Central Government	81,035
Local Government	68,625

Source: Ministry of Finance

4.11 The government has generally tried to reduce budgetary sector employment over the last three years, mostly by establishing indirect financing arrangements. This resulted in a reduction from around 80,000 staff directly financed by the budget in 1995 to 33,840 in 1997. A large proportion of the reductions included around 20,000 teachers, who have been transferred to municipal budgets.

4.12 On the aggregate, public sector employment accounts for around 7.6 percent of the population. This is within the range of public sector employment of OECD countries (average 7.7 percent), and below the range of other countries in the region (Table 5). However, comparison with other OECD countries indicates an imbalance of public sector employment across sectors. Almost two-thirds of all public sector employment in Estonia is in education and health care.

Table 5: Comparative Public Sector Employment (% of total employment)

	Central	Non central	Education	Health	All civilian
Estonia	1.7	1.0	2.9	2.0	7.6
Austria	3.4	3.5	0.5	1.3	7.6
Belgium	1.7	2.3	2.8	0.8	7.6
Denmark	2.8	5.2	2.8	2.0	12.7
Finland	2.2	7.7	0.7	1.8	12.4
France	2.7	2.2	1.9	0.2	7.0
Germany	0.4	2.6	1.4	0.1	4.5
Greece	1.1	0.4	1.2	0.1	2.7
Ireland	1.2	0.8	1.5	1.7	5.0
Italy	1.3	1.3	1.7	1.1	5.4
Netherlands	3.9	1.3			5.2
Portugal	1.8	0.8	2.0	0.5	5.1
UK	1.3	2.2	1.7	1.7	7.0
OECD Avg.	1.8	2.5	2.1	1.4	7.7

Source: World Bank (1997). An International Statistical Survey of Government Employment and Wages. S. Schiavo-Campo, G. de Tommaso, A. Mukherjee (August).

4.13 *How do public sector wages in Estonia compare to other OECD countries?* Central government wages currently account for around 5 percent of GDP. This is comparable with the wage bill for OECD countries (Table 6). However, wages represent a lower share of per capita GDP -- 1.2 percent of per capita GDP compared to 1.6 percent of per capita GDP in OECD countries. This difference reflects, among other things, the large difference between the public and the private wages in Estonia. On average, public sector remuneration is 60 percent of wages in the financial sector. This difference is even higher in certain professional categories, such as accountants and lawyers, where the private sector pays up to four times more than the civil service.

Table 6: Central Government Wages in Relation to GDP

	Wages as percent GDP	Wages as percent of per capita GDP
Estonia	*5.6*	*1.2*
Austria	3.7	1.0
Belgium	7.3	2.4
Denmark	12.9	1.3
Finland	3.3	1.3
France	3.3	1.0
Germany	2.4	1.3
Greece	9.5	4.2
Ireland	5.3	1.2
Italy	5.9	1.4
Netherlands		2.0
Portugal	11.5	1.6
UK	4.5	1.5
OECD Avg.	**4.5**	**1.6**

Source: World Bank.

4.14 The government realizes that this has become a serious problem in the recruitment and retention of higher level officials and specialists, and has taken a number of short-term steps to redress the problem. These include diverting savings from vacancies to increase pay levels,

employing new staff to higher grades, and creating new grades at higher levels and promoting selected staff to these positions. However, these measures will not bring remuneration for the civil service to the levels required in the long run. On the contrary, it will bring a number of harmful side effects, which are discussed later in this chapter. The only effective solution is a planned increase in salaries together with appropriate rightsizing measures.

4.15 One effect of low pay can be seen in Table 7. It shows that civil service turnover is higher than desirable,[33] with almost 14 percent of civil servants leaving their positions in 1997. Over 10 percent of higher officials are estimated to have left public service employment compared to an average for all officials of 6.8 percent. While part of this turnover may be explained by retirements, figures are not available to confirm this.

Table 7: Civil Service Turnover Rates, 1997

Category	Vacancy rate (percent)	Percent of officials leaving the public service	Percent of officials leaving their positions
Higher Officials	10.4	10.5	14.9
Senior Officials	15.9	6.4	11.6
Junior Officials	14.0	6.5	15.0
Total (Public Service Law) Officials	**14.4**	**7.4**	**13.2**
Officials (Special Laws)	0.5	4.5	15.8
Average	**11.3**	**6.8**	**13.9**

Source: State Chancellery (extrapolation on the basis of six monthly figures).

4.16 *Pay and grading system.* The pay and grading system is regulated by the Act on the Titles and Salary Scales of Officials (January 1996) and consists of four categories of staff spanning 35 grades.[34] Each grade is allocated a basic salary that is then supplemented by a range of bonuses to form a total wage package. Bonuses are paid for length of service (up to 15 percent for 15 years service), qualifications (up to 20 percent for post graduate qualifications), language qualifications (up to 10 percent for the third and each subsequent language), and performance (at the discretion of the employer). Anecdotal evidence suggests, however, that this can reach up to 30 percent for higher officials.

4.17 As would be expected, a sizeable proportion of a ministry's establishment, compared to other civil service employers, is comprised of higher positions (managers). While this is a function of the roles of each type of institution, there is anecdotal evidence of grade creeping in the civil service, as promotions are used to artificially increase salaries. Also, the system for allocating job titles to grades has been undertaken on the basis of discussion and dialogue rather than through any systematic way of evaluating the 'size' or 'value' of jobs in terms of objective measures, such as complexity, knowledge requirements or accountability. Thus, it has been comparatively easy to create new jobs and apply higher titles to them, a practice, which might not be possible, if a formal systematic job classification or job evaluation system was in operation.

[33] A figure of between 5 and 10 percent would give a good balance between retaining institutional memory and bringing in fresh skills and ideas.

[34] Higher, Senior, Junior and Support Staff.

4.18 This skewed distribution of staff towards senior positions has several disadvantages: there is an unequal distribution of decision making throughout the hierarchy. There is also likely to be an increasing inequality in the remuneration of salaries based upon the value of jobs. Finally, there appears to be salary compression, with a relatively small distribution of salaries amongst middle managers (Table 8).

Table 8: Number of Civil Servants by Category (1997)[35]

	Ministries	Inspectorates	Boards	County Government	Total civil servants financed by state budget	in percent
Managers (grade 28-35)	631	126	603	334	1694	19.5
In %	33.6	9.8	14.4	24	18	
Senior staff (grade18-28)	937	617	1903	652	4109	47.3
In %	49.9	47.9	45.5	49.1	46	
Junior staff grade 12-19)	154	303	1250	133	1840	21.2
In %	8.2	23.5	29.9	10	18	
Support staff (grade 1-18)	158	243	431	217	1049	12.1
In %	8.4	18.9	10.3	16.3	19	
Total staff	1880	1289	4187	1336	8692	100
In %	22	15	48	15	52	

Source: Estonian authorities.

4.19 Although the pay and grading system is simple to apply, it cannot be considered transparent or fair because most of an individual's remuneration does not relate to the value of their job, or their performance. Table 9 shows that the proportion of wages which are accounted for by supplements in ministries government is over 15%, and varies considerably across the range of central government institutions. A notable example is the Ministry of Transport and Communications that filled only 55 per cent of its vacancies and was able to provide 30 percent of total remuneration in bonuses.

[35] According to the Ministry of Finance, the total number of officials in state administration in 1997, was 9,793. The different total shown here is due to differences in definitions and counting mechanisms used by the State Chancellery and Ministry of Finance.

Table 9: Civil Service Remuneration

Institution	Authorized Establishment	Actual Employment	Percentage of Posts Filled	Basic Salary EEK per month	Total Wages EEK per month	Percent of Total Wages which is Basic Salary
Ministry of Education	165	136	82.4%	3438	4081	84.2
Ministry of Justice	182	143	78.6%	3601	4292	83.9
Ministry of Defense	85	69	81.2%	4110	5252	78.3
Ministry of Environment	119	96	80.7%	4036	4675	86.3
Ministry of Culture	48.5	46	94.8%	4173	4925	84.7
Ministry of Economy	185	164	88.6%	3502	3807	92.0
Ministry of Agriculture	134	127	94.8%	3525	3848	91.6
Ministry of Finance	401	312	77.8%	3537	4542	77.9
Ministry of Internal Affairs	157	114	72.6%	3663	4833	75.8
Ministry of Social Affairs	143	116	81.1%	4309	4592	93.8
Ministry of Transport & Communications	108	60	55.6%	4996	6996	71.4
Ministry of Foreign Affairs	462	382	82.7%	3294	3523	93.5
State Chancellery	113	113	100.0%	4651	6084	76.4
Total	**2302.5**	**1878**	**81.6%**	**3713**	**4405**	**84.3**

Source: Ministry of Finance.

4.20 While it is desirable to allow employers a certain discretion in using vacancy savings for other budget sources (for example up to 10% of posts), the wide discrepancy of vacancies creates both considerable inequality in the allocation of personnel costs and unfairness in the current pay system. It is reasonable for a single employer (in this case the civil service as a whole) to pay market supplements for certain shortage skills, but these should be clearly stated in job advertisements, and should be for fixed periods (while market conditions apply) and reviewed regularly.

4.21 Under the existing law, the discretionary payments that have been used by some employers to increase salaries are intended to be for good performance. However, there is no unified system of performance appraisal that can be used to satisfactorily attribute performance bonuses to employees. The solution would be to introduce a grading system based upon job value, and to link grades to total salaries. Shortage supplements and performance bonuses can then be added after (i) an appropriate comparator pay surveys have been undertaken to identify the salary levels needed to attract and retain shortage skills; and (ii) an appropriate performance appraisal system has been developed which can be linked to performance pay.

4.22 Membership of the European Union requires that employers be able to demonstrate that they provide equal pay for equal work. There is much anecdotal evidence of staff in similar roles (even similar basic salary grades) earning vastly different amounts. This is because the existing system is based upon what an individual brings to the job in terms of their qualifications, rather than the qualifications required for the job to be performed satisfactorily. The Ministry of Finance has reviewed options for revision of the pay system and has explored systems of job evaluation to measure the requirements of categories of staff on the basis of job complexity, accountability and knowledge requirements. Their research recommends the introduction of a more formalized job classification system, with a smaller number of grade titles. However, the report (which examined documents on other countries' systems) recommends the retention of

payments for educational qualifications. The introduction of a job evaluation type system, at least for senior grades, while difficult initially to apply, would enable the government to defend claims of unfairness in their remuneration system to the European Court of Human Rights. Indeed, the Estonian Wages Act also prohibits unfair pay on the basis of sex, ethnic origin or any other factor, and such a system would enable full compliance with this law.

Recommendation

4.23 Against this backdrop, the Estonian authorities may consider the following options in moving forward with public administration reform:

- *The introduction of a management information system for public sector employment.* This includes a functional review of all levels of administration, and the enforcement of control mechanisms that keep in check the expansion of agencies. Indeed, taking stock of the number of actually employed public servants throughout the administration is clearly the first important issue at the outset of the reform process as it allows to establish financial commitments. The introduction of a management information system is also an important step in this direction. The functional review will then allow to allocate resources to those functions that are considered a priority and the reduction of those that are duplicated or obsolete. Finally, effectively enforcing the recent decree requiring the coordination of line ministries with the Ministry of Finance, when creating new agencies administered by government agencies, should avoid the unrestricted expansion of the public sector.

- *The transfer of the responsibility for leadership in public administration reform to a central unit* that enjoys independence, and can draw on support from the different players involved in the reform process. This central unit should also become responsible for the task of civil service management. The international experience shows that public administration reform is most successful when carried out by a central agency with high-level leadership and support from key ministries to shield it from political interests. This central unit needs sufficient political clout to stand up to very senior administrators and politicians. It also requires independent funding via the budget process.

- *Revise the pay and grading system.* The pay and grading system should be revamped to ensure the application of the principles of equal pay for equal job value, and to ensure that the grading system is de-coupled from the pay system. The Estonian authorities should also bring together the development of pay and grading policy with other human resources development initiatives within one central administrative unit.

- *Consider compulsory release of civil servants.* One options the Estonian authorities may wish to consider is the compulsorily release civil servants who have reached retirement age,[36] re-employing those with suitable skills on short-term contracts. It is estimated that there are approximately 880 civil servants in this category, which accounts for around 4.3 percent of staff. However, any such measure must take into

[36] National retirement age is currently 57 for women, and 62 for men.

account the need to make the necessary efficiency savings to maintain service standards, as well as effects on pension provisions.

C. Improving Public Sector Performance

4.24 The PADC presents several options to improve public sector performance. For instance, to streamline government functions it proposes a functional review that would reduce overlapping function and ensure the fulfillment of functions that are not yet covered. To alleviate political pressures on public servants, it recommends a strict separation of political and administrative functions. To reduce the size of government, it foresees the devolution of functions to the private sector and civil society. Indeed, the decentralization of functions is listed as a priority, although no concrete proposals are made. Also, better accountability and controls are recommended. As a result, one agency should no longer be able to define its tasks, provide the service and carry out supervision and evaluation of its own work. Instead, these responsibilities would be split. It also mentions the need for better internal control mechanisms and internal auditing, as well as the development of information and feedback systems. Management by objectives and the use of effective management experience of the private sector are included as priorities. It does not foresee the creation of new agencies, except for tasks related to EU accession.

4.25 The proposals presented in the PADC are general in nature, and leaves for follow up work how to define how these improvements will be realized and how radical are the proposed changes. The PADC only endorses the introduction of modern management practices, and the contracting of public services. For instance, in the 1996 reorganization, a more decentralized approach to staffing was favored, by reallocating staff from central ministries to state agencies that could become partly self-financed and would have decisional autonomy over manpower levels.

4.26 *How much can be expected from contracting out?* Contracting out public services will have limited impact in public administration in case it is not supported with mechanisms to enforce accountability, and recruit better staff and managers. Indeed, as explained in previous World Bank reports,[37] the introduction of a decentralized management systems, which give managers broader discretion (such as management by contract as practiced in New Zealand), bears a number of risk for transition economies and can only be successful if matched by high accountability and significant human resource and technical capacity. When contracting within the public sector, the government ultimately has no exit option, which is essential for the enforcement of private contracts. It consequently relies to a large extend on the responsibility and professionalism of public managers and the existence of formal management control systems. Both aspects still need to be developed in Estonia.

4.27 *How to proceed?* The Estonian authorities should consider the following options for improving public sector performance:

- *Priority should be given to strengthening of control functions within the administration.* This is a crucial step to improve the operation of the public sector and prepare for devolution of functions and contracting out. External controls could be improved by strengthening the capacity for external auditing of public spending,

[37] World Bank (1997) *Estonia*: Public Expenditure Review Update, Report No. 15420-EE, July, Washington DC.

and implement clearer rules for the hiring and firing of public servants (including detailed job descriptions, performance evaluations, etc.). More internal controls should be introduced and strengthened via internal audits within ministries at the central, regional and local level to ensure proper accountability for the management of funds and the execution of projects.[38] Efficiency or management audits would permit better control of value for money in public service delivery (facilitated by the development of standards for service quality), and would allow to identify weaknesses in the functioning and management of government institutions.

- *Review the roles and objectives of the multitude of state agencies in Estonia.*[39] The review would aim at achieving two objectives: (i) establish a complete inventory and clear regulations for the creation of new agencies; (ii) differentiate agencies between administrative and commercial activities. Some of the activities of commercial agencies could be devolved to the private sector or the civil society. Also, review of the roles and objectives of agencies could help define better the accountability of agency managers, and establish greater control and supervision requirements.

- *Increase the accountability of public sector managers.* The increased discretionary powers of public sector managers can only lead to higher technical efficiency if accompanied by an increased public sector accountability. This includes publishing public sector goals and budgets, so as to increase transparency in use of tax revenues, and creating mechanism for informing and consulting the population. Examples of mechanisms for consulting the population includes client surveys that allow people to express their opinion about how the quality of goods and services being provided and how budget resources are being allocated, and participatory programs that allow users of public goods and services to participate in their provision.

- *Create a more professional civil service by means of special mentoring and training programs.* This senior public service could provide strategic management and serve as a driving force for public administration development (in areas such as human resource management and career development, the respect of ethical standards, etc.). In Estonia, this concept could be particularly relevant, as part of its senior civil service is already known for excellent professional and presentational skills.

- *Go ahead with the proposal currently under discussion of a parliamentary ombudsman that supervises the activities of the executive authorities.* A well functioning public administration that inspires confidence in the countries' citizens should be subjected to control and appeal mechanisms that restrain arbitrary powers of the state. Estonia already has the institution of a parliamentary ombudsman, but unlike in other countries, that office's responsibility is to supervise and analyze the legislative process. It plays the role of a legal chancellor, receiving complaints and protests regarding the legislation, although it can also act on its own initiative. The

[38] Internal audits become more important in view of EU accession, particular in view of handling receipts from structural funds.

[39] This includes (i) agencies ensuring the continuity of the state (tax, customs board, etc.), (ii) agencies responsible for ensuring supervisory functions (environment inspectorates, consumer protection board), 3) agencies with administrative responsibilities (Archives, Forestry board etc.), and 4) agencies responsible for maintaining registries (Land Cadaster, Building Register, etc.).

parliamentary ombudsman should be complemented with an ombudsman that supervises the activities of the executive authorities. This would strengthen the supervisory function of parliament and citizens over executive authorities. In Estonia, internal supervision of institutions is almost non-existent and the quality and reputation of administrative courts, which are in charge of the settlement of official disputes, is reportedly low. The institution of a parliamentary ombudsman overlooking executive powers could therefore help to improve supervision and to increase the awareness of citizens of their rights and how to protect them.

- *Introduce a Code of Ethics that would help regulate behavior in those areas that are not covered by law and draw more attention to the proper implementation of existing law.* A Code of Ethics will help to improve the knowledge of both citizens and public servants about their rights and obligations as well as to regulate and evaluate the behavior of civil servants. The Public Service Act regulates potential conflict of interest in view of membership in commercial associations, enterprises (including financial interests), and political parties. However, some of these restrictions are subject to interpretation by the employing agency, and can therefore be applied with discretion. The law also requires the declaration of economic interest, sources of income and property by all public officials. The Prime Minister, Members of Parliament, and high level civil servants have to provide this declaration on a yearly basis, for lower level employees it is collected once at the entry of service. To circumvent the existing legislation, financial interests are often declared under the name of a family member or friend, and conflicts of interest are reportedly widespread and tolerated. While the PADC does not specifically address the need for a Code of Ethics, it would help promote some of the stated objectives of the concept paper: a stable and loyal staff, a better definition of rights, obligations and liabilities of public servants and a strict separation of administrative and political staff.

D. Dealing with the European Commission

4.28 The pre-accession period will place several additional demands on public administration, including the negotiations and regular dealings with the European Commission, just to name a couple. Negotiations have two dimensions. The external dimension which will require intensive interaction with the European Committee, and the internal consensus building to coordinate policies and make them consistent with the negotiating position. For instance, in case Estonia's negotiating position is to adopt the CAP policies upon accession, the country's internal policies will need to reflect this position. The budget will need to attach priority to completing land reform, building the administrative capacity for implementing the CAP, and upgrading inspection establishment and border controls to enforce veterinary and phyto-sanitary standards.

4.29 *Negotiations.* Estonia can look forward to three phases of negotiations, each requiring particular institutional response. The first is the formulation phase, centering on the participation of several expert groups largely consisting of national civil servants. Next comes the screening (which is currently ongoing) and negotiation phase involving several proposals put forward by the European Commission (EC). This phase will also involve numerous internal decision making events involving both government and Parliament. The final decision-making phase involves scores of Ministerial Councils convened on a monthly basis for well over 100

meetings a year. In addition, the annual EC summit meetings and some extraordinary summit sessions require national participation and preparation.

4.30 The extensive but varied nature of these demands has led countries to try to develop both high level strategic political direction EU policy coordination as well as capacity to handle the more detailed on-going work at lower levels of the bureaucracy. While there are a variety of institutional arrangements, one can identify four main institutional arrangements for linking broad policy decisions to the day-to-day administrative work in EU member countries: (i) the Foreign Ministry model, where the Foreign Ministry exercises political responsibility for overseeing the integration policy. This is the most prevalent among EU countries; (ii) the decentralized with inter-ministerial arbitration model, such as in Germany, where there is a high degree of ministerial autonomy with only general policy guidelines set out by the Cabinet of Ministers; (iii) the central coordination arrangement, such as in the United Kingdom, where the Foreign Affairs Minister has the political responsibility but the European Secretariat of the Cabinet Office - headed by a civil servant - provides strong inter-ministerial coordination and acts as intergovernmental information center on EU matters; and (iv) the special secretariat arrangement, such as the French General Secretariat of the Inter-ministerial Committee for European Economic Cooperation (SGCI), where a special secretariat at the center of government handles all EU matters.

4.31 Estonia has adopted a central coordination arrangement with the Ministry of Foreign Affairs responsible for negotiations and the European Integration Bureau (EIB) in the Prime Minister's office playing a strong and active role in inter-ministerial coordination. This arrangement appears to best fit Estonia's size and institutional capacity. It also avoids duplication of activities, clearly establishing a division of responsibilities within the public administration. In addition, there is the Commission of Ministers (CM) and the Council of Senior Civil Servants (CSCS). The Commission of Ministers, chaired by the Prime Minister, meets on a monthly basis and is in charge of discussing integration policy and presenting it to the Government. It is composed of ministers who are primarily involved in the European integration process, i.e. the Minister of Foreign Affairs, the Minister of Economy, the Minister of Justice and the Secretary of State. The commission can also invite other ministers to participate in its meetings and overlooks the work of the Council of Senior Civil Servants. The Council of Senior Civil Servants outlines the implementation strategy for the policies agreed at the Commission of Ministers. It meets every fortnight (sometimes every week) and is chaired by the head of the European Integration Office. It consists of representatives (usually the vice chancellor) of most ministries and the central bank to ensure inter-ministerial coordination.

4.32 *How to improve upon the existing arrangement?* The government's institutional arrangement to deal with European integration matters appears to be working effectively. In particular, the coordinating role of the European Integration Office and the Council of Senior Civil Servants. Any improvements in the existing institutional arrangement should strengthen the current arrangement by providing additional high level staff for carrying out key activities during this pre-accession period. The following areas should deserve the attention of the Estonian authorities:

- *Improving the skill mix.* Although staff of the European Integration Office (EIO) and Ministerial European Integration Units (MEIU) have the necessary language skills,

education and potential, there is a large scale absence of policy making and project management skills needed to effectively manage within the EU environment. It is essential that this skill gaps be fed into the national training strategy, and that the twinning program[40] be used in functional and sectoral areas. The former includes planning and policy coordination. The latter encompasses sectoral areas such as agriculture, transport, education and health.

- *Identifying future technical assistance needs.* At present, the identification of technical assistance needs by the EIO coordinating bids from ministries for assistance. These bids are submitted in a variety of formats and levels of detail. The success of bids depends upon the personality of ministers as much as the validity or quality of the bids. This, together with direct applications to bilateral donors and contractual delays, has led to a somewhat fragmented and non-strategic approach to the planning of technical assistance. It is essential that the next phase of technical assistance: be identified on the basis of properly cost bids, which have been assessed against the government's stated policy priorities. The use of common formats for bidding can facilitate the process of evaluating the merits of individual request. These should emphasize sectoral priorities and the needs of the public administration.

- *The Estonian authorities should consider a more centralized system of civil servants training.* This is the proposal presented in the PADC, and it is a sensible proposal given Estonia's small size. Furthermore, the process of EU integration poses serious demands on an already stretched training system. A more centralized system would increase the effectiveness of training for the public sector, since up to now it has been negatively affected by the lack of an overall training strategy and the lack of qualified teaching personnel. At present, the approach to training is decentralized;[41] there is little information on who has already been trained in what areas, and what are the outstanding needs. This has hampered the efficient use of foreign assistance, which is quite significant in volume. Also, management and organizational skills have long been neglected in the public sector and need to be prioritized in the development of a comprehensive new training strategy.

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[40] The Phare Technical Assistance Information Exchange Office (TAIEX) is providing experts from EU member states (Twinning) to work on a secondment basis in state agencies, in order to advise of policy and procedure.

[41] Indeed, training of public sector employees in Estonia is decentralized and provided on a competitive basis. Ministries are required to use 3% of their payroll for training purposes, but can freely chose the training institution and program.

CHAPTER 5: BROADENING ACCESS TO EU MARKETS

5.1 How can the pre-accession period lead to greater trade integration with the EU? This chapter attempts to answer this question. Section A provides a brief assessment of why the practical issues behind trade integration are important. It highlights the role played by recent regional trade agreements in defining investment and foreign trade patterns in Estonia. In doing so, it provides a backdrop to understanding the potential implications of sequencing the harmonization of EU internal market directives. Section B reviews polices where harmonization of these internal market directives are relatively costless and provide benefits in the immediate short run, although they entail some degree of policy commitment. These include conformity with EU requirements for the provision of state aids, and introducing greater competition in government procurement. Section C considers policies where harmonizing to the *acquis* results in long run benefits, despite the adjustment costs. Upgrading customs administration and meeting EU standards for agricultural and industrial goods are examples of these kinds of policies.

A. Introduction

5.2 Since regaining independence, Estonia has been extremely successful in reintegrating into Europe. Today exports to Western Europe account for over two-thirds of total exports, compared to less than 5 percent in 1991. Also, Estonia has managed to move up the ladder of trade, shifting from the re-export of raw material from Russia (e.g., petroleum and metals) to the processing of EU inputs for further export (e.g., textile, clothing, and machinery products), taking advantage of its low-cost but highly skilled labor. Finally, Western European enterprises, primarily from Finland and Sweden, are the largest and most important investors, accounting for over 50 percent of the foreign direct investment that has entered Estonia over the last seven years.

5.3 Estonia's swift reintegration into Europe was the result of progress in macroeconomic and structural reforms, including a stable and convertible currency, far reaching trade liberalization, and an ambitious privatization program. It also benefited from early action to secure free trade agreements with Nordic countries. Already in 1992 Estonia concluded bilateral free trade agreement with Sweden and Finland covering most industrial goods, with quantitative restrictions only for textiles, agricultural products and fisheries. These bilateral agreements were overtaken in 1995 by a free trade agreement with the EU with similar coverage, except for the replacement of quantitative restrictions on textiles for market surveillance. The only other limiting aspect of this agreement was that trade in services with the EU would be liberalized on a bilateral basis only 8 years after the agreement was ratified.[42]

5.4 The harmonization of EU internal market directives and full access to EU markets will conclude Estonia's successful re-integration into Europe. This is indeed one of the most important dimensions of accession. The agenda for harmonization, however, needs to be considered with great attention for the following reasons. First, early commitment in harmonizing and enforcing internal market directives will be of critical importance for the

[42] An exception made was maritime transport services, where no transition period for open access was required.

Estonian export sector. For instance, if Estonia moves swiftly to assure the European Commission that it will compete fairly in the EU single market by complying with EU competition policy and providing an inventory of state aids before accession, it may seek early assurances that Estonian exports will not be subject to antidumping law and other forms of contingent protection in EU markets. This would benefit the Estonian export sector and allow the country to benefit from export-oriented investment that would, otherwise, arrive only after accession.

5.5 Second, the priority given to institution building such as improvements in customs administrations and meeting EU standards for agricultural and industrial goods may contribute towards lowering administrative barriers faced by Estonian exporters, allowing them to gain greater access to EU markets. Indeed, Estonian enterprises involved in foreign trade report that, despite continuous improvements in customs administration, there are still delays in processing goods due to understaffing in customs administration and insufficient computerization of the customs system. Also, exporters of processed food and construction materials report that the harmonization of standards should increase the demand for Estonian goods, as EU consumers may perceive that Estonian products are of higher quality.

5.6 Third, the provisions for the transition from the free trade agreement to EU membership are likely to have a strong influence over the type of foreign direct investment Estonia will attract. This at least is the case with the free trade agreements signed in the first half of this decade.[43] A large share of the foreign direct investment was oriented toward the domestic or the Baltic markets, including telecommunication, cement, sale of fuel and soft drinks. The export-oriented investment in Elcotec, the electronic components assembly plant, ranks eleven in volume of foreign direct investment (Table 10). Also, because of the limitations of these trade agreements, investment in services, other than tourism and banking, have remained below the country's potential, while the restrictive market access awarded to agriculture products and fisheries contributed to low level of foreign investment in these areas.[44]

5.7 Fourth, harmonizing to the evolving Common Agricultural Policy (CAP) entails significant economic and administrative costs. The economic costs from harmonizing domestic policies to the CAP result from the introduction of agriculture import tariffs, raising food prices for consumers. The administrative costs include the cost of overseeing and managing the instruments of the CAP (e.g., dairy quotas, compensatory payments to producers, premiums for male cattle). The latter will require (i) the development of a farm based information system, including the establishment of a farm registry covering all farms and methods of production, clearly identifying the beneficiaries of the various EU support programs; and (ii) information databases with land register, cattle identification and a farm registration system. Since all this cannot be achieved without considerable strengthening of the administrative structures of the Ministry of Agriculture, it will imply an increase in the qualification and the number of technical and administrative staff.

[43] See Sorsa (1997).

[44] Although the main reason for the low level of foreign and national investment in agriculture has been the lack of clarity in land rights.

Table 10: Top 25 Foreign Direct Investments, as of mid-1997

Name of Company	Total Foreign Direct Investment (EEK Million)	Field of Activities
1. Eesti Telekom	799	Telecommunications
2. EMT AS	495	Mobile telecommunications
3. Kunda Nordic Cement	438	Cement production
4. E. O S. AS	357	Oil terminals, wholesale and retail trade of oil products
5. Radiolinja Eesti AS	350	Mobile Telecommunications
6. Horizon Pulp & Paper	241	Paper products
7. Neste Oil Eesti AS	210	Sale of fuels
8. Pakterminal AS	189	Oil terminals
9. Eesti Statoil AS	150	Sale of fuels
10. Eesti Coca-Cola Joogid AS	133	Soft drinks
11. Elcoteq Tallinn AS	117	Electronic components assembly
12. Kreenholmi Grupp	112	Textile products
13. Loksa Laevalehase AS	111	Ship buildings
14. Eesil AGA AS	109	Gas products
15. Nitrofert AS	104	Liquids & gases
16. Saku Olletehase AS	103	Beers & soft drinks
17. Eesti Gaas AS	95	Gas distribution
18. Tolarami-Investeeringute AS	92	Investments
19. Kernira Agro Eesti AS	90	Wholesale & retail /sale of fertilizers and other Agrochemical products
20. Leibur AS	85	Bakery products
21. Estonian Air	79	Air transport
22. Paulig Baltic AS	79	Coffee & spices
23. HTM Sport Eesti AS	73	Sports goods
24. Sonmario AS	71	Liquid fuels storage
25 Poltsamaa Felix AS	58	Fruit & vegetable products

Source: Estonian Investment Agency.

5.8 The chapter is organized as follows. Section B reviews areas that require policy commitments. This includes harmonization of internal market directives related to competition policy, the provision of state aids, and access to government procurement contracts. Section C reviews institution building policies. This includes strengthening of the customs administration, as well as the public and private institutions responsible for monitoring and enforcing product standards. These policies entail a cost of adjustment but have clear benefits in the medium to long run. The harmonization of EU internal market directives for the agriculture sector are discussed in the next chapter, since this will require structural reforms to improve the competitiveness of the sector.

B. Policy Commitments

5.9 Trade policy in the European single market needs to be interpreted broadly because the EU is 'deeply' integrated in a number of dimensions. As a result, the harmonization of Estonian trade policies will involve considerably more than adjusting the customs code. This section examines how actions to harmonize policies in the provision of state aids, and access to government procurement may yield immediate benefits, ranging from the efficient allocation of resources to the possible reciprocal commitments from the EU. Reaping these benefits, however, will require policy commitment from the Estonian authorities.

5.10 The commitments on harmonizing competition policy, State aids and antidumping include the following:

- *Systematically report state aids to the EU.* Estonia has dramatically reduced the role of the state in the economy, and has relatively little in the way of state aids or subsidies. Nonetheless, the EU has requested that Estonia provide an inventory of state aids documented according to the EU accounting procedures. Given the history of state involvement in the eastern candidate countries, to assure the EU that the economy is based on market principles, it is important to comply with the *acquis* in this area. In addition, a systematic reporting of state aids to the EU will help to resist unwanted political pressures in the future for subsidized interventions.

- *Establish judicial review of decisions made by the Competition Board.* Member States of the EU do not have to legally harmonize their Competition Laws to those of the EU, because EU Competition Laws take precedence over national laws. The White Paper on Accession of the Eastern Countries indicated, however, that harmonization of Competition Law is essential for the Eastern European candidate countries.[45] The principal requirement change necessary for Estonian law is that procedures must be established for judicial review of decisions made by the Competition Board. Also, the Estonian parliament is presently considering a draft law on Competition, which would modify the 1993 Act. The draft law includes measures to: control the "abuse of dominant position," which would include price fixing agreements and predatory pricing; control unfair trade practices such as misleading advertising, trademark infringement and disparaging competition; and it contains procedures for investigating, but not controlling mergers. The principal difference between the new draft law and the old 1993 Act is that the new law establishes conditions of judicial review which should bring Estonia into closer accordance with the *Acquis*.[46]

5.11 In addition to judicial review, there are two other desirable changes in the proposed law:

- *Avoid merger controls before 2001.* The new law does not envision merger control before 2001. Indeed, Estonia's liberal trade policy regime implies that competition in traded goods comes from foreign rather than domestic sources, keeping abnormal profits in check. The introduction of merger control would not allow Estonian firms to compete efficiently in EU markets, by denying them the cost cutting benefits of economies of scale. Non-traded goods do not face similar competition, and there is a risk of a firm collecting monopoly profits by merging with competing firms. The Competition Board, however, can keep this possibly in check by enforcing the section on 'abuse of dominant position' in the new law. Furthermore, after EU accession, the EU Competition Authority will assume responsibility for merger control, leaving the Estonian Competition Board to assist in information gathering. Since the Estonian

[45] The European Commission (1995) notes that member States need not align their competition laws due to the supremacy of EU Law. Nonetheless, it maintains that approximation of competition laws is indispensable for the Ceecs since there in no extension of EU Law to the Ceecs.

[46] Rulings of the Competition Board can not result in fines until reviewed by a court; and an appeal process for lower court rulings is established.

government has several other responsibilities in complying with EU Directives, establishing a bureaucracy for merger control that eventually will not be required upon membership in the EU should not, therefore, be a priority.

5.12 Between 2001 and accession, Estonia may apply merger control. One of the first tasks of merger control is to define the relevant market for the purpose of assessing the degree of monopoly control of the market by the merged firm. When merger control is adopted, in order to avoid the loss of economies of scale discussed above, it would be useful to apply a definition of the market for the purposes of determining monopoly power on the same basis as the Competition Authority of the EU. That is, although the EU sometimes defines the relevant market as less than the entire EU, it will often define the EU as a whole as the relevant market. Since Estonia has no border protection, and will not impose any in the future against EU imports, for traded goods it appears sensible for Estonia to apply a market definition no more narrow or regional than would be applied by the competition authority of the EU.

- *Continue avoiding price-setting rules.* The Estonian Competition Board has correctly been avoiding price-setting rules, especially in predatory pricing cases. The experience shows that predatory pricing rules typically protect competitors rather than competition.[47] Indeed, when firms find that competition is severe, they sometimes complain to competition authorities; and the action by the competition authority may result in an increase in price.

- *Antidumping Policies.* Accession to the EU will imply that Estonian exports will not be subject to antidumping law and other forms of contingent protection in EU markets. It is in part because of this fact that the EU has stressed the importance of the Eastern candidates providing an inventory of state aids and compliance with competition policy to assure that candidate countries will compete fairly in a single EU market. Given the direct costs of an antidumping action, as well as the indirect costs from the uncertainty of a potential antidumping actions, the assurance that Estonia will not face the application of EU antidumping law should be considered one of the significant benefits that will accrue to Estonia from accession. It would therefore be in Estonia's interest to rapidly comply with the inventory of state aids (including transparency), thereby demonstrating relatively little state involvement in the economy. This would enable Estonia's to reasonably propose to the EU the application of EU competition law in Estonia in advance of accession in return for the waiver of the use of antidumping and contingent protection against Estonia by the EU.[48]

5.13 *Public procurement.* Introducing greater competition in public procurement will also require policy commitments. Fortunately, Estonia has already taken steps to ensure this commitment. Indeed, Estonia has already given the EU national treatment as part of the Europe Agreement.[49] Also, Estonia was the only Eastern applicant country that did not request a

[47] See, for example, the discussion in Phillips (1988, chapter 7); Koller (1971); and McGee (1958).

[48] See Hoekman and Mavroidis (1995) for a discussion of why it is appropriate for the EU for substitute competition law for antidumping for the candidate countries of Central and Eastern Europe.

[49] The amendments to the Public Procurement Act were adopted by Parliament on June 16, 1996; December 12, 1996; and April 8, 1998. The amendment eliminating domestic preferences became effective on July 1, 1998.

transition period for public procurement that would give it asymmetric access to EU markets.[50] Estonia has taken the initiative, encouraged by the EU, to sign the Government Procurement Agreement as part of its WTO accession process. This commitment in introducing greater competition in public procurement will benefit Estonia in a number of ways: (i) it will allow the purchase of goods in the public sector at minimum cost to taxpayers; (ii) it will improve the allocation of resources by encouraging Estonian production in the most efficient areas, not protected markets; and (iii) it will reduce corruption in public procurement, a problem that all countries must guard against.

5.14 Another positive feature of the Estonian public procurement law is the low threshold for contracts. Indeed, EU Directives only apply to public procurement contracts above certain threshold amounts.[51] As a practical matter, given the size of Estonia, most public procurement contracts would not need to be subjected to EU Directives.[52] Estonia, however, has unilaterally gone beyond the Europe Agreement and declared contracts of lower value subject to open competition. These lower thresholds allow Estonia to take advantage of competitive public procurement.

5.15 To fully comply with EU Directives on public procurement, however, Estonia needs to take two additional steps. It needs to broaden the independence and strengthen the organizational capacity of the Estonian Public Procurement office. The former will require further amendments to the law, while the latter can be achieved through the well-designed and implemented training programs.

C. Institution Building

5.16 Upon accession, Estonian authorities will be required to administer their part of the EU's external border. Building the institutions to fulfil these obligations will entail additional costs in the short run, but full benefits might accrue in the medium to long run. This section examines two cases where this situation applies: strengthening customs administration and establishing the institutions to define and enforce quality standards.

5.17 *Strengthening customs administration.* Estonia has made considerable progress toward harmonizing with EU customs legislation and procedures. Nonetheless, given the highly complex Directives in this area, considerable further progress will be required, and some priorities will have to set for the stretched Estonian customs staff:

- *Conform the Estonian customs code with the EU's.* High priority should be given to making the Estonian customs code conformable with the Community's Combined Nomenclature. At the eight digit level the two customs systems are already identical, but the Estonian code is not as detailed. Thus, the Estonian customs code will need to

[50] For example, Poland, Hungary and the Czech Republic have ten years of asymmetric access..

[51] Generally, threshold levels in the EU follow the threshold levels of the Government Procurement Agreement (GPA) of the World Trade Organization when the goods are covered by the Agreement. These levels are: for goods and services in the central government the threshold is 130,000 SDRs; for regions it is 200,000 SDRs; and for public works it is 5 million SDRs, with still higher thresholds in public utilities. EU Directives also apply to categories of Public Procurement not covered by the GPA. The precise EU threshold levels may be found in European Commission (1998).

[52] Probably no more than ten annually will be above threshold levels.

be harmonized in finer detail. Given the administrative costs of setting up a separate code and the fact that Estonia does not presently use its tariff for revenue, it is likely to be simplest to adopt the EU customs code at a finer level of detail. Moreover, since the Estonian code is not for revenue purposes, there are some procedures, like tariff suspension, which are not included in the Estonian code. The Estonian customs administration is currently undertaking a qualitative rewriting of the Code which it hopes will bring it into conformity with the *acquis* in the year 1999.

- *Improve enforcement against counterfeit and pirated goods.* Although there are laws against counterfeit and pirated goods in Estonia, enforcement both at the border and inside the country remains weak.[53] Estonia needs to sustain the enforcement effort initiated in the first half of 1998. Also, membership in the WTO requires that improving protection of intellectual property becomes a priority

- *Computerization of the customs administration.* In order to assess the principal problems seen by industry, the Government of Estonia and the World Bank commissioned a survey on the operations of the customs administration. The results indicate that that many companies are concerned about delays in customs procedures at various stages, and suggest that the lack of computerization has contributed to some problems. This is a problem also identified by the European Commission (1997). Given the speed at which it can be implemented, the Estonian authorities should proceed with the plan to adopt the ASYCUDA system by Estonian Customs October 1999. This should help to resolve or reduce these types of delay.[54] As trade continues to expand, experience may show that the ASYCUDA system will be strained. Then eventually Estonia may want to model it customs computerization after one of the member countries of the EU.

- *Avoid setting up a bureaucracy to administer quantitative limits on the imports of textiles and apparel.* The EU imposes quantitative limits on imports of textiles and apparel under the Multifiber Arrangement. The administration of these quantitative restraints involves a rather complicated bureaucracy. Under the terms of the Uruguay Round agreement, however, the Multifiber Arrangement is scheduled to expire by 2004. Thus, it is not advisable to establish a bureaucracy to administer the quantitative arrangements of the Multifiber Arrangement given its pending demise.

5.18 In order to assess how well Customs procedures were working, the Government of Estonia and the World Bank surveyed 28 Estonian firms engaged in importing or exporting. The sectoral composition was: four in food processing; three in fuel sales; two in textiles and apparel production; eight in other manufacturing, and eight in wholesale or retail sales. The annual sales

[53] The legislation concerning the protection of industrial property includes the Trade Marks Act (1992); the Patent Law (1994); the Utility Models Act (1995); and the Industrial Designs Act (1998).

[54] Asycuda is a computerized customs administration system. It was developed at UNCTAD and is installed in about 70 countries. There are terminals at the customs entry points on which the customs entry form information is entered. A complete set of rate and exemption files is also kept on the system so that tax calculations can be done automatically. Central records are kept at headquarters either by online transfers or periodic diskette transfers. It is a PC based system that would be strained in a large country. There are a number of versions available, and there are add on modules that can be used for customs procedures such as bonded warehouse.

of these firms ranged from EEK 1 million to EEK 234 million. The view of the respondents overall is that the system is working reasonably well (somewhat better than average), especially given perceived understaffing. Traders evaluate the performance of Customs as improved each year for the past several years. But costly delays are still a problem and there is a need for greater computerization, communication and simplification of the Customs code and required procedures. One very positive note was that not one company complained of corruption in Customs.

5.19 The most common criticism was that there are delays in the processing of goods. These delays seem to be the most pronounced in sectors that require licenses for each shipment of imports, notably fuels and alcohol in our sample. A number of companies estimated that delays in Customs cost them thousands of Estonian Kroon per year, with one company estimating that it loses EEK 100,000 per year as a result of delays in import processing. Long queues were noted, at harbors, airports and especially border crossing points.

5.20 There were a number of reasons for the delays noted by respondents: (i) understaffing in Customs; (ii) officials in Customs sometimes had difficulty locating the paper documentation necessary to process the shipment; and (iii) there was insufficient communication between Customs and banks where necessary. In the latter two cases, respondents typically blamed insufficient computerization of the system, indicating that Customs relies too much on paper documentation. The European Commission (1997) has also identified the need for further computerization. Thus, the plan to adopt the ASYCUDA system by Estonian Customs in 1999 should help to resolve or reduce these types of delay.

5.21 A number or respondents complained about the difficulty in understanding the Customs code. Related to this, some said there was inadequate information. For example, when there is an amendment to the law, traders have difficulty finding out in advance of shipment. They requested simplification in the Customs Code and improvement in the communication system. There were also some complaints about the performance of individual Customs officials, both regarding competence as well as effort, even though respondents indicated that the quality of the work of customs has improved each year.

5.22 Finally, the survey asked respondents to evaluate the overall work of Customs on a scale of one to five, with one being very bad and five being very good. Regarding the performance of Customs on imports, there were 2 twos, 14 threes, 8 fours and 2 fives. For exports, there was 1 two, 7 threes, 7 fours, and 1 five. Note that since not all firms were engaged in both exporting and importing, responses are less than 28.

5.23 When inquired about the findings of the survey, the Customs Administration remarked that many of the responses in the survey failed to reflect recent developments. They noted that border-crossing times had been significantly reduced, exceeding no more than 30 minutes. Also, close cooperation with the Estonian Chamber of Commerce has helped identify problems perceived by Estonian firms engaged in importing and exporting. This cooperation with the Chamber of Commerce has assisted in disseminating the information available from the Customs Administration (including a website on the internet with customs laws and regulations), and in preparing training programs for staff of importing and exporting firms, as well as customs brokers. Indeed, the Customs Administration found that many of the firms reporting difficulties

with understanding customs documentation were small firms that lacked qualified staff to assess the information available from the Customs Administration or participate in training programs designed to inform firms about changes in legislation and procedures.

5.24 Looking ahead, the Customs Administration noted that the challenges now laid in strengthening the controls in the eastern border and the regional customs office. The Eastern border has three main border crossing that were in the process of being rebuilt to meet EU requirements. These border crossings would be able to handle increase transit trade. Also, regional offices located inside the country would assume responsibility for operations that unnecessarily bring firms to the central Customs Administration in Tallinn, such as licenses for customs warehouses and corrections in customs declaration. This would relieve the operations in Tallinn, allowing greater focus on ex-post control, staff training and legislation.

5.25 *Standards.* Standards is another area where the costs of harmonization are relatively high, and the benefits only accrue in the medium to long run. Indeed, implementation of the *acquis* in the areas of standards, metrology, accreditation and testing is an enormous administrative task for the government of Estonia. It will also involve considerable effort from the private sector, in, among other things, setting up and running laboratories and testing facilities. Estonia can expect considerable economic benefits, however, from having its products accepted in the EU. In addition to a lowering of administrative barriers to Estonian exports to the EU, harmonization of standards should increase the demand for Estonian goods, as EU consumers may perceive that Estonian products are of higher quality.

5.26 In order to assess the steps necessary to harmonize Estonian standards to those of the EU, it is useful to outline the EU systems in standards. What is required to conform to the *acquis* depends on the product, since within the EU standards are defined according to three broad regimes:

- *Category One.* For simpler products, "mutual recognition" prevails, under which a product circulating in one member state of the EU must be allowed to circulate in all other member states, unless a particular member state can demonstrate that the public good is not met by the standards of another state. For more complicated products, EU Directives must be implemented in the national law. These types of products are thus known as the "regulated" products. Two types of regimes for regulated product standards prevail.

- *Category Two.* For some products that are "fully harmonized" by EU Directives. Examples include automobiles, some machines and in pharmaceuticals. This approach to regulation of standards is known as the "Old Approach."

- *Category Three.* This is the "New Approach" to defining standards for regulated products. It requires that the EU define "essential requirements." These essential requirements become EU Directives that must be implemented in national law, but the details of standardization are left up to voluntary industry associations. The EU has no law certifying standards in detail for these products. Electrical sockets are an example, where safety standards are defined by the EU, but the standards are left to

standardization bodies which are independent of the government, and include industry representatives and consumer interests.

5.27 In view of the requirements under these categories, harmonization in the areas of standards, metrology, accreditation and testing requires action in two fronts:

- *Seeking a protocol on European conformity assessment (PECA) in advance of Accession.* Indeed, for category 3 products, those regulated by essential requirements, a protocol on European conformity Assessment (PECA) in advance of Estonian Accession is possible, although evidently none have yet been concluded between the EU and any of the candidate countries who have association agreements with the EU. In areas of importance to Estonian exporters, these agreements would benefit them since they would not only assure that Estonian exports would gain access to EU markets, but as our survey indicates, conformity with EU standards should increase demand for Estonian products. A PECA in a category 2 product is also, in principle, possible, although it has evidently not been employed by any of the Eastern applicants. Under EU guidelines, however, no further progress in category 1, mutual recognition products, is possible prior to accession.[55]

- *Getting greater involvement of the private sector in defining standards and product testing.* In defining how to proceed in the harmonization of product standards it is important to distinguish areas where the government must play an active role, from the role of the industry associations and the role of independent laboratories. The government has an important role to play in metrology, accrediting laboratories,[56] in implementing into law EU Directives relating to norms and standards in regulated or fully harmonized products, and in performing market surveillance since products sold in Estonia will circulate freely throughout the EU.[57] Laboratories and testing facilities should be independent of the government, however. At present, only about 60-70 percent of the laboratories are private in Estonia. The participation of industry associations in the defining of standards, especially for category 3 products mentioned above, where standards are regulated by essential requirements, with the detailed standards defined by the industry associations, is therefore very important. Further progress with gaining industry participation and laboratories that are independent of the government is needed. This is presently slowed by the limited

[55] For these products, some protection to Estonian exporters is provided under the Europe Agreement, which prohibits unjustified barriers to trade between Estonia and the EU. In practice, however, the market access provided Estonian exporters under its Europe Agreement likely falls short of mutual recognition.

[56] The Estonian National Standards Board (EVS) is the accreditation agency. EVS accredits laboratories only when they conform to all of the requirements of EN 45001. Laboratories can be officially recognized, but not accredited, if most of the essential requirements of EN 45001 are satisfied. Many laboratories are officially recognized, but not accredited. Official recognition allows them to carry out certain legal obligations.

[57] Since goods in circulation in Estonia will be free to circulate throughout the EU, Estonia will be responsible for assuring products meet EU standards. This will mean occasionally checking the technical file of producers and importers, checking laboratory tests.

interest of the private sector in participating in standard setting and paying for laboratory services.[58]

5.28 In order to assess the importance for the private sector of harmonization of EU product standards, this report conducted a written survey with 21 Estonian companies involved in foreign trade. Eight companies were involved in food processing, six in textiles and clothing, three in construction materials, and the remaining four included companies involved in furniture, metals, auto parts and chemicals, and were classified as "other." In the appendix, we list the questions and the aggregated responses of the firms to each question. The principal findings were as follows:

5.29 *Exporters.* Estonian exporters reported that standards are quite important in their ability to export. This is especially true in food processing and construction materials. Indeed, over 80 percent reported that their goods were subject to testing for conformity with foreign product standards before being shipped abroad. Despite testing before being shipped, 58 percent of the interviews reported that goods are subject to testing and inspection requirements upon arrival at the foreign customs post. All of the interviews reported a trend over the years in harmonizing their standards to those of the EU, and most noted that this had been a costly process. Notwithstanding the efforts for harmonization, 90 percent reported that the frequency with which their goods were subject to testing in EU markets had not decreased.

5.30 The degree of difficulty in meeting EU standards appears to be strongly correlated with the sector in which the company operates. Companies involved in food processing and construction materials reported greater difficulty in gaining standards acceptance in the EU; while companies in textiles and clothing reported greater ease in meeting EU market requirements. This difference across industries is likely explained by the fact that among firms in our sample, all textiles and clothing firms engaged in subcontracting arrangements with EU companies (mostly Swedish and Finnish companies), whereas none of the construction material or food processing firms had yet made such arrangements. The existence of the subcontracting relationship with an EU company over time facilitates products standard acceptance in the EU, as most reported that they adopted the standards of the country of their foreign partner. Companies engaged in subcontracting reported that partners typically monitored product quality through random tests and partners typically returned unsatisfactory shipments.

5.31 Among major issues identified by the companies, we have the following: (i) in food processing, Estonian firms assess the lack of a laboratory that is accepted by the EU as a significant problem,[59] (ii) in textiles and apparel, Estonian laboratories are regarded as competent only in simple type analysis, but not complicated analysis; and closer cooperation between standardization agencies and industry associations was recommended; and (iii) in construction materials, the lack of international acceptance of Estonian laboratories was seen as a problem.

[58] It is planned to separate the metrology and accreditation departments in EVS from the standards department, converting the latter to a private independent organization. According to EVS, the goal is that the standards function should become completely independent of the government by the year 2000. While the trend in increasing non-governmental participation in standards setting is laudable, some consideration should be given to how the government will receive information on what technical norms it should implement into law.

[59] Officials in the Estonian National Standards Board noted that among the many food laboratories in Estonia, they have accredited four. In their view, these four accredited laboratories operate on the same level as EU laboratories, but are not yet accepted in the EU.

5.32 *Importers*. Only twenty one percent of respondents indicated that their imports are subject to inspection by Estonian authorities. In part this is because 59 percent indicated that Estonian authorities accept conformity assessments in the country of origin. Of those whose goods are subject to Estonian certification and compliance, 75 percent indicated that they do not have a choice of service provider. While they typically believe (66 percent) the costs of testing are reasonable, 80 percent thought the time involved in the process was excessive. About half the respondents answered that the process of conformity assessment for imports has become more burdensome in the last two years, half indicated it is about the same, and none thought it was less burdensome.

CHAPTER 6: PREPARING AGRICULTURE FOR ACCESSION

6.1 Trade integration with the EU is of major importance for Estonian agriculture. At present, the EU accounts for over 50 percent of Estonia's agricultural and food imports, but less than one-third of exports. Over two-thirds of agricultural and food exports are bound to markets in the East and to neighboring Baltic countries. Success in preparing the agricultural sector for EU accession will hinge therefore on developing an agricultural system that is competitive in world markets.

6.2 This chapter argues that the rapid completion of structural reforms in agriculture is the most important means of achieving this objective. Priority should be given to the rapid completion of land reform with significant changes in the current approach. This includes swift settlement of land ownership issues, accelerated privatization of unclaimed state-owned land, and faster progress in land titling. Priority should also be attached to improving the quality of production in the agro-processing industry. This in turn will require meeting EU quality requirements, as well as the strengthening of the institutions designed to define and enforce agricultural and phyto-sanitary standards. Finally, preparing agriculture for accession requires careful consideration of the options for adopting the EU's Common Agricultural Policy (CAP) as it evolves.

6.3 The chapter is organized as follows. Section A considers measures for completing land reform. Section B examines trends in the processing industry, and reviews the institutions required for a reformed agriculture. Section C discusses the external trade policy options. Section D looks ahead and discusses the need for an integrated rural development approach for the effective use of the instruments of the evolving CAP.

A. Completing Land Reform

6.4 The completion of land reform is probably the single most important step toward increasing the competitiveness of the agricultural sector. Delays in clarifying the land ownership should be largely credited with the slow recovery of the sector. It slowed down farm restructuring and the inflow of new capital into the sector. Key measures to accelerate land privatization include:

- *Accelerating and simplifying titling procedures*. Titling procedures and procedures for registration of land in the cadastre should be modernized and supported by additional funds in order to survey and record all agricultural properties in the title book by 2001 - 2002.

- *Privatizing unclaimed State-owned agricultural land and land used by agricultural enterprises*. The State-owned agricultural land currently leased or used by agricultural enterprises should be privatized by giving preferential access to current users and to members of the enterprise. This privatization to individuals rather than privatizing the large-scale farmland in one unit or in a few larger parcels is preferable because it is more conducive to further restructuring and changes in land usage. It is also socially more equitable.

- *Settling household plots.* The current users of household plots, up to 3 ha per family, should receive full private ownership rights (freehold titles) free of charge. Additional land, above 2 ha used as household plots, should be privatized in a similar method as is proposed for large-scale farmland.

6.5 This change in approach to land reform is warranted for the following reasons:

- *Only about 26% of Rural Land has been Titled to Private Owners.* The Estonian National Land Board (ENLB) was established to implement and oversee the land reform process, including maintaining and updating a land cadastre. Individual claims for restitution had to be submitted to the local restitution commissions that made the initial decision on the claim. The paces of land titling accelerated in 1997, however, only about 30,000 cases, covering about 20 percent of the agricultural area, were fully processed, including registration in the title book. The Estonian Government, in November 1996, issued regulations to simplify the land privatization process. According to local experts, the new regulations alone will not lead to significant acceleration of this process unless significant additional financial resources are made available. With current procedures (which seeks full physical return of the original property) and funds, the completion of the land restitution process is estimated to take an additional five years.

- *Only 25% of agricultural land will have individual owners as a result of restitution.* In about 20 percent of agricultural land, there are no major contradictions between the previous owners and current operators of the land and buildings, making it relatively easy to return the land to the previous owners. Another 5 percent of agricultural land is subject to contradictory claims that will not be easy to settle. The settlement of disputes is slow, due to complicated procedures and the lack of resources for these tasks in local courts and municipalities. About 75 percent of agricultural land have no claimants or previous owners.

- *Almost 30% of the agricultural land remains uncultivated,* especially in marginal areas where the demand for land is limited. About one third of total agricultural land has not been claimed for use and remains idle (270,000 ha in 1997).

B. Industries and Institutions for a Reformed Agriculture

6.6 Two other important step toward increasing the competitiveness of the agricultural sector are: enhancing the quality of production in the agro-processing industry, and setting or reorganizing institutions to provide services for a competitive agricultural sector. In the first case, most of the production of agro-processing industries does yet not meet EU standard. The fishing industry is an exception. Indeed, while the implementation of the Hazard Analysis Critical Control Point (HACCP) system of standards is in progress at two to three dairy processing enterprises, there is a long way to go before all Estonian agro-processing enterprises comply with the current EU requirements. The FAO estimates the investments required to meet these quality requirements could be as high as US $150 million for the next decade.[60]

[60] United Nations Forestry and Agriculture Organization (1997) National Strategy for Sustainable Rural Development. Unpublished manuscript. Tallinn, Estonia.

6.7 In the second case, Estonia has implemented significant reforms to create the institutional and legal environment required for a market-based private agriculture. The quality of services provided by the new or reorganized institutions, however, does not yet fully meet EU standards. Strengthening public institutions and improving the provision of public goods and services is, therefore, one of the most important tasks during this pre-accession period.

6.8 In the area of food and agriculture, the most important measures to establish a common and well-functioning market for agricultural products is to move toward greater standardization of food and agriculture products. This will require better enforcement of veterinary and phyto-sanitary standards, and the protection of the EU external borders according to these standards. To comply with these standards further steps toward legal harmonization and institutional development are needed. The most pressing legal harmonization requirement pertains to veterinary health, plant health, and animal nutrition. Also, according to the *Avis*, legislation has to be further harmonized in the fields of biotechnology, genetics, animal nutrition, plant protection products, organic farming, and pesticide residue monitoring. To enforce these laws, Estonia needs to enlarge and improve the network of laboratories, as well as strengthen the official veterinary service. The former is needed for the enforcement of veterinary, phyto-sanitary, and food standards. The latter is required for implementing an effective animal identification system.

6.9 Institution building is also required at Ministry of Agriculture. The implementation of the CAP as it evolves will require strengthening of the administrative structures responsible for overseeing and managing this policy (e.g., dairy quotas; base area, set aside, and compensatory payments to producers; premiums for male cattle). It will also require (i) the development of a farm based information system, including the establishment of a farm registry covering all farms and methods of production, clearly identifying the beneficiaries of the various EU support programs; and (ii) information databases with land register, cattle identification and a registration system. All this will require an increase in the qualification and the number of technical and administrative staff in the Ministry of Agriculture.[61]

6.10 Indeed, looking ahead, the implementation of the CAP as it evolves will be one of the most significant challenge for agriculture policy makers. Although the CAP is solely decided at the EU level, the implementation is the responsibility of the member countries. Estonia has, therefore, to be able to execute the CAP at the time of accession. Moreover, the CAP does not cover all areas of agricultural policy. Some are left to, and determined by, the member countries (e.g., the insurance system for farmers). Other policies are the competence of both the EU and the member countries (e.g., environmental policy). Neither can be contradictory to the CAP (see Box 4).

[61] The Ministry of Agriculture estimates the need of an additional 400 staff, compared to 130 currently employed by the ministry. Although only 40 out of an additional staff of 400 would be working at the ministry level. The other 360 would be employed in regional institutions outside of the capital city, Tallinn.

Box 4: EU's Current Common Agricultural Policy (CAP)

The CAP encompasses price interventions in several agricultural markets, including cereal, milk and dairy products, beef, veal and port. In addition, it includes direct payments to agricultural producers to compensate them for reductions in price support. For instance, the market regime for *cereals* is one of the cornerstones of the CAP. The intervention price is the price at which the Union authorities are obliged to purchase all grain offered to them during the intervention period (November 1 to May 31 in most member countries). The intervention price is supposed to be the minimum price. In practice, the farm gate price can fall below the intervention price due to transport costs, lower quality, and delays in payments of the intervention agency. Also, a minimum duty-paid import price equal to 155 percent of the intervention price (184.74 EUR/t for 1995/96 and 1996/97) applies. Finally, as a result of the 1992 reforms of the CAP, direct payments to compensate cereal producers for the reduction in price support was introduced.

Milk and dairy products are one of the most important and highly regulated markets in the EU. To regulate the milk market and protect the producers the following instruments are used: import tariffs on dairy products, export subsidies, and guaranteed purchase and/or storage of butter and skim milk powder. Since the level of protection is high, even for EU standards, there are restrictions on quantity. The so-called milk quota allows each individual producer to sell milk up to the level of a reference quantity (total EU: 117.49 m tons). This quantity has been allocated to each holding according to historical production at the time of the introduction of the quota system in 1984. Today, quotas can be transferred through sale, lease, or inheritance between individuals within an EU member state. If the guaranteed total quantity is exceeded, a levy will be payable by the individual milk producer.

The market for beef and veal is subject to a wide range of interventions, ranging from purchase supports to storage subsidies and premium payments. Under the rather complicated provisions for purchase support, the intervention agencies are obliged to purchase specified categories of beef at a given price. Also, different types of intervention (normal intervention, safety-net intervention, and lightweight intervention) are triggered at different conditions, mainly depending on difference between actual market price and intervention price. Another form of domestic support is the premium payments for beef producers to compensate for reductions in price support. The producer can receive a first payment per animal once they have reached 10 months, and a second payment after the animal has reached 22 months. The limit for this support scheme is set at 90 head per holding. This domestic support for beef and veal production is complemented by measures affecting imports from outside the EU and refunds on EU exports to third countries. Imports are subject to tariffs (between 180 percent and 390 percent in 1997/98) that are to be reduced according to agreements signed at the conclusion of the GATT/WTO Uruguay Round. The EU Commission depending on the current and future world market situation sets export refunds.

Finally, pork is much less protected in the EU than beef and veal. The basic price for pork is set in as a result of political negotiations. If the reference price for pig carcasses (a weighted average of the national prices) is below or likely to be below 103 percent of the basic price, price support measures can be used. In practice, private storage aid -- fixed amounts paid to encourage traders to store pork – have been more commonly used. Border protection is carried out through import tariffs for pork and pork products, and through export refunds. The import tariffs are in the 60 to 200 EUR/100kg range, depending on the level of processing. Export refunds are claimable only on a limited range of pork products.

Source: Csabi, Valdes, and Fock (1998).

C. Agricultural Trade and Price Support Policy Options

6.11 This section simulates the following agricultural trade and price support policy options for Estonia:

(i) *A rapid price alignment with the CAP.* Price changes are modeled using the average CAP 1994-95 levels of nominal and effective protection.[62] These levels of protection were multiplied by the 1997 tariff equivalents of Estonia to arrive at the price levels with CAP support levels[63];

(ii) *Adopting CAP Agenda 2000.* Under this scenario Estonia adopts EU prices according to Agenda 2000 based on 1994-95 levels of protection adjusted for the projected price reductions (20 percent for wheat and barley; 10 percent for milk; 30 percent for beef);

(iii) *Current Policy Regime.* Estonia keeps its current liberal trade policy regime, with low levels of intervention until accession.

6.12 The simulations are carried out for five major products (wheat, barley, milk, beef and pork), computing the impact on producers and consumers under the scenarios identified above. Measuring the producer income effect is done by calculating the changes in producer's revenues and value added.[64] Measuring the consumer income effect is done by calculating the percentage change in household's real income in response to the changes in the price of food. The simulations assume that in the short run output quantities are fixed, and that there is no response in a household's nominal income to changes in food prices. The analysis does not include therefore any dynamic effects like technological changes.

6.13 Table 11 presents the results for the simulation under the current policy scenario (scenario 3).[65] The following results stand out. First, the importance of the milk sector for Estonian agriculture. In current domestic prices the milk sector accounts for almost 50 percent of gross farm revenue and just under 70 percent of value added income for the five most important products. Second, while the livestock products enjoy a positive (and fairly high) effective rate of protection, pork appears to be an extreme case. At world market prices a World Bank report[66] finds negative value added. This is attributed to very inefficient production technology that requires much higher feed grain per unit of output than found in the EU.

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[62] EU protection rates for 1997 were not available and for cereals 1996 was a year of exceptionally high world prices.

[63] See Box 4 for a description of the CAP.

[64] The pre-condition for analyzing the producer income effect is the calculation of nominal rates of protection (NRP) and the effective rates of protection (ERP). The former is defined as the difference between domestic and world market prices adjusted for location and quality of products. The latter is defined as the ratio between actual value added and one minus the value added that would have been received at world market prices.

[65] 1997 production quantities of beef and pork was not yet available at the point of writing this report. Therefore, quantities were assumed to be equal to those in 1996.

[66] See Csaki, Valdes, and Fock (1998). The Estonian Rural Sector: the challenge in preparing for EU accession. World Bank, mimeo.

Box 5: Agenda 2000: Proposals for Reforming the EU's Common Agricultural Policy

In its Agenda 2000 document the European Commission proposes steps for reforming the EU's Common Agricultural Policy. These proposals respond to problems that affect the current CAP and are expected to increase over time. These include the continuous technical progress in agricultural production, changing world market prices, commitments made at the Uruguay Round, and the upcoming negotiations for the next WTO Round expected to begin in 1999. These reforms are also timely because implementing the current CAP in Eastern European acceding countries is likely to create additional problems. Indeed, a highly price protective policy would create large income disparities, distortions, and surpluses in the new member countries and could yield in an unacceptable financial burden for the EU.

The reforms proposed by the Agenda 2000 move the CAP general direction for reforming the CAP underlying the Agenda 2000 is to further decrease the price gap between EU and world market prices and (partly) compensate farmers for income losses by direct payments. For instance, the proposals for cereals include:

(i) The cereal intervention price is to be fixed in one step (e.g., 2000) at a safety net level of 95.35 EUR/ton. Since it is presently set at 119.19 EUR/ton, this implies a 20 percent reduction;

(ii) A non-crop specific area payment is established at 66 EUR/ton. This payment would be lowered in case the market prices are sustained at a higher level than currently foreseen;

(iii) Only voluntary set aside areas would still be entitled to non-crop specific payments. The reference rate for compulsory set-aside would be fixed at 0 percent, while extraordinary set-aside would be abolished; and

(iv) Silage cereals (mainly silage maize) would be excluded from the CAP;

Among the proposals for the dairy sector there are following:

(i) Extending the quota regime up to 2006; improving flexibility and simplify the present common market organization; gradually decreasing support prices by an average of 10 percent during this period; and

(ii) Introducing a new yearly payment for dairy cows adjusted to average yield, at a level of 145 EUR. Together with the new payment introduced for dairy cows in the new beef sector CAP, the total dairy cow premium would reach 215 EUR, equal to the unweaned cow premium.

The proposals for beef sector include the following:

(i) Establishing an effective market support at a level of 1950 EUR/ton (presently at 2780 EUR/ton, which implies a 30 percent decline), over the period 2000-2002. The aim is to stabilize market prices around or above this level through border protection, export measures and the introduction of a private storage regime, as already exists for pork; and

(ii) Increasing direct income payments per head of cattle to compensate for a declining price support. Under the new regime, these payments would eventually reach the following levels (present support levels are mentioned in brackets):

- Unweaned calf (yearly payment) 215 EUR (145 EUR)
- Bull (one payment) 368 EUR (135 EUR), steer (two payments) 232 EUR (109 EUR)
- Dairy cow (yearly payment) 70 EUR no premium

There are no specific proposals for the pork market in the Agenda 2000.

Source: Csabi, Valdes, and Fock (1998).

Table 11: Producers' Real Income Effect, Simulation Results under the Current Policy Regime

Output	Wheat	Barley	Milk	Beef	Pigmeat	Sum
Border Equivalent Price (EEK/t)	2122	1689	2063	13868	17535	-
NRP (%)	-10	-11	25	29	43	-
Domestic Price (EEK/t)	1913	1500	2572	17920	25139	-
Quantity (1000 t)	118	312	715	22	32	-
Revenue (m EEK)	225	469	1840	396	797	3726
Revenue (% of total)	6	13	49	11	21	100
Value Added (m EEK)	73	80	1478	240	262	2133
Value Added (% of total)	3	4	69	11	12	100
ERP (%)	-23	-40	33	54	1132	-
Value Added at Border Equivalent (m EEK)	94	133	1123	156	41	1547

Source: Csaki, Valdes, and Fock (1998).

6.14 Table 12 presents the results under the CAP price support policy scenario. For agricultural producers, the overall revenue increases by over 50 percent and the overall value added by over 60 percent, when compared to the current policy scenario (Table 11). The highest output change under the CAP scenario would occur for barley, where the rise in revenue and value added is the greatest. Even more important, however, is the change in the dairy sector where there is a 68 percent rise in revenue and 74 percent increase of value added. Also, important is the decline in revenue and value added for pig meat. Revenues decline 15 percent due to the lower rate of protection in the EU than that of Estonia, while value added is even negative under the CAP price scenario. This clearly confirms the low efficiency of pig production in Estonia. This happens because production activities where output and most inputs are tradable suffer the most because of technology gaps.

Table 12: Producers' Real Income Effect, Simulation Results for the CAP Policy Scenario

Output	Wheat	Barley	Milk	Beef	Pigmeat	Sum
NRP (%)	25	72	110	125	22	-
Domestic Price (EEK/t)	2653	2897	4321	31203	21305	-
Revenue (m EEK)	312	905	3091	690	675	5673
Change in Revenue (%)	39	93	68	74	-15	52
Value Added (m EEK)	148	468	2571	445	-190	3441
ERP (%)	57,3	252	129	185	-561	-
Change in Value Added (%)	104	487	74	85	-173	61

Source: Csaki, Valdes, and Fock (1998).

6.15 The increase in prices, and subsequently revenues and value added, are more moderate for the Agenda 2000 scenario (Scenario 2, Table 13). The lower price increases for cereals yield relatively smaller changes in revenue and value added for wheat. Also, the changes for barley - although still considerable - are more moderate than under the CAP policy scenario above. Milk prices are assumed to be 10 percent lower than under the CAP scenario, but revenue and value added increases with respect to the current policy scenario (Table 11) are significant. Beef prices are 30 percent lower than under the CAP scenario; consequently, revenue and value added increase by about 20 percent relative to the current policy scenario (Table 11). The negative

value added effect for pork production is less than under the CAP prices due to reduced prices for cereals and therefore for concentrated fodder.

Table 13: Producers' Real Income Effect, Simulation Results for the Agenda 2000 Scenario

Output	Wheat	Barley	Milk	Beef	Pigmeat	Sum
NRP (%)	0	37	89	58	22	-
Domestic Price (EEK/t)	2122	2317	3889	21842	21305	-
Revenue (m EEK)	250	724	2782	483	675	4914
Change in Revenue (%)	11	54	51	22	-15	32
Value Added (m EEK)	94	307	2342	283	-22	3005
ERP (%)	0,0	131	109	81	-153	-
Change in Value Added (%)	30	286	59	18	-108	41

Source: Csaki, Valdes, and Fock (1998).

6.16 The conclusions of these simulations measuring the effect of different policy scenarios on producers income is not complete without the simulations measuring the real income effects to consumers. Food represents, on average, approximately 40 percent of total household expenditures. The impact of price supports for the average household, as well as the average urban and an average rural household, is shown in Tables 14 and 15. The biggest impact of price supports is to increase the prices for milk and beef. In the CAP scenario, expenditures on dairy and beef products increase by more than 30 percent relative to the current policy scenario. The impact on other products is smaller, and in the case of pork negative. The combined effect of the CAP scenario is a 7.5 percent increase in expenditure on food, which is equivalent to a 3 percent loss in household real income.

Table 14: Consumer's Real Income Effect, Simulation of Current CAP Scenario

	Change in Expenditures EU Scenario			Change with Respect to Current Policy Regime		
	1997* EEK/month	Urban EEK/month	Rural EEK/month	1997* %	Urban %	rural %
Bakery products	100.9	99.4	115.3	4.1	4.1	4.1
Potatoes	7.7	11.4	2.5	0.0	0.0	0.0
Dairy Products	105.8	121.2	73.2	31.7	31.7	31.7
Beef	76.7	82.8	63.2	32.1	32.1	32.1
Pork	60.8	65.7	50.1	-7.1	-7.1	-7.1
Sum	351.9	380.5	304.4	14.1	14.5	12.4
Food Consumption	619.5	689.1	537.9	7.5	7.5	6.7
Total Consumption	1500.5	1687.4	1177.1	3.0	2.9	2.9

Source: Csaki, Valdes, and Fock (1998).

6.17 The impact of price supports under the Agenda 2000 policy scenario is more moderate (Table 15). Expenditures on dairy and beef products rise by only 24 percent and 10 percent, respectively. The total effect on food expenditure is a 3.7 percent increase with respect to the current policy scenario, the equivalent to a 1.5 to 1.3 percent decline in household real income.

6.18 The impact of these different policy scenarios on producers and consumer real income can be summarized as follows. The adoption of the CAP would increase the value added for the five products in the simulation (wheat, barley, milk, beef and pork) by around 60 percent. Since

these five products account for approximately 65 percent of agricultural GDP, this is equivalent to a 40 percent increase in agricultural GDP, or 2.5 percent of total GDP. However, the 3 percent decline in household real income entailed by the increase in prices under this CAP scenario implies an equivalent transfer from consumers to agricultural producers.[67] The gains to producers are therefore entirely offset by the loss to consumers.

Table 15: Consumers Real Income Effect, Simulation Results of the Agenda 2000 Scenario

	Change in Expenditure Agenda 2000 Scenario			Change with respect to current policy regime		
	1997* EEK/month	Urban EEK/month	rural EEK/month	1997* %	Urban %	Rural %
Bakery products	98.0	96.6	112.1	1.1	1.1	1.1
Potatoes	7.7	11.4	2.5	0.0	0.0	0.0
Dairy Products	99.5	114.0	68.9	23.9	23.9	23.9
Beef	63.5	68.6	52.4	9.5	9.5	9.5
Pork	60.8	65.7	50.1	-7.1	-7.1	-7.1
Sum	329.6	356.3	286.0	6.9	7.2	5.6
Food Consumption	597.2	664.9	519.5	3.7	3.7	3.0
Total Consumption	1478.2	1663.2	1158.7	1.4	1.5	1.3

Source: Csaki, Valdes, and Fock (1998).

D. Moving Toward an Integrated Rural Development Approach

6.19 Developing an agricultural system that is competitive in the world markets should not be detached from policies to achieve a balanced development of rural areas, not least because this is important to effectively utilize the instruments of the evolving CAP. This section examines therefore policies for a harmonious development of rural areas, something that is specifically important under current Estonian conditions. The proposed approach includes a set of specific measures to support:

- The development of the rural service sector and related industries to provide off-farm rural employment and additional demand for agricultural and other products;
- The improvement of rural infrastructure, including education and social services; and
- The advance of an appropriate social policy to address problems affecting rural populations;

6.20 In designing policies for an integrated rural development approach, one that addresses the problems of less-developed regions in Estonia, this section considers the following objectives:

- *A decentralized approach.* In a country of relatively small dimensions and with an experience of central planning in agriculture, the challenge is to ascertain that the rural development program is conceived, developed, implemented and, in part, financed by local rural institutions. This implies a "bottom-up approach", where rural development is driven by local demand as expressed by the ultimate stakeholders in rural development, the rural communities, and their inhabitants;

[67] This follows because consumption accounts for 85% of GDP, so 3% decline in consumption is equivalent to 2.5% of GDP.

- *A multi-sectoral approach.* The various and often complementary aspects of rural development imply the collaboration between various line Ministries (transport and infrastructure, health, education, environment, agriculture, etc.) to assess whether the decentralized programs would fit with the national policies and EU rules and regulations;

- *The financial engineering of mostly small to medium-size projects.* The challenge here is to ensure the active participation of various financing institutions (Estonian and foreign) to mobilize various sources of funds available to the country. These sources vary significantly depending on the type of project the local communities have prepared;

- *Fair prioritization* for financing based on technical criteria to reduce the risk of preferential treatment given to certain communities rather than others on the basis of political favoritism. A strong technical analysis of priorities by local/regional policy-makers which would screened by central government on the basis of simple technical criteria (e.g., unemployment, level of education in the region, private sector projects waiting for public infrastructure, etc.); and

- *Collaboration with private sector* (enterprises, NGOs, etc.). This collaboration constitutes a challenge for public sector agencies like municipalities and villages although it also strengthens the sense of ownership in the region and facilitates implementation.

6.21 Another important objective of a program for rural development in Estonia would be to support the government's efforts toward EU accession. Indeed, by linking the EU pre-accession (and accession) initiatives for rural development, environment, employment and agriculture, the rural development program should also enable the government to use available resources (credits, grants, and human capital) with maximum efficiency. In keeping with recent trends in the EU member countries, such a program would need to assist Estonia in making the fundamental shift from purely agricultural to mixed use of the countryside, reflecting new attitudes and needs of rural, urban and suburban communities. One of the important features to be incorporated in the program would be the special focus on less-favored regions.

6.22 It is anticipated that investments for rural development will be directed to projects that are identified by local governments, working when appropriate in partnership with businesses, NGOs and foreign similar institutions (e.g., twinning arrangements as supported by the EU). Based on the government's (an Inter-ministerial Committee would be appropriate to collaborate and harmonize programs), and particularly local government's, priorities as reflected in their program objectives, the following major components could be included:

- *Private Sector Development*, in particular with a special focus on: (i) small and medium size agro-industrial and agro-marketing enterprises (including genuine service cooperatives) adjustment to EU standards; (ii) access to financial services from rural areas; and (iii) support to the development of micro-enterprises;

- *Infrastructure* that facilitates private sector development and improves living conditions and environment. This component could also provide assistance to land consolidation programs since they also imply substantial adjustment in terms of rural roads and water management (drainage);

6.23 The forthcoming enlargement of the European Union is clearly providing a strong incentive to review and adjust structural policies in the candidate countries. The integration will take place in several stages:

- *Between now and 2000*: continuation of the financial and technical cooperation with the CEECs that began with the EU-Phare program in 1989. The aims of EU-Phare have just been reworked to take account of the forthcoming accession (see below). This program is already providing special assistance to the CEECs in 1997-99 for legal and administrative preparation for the introduction of structural policies.

- *From 2000 to the date of the accession*: in each case the pre-accession structural assistance proposed by the Commission will support various projects in the applicant countries while familiarizing their responsible authorities and economic and social actors with the methods used to implement Community assistance.

- *After accession*: countries will start to implement the Structural Funds and the Cohesion Fund. In accordance with the orientations of Agenda 2000 and with the conclusions of the European Council in Luxembourg, financial aid for the agricultural and rural development sector will be granted to Central and Eastern European applicant countries.

6.24 The EU's Social Action Program for Pre-Accession Aid for Agriculture and Rural Development (SAPARD) structure is similar to the European Agricultural Guidance and Guarantee Fund (EAGGF) Guarantee section. The main concern of SAPARD is to support measures for the improvement of farms (including producer groups), as well as: processing and distribution; promotion of quality products; veterinary and phytosanitary control; improvements in land quality; land re-parceling and registration; water resource management; vocational training; diversification of economic activities in rural areas; agri-environmental and forestry measures; improvement of rural infrastructure and rural villages (including the maintenance of rural heritage); as well as technical assistance. The list can be extended if additional priority needs should emerge.

6.25 The SAPARD, as well as other programs, presume national co-financing of the program. This is an area where joint approaches between the local and national budgets, the EU and International Financial Institutions (IFIs) could be envisaged to co-finance certain elements of the regional development programs. To this very purpose, a memorandum of understanding for such collaboration has been signed between the European Commission and the IFIs. By linking with the EU pre-accession and accession initiatives for rural development, environment, employment, and agriculture, the World Bank, as well as other IFIs, would enable the government and the local administrations to use available resources (credits, grants, human capital) with maximum efficiency.

CHAPTER 7: TACKLING ENVIRONMENTAL PROBLEMS

7.1 The pre-accession period offers Estonia the opportunity to tackle some of its most serious environmental problems. Indeed, it has already has had a great influence on the country's environmental policy and legislation, as reflected in the National Environmental Strategy approved by Parliament in 1997, and the National Environmental Action Plan approved by Parliament in 1998. Also, since early 1997, Estonia has adopted 12 laws, 44 governmental regulations, and 18 ministerial decrees harmonizing partially or fully with 61 EU Directives in the field of environment. This Chapter focuses therefore on what lies ahead. Legislation follow up need for harmonization, the investment costs of complying with this legislation, and actions needed to address the environment problems in the northeastern county of Ida-Virumaa. The main finding is that to meet EU environmental standards Estonia should elaborate a credible strategy for compliance. The strategy should focus on: (i) minimising costs; (ii) concentrating on meeting international obligations, while seeking to identify areas where there is greatest overlap between the EU's requirements and local priorities, and (iii) in establishing credible interim compliance targets.

A. Introduction

7.2 Estonia is well advanced in designing an environmental strategy for the pre-accession period. Indeed, Estonia's National Environmental Action Plan (NEAP) identifies key environmental problems, establishing short and long term objectives for tackling these problems and objectives. According to the NEAP, the priority environmental problems are those that have a direct impact on human health. This includes reducing air pollution, improving the quality of drinking water, and reducing the contamination of food and agricultural products.

7.3 The preparation of the NEAP has been based on the work of 10 national working groups, each focusing on one of the ten environmental policy goals identified in the NES.[68] The NEAP contains, as a result, a large variety of different types of actions (total number being 620), including legal reforms, the introduction of economic instruments, the drafting of management plans, infrastructure projects, investments into pollution abatement, training, institutional strengthening, education, environmental awareness campaigns, etc.. The top priority actions are legal reforms, drawing of management plans and capital investment for pollution abatement.

7.4 Almost one-quarter of the actions included in the NEAP are oriented directly or indirectly toward EU accession. This chapter reviews therefore these actions, aiming at developing a consistent and cost-effective strategy for meeting the environmental challenge. Section B focuses on strengthening environmental legislation. Section C turns to the investment costs of complying with this legislation. Section D examines the problems in Ida-Virumaa, where oil state-base electricity generation and chemical production has led to the highest concentration of environmental degradation in the country.

[68] These are (i) the promotion of environmental awareness; (ii) the development of clean technologies; (iii) the reduction of negative environmental effects form the energy sector; (iv) the improvement in air quality; (v) the reduction in waste generation and the improvement of waste management; (vi) the elimination of past pollution; (vii) the improvement of management and protection of ground water resources; (viii) the protection of surface water bodies and coastal sea; (ix) the preservation of landscape and biodiversity; and (x) the improvements to the quality of the built environment.

B. Strengthening Environmental Legislation

7.5 The basic framework for environmental legislation in Estonia includes the *Nature Protection Act (1990)* and *the Sustainable Development Act (1995)*. The Nature Protection Act sets out principles regarding nature conservation, natural resources use and pollution control. The Sustainable Development Act establishes a national strategy for sustainable development, based on the principles established at the UN Conference on Environment and Development held in Brazil in 1992. Several environmental laws have already harmonised with EU Directives, including the environmental impact assessment directives, the waste framework directive, the hazardous waste directive, the packaging waste directive, the emissions from motor vehicles directives, the nitrate directive, the air quality directive and the drinking water directive. Nevertheless, there are still several with and gaps in the environmental legislation

7.6 The main problems are that:

- *The environmental law is too broad.* It is a framework legislation, which contain more political than legal principles. Also, the 1990 Nature Protection Act is already antiquated, and a new framework legislation is needed. The new legislation should be based on the precautionary principle, the polluter-pays principle and an integrated pollution prevention and control methodology. The present environmental law uses mostly public law instruments (restrictions and prohibitions) to control environmental risks, with little use of private law instruments. Reliance solely on public law instruments is in certain respects inefficient and certainly more costly than private law instruments. One of Estonia's priorities should be the use of economic instruments to secure environmental protection (pollution charges, resource pricing).

- *Many environmental laws originate from the pre-1989 period* (i.e., before re-independence). Under the new constitution, the Government and Ministers may only adopt regulations in order to implement the Acts of Parliament. Also, the authority to legislate by regulation must be specifically contained in an Act, and in many environmental laws the specific delegation of regulatory power is missing. The civil liability regime is incapable of giving those adversely affected by pollution the ability to seek compensation from the polluter.

7.7 *Gaps with the EU Legislation.* The two main EU Environment Directives are the Environmental Impact Assessment Directive and the Access to Information Directive. While the present Estonian legislation on Environmental Impact Assessments (EIA) is not in contradiction with EU legislation, there are still significant gaps. Also, there is a problem of unconstitutionality, because the regulation for EIA studies is not based on a valid delegation of power. Most of the legislation contains very limited provisions that address information access in a general way. The lack of full compliance with this Directive should be viewed as a significant gap.

7.8 *Air and water quality.* An improvement of the water quality legislation is still required, even though in many aspects the Estonian laws are in line with EU Directives. The most important aspect of the new law is the harmonisation of the IPPC Directive (Integrated Pollution Prevention and Control Directive 91/61/EEC). This will require the issuance of single permits to

installations, and these permits will cover all emissions. Estonia will have to therefore move from an emissions based approach to air and water quality to an overall environmental impact approach to industrial plants.[69]

7.9 *Nature protection and biodiversity.* Large gaps also existing in the nature protection and biodiversity legislation. Certain laws in the EU do not exist in Estonia and these will eventually have to be transposed into Estonian legislation (e.g., Import of Whales Regulation, Protection of the Antarctic Regulation, Protection of Animals Used for Experimental and Scientific Purposes Directive). Also, the two important gaps are (i) the drafting and enforcement of legislation establishing protected bird areas, and (ii) the improvement of the land use planning system. Accession negotiations, however, should address the issue of habitat and wild bird protection in Estonia, since there are birds and habitats that are of European interest but that are not in danger or threatened in Estonia

7.10 *Dangerous substances.* The Act on Chemicals meets many of the EU directive requirements in the field of dangerous substances, providing a legal basis for the adoption of follow up regulations. The Act also sets out the need of the requisite infrastructure to implement the Directive, creating the notification and administrative schemes for placing chemicals on the market. The enforcement of this legislation will require however a list of substances that are dangerous to people and the environment to be used in testing, classification, packaging and labelling of chemicals. Also required are the regulations for risk assessment of dangerous substances; and restrictions for preparation, transport, marketing and usage of certain substances.

7.11 The implementation of the polluter pays principle and EU's Integrated Pollution Prevention and Control (IPPC) Directive will provide means for effective preventative policy. This will also facilitate transfer of the bulk of the environmental investments to the private sector. This has already been one of the cornerstones of the Estonian environmental policy. However, some environmental issues (municipal water supply, sewerage treatment and waste management) can not be solved through this shift of responsibility, and further public expenditure will be needed to support activities in these fields for some time. Furthermore, many of these EU-directives do not leave room for least-cost options, since they define emission-standards.

7.12 In some cases there is some room available for a market-based approach leading to least-cost options. However, the compliance costs may be especially high in case each municipality acts independently on environmental issues. Emphasis should be placed on coordinated actions to reduce the approximation costs. Also, the operating costs of needed investment should also be kept as low as possible, and their realization delayed whenever possible. The future rise in income should make future investment affordable and more likely to match local priorities.

7.13 *Monitoring and permitting.* The implementation of the IPPC Directive will also require changes in actual permitting system. The present system issues separate environmental permits for air, waste and water. This will need to be replaced with an integrated environmental permit

[69] Other areas of focus in water quality legislation include (i) making the requirement to monitor and sample the presence of relevant substances more precise and explicit; (ii) creating the legal basis and criteria for recognising sensitive environmental areas; (iii) establishing action programmes as well as management plans and programmes; (iv) improving the EIA-law in Estonia by, as with air quality, establishing legislation and an infrastructure requiring self-monitoring of large industrial plants.

system that includes requirements on self-monitoring and sound environmental management. The new permit system will have to change from a pollution charge and environmental levies system providing funds for environmental measures, to a system that enforces environmental improvement in companies.[70]

C. The Costs of Meeting EU Accession Requirements

7.14 While progress in harmonising Estonia's environmental legislation to EU Directives has been swift and relatively costless, future progress in meeting EU environmental requirements will involve substantial investments. An independent estimate[71] calculates the total cumulative investment costs between the base year (in most cases 1996) and 2010 at US$ 2.02 billion. At least 38 percent of these investments (US$ 760 million) would need to be realized before 2005.

7.15 The most costly directive to be implemented are the Large Combustion Plants Directive, Urban Wastewater, Vehicle Standards, Sulphur Content of Fuel, and the Integrated Pollution Prevention and Control (IPPC) Directive. These estimates do not include the costs of the implementing Directives covering ambient air quality, groundwater, discharge of dangerous substances, waste incineration and major accidents hazards. Also, it does not include the cost of operating the treatment plants and waste management facilities. These additional costs, however, should be covered through user charges.

7.16 According to estimates, the costs of these investments would be borne by the following sectors:

Table 16: Estimated Compliance Costs with Environmental Directives (1997 US dollars)

Sector	Estimated Costs (US$ Million)	Share of Costs	Applicable Directives
Energy sector and the entire industrial sector	1,052	52 %	Large Combustion Plants, Integrated Pollution Prevention and Control , Sulphur contents, Hazardous waste
Domestic sector (private vehicles) and transport sector	890	44 %	Vehicles and Fuel Directives
Water sector	8.1	4 %	Urban Waste Water and Drinking Water Directives
Public sector	2.0	1 %	Landfill Directive

Source: Estonia Approximation Strategy and Institutional Support (1997)

7.17 *The oil shale/electricity production.* The greatest compliance cost is the Large Combustion Plants Directive, in particular reducing the environmental impact of the oil shale/energy sector. At present, 99 percent of the electricity production in Estonia is based on oil shale. Oil-shale burning power stations are the major source of transboundary air pollution, with

[70] There have been many project proposals in the field of monitoring, permitting and enforcement. The PHARE-project Master-plan for Pollution Monitoring and Enforcement in Estonia defined a number of development projects. These include (i) the improvement of enforcement and monitoring capabilities within selected environmental sectors; (ii) the improvement of data use and data management within the environmental monitoring program; (iii) the sampling and laboratory equipment supply; and (iv) the supply of mobile unit for air emission monitoring. Also, the Danish government has recently started the tendering procedure for the Project to assist Estonia in Approximation of European Union Laws concerning Industrial Pollution Prevention and Control and Environmental Management of Industry.

[71] Estonian Approximation Strategy and Institutional Support (1997).

a negative impact on the global climate. Together with the oil shale mines, the oil shale processing plants, and the Kunda Cement Factory, these thermoelectric power plants account about 80 percent of emissions from point sources.

7.18 The estimated to costs of mitigating some of the pollution impact of thermoelectric power plants by introducing new technologies is around US$55 million during 1998-2000 and US$109 million during 2001-2006. New technology would raise the efficiency of the energy sector starting from fuel supply through power generation and transmission to energy consumption. The costs of harmonising Estonian energy production with EU environmental standard for sulphur emissions during 1996-2005 are estimated to be US$30 million. These two investment requirements add to around US$194 million, compared to US$340 million to completely reconstruct these oil-shale fired power plants.

7.19 *The private sector*. Also, significant are the compliance costs for the Integrated Pollution Prevention and Control Directive. The main requirement of the IPPC Directive is the application of BAT (Best Available Technology). The definition of BAT is not exact leaving room for different solutions in environmental technology and also in production technology. Notwithstanding these uncertainties, the total cumulative investment during 1996 -2010 of the application of IPPC has been estimated to amount to US$ 450 million.[72]

7.20 In view of the size of these investments, Estonia should aim at meeting EU environmental requirements by establishing credible interim compliance targets. The strategy for approximation should focus on (i) minimising costs; (ii) concentrating on meeting internationally obligations; and (iii) seeking to identify areas where there is greatest overlap between the EU' s requirements and local priorities.

D. Tackling the Environmental Problems in Ida-Virumaa

7.21 The concentration of electricity generation and chemical production based on oil shale is the primary source of environmental damage in Ida-Virumaa. These damages include:

- *Atmospheric emissions of SO_2 and fly ash* reaching, respectively, 92,610 and 70,260 tons per year.[73] The two large thermoelectric power plants account for, respectively, 80.5 and 93.5 percent of these emissions.

- *Large discharges of mining water and run offs of waste tips*. Discharges of mining water reach 300 million cubic meters, and contain a 150 mg/l concentration of sulfates. Run offs from waste tips from semi-coke deposit site in Kothla-Jarve have a high concentration of phenol leachates, and run into ground and surface waters.

- *Large deposition of solid waste*. This includes large volumes of mining wastes (150 million t) and ash from power plants (200 million t); radioactive waste deposits and

[72] It is important to qualify this last figure because a list of enterprises in Estonia that have to comply with the IPPC Directive is not yet available, and there is no data on emissions from single enterprises.

[73] Figures for 1997.

nitrogenous wastes from the Silmet plant in the city of Sillamae; and arsenic deposit (3,000 t) from the former Kiviter plant in Kothla Jarve;

- *Spoiled landscape* resulting from past mining and other industrial operations.

7.22 *Monitoring and reporting.* One of the first steps in tackling environmental problems in Ida-Virumaa, especially problems relating to atmospheric emissions, is improving monitoring and reporting of environmental damage. At present, emissions from industrial operations can only be assessed by balance calculations. These are not reliable for environmental management and implementation of rational enforcement schemes. Also, data on ambient air quality is generally not available and not reported, thus it is not possible to assess the risk related to sensitive receptors in the environment there. Ambient air monitoring in this area is crucial to allow for selecting priority actions and select protective measures.

7.23 *Reducing atmospheric emissions.* While the decline in production levels is likely bring down atmospheric emissions over time, several measures should still be taken to reduce atmospheric emissions. For instance, a reduction in excessive SO_2 emissions can be achieved either by installation of scrubbers at outlets or by replacement of the existing boilers. This should be complemented with better maintenance of the thermoelectric power plans, and the closure of inefficient boilers. Also, the installation of new electrostatic precipitators will allow for the elimination of excessive dust emissions. These actions have to be taken expeditiously for Estonia to meet bilateral protocols calling for the reduction of SO_2 emissions.

7.24 *Minimizing discharge of mining waters.* Minimizing discharge of mining waters can be achieved by minimization and rationalization of underground mining operations. Investment for removal of sulfates out of mine waters is not rational due to extremely high cost of needed installation. The mines discharge 300 million cubic meters of saline mining water a year. The concentration of sulfates, as reported by the management of the mines, reaches 150 mg/l. This means that in a year deposition of sulfates amount at 45,000 tons. Again, there are no indicators and reports concerning the influence of this discharge on the environment. Also, since mining waters are pumped mainly from deep mines, when closing a mine, consideration should be given to likely changes in the water table and possible flooding of neighboring mines.

7.25 *Waste disposal.* There are two environmental hot spots related to the operation of industrial enterprises in Silamae and Kohtla-Jarve. Both these hot spots can suddenly force these facilities to stop operating unless an industrial deposit site is commissioned in time. The first hot spot relates to radioactive deposit containing residuals from production of Niobium. The deposit needs to be covered with concrete and immobilized permanently. After completion of the central deposit of industrial wastes residuals from ongoing operations would go to that site. Silmet is also looking for technical resolution of a problem regarding nitrogenous waste processing. This however would require new investment. The second environmental hot spot relates to operation of an oil shale-base chemical plant in Kohtla-Jarve, where there have been stored hazardous arsenic wastes of some 3,000 tons in tank deposits. Again, this waste needs to be stored in a newly built deposit.

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STATISTICAL APPENDIX

Table 1.1 Population
(in thousand)

	Population on 1 January (in thousand)					Mean annual population		
	Total	Males	Females	Urban	Rural	Total	Males	Females
1986	1,534	714	820	..	..	1,540	717	823
1987	1,546	721	826	..	..	1,552	724	828
1988	1,558	727	831	..	..	1,562	729	833
1989 [1]	1,566	731	834	..	..	1,569	733	835
1990	1,572	735	837	1,123	448	1,571	735	836
1991	1,570	735	836	1,121	449	1,566	733	833
1992	1,562	731	831	1,113	449	1,544	722	822
1993	1,527	713	813	1,077	449	1,517	708	808
1994	1,507	704	803	1,059	448	1,499	700	800
1995	1,492	696	796	1,044	447	1,484	692	792
1996	1,476	688	788	1,030	446	1,469	684	785
1997	1,462	681	781	1,015	447	1,458	679	779
1998	1,454	677	777	1,007	447	..	..	..
1999 [2]	1,445							

1/ Census data.
2/ 1999 - preliminary data
Source: Statistical Office of Estonia.

Table 1.2 Population Aged 15-69 by Sex and Economic Status, 1989 - 1998 2nd Quarter
(annual average, thousands)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 QII
				Males and females						
Labour force	842.6	831.7	819.8	794.8	757.8	749.4	726.9	717.6	717.8	711.0
Employed	837.9	826.4	807.8	765.7	708.1	692.6	656.1	645.6	648.4	643.0
Unemployed	-4.7	5.3	12.0	29.1	49.6	56.7	70.9	71.9	69.4	68.0
Inactive	253.8	270.5	284.2	306.4	322.1	320.1	334.6	336.5	327.9	391.8
TOTAL	1096.4	1102.3	1104.0	1101.2	1079.9	1069.4	1061.6	1054.1	1045.7	1102.8
Labour force participation rate (%)	76.9	75.5	74.3	72.2	70.2	70.1	68.5	68.1	65.1	64.5
Employment rate (%)	76.4	75.0	73.2	69.5	65.6	64.8	61.8	61.3	58.8	58.3
Unemployment rate (%)	-0.6	0.6	1.5	3.7	6.5	7.6	9.7	10.0	9.7	9.6
				Males						
Labour force	429.1	429.3	427.6	420.7	399.9	395.5	382.9	375.8	376.7	371.8
Employed	426.7	426.7	421.5	404.4	373.9	366.6	342.3	335.4	338.8	333
Unemployed			6.1	16.3	26.0	28.9	40.6	40.4	37.9	38.8
Inactive	90.5	93.5	96.1	102.1	112.6	112.2	121.5	125.1	138.4	143.6
TOTAL	519.6	522.7	523.7	522.8	512.5	507.8	504.4	500.9	515.1	515.4
Labour force participation rate (%)	82.6	82.1	81.6	80.5	78.0	77.9	75.9	75.0	73.1	72.1
Employment rate (%)	82.1	81.6	80.5	77.4	73.0	72.2	67.9	67.0	65.8	64.6
Unemployment rate (%)	..	..	1.4	3.9	6.5	7.3	10.6	10.7	10.1	10.4
				Females						
Labour force	413.5	402.5	392.2	374.1	357.9	353.8	344.0	341.8	341	339.1
Employed	411.3	399.7	386.3	361.3	334.2	326.0	313.8	310.2	309.5	310
Unemployed	..	-2.8	6.0	12.8	23.7	27.8	30.3	31.6	31.5	29.2
Inactive	163.3	177.0	188.1	204.3	209.5	207.8	213.2	211.4	247.1	248.2
TOTAL	576.8	579.5	580.3	578.4	567.4	561.7	557.2	553.2	588.1	587.3
Labour force participation rate (%)	71.7	69.5	67.6	64.7	63.1	63.0	61.7	61.8	58	57.7
Employment rate (%)	71.3	69.0	66.6	62.5	58.9	58.0	56.3	56.1	52.6	52.8
Unemployment rate (%)	..	-0.7	1.5	3.4	6.6	7.9	8.8	9.2	9.2	8.6

Source: Statistical Office of Estonia.

Table 1.3: Selected Social Indicators

	1993	1994	1995	1996	1997	1998
Social Safety Net						
Poverty Headcount Index[1]						
Social Transfers (% of GDP)	2.9	3.2	3.6	3.2	2.9	2.9
Number of Recipients (% of Population)	...	15.7	15.9	16.2	16.3	16.1
Unemployment Rate[2]	6.5	7.3	9.7	10.0	9.7	9.9 [3]
Education						
Enrollment (% of relevant age group)						
Primary	96	95	96	96	97	97
Secondary	80	84	85	87	87	88
Higher	23	24	26	28	31	34
Education Expenditure (% of GDP)	3.1	3.5	3.5	3.5	3.3	3.3
Teacher per Student Ratio	0.07	0.07	0.08	0.08	0.08	0.08
Health						
Health Expenditure (% of GDP)				4.9	4.6	4.9
Hospital Beds (per 1,000 persons)	9.5	8.4	8.1	7.7	7.5	7.3
Life Expectancy at Birth (years)						
Male	62	61	62	64	65	...
Female	74	73	74	75	76	...
Infant Mortality (per 1,000 live births)	15.8	14.5	14.8	10.4	10.1	9.3

1/ Percentage of the population living under the poverty line
2/ Estimates from the Labor Force Survey.
3/ First half of 1998.
Sources: Statistical Office of Estonia; International Monetary Fund; World Bank.

Table 2.1 GDP by Economic Activities at Current Prices
(In million kroons)

	1992	1993	1994	1995	1996	1997	H1 1998
Agriculture, hunting, forestry	1,503.5	2,060.5	2,542.7	2,702.7	3,332.3	3,776.5	1,844.5
Fishing	86.9	117.8	153.6	173.3	202.5	294.4	175.8
Mining and quarring	310.0	366.5	478.2	601.3	728.4	725.4	445.7
Manufacturing	2,772.0	3,769.9	5,021.6	6,384.8	7,783.9	9,805.1	5,524.7
Electricity, gas, water supply	536.9	714.3	870.5	1,441.5	1,899.3	2,086.6	1,357.9
Construction	603.0	1,301.2	1,683.9	2,160.9	2,735.3	3,135.7	1,802.5
Trade	1,772.5	3,359.3	4,077.8	6,016.2	8,034.8	10,179.1	5,584.8
Hotels and restaurants	207.3	273.4	311.2	418.7	588.5	745.1	413.6
Transport, storage and communication	1,715.3	2,455.6	3,060.2	3,831.3	5,069.7	6,744.4	4,270.0
Real estate, renting, business activities	779.2	1,457.4	2,211.2	3,474.4	4,495.1	5,814.9	3,316.0
Financial intermediation, banking	296.8	560.0	847.8	1,321.3	2,226.5	3,005.5	1,302.0
Public administration	285.1	681.1	1,199.0	1,773.8	2,185.4	2,531.6	1,335.8
Education	479.4	1,123.7	1,516.6	2,211.9	2,610.7	2,929.8	1,908.2
Health and social care	195.2	506.5	951.5	1,485.1	1,954.6	1,973.8	1,110.9
Other	620.2	1,052.2	1,552.8	2,495.6	3,111.9	3,660.9	2,068.2
FISIM (-) 1/	..	..	..	786.6	1,131.1	1,026.0	507.0
TOTAL AT BASIC PRICES	12,163.3	19,799.4	26,478.6	35,706.2	45,827.8	56,382.8	31,953.6
Net taxes	937.0	2,260.5	3,789.3	4,998.9	6,618.1	8,697.1	4,035.0
GDP at market prices	13,100.3	22,059.9	30,267.9	40,705.1	52,445.9	65,079.9	35,988.6

1/ data before 1995 are not available.
Source: Statistical Office of Estonia.

Table 2.2 GDP by Kind of Activities at 1995 Constant Prices
(In million kroons)

	1992	1993	1994	1995	1996	1997	H1 1998
Agriculture, hunting, forestry	3,416.5	2,945.7	2,650.4	2,702.7	2,613.6	2,728.2	1,268.8
Fishing	173.7	149.3	143.1	173.3	199.8	208.8	119.2
Mining and quarring	927.2	653.7	614.9	601.3	645.9	724.0	365.7
Manufacturing	9,017.2	6,313.3	6,075.2	6,384.8	6,560.1	7,848.4	4,196.9
Electricity, gas, water supply	1,922.1	1,526.3	1,514.6	1,441.5	1,503.9	1,457.5	734.5
Construction	1,757.5	2,124.5	2,053.6	2,160.9	2,373.8	2,596.2	1,321.9
Trade	4,621.7	5,389.0	5,574.1	6,016.2	6,570.4	7,443.8	3,703.2
Hotels and restaurants	466.1	433.6	436.3	418.7	465.3	504.8	234.5
Transport, storage and communication	3,725.4	3,911.3	3,817.0	3,831.3	4,111.2	4,633.7	2,620.7
Real estate, renting, business activities	3,687.6	3,189.5	3,070.4	3,474.4	3,498.3	4,060.1	1,983.8
Financial intermediation, banking	985.0	1,241.3	1,305.6	1,321.3	1,427.5	1,653.1	835.4
Public administration	1,668.2	1,737.1	1,754.4	1,773.8	1,776.2	1,872.2	962.4
Education	2,030.6	2,118.0	2,145.2	2,211.9	2,245.5	2,255.8	1,175.7
Health and social care	1,384.4	1,469.4	1,489.5	1,485.1	1,460.3	1,471.5	780.9
Other 1/	2,410.3	1,741.0	1,597.5	2,495.6	2,614.3	2,653.2	1,313.0
FISIM (-) 2/	..	..	..	786.6	850.3	980.2	434.7
							434.7
Statistical discrepancy	0.0	0.0	0.0	..	..	..	21,181.9
TOTAL AT BASIC PRICES	38,193.4	34,943.1	34,241.5	35,706.2	37,215.8	41,131.1	21,181.9
Net taxes	5,264.2	4,815.5	4,803.5	4,998.9	5,110.2	6,014.4	2,856.5
GDP at market prices	43,457.6	39,758.5	39,045.0	40,705.1	42,326.0	47,145.5	24,038.4

1/ Including rescaling statistical discrepancy from 1992 to 1994.
2/ data before 1995 are not available.
Source: Statistical Office of Estonia.

Table 2.3 GDP by Economic Activities at Current Prices
(as % of GDP)

	1992	1993	1994	1995	1996	1997	H1 1998
Agriculture, hunting, forestry	11.5	9.3	8.4	6.6	6.4	5.8	5.1
Fishing	0.7	0.5	0.5	0.4	0.4	0.5	0.5
Mining and quarring	2.4	1.7	1.6	1.5	1.4	1.1	1.2
Manufacturing	21.2	17.1	16.6	15.7	14.8	15.1	15.4
Electricity, gas, water supply	4.1	3.2	2.9	3.5	3.6	3.2	3.8
Construction	4.6	5.9	5.6	5.3	5.2	4.8	5.0
Trade	13.5	15.2	13.5	14.8	15.3	15.6	15.5
Hotels and restaurants	1.6	1.2	1.0	1.0	1.1	1.1	1.1
Transport, storage and communication	13.1	11.1	10.1	9.4	9.7	10.4	11.9
Real estate, renting, business activities	5.9	6.6	7.3	8.5	8.6	8.9	9.2
Financial intermediation, banking	2.3	2.5	2.8	3.2	4.2	4.6	3.6
Public administration	2.2	3.1	4.0	4.4	4.2	3.9	3.7
Education	3.7	5.1	5.0	5.4	5.0	4.5	5.3
Health and social care	1.5	2.3	3.1	3.6	3.7	3.0	3.1
Other	4.7	4.8	5.1	6.1	5.9	5.6	5.7
FISIM (-) 1/	..	..	..	1.9	2.2	1.6	1.4
TOTAL AT BASIC PRICES	92.8	89.8	87.5	87.7	87.4	86.6	88.8
Net taxes	7.2	10.2	12.5	12.3	12.6	13.4	11.2
GDP at market prices	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1/ data before 1995 are not available.
Source: Statistical Office of Estonia.

Table 2.4 GDP Growth Rate by Economic Activities at 1995 Constant Prices
(% change from previous year)

	1992	1993	1994	1995	1996	1997	H1 1998 1/
Agriculture, hunting, forestry		-13.8	-10.0	2.0	-3.3	4.4	2.3
Fishing		-14.0	-4.2	21.1	15.3	4.5	7.6
Mining and quarring		-29.5	-5.9	-2.2	7.4	12.1	2.5
Manufacturing		-30.0	-3.8	5.1	2.7	19.6	13.7
Electricity, gas, water supply		-20.6	-0.8	-4.8	4.3	-3.1	-8.1
Construction		20.9	-3.3	5.2	9.9	9.4	25.0
Trade		16.6	3.4	7.9	9.2	13.3	8.2
Hotels and restaurants		-7.0	0.6	-4.0	11.1	8.5	4.5
Transport, storage and communication		5.0	-2.4	0.4	7.3	12.7	19.4
Real estate, renting, business activities		-13.5	-3.7	13.2	0.7	16.1	2.9
Financial intermediation, banking		26.0	5.2	1.2	8.0	15.8	-2.0
Public administration		4.1	1.0	1.1	0.1	5.4	0.0
Education		4.3	1.3	3.1	1.5	0.5	0.9
Health and social care		6.1	1.4	-0.3	-1.7	0.8	2.6
Other 2/		-27.8	-8.2	56.2	4.8	1.5	2.3
FISIM (-) 2/		..	..	..	2.2	17.7	-2.0
TOTAL AT BASIC PRICES		-8.5	-2.0	4.3	4.2	10.5	8.0
Net taxes		-8.5	-0.2	4.1	2.2	17.7	2.7
GDP at market prices		-8.5	-1.8	4.3	4.0	11.4	7.4

1/ Growth to the same period of 1997.
2/ Data before 1995 are not available.
Source: Statistical Office of Estonia.

Table 2.5 GDP by Expenditure Approach at Current Prices
(In millions of Kroon)

	1992	1993	1994	1995	1996	1997	1998 H1
Consumption, total	9,344	17,167	24,761	33,772	44,477	52,869	29,885
Private consumption	7,164	12,573	17,814	23,752	31,492	37,586	21,512
Government consumption	2,084	4,474	6,790	9,813	12,632	14,879	8,113
Consumption of non-profit institutions serving households	97	120	157	207	353	404	260
Gross domestic investment	3,518	5,821	8,742	10,881	14,579	19,420	10,319
Gross fixed capital formation	2,755	5,280	8,004	10,576	14,015	17,227	10,581
Change in stocks	763	541	739	305	564	2,193	-262
DOMESTIC DEMAND	12,863	22,988	33,503	44,653	59,056	72,289	40,204
Resource balance	772	-929	-3,235	-3,374	-6,043	-7,423	-3,144
Exports (fob)	7,893	15,196	23,799	31,280	35,186	50,238	27,980
Merchandise	5,549	10,762	17,142	21,257	21,833	31,871	18,098
Services	2,345	4,434	6,657	10,023	13,353	18,367	9,882
Imports (fob)	7,121	16,125	27,034	34,653	41,229	57,661	31,124
Merchandise	5,412	12,688	21,740	28,961	34,122	47,526	25,615
Services	1,709	3,437	5,294	5,693	7,108	10,135	5,509
Statistical discrepancy	-534	1	0	-574	-567	214	-1,071
TOTAL	13,100	22,060	30,268	40,705	52,446	65,080	35,989

Source: Statistical Office of Estonia

Table 2.6 GDP by Expenditure Approach at Current Prices
(as % of GDP)

	1992	1993	1994	1995	1996	1997	H1 1998
Total consumption	71.3	77.8	81.8	83.0	84.8	81.2	83.0
Private consumption	54.7	57.0	58.9	58.4	60.0	57.8	59.8
Government consumption	15.9	20.3	22.4	24.1	24.1	22.9	22.5
Consumption of non-profit institutions serving households	0.7	0.5	0.5	0.5	0.7	0.6	0.7
Gross domestic investment	26.9	26.4	28.9	26.7	27.8	29.8	28.7
Gross fixed capital formation	21.0	23.9	26.4	26.0	26.7	26.5	29.4
Change in stocks	5.8	2.5	2.4	0.7	1.1	3.4	-0.7
DOMESTIC DEMAND	98.2	104.2	110.7	109.7	112.6	111.1	111.7
Resource balance	5.9	-4.2	-10.7	-8.3	-11.5	-11.4	-8.7
Exports (fob)	60.3	68.9	78.6	76.8	67.1	77.2	77.7
Merchandise	42.4	48.8	56.6	52.2	41.6	49.0	50.3
Services	17.9	20.1	22.0	24.6	25.5	28.2	27.5
Imports (fob)	54.4	73.1	89.3	85.1	78.6	88.6	86.5
Merchandise	41.3	57.5	71.8	71.1	65.1	73.0	71.2
Services	13.0	15.6	17.5	14.0	13.6	15.6	15.3
Statistical discrepancy	-4.1	0.0	0.0	-1.4	-1.1	0.3	-3.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Statistical Office of Estonia.

Table 3.1 Balance of Payments
(in million of $US)

	1993	1994	1995	1996	1997	1998 [1]
Current account balance	21.6	-166.5	-157.9	-398.5	-562.7	-446.9
Trade and service balance	-69.7	-251.7	-287.0	-500.9	-533.4	-500.9
Trade balance	-144.8	-356.9	-666.1	-1019.4	-1125.6	-1115.3
Merchandise Exports (FOB)	811.7	1,226.2	1,696.7	1,812.6	2,294.0	2689.6
CIS	244.2	394.6	461.1	522.2	772.9	..
Other countries	567.5	831.6	1,235.6	1,290.4	1,521.1	..
Merchandise Imports (FOB)	956.5	1,583.1	2,362.8	2,832.0	3,419.6	3804.9
CIS	192.9	337.1	477.7	547.9	774.5	..
Other countries	763.6	1,246.0	1,885.1	2,284.1	2,645.1	..
Services, net	75.2	105.2	379.1	518.5	592.2	614.4
Services, credit	334.5	515.9	876.9	1108.4	1319.5	1465.7
Services, debit	259.3	410.6	497.8	589.9	727.3	851.3
Income, net	-13.9	-29.6	2.8	1.9	-146.1	-94.4
Interest	6.5	0.2	-11.2	-17.9	-21.1	-52.1
Direct investment	-30.4	-48.2	-25.4	-25.0	-116.9	-78.3
Portfolio investment	10.0	16.1	41.1	43.9	-8.8	34.8
Other	0.0	2.3	-1.7	0.9	0.7	1.2
Transfers (net)	105.2	114.8	126.4	100.5	116.8	148.4
Official	105.6	108.9	100.8	83.5	96.2	110.7
Private	-0.4	5.9	25.6	17.0	20.7	37.7
Financial and capital account, exl reserves	218.8	166.7	245.3	529.4	784.0	482.5
Capital account	0.0	-0.6	-0.8	-0.7	-0.2	1.7
Financial account, exl reserves	218.8	167.3	246.1	530.0	784.2	480.8
Direct foreign investment	156.0	212.2	199.0	110.3	130.1	565.4
Portfolio investments	-0.2	-14.1	-22.1	145.5	262.5	-6.5
Medium and long term capital	97.8	6.2	58.8	157.4	275.5	29.5
o/w Official	77.3	19.8	61.0	31.3	-3.3	4.4
Other capital	-34.8	-36.9	10.3	116.9	116.1	-16.1
o/w Banks	-44.7	-72.6	27.3	128.1	206.1	48.1
Errors and omissions	-45.8	30.5	18.1	-29.9	-24.8	-24.5
Overall balance	194.6	30.7	105.5	101.0	196.5	11.1
Change in Reserve	-194.6	-30.7	-105.5	-101.0	-196.5	-11.1
Memorandum items:						
Trade balance/GDP (%)	-8.7%	-15.3%	-18.8%	-23.4%	-24.0%	-21.7%
Official current transfer/GDP (%)	6.3%	4.7%	2.8%	1.9%	2.1%	2.2%
Current Account Balance/GDP (%)	1.3%	-7.1%	-4.4%	-9.1%	-12.0%	-8.7%
Gross international reserves ($US mln)	550.6	758.9	975.2	1029.7	1229.8	1571.0
(in months of imports)	6.9	5.8	5.0	4.4	4.3	5.0
Foreign Direct Investment/GDP (%)	9.4%	9.1%	5.6%	2.5%	2.8%	11.0%
Portfolio Investment/ GDP (%)	0.0%	-0.6%	-0.6%	3.3%	5.6%	-0.1%
Exchange rate (average, Kroons/$US)	13.22	12.99	11.47	12.03	13.88	14.01
Exchange rate (e.p. , Kroons/$US)	13.88	12.39	11.46	12.44	14.34	13.41

1/ 1998 data as percent of GDP are estimates.
Sources: Bank of Estonia and Bank staff estimates.

Table 3.2 International Investment Position and External Debt (SUS bn)

	3/31/97	6/30/97	9/30/97	12/31/97	3/31/98	6/30/98	9/30/98	12/31/98
ASSETS								
1. Direct investment abroad	**116.2**	**138.5**	**164.5**	**215.3**	**197.4**	**204.6**	**191.9**	195.7
1.1. Equity capital and reinvested earnings	27.9	44.7	46.5	58.0	70.1	87.4	79.2	82.2
1.2. Other capital	88.3	93.8	118.0	157.3	127.3	117.2	112.7	113.5
2. Portfolio investment abroad	**163.6**	**158.7**	**246.7**	**249.4**	**246.7**	**194.4**	**181.3**	191.4
2.1. Equity securities	60.3	59.5	125.9	98.5	79.1	47.8	30.6	26.2
2.1.1. Monetary authorities								
2.1.2. General government	0.5	0.2	0.2	0.1	1.9	1.1		
2.1.3. Banks	19.5	22.1	61.8	45.6	40.1	27.2	8.6	5.7
2.1.4. Other sectors	40.3	37.2	63.9	52.8	37.1	19.5	22.0	20.4
2.2. Debt securities	103.3	99.2	120.8	150.9	167.6	146.7	150.7	165.2
2.2.1. Bonds and notes	103.3	99.2	120.8	150.9	167.6	146.7	150.7	165.2
2.2.1.1 Monetary authorities								
2.2.1.2 General government								
2.2.1.3 Banks	80.5	75.1	99.4	129.4	139.4	121.1	115.4	128.7
2.2.1.4 Other sectors	22.9	24.1	21.5	21.5	28.1	25.6	35.3	36.5
3. Other investment	**624.8**	**675.2**	**684.0**	**820.4**	**970.8**	**957.8**	**1,103.3**	**1058.3**
3.1. Trade credit	173.3	185.3	201.3	196.1	236.6	250.9	289.4	281.2
3.1.1. General government								
3.1.2. Other sectors	173.3	185.3	201.3	196.1	236.6	250.9	289.4	281.2
3.2. Loans	128.4	134.1	187.7	178.4	256.4	195.3	215.0	225.7
3.2.1. Monetary authorities								
3.2.2. General government								
3.2.3. Banks	105.6	111.1	150.3	121.6	190.0	126.8	108.5	102.3
3.2.4. Other sectors	22.8	23.1	37.4	56.7	66.4	68.5	106.5	123.4
3.3. Currency and deposits	306.4	324.9	239.9	402.1	440.7	475.8	565.6	514.0
3.3.1. Monetary authorities								
3.3.2. General government	3.4	2.7	1.7	26.7	71.0	72.8	87.9	97.7
3.3.3. Banks	195.9	219.0	135.3	243.7	242.8	261.8	279.8	228.0
3.3.4. Other sectors	107.0	103.1	102.9	131.6	126.9	141.2	197.9	188.3
3.4. Other assets	16.7	30.9	55.1	43.9	37.0	35.8	33.3	37.3
4. Reserve assets	**674.0**	**687.5**	**757.8**	**823.3**	**723.8**	**880.5**	**850.6**	**878.8**
TOTAL ASSETS	**1,578.6**	**1,660.0**	**1,853.0**	**2,108.3**	**2,138.6**	**2,237.4**	**2,327.0**	**2,324.1**
incl. debt creative assets	**1,423.3**	**1,488.5**	**1,614.5**	**1,886.7**	**1,924.9**	**2,037.8**	**2,150.8**	**2,148.0**
LIABILITIES								
1. Direct investment in Estonia	**1,075.9**	**1,059.1**	**1,129.9**	**1,147.9**	**1,149.8**	**1,232.5**	**1,621.0**	**1,811.5**
1.1. Equity capital and reinvested earnings	603.3	606.0	664.3	683.2	651.7	672.0	993.5	1,160.9
1.2. Other capital	472.6	453.1	465.6	464.7	498.1	560.4	627.4	650.6
2. Portfolio investment in Estonia	**476.6**	**550.7**	**822.8**	**954.2**	**966.3**	**757.9**	**706.0**	**702.9**
2.1. Equity securities	417.2	398.8	564.0	573.0	561.3	309.6	241.8	301.2
2.1.1. Banks	307.4	292.2	372.5	417.2	416.5	199.4	129.5	139.8
2.1.2. Other sectors	109.7	106.6	191.4	155.8	144.8	110.2	112.3	161.4
2.2. Debt securities	59.4	152.0	258.8	381.3	405.0	448.3	464.2	401.7
2.2.1. Bonds and notes	59.4	152.0	258.8	381.3	405.0	448.3	464.2	401.7
2.2.1.1 Monetary authorities								
2.2.1.2 General government	9.7	8.2	1.7	0.0	30.6	40.9	38.2	29.8
2.2.1.3 Banks	35.7	109.0	152.9	259.1	219.6	252.5	291.8	277.6
2.2.1.4 Other sectors	14.0	34.8	104.3	122.1	154.8	154.9	134.3	94.3
3. Other investment	**1,152.1**	**1,261.7**	**1,455.9**	**1,718.5**	**1,798.2**	**1,847.4**	**2,001.2**	**1975.9**
3.1. Trade credit	240.4	239.2	229.7	250.6	280.7	298.9	318.6	305.5
3.1.1. General government								
3.1.2. Other sectors	240.4	239.2	229.7	250.6	280.7	298.9	318.6	305.5
3.2. Loans	674.7	694.5	800.6	1,004.0	1,011.9	1,100.9	1,179.8	1143.9
3.2.1. Monetary authorities	105.3	99.5	92.7	86.9	82.2	77.3	74.8	66.1
3.2.2. General government	203.9	205.8	197.1	192.6	193.2	195.9	198.7	203.5
3.2.3. Banks	171.9	188.0	211.3	332.8	300.2	312.1	264.5	218.4
3.2.4. Other sectors	193.6	201.2	299.5	391.7	436.2	515.6	641.8	655.9
3.3. Currency and deposits	159.3	221.7	287.4	321.5	317.7	294.9	347.5	393.4
3.3.1. Monetary authorities	3.4	0.4	0.3	0.3	0.3	0.3	0.0	0.0
3.3.2. General government								
3.3.3. Banks	155.8	221.3	287.1	321.2	317.5	294.7	347.5	393.3
3.3.4. Other sectors								
3.4. Other liabilities	77.8	106.3	138.2	142.4	187.9	152.7	155.2	133.2
TOTAL LIABILITIES	**2,704.6**	**2,871.5**	**3,408.6**	**3,820.6**	**3,914.2**	**3,837.8**	**4,328.1**	**4490.2**
incl. debt creative liabilities (gross external debt)	**1,684.1**	**1,866.7**	**2,180.3**	**2,564.4**	**2,701.3**	**2,856.2**	**3,092.8**	**3028.2**
NET INTERNATIONAL INVESTMENT	**-1,126.0**	**-1,211.5**	**-1,555.6**	**-1,712.3**	**-1,775.7**	**-1,600.4**	**-2,001.1**	**-2166.1**
incl. SHORT-TERM POSITION	381.8	328.4	66.7	-47.4	-71.0	219.5	291.3	307.3
LONG-TERM POSITION	-1,507.7	-1,540.0	-1,622.3	-1,664.9	-1,704.7	-1,819.9	-2,292.4	-2473.4
NET EXTERNAL DEBT	**-260.8**	**-378.2**	**-565.8**	**-677.8**	**-776.4**	**-818.4**	**-942.0**	**-880.1**
incl. general government	-210.2	-211.3	-197.1	-165.9	-152.9	-164.0	-149.0	-135.6
Exchange rate (EEK/USD)	13.4344	13.9132	14.1736	14.3356	14.7904	14.4588	13.3980	13.4104

Source: Bank of Estonia.

Table 3.3 Public and Public Guaranteed Long Term External Debt
(in $US mln)

	1993	1994	1995	1996	1997
Public & Publicly Guaranteed	96.1	117.0	164.9	220.3	296.4
1. Official Creditors	59.3	91.9	140.5	162.3	165.2
a. Multilateral	45.3	65.5	108.0	126.8	128.1
Concessional	0.0	0.0	0.0	0.0	0.0
of which IDA	0.0	0.0	0.0	0.0	0.0
Non-Concessional	45.3	65.5	108.0	126.8	128.1
of which IBRD	19.8	31.0	49.8	62.2	71.5
b. Bilateral	14.0	26.4	32.5	35.5	37.1
Concessional	14.0	23.4	28.5	31.5	29.1
Non-Concessional	0.0	3.0	4.0	4.0	8.0
2. Private creditors	25.5	16.6	18.7	54.3	48.4
a. Bonds	0.0	0.0	0.0	38.6	33.5
b. Commercial	0.0	0.0	2.1	0.0	0.0
c. Other Private	25.5	16.6	16.6	15.7	14.9
Use of IMF Credit	57.5	61.1	91.9	77.9	54.0

Sources: Estonian Ministry of Finance, and Bank staff estimates.

Table 4.1 Directions of Trade, 1993-98

	1993	1994	1995	1996	1997	1998	1993	1994	1995	1996	1997	1998
	(in millions of EEK)						(in percent of total)					
Exports	10,636.2	16,928.3	21,072.5	25,031.4	40,681.2	45,567.6	100.0	100.0	100.0	100.0	100.0	100.0
Finland	2,202.5	3,022.6	4,528.6	4,586.8	6,386.3	8,542.4	20.7	17.9	21.5	18.3	15.7	18.7
Sweden	1,007.5	1,836.7	2,290.8	2,890.9	5,494.8	7,596.3	9.5	10.8	10.9	11.5	13.5	16.7
Russia	2,408.1	3,905.5	3,728.0	4,136.9	7,654.4	6,089.2	22.6	23.1	17.7	16.5	18.8	13.4
Latvia	913.6	1,390.0	1,573.0	2,065.6	3,508.0	4,295.7	8.6	8.2	7.5	8.3	8.6	9.4
Germany	851.1	1,153.7	1,514.8	1,763.9	2,261.7	2,512.6	8.0	6.8	7.2	7.0	5.6	5.5
Ukraine	378.0	518.2	788.8	1,253.8	2,028.3	2,268.9	3.6	3.1	3.7	5.0	5.0	5.0
Lithuania	393.5	916.9	986.3	1,433.7	2,472.7	2,125.7	3.7	5.4	4.7	5.7	6.1	4.7
United Kingdom	148.0	471.8	689.9	866.6	1,491.1	1,953.1	1.4	2.8	3.3	3.5	3.7	4.3
Denmark	253.1	577.0	691.6	883.2	1,299.8	1,655.6	2.4	3.4	3.3	3.5	3.2	3.6
Netherlands	430.9	532.8	981.0	735.9	1,372.2	1,002.4	4.1	3.1	4.7	2.9	3.4	2.2
USA	197.6	308.9	503.2	552.4	745.8	874.8	1.9	1.8	2.4	2.2	1.8	1.9
Belarus	121.0	345.9	522.5	488.3	558.9	417.7	1.1	2.0	2.5	2.0	1.4	0.9
Others	1,331.3	1,948.3	2,274.0	3,373.4	5,407.2	6,233.2	12.5	11.5	10.8	13.5	13.3	13.7
Memorandum items												
CIS	3,228.7	5,126.6	5,286.2	6,284.3	10,729.3	9,462.8	30.4	30.3	25.1	25.1	26.4	20.8
Other countries	7,407.5	11,801.7	15,786.3	18,747.1	29,951.9	36,104.8	69.6	69.7	74.9	74.9	73.6	79.2
o/w EU	1,894.9	3,217.5	11,387.7	12,764.3	19,755.3	25,051.6	17.8	19.0	54.0	51.0	48.6	55.0
Imports	11,831.4	21,486.5	29,119.0	38,887.2	61,650.5	67,350.6	100.0	100.0	100.0	100.0	100.0	100.0
Finland	3,303.5	6,432.4	9,488.6	11,323.4	14,419.7	15,221.8	27.9	29.9	32.6	29.1	23.4	22.6
Russia	2,019.8	3,620.0	4,688.5	5,286.4	8,888.3	7,478.9	17.1	16.8	16.1	13.6	14.4	11.1
Germany	1,272.8	2,143.3	2,783.6	3,877.4	6,187.2	7,301.5	10.8	10.0	9.6	10.0	10.0	10.8
Sweden	1,055.0	1,911.1	2,466.9	3,170.8	5,604.4	6,091.4	8.9	8.9	8.5	8.2	9.1	9.0
USA	322.4	536.5	711.0	895.5	2,291.4	3,113.4	2.7	2.5	2.4	2.3	3.7	4.6
United Kingdom	173.1	458.7	643.3	1,282.6	1,893.4	2,001.4	1.5	2.1	2.2	3.3	3.1	3.0
Denmark	307.4	568.4	810.1	1,095.7	1,591.4	1,857.9	2.6	2.6	2.8	2.8	2.6	2.8
Netherlands	429.1	661.5	902.8	1,107.2	1,580.9	1,726.9	3.6	3.1	3.1	2.8	2.6	2.6
Latvia	267.4	313.1	577.2	753.2	1,079.3	1,362.3	2.3	1.5	2.0	1.9	1.8	2.0
Lithuania	391.0	553.5	470.2	605.8	933.1	1,102.0	3.3	2.6	1.6	1.6	1.5	1.6
Others	2,289.9	4,288.0	5,576.8	9,489.2	17,181.4	20,093.1	19.4	20.0	19.2	24.4	27.9	29.8
Memorandum items												
CIS	2,551.1	4,378.9	5,476.6	6,594.0	10,751.8	9,550.6	21.6	20.4	18.8	17.0	17.4	14.2
Other countries	9,280.3	17,107.6	23,642.4	32,293.2	50,898.7	57,800.0	78.4	79.6	81.2	83.0	82.6	85.8
o/w EU	2,760.7	5,131.7	19,221.5	25,138.4	36,497.6	40,486.9	23.3	23.9	66.0	64.6	59.2	60.1

Source: Statistical Office of Estonia.

Table 4.2 Trade by Commodity, 1992-98

	1992	1993	1994	1995	1996	1997	1998	1992	1993	1994	1995	1996	1997	1998
	(In millions of EEK)							(In percent of total)						
Exports	5,209.6	10,636.2	16,928.3	21,067.3	25,023.5	40,662.3	45,567.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Animal products	533.1	1,171.4	1,300.1	1,615.7	1,558.3	2,581.1	2,838.3	10.2	11.0	7.7	7.7	6.2	6.3	6.2
Vegetable products	48.9	112.8	291.6	259.9	340.3	525.4	609.5	0.9	1.1	1.7	1.2	1.4	1.3	1.3
Animal and vegetable fats and oils	7.0	74.8	78.9	103.7	85.0	42.3	49.1	0.1	0.7	0.5	0.5	0.3	0.1	0.1
Prepared foodstuffs,beverages,spirits,tobacco	279.5	1,137.9	2,080.7	1,496.7	1,986.1	3,533.7	3,727.0	5.4	10.7	12.3	7.1	7.9	8.7	8.2
Mineral products	584.1	814.7	1,382.9	1,707.4	1,810.4	2,982.2	2,002.3	11.2	7.7	8.2	8.1	7.2	7.3	4.4
Products of chemical industry	331.1	508.6	1,148.7	1,593.3	2,199.4	3,161.4	3,278.6	6.4	4.8	6.8	7.6	8.8	7.8	7.2
Plastics,rubber,articles of thereof	72.3	156.8	302.5	559.8	544.8	822.7	1,031.3	1.4	1.5	1.8	2.7	2.2	2.0	2.3
Raw hides,skins,leather	97.1	184.5	208.6	239.0	310.8	370.2	395.9	1.9	1.7	1.2	1.1	1.2	0.9	0.9
Wood and articles of wood	450.2	800.5	1,730.0	2,622.4	2,856.9	4,681.6	5,789.1	8.6	7.5	10.2	12.4	11.4	11.5	12.7
Pulp,paper,articles of thereof	275.1	63.4	139.6	246.1	491.8	942.5	1,097.9	5.3	0.6	0.8	1.2	2.0	2.3	2.4
Textiles and textile articles	719.5	1,307.4	2,324.8	2,841.9	3,562.9	4,649.4	5,248.1	13.8	12.3	13.7	13.5	14.2	11.4	11.5
Footwear,headgear	54.2	130.1	249.2	305.0	393.9	456.1	569.1	1.0	1.2	1.5	1.4	1.6	1.1	1.2
Articles of stone,cement,ceramic,class	65.5	203.0	287.4	319.7	383.2	533.2	519.2	1.3	1.9	1.7	1.5	1.5	1.3	1.1
Precious metals and articles	22.0	127.8	64.9	75.2	69.9	98.0	127.5	0.4	1.2	0.4	0.4	0.3	0.2	0.3
Base metals and articles of thereof	682.9	1,116.6	1,350.1	1,432.9	1,595.8	2,686.1	3,862.9	13.1	10.5	8.0	6.8	6.4	6.6	8.5
Mashinery and mechanical appliances,electrical equipmen	290.0	817.1	1,572.3	2,745.4	3,351.4	6,903.8	8,965.9	5.6	7.7	9.3	13.0	13.4	17.0	19.7
Vehicles,aircrafts,vessels	338.8	1,135.8	1,287.2	1,454.1	1,586.8	3,150.1	2,180.5	6.5	10.7	7.6	6.9	6.3	7.7	4.8
Optical,photographic ,measuring,checking instruments	53.3	160.7	207.3	249.7	396.6	589.1	846.8	1.0	1.5	1.2	1.2	1.6	1.4	1.9
Arms and ammunition	0.1	5.4	1.8	4.6	0.7	9.5	1.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Miscel. manufactured articles	297.6	547.6	918.5	1,192.6	1,495.4	1,939.8	2,421.6	5.7	5.1	5.4	5.7	6.0	4.8	5.3
Works of art and antiques	7.3	59.3	1.2	2.2	3.1	4.1	5.6	0.1	0.6	0.0	0.0	0.0	0.0	0.0
Imports	5,130.3	11,831.4	21,486.5	29,118.4	38,886.8	61,610.1	67,350.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Animal products	26.9	131.6	448.0	690.9	1,143.8	2,572.4	3,369.0	0.5	1.1	2.1	2.4	2.9	4.2	5.0
Vegetable products	88.9	266.5	585.7	896.4	1,278.5	1,486.7	1,773.1	1.7	2.3	2.7	3.1	3.3	2.4	2.6
Animal and vegetable fats and oils	23.5	138.8	261.2	359.2	367.5	375.5	375.7	0.5	1.2	1.2	1.2	0.9	0.6	0.6
Prepared foodstuffs,beverages,spirits,tobacco	307.5	1,204.2	2,135.0	2,190.3	3,268.6	5,656.7	5,877.4	6.0	10.2	9.9	7.5	8.4	9.2	8.7
Mineral products	1,437.2	1,840.1	3,034.7	3,341.3	3,844.8	5,458.1	4,216.6	28.0	15.6	14.1	11.5	9.9	8.9	6.3
Products of chemical industry	270.9	759.7	1,627.3	2,334.8	3,609.1	5,051.1	5,458.3	5.3	6.4	7.6	8.0	9.3	8.2	8.1
Plastics,rubber,articles of thereof	119.6	382.2	843.1	1,321.1	1,723.6	2,520.8	2,835.1	2.3	3.2	3.9	4.5	4.4	4.1	4.2
Raw hides,skins,leather	29.3	79.5	189.1	229.3	377.1	469.9	547.0	0.6	0.7	0.9	0.8	1.0	0.8	0.8
Wood and articles of wood	25.4	91.2	299.8	452.1	569.7	834.6	1,121.7	0.5	0.8	1.4	1.6	1.5	1.4	1.7
Pulp,paper,articles of thereof	175.6	244.2	570.4	974.0	1,265.4	2,379.1	2,153.4	3.4	2.1	2.7	3.3	3.3	3.9	3.2
Textiles and textile articles	398.4	1,247.6	2,217.4	3,023.6	3,648.0	4,609.9	5,022.3	7.8	10.5	10.3	10.4	9.4	7.5	7.5
Footwear,headgear	57.4	119.7	339.8	383.0	464.0	644.3	747.1	1.1	1.0	1.6	1.3	1.2	1.0	1.1
Articles of stone,cement,ceramic,class	58.3	144.4	386.8	618.1	798.9	1,010.8	1,154.3	1.1	1.2	1.8	2.1	2.1	1.6	1.7
Precious metals and articles	23.8	62.1	57.7	82.4	72.4	93.8	142.9	0.5	0.5	0.3	0.3	0.2	0.2	0.2
Base metals and articles of thereof	213.9	595.0	1,279.4	2,060.1	3,028.4	4,817.6	6,290.1	4.2	5.0	6.0	7.1	7.8	7.8	9.3
Mashinery and mechanical appliances,electrical equipmen	958.7	2,097.8	4,242.6	6,283.0	8,516.8	13,582.0	17,147.9	18.7	17.7	19.7	21.6	21.9	22.0	25.5
Vehicles,aircrafts,vessels	706.6	1,680.3	1,823.7	2,307.2	2,904.5	7,435.0	6,297.7	13.8	14.2	8.5	7.9	7.5	12.1	9.4
Optical,photographic ,measuring,checking instruments	76.3	286.9	509.4	708.6	934.7	1,210.5	1,240.2	1.5	2.4	2.4	2.4	2.4	2.0	1.8
Arms and ammunition	2.6	29.4	37.7	12.2	9.2	8.6	26.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0
Miscel. manufactured articles	121.4	346.2	597.6	850.6	1,060.2	1,392.4	1,553.3	2.4	2.9	2.8	2.9	2.7	2.3	2.3
Works of art and antiques	8.1	84.0	0.1	0.2	1.4	0.3	1.3	0.2	0.7	0.0	0.0	0.0	0.0	0.0

Source: Statistical Office of Estonia

Table 5.1. General Government Operations[1]

	1992	1993	1994	1995	1996	1997	1998 Estimate
			(In millions of EEK)				
Total revenue	4,251	8,604	12,466	16,466	20,332	25,482	28,887
Tax revenue	3,927	8,174	11,716	15,623	17,865	24,073	27,126
Direct taxes	2,747	5,497	7,412	9,840	10,517	14,473	17,320
VAT	901	1,994	3,309	4,112	5,267	6,687	6,413
Excise	182	403	611	1,137	1,735	2,397	2,787
Tax on international trade	74	119	192	63	1	1	1
Other taxes	23	161	192	471	346	515	605
Nontax revenue	324	430	750	843	2,468	1,409	1,761
Total expenditure	4,144	8,261	11,590	16,833	21,155	24,247	29,016
Current expenditure	3,968	7,634	10,352	14,919	18,407	21,768	25,923
Expenditure on goods and service	2,722	4,810	6,628	10,053	10,417	14,669	17,820
Current transfers and subsides	1,246	2,600	3,397	4,662	7,740	6,885	7,865
Other current expenditure	0	224	327	204	251	214	238
Capital expenditure	176	627	1,237	1,914	2,748	2,479	3,093
Env./Forestry Funds combined position	..	..	..	..	..	-18	-12
Financial surplus (+)/deficit (-)	107	343	876	-367	-823	1,217	-141
Net lending (-)	-138	-487	-476	-146	-189	50	-112
Overall balance	-31	-144	400	-513	-1,011	1,267	-253
Financing	31	144	-400	513	1,011	-1,267	253
Domestic	-152	-942	-840	-481	627	-1,199	12
Foreign	183	1,086	440	994	384	-68	241
			(In percent of GDP)				
Total revenue	32.4	39.0	41.2	40.5	38.8	39.2	39.8
Tax revenue	30.0	37.1	38.7	38.4	34.1	37.0	37.4
Direct taxes	21.0	24.9	24.5	24.2	20.1	22.2	23.9
VAT	6.9	9.0	10.9	10.1	10.0	10.3	8.8
Excise	1.4	1.8	2.0	2.8	3.3	3.7	3.8
Tax on international trade	0.6	0.5	0.6	0.2	0.0	0.0	0.0
Other taxes	0.2	0.7	0.6	1.2	0.7	0.8	0.8
Nontax revenue	2.5	1.9	2.5	2.1	4.7	2.2	2.4
Total expenditure	31.6	37.4	38.3	41.4	40.3	37.3	40.0
Current expenditure	30.3	34.6	34.2	36.7	35.1	33.4	35.7
Expenditure on goods and service	20.8	21.8	21.9	24.7	19.9	22.5	24.5
Current transfers and subsides	9.5	11.8	11.2	11.5	14.8	10.6	10.8
Other current expenditure	0.0	1.0	1.1	0.5	0.5	0.3	0.3
Capital expenditure	1.3	2.8	4.1	4.7	5.2	3.8	4.3
Financial surplus (+)/deficit (-)	0.8	1.6	2.9	-0.9	-1.6	1.9	0.0
Net lending (-)	-1.1	-2.2	-1.6	-0.4	-0.4	0.1	-0.2
Overall balance	-0.2	-0.7	1.3	-1.3	-1.9	1.9	-0.2
Financing	0.2	0.7	-1.3	1.3	1.9	-1.9	-0.3
Domestic	-1.2	-4.3	-2.8	-1.2	1.2	-1.8	0.0
Foreign	1.4	4.9	1.5	2.4	0.7	-0.1	0.3

1/ General government includes State government, Local government, and Extrabudgetary funds.
Source: Estonian Ministry of Finance, IMF and Bank staff estimates.

Table 5.2 Fiscal Balances by Levels of Government and Extrabudgetary Funds

	1995	1996	1997	1998 Estimates
		(in million of EEK)		
General Government				
Overall Deficit (-)/Surplus (+)	-485	-791	1,266	-252
As a % of GDP	-1.2%	-1.5%	1.9%	-0.4%
Central Government				
Budgetary operations				
Revenue and grants	9,346	13,223	13,708	15,150
Expenditure	9,444	13,228	12,336	15,229
Current	8,536	11,999	10,877	13,353
O/w: Trans. to other levels of govt.	...	...	2,236	2,659
Capital	913	1,229	1,459	1,876
O/w: Trans. to other levels of govt.	...	...	188	354
Lending minus repayments	127	...	0	0
Domestic deficit (-)/surplus(+)	-98	5	1,372	-79
Capital expenditure (foreign financed)	-132	-150	-80	-123
Net lending to nongovernment (foreign financed) -1	...	21	50	-131
Overall Deficit (-)/Surplus (+)	-230	-124	1,342	-333
Local governments				
Budgetary operations				
Revenue and grants	2,992	4,064	5,333	6,342
Revenue (own)	...	665	3,939	4,732
Transfers	759	3,399	1,394	1,610
Expenditure	3,135	4,491	5,421	6,490
Current	2,491	3,372	4,417	5,049
Capital	643	1,119	1,004	1,441
Deficit	-142	-427	-88	-148
Capital expenditure (financed by central govt. onlending of foreign funds)	-252	-131	-125	13
Overall Deficit(-)/Surplus(+)	-394	-559	-213	-135
Social Security Fund				
Revenue	3,898	4,801	5,723	6,781
O/w: Transfers	...	910	1,031	1,403
Expenditure	3,707	4,942	5,744	6,563
Overall Deficit(-)/Surplus(+)	192	-141	-21	217
Health Insurance Fund				
Revenue	2,147	2,591	3,143	3,627
Expenditure	2,119	2,578	2,965	3,618
Overall Deficit(-)/Surplus(+)	28	13	177	9
Forestry Fund				
Revenue	482	432	494	677
Expenditure	560	414	480	668
Overall Deficit(-)/Surplus(+)	-79	18	14	9
Environmental Fund				
Revenue	39	81	128	137
Expenditure	41	80	160	157
Overall Deficit(-)/Surplus(+)	-2	1	-32	-20

Source: Estonian Ministry of Finance.

Table 6.1 Banking Survey[1]
(in mln EEK, end of period)

ASSETS	31/12/93	31/12/94	31/12/95	31/12/96	31/12/97	31/03/98	30/06/98	30/09/98	31/10/98	30/11/98	31/12/98	31/01/99	28/02/99
Foreign assets (net)	**5,691.1**	**7,114.0**	**8,016.5**	**7,170.7**	**5,535.2**	**6,567.9**	**7,267.1**	**5,531.5**	**4,549.0**	**5,481.3**	**5,513.6**	**5,663.1**	**6,779.1**
Foreign assets	**7,641.6**	**9,402.4**	**11,177.4**	**12,809.2**	**19,878.9**	**20,174.8**	**21,067.1**	**18,646.4**	**17,380.2**	**17,730.4**	**18,265.6**	**19,029.3**	**20,213.5**
Bank of Estonia (BoE)	6,210.9	6,381.7	7,480.0	8,788.1	11,801.2	10,705.3	**12,732.0**	**11,396.2**	**10,893.1**	**10,810.7**	11,784.8	11,352.1	11,302.5
Other depository corporations[2] (ODC)	1,430.8	3,020.6	3,697.4	4,021.1	8,077.7	9,469.5	8,335.1	7,250.3	6,487.0	6,919.6	6,480.9	7,677.3	8,911.0
Foreign liabilities	**-1,950.5**	**-2,288.4**	**-3,160.9**	**-5,638.5**	**-14,343.7**	**-13,607.0**	**-13,800.0**	**-13,115.0**	**-12,831.1**	**-12,249.1**	**-12,752.0**	**-13,366.2**	**-13,434.4**
Bank of Estonia	-1,751.5	-1,644.5	-1,546.7	-1,434.1	-1,253.3	-1,223.8	-1,376.8	-1,005.7	-998.9	-1,005.3	-889.8	-899.4	-1,138.0
Other depository corporations	-199.0	-644.0	-1,614.2	-4,204.4	-13,090.4	-12,383.1	-12,423.2	-12,109.3	-11,832.2	-11,243.8	-11,862.2	-12,466.8	-12,296.4
Domestic Credit	**2,205.8**	**3,138.9**	**5,199.2**	**10,300.6**	**19,184.5**	**20,753.8**	**21,788.6**	**22,285.0**	**22,137.6**	**23,162.4**	**23,622.3**	**23,343.3**	**22,497.7**
Source: Bank of Estonia.	**-697.5**	**-1,418.3**	**-1,820.8**	**-1,711.9**	**-2,761.9**	**-2,346.8**	**-2,551.9**	**-2,850.7**	**-2,388.3**	**-2,230.6**	**-1,469.4**	**-1,537.1**	**-2,212.2**
BoE claims on general government	45.2	0.0	3.0	3.3	3.6	3.6	3.5	3.3	4.8	1.4	2.9	4.1	1.3
General government deposits in BoE	-6.2	-0.6	-0.3	-0.6	-355.6	-5.3	-116.5	-129.2	-10.9	-6.5	-6.5	-139.2	-5.3
ODC claims on general government	294.6	405.3	649.3	820.8	1,086.9	978.4	995.2	856.4	874.5	936.3	945.9	912.8	867.1
General governemnet deposits in ODC	-1,031.2	-1,823.0	-2,472.8	-2,535.4	-3,496.9	-3,323.5	-3,434.2	-3,581.3	-3,256.7	-3,161.8	-2,411.7	-2,314.9	-3,075.3
Claims on nonbank financial institutions	**8.7**	**12.2**	**628.9**	**2,026.0**	**4,980.2**	**4,859.9**	**5,599.6**	**5,767.2**	**5,679.5**	**6,292.8**	**6,325.7**	**6,305.9**	**6,087.2**
Claims on nonfinalcial public enterprises	**480.1**	**360.8**	**335.3**	**417.4**	**320.1**	**240.0**	**106.6**	**106.8**	**113.0**	**130.5**	**225.8**	**255.1**	**282.3**
Claims on private sector	**2,414.5**	**4,184.3**	**6,055.8**	**9,569.1**	**16,646.1**	**18,000.8**	**18,634.4**	**19,261.9**	**18,733.5**	**18,969.7**	**18,540.2**	**18,319.4**	**18,340.3**
LIABILITIES													
Money	**5,228.2**	**6,319.9**	**8,203.2**	**10,756.6**	**13,223.3**	**13,304.7**	**13,807.9**	**12,855.9**	**11,897.5**	**12,303.1**	**12,750.3**	**12,402.6**	**12,912.5**
Currency in circulation	2,380.6	3,071.3	3,803.6	4,268.5	4,588.5	4,478.3	4,864.8	4,567.8	4,552.9	4,462.5	4,538.6	4,408.4	4,527.4
Demand deposits	2,847.5	3,248.6	4,399.6	6,488.1	8,634.9	8,826.4	8,943.1	8,288.0	7,344.6	7,840.6	8,211.7	7,994.2	8,385.2
Quasi-money	**852.0**	**1,609.2**	**2,140.7**	**3,366.6**	**6,286.0**	**7,087.5**	**7,338.5**	**7,893.1**	**7,852.8**	**7,746.0**	**8,047.5**	**7,988.6**	**8,346.8**
Time and saving deposits	572.3	684.3	1,014.5	1,836.3	3,159.6	4,238.7	4,168.5	4,639.6	4,673.0	4,541.0	4,701.2	4,405.0	4,686.9
Foreign currency deposits	279.7	925.0	1,126.1	1,530.3	3,126.4	2,848.8	3,169.9	3,253.5	3,179.8	3,205.0	3,346.3	3,583.7	3,659.9
Bonds	**0.0**	**40.0**	**82.5**	**67.5**	**368.9**	**732.9**	**655.2**	**270.8**	**247.3**	**259.9**	**200.7**	**284.4**	**350.5**
Government lending funds	**151.8**	**487.1**	**819.5**	**915.2**	**671.7**	**782.8**	**686.4**	**706.7**	**578.2**	**577.9**	**555.2**	**554.3**	**555.6**
Other items (net)	**1,664.9**	**1,796.6**	**1,969.9**	**2,713.9**	**4,169.7**	**5,413.6**	**6,567.8**	**6,090.1**	**6,110.9**	**7,756.8**	**7,582.2**	**7,776.5**	**7,111.3**

1/ The banking survey consolidates the monetary survey with the accounts of other banking institutions, which are two Loan and Savings Co-operatives (LSC) in Estonia.
The monetary survey covers the Bank of Estonia (MA - monetary authority) and 12 commercial banks (DMB - deposit money bank; incl. Estonian Investment Bank starting from January 1998).
The sectoral classifications of assets and liabilities in the banking survey follows that used in the monetary survey.

2/ Other depository corporations cover credit institutions and saving and loan assosiations licenced by the Bank of Estonia.

3/ *General government includes central government, extra-budgetary funds and local governments*

Source: Bank of Estonia

Table 6.2.1 Weighted Average Annual Interest Rates of Kroon Loans by Groups of Customers and Maturities (% per annum)

	12/31/94	12/31/95	12/31/96	12/31/97	03/31/98	06/30/98	09/30/98	10/31/98	11/30/98	12/31/98	01/31/99	02/28/99
Kroon loans total	**21.37%**	**15.92%**	**13.76%**	**18.37%**	**13.83%**	**14.69%**	**11.79%**	**15.19%**	**16.88%**	**16.54%**	**15.16%**	**14.79%**
General government	...	...	...	10.22%	10.86%	13.84%	18.50%	17.50%	...	17.50%	17.57%	16.00%
Financial institutions	...	...	...	18.06%	9.54%	8.84%	11.08%	13.64%	16.94%	14.62%	17.00%	...
Commercial undertakings	...	...	...	19.00%	16.10%	15.62%	15.05%	15.71%	17.32%	17.04%	15.49%	15.70%
Individuals	...	...	...	16.89%	15.89%	14.11%	11.30%	14.67%	14.32%	13.87%	12.83%	14.35%
	...	...	...									
Short-term kroon loans	**23.08%**	**15.95%**	**13.67%**	**19.96%**	**13.88%**	**14.74%**	**11.69%**	**15.68%**	**16.27%**	**16.67%**	**16.60%**	**15.91%**
General government	...	...	...	...	0.00%	13.95%	...	...	...	17.50%	17.57%	...
Financial institutions	...	...	...	19.32%	9.45%	8.84%	11.08%	13.48%	19.66%	15.31%	17.00%	...
Commercial undertakings	...	...	...	19.91%	16.58%	15.81%	16.12%	16.60%	16.33%	17.21%	17.10%	16.55%
Individuals	...	...	...	26.36%	17.24%	14.80%	16.03%	14.39%	12.74%	12.42%	12.16%	12.18%
up to 3 months	24.19%	15.50%	13.55%	20.75%	13.36%	15.08%	11.25%	14.50%	16.11%	15.87%	16.81%	16.67%
3 - 6 months	25.20%	16.30%	13.80%	13.97%	15.20%	14.10%	16.21%	17.53%	16.52%	17.62%	15.54%	14.50%
6 - 12 months	21.32%	16.12%	13.75%	15.12%	14.79%	15.04%	15.56%	15.99%	18.26%	17.07%	16.71%	17.89%
Long-term kroon loans	**17.50%**	**15.84%**	**13.88%**	**11.18%**	**13.51%**	**14.61%**	**12.24%**	**15.11%**	**17.32%**	**16.30%**	**13.42%**	**14.36%**
General government	...	...	...	10.22%	14.65%	13.56%	18.50%	17.50%	...	...	...	16.00%
Financial institutions	...	...	...	10.03%	14.00%	...	...	13.71%	8.50%	8.50%	...	...
Commercial undertakings	...	...	...	12.34%	13.26%	15.15%	13.70%	15.54%	18.06%	16.78%	13.46%	13.49%
Individuals	...	...	...	11.02%	13.91%	13.81%	11.15%	14.68%	14.93%	15.16%	13.27%	14.48%
1 - 5 years	18.57%	16.10%	15.88%	11.96%	14.58%	16.90%	14.02%	15.41%	18.01%	16.55%	13.57%	14.38%
5 - 10 years	12.98%	12.99%	11.12%	10.94%	11.89%	12.33%	11.32%	14.19%	16.48%	14.73%	14.08%	13.98%
over 10 years	...	...	...	7.37%	8.46%	10.94%	10.62%	14.50%	14.50%	14.51%	12.15%	14.49%

Source: Bank of Estonia

Table 6.2.2 Weighted Average Interest Rate on Overnight Kroon Loans (% per annum)

	12/94	12/95	12/96	12/97	03/98	06/98	09/98	10/98	11/98	12/98	01/99	02/99
Weighted average interest rate	5.43%	4.29%	3.56%	17.08%	12.91%	6.45%	11.22%	13.00%	15.41%	16.00%	12.38%	6.00%

Source: Bank of Estonia

Table 6.2.3 Weighted Average Annual Interest Rates of Time Deposits by Groups of Customers and Maturities

	31/12/94	31/12/95	31/12/96	31/12/97	31/03/98	30/06/98	30/09/98	31/10/98	30/11/98	31/12/98	31/01/99	28/02/99
TIME DEPOSITS TOTAL	**10.13%**	**7.21%**	**5.30%**	**12.17%**	**10.49%**	**5.83%**	**6.80%**	**8.11%**	**8.72%**	**8.05%**	**8.75%**	**6.34%**
general government	...	...	...	14.63%	12.15%	6.06%	8.52%	10.04%	10.66%	8.67%	8.48%	5.08%
financial institutions	...	...	...	9.58%	10.71%	6.16%	7.12%	9.05%	12.03%	11.13%	8.17%	6.91%
commercial undertakings	9.91%	6.46%	4.95%	10.00%	9.66%	5.28%	5.72%	6.66%	7.09%	6.89%	8.85%	6.76%
individuals	11.00%	9.66%	8.93%	10.76%	11.04%	9.05%	9.08%	9.60%	9.82%	9.71%	10.44%	8.99%
up to 3 months	8.83%	5.94%	4.71%	12.19%	10.34%	5.57%	6.60%	8.01%	8.62%	7.94%	8.31%	5.98%
3 - 6 months	...	...	...	11.87%	11.27%	9.36%	10.33%	10.07%	11.19%	10.66%	11.56%	10.24%
6 - 12 months	11.62%	9.22%	8.36%	12.43%	12.17%	10.95%	11.40%	12.41%	12.57%	12.93%	12.71%	11.85%
over 1 year	8.79%	8.73%	10.46%	10.78%	11.17%	9.43%	10.71%	8.80%	9.53%	8.93%	11.90%	9.53%

Source: Bank of Estonia

Table 6.2.4 Weighted Average Annual Interest Rates of USD and DEM Nominated Time Deposits

	31/12/94	31/12/95	31/12/96	31/12/97	31/01/98	28/02/98	31/03/98	30/04/98	31/05/98	30/06/98	07/31/98	08/31/98	30/09/98	31/10/98	30/11/98	31/12/98	31/01/99	28/02/99
DEM NOMINATED	...	...	..	**4.63%**	**5.98%**	**5.41%**	**7.19%**	**4.56%**	**4.46%**	**4.17%**	4.27%	3.73%	**3.44%**	**3.27%**	**3.40%**	**4.69%**	**3.67%**	**3.40%**
up to 3 months	...	...	...	4.37%	5.53%	5.34%	5.74%	4.51%	4.26%	3.88%	3.13%	3.19%	3.28%	2.56%	3.35%	4.01%	2.69%	3.23%
3 - 6 months	...	...	...	6.76%	5.80%	5.86%	6.79%	3.93%	4.52%	4.70%	5.04%	3.40%	5.85%	5.59%	3.71%	6.71%	6.77%	3.56%
6 - 12 months	...	...	...	7.71%	7.40%	6.44%	6.95%	6.07%	7.28%	6.55%	5.99%	4.92%	3.87%	5.16%	4.95%	8.10%	4.79%	4.89%
over 1 year	...	...	...	7.66%	8.23%	7.26%	8.04%	7.91%	9.66%	8.95%	6.97%	6.10%	6.76%	7.67%	5.63%	5.83%	3.75%	5.21%
	...	...	...															
USD NOMINATED	...	...	...	**5.84%**	**6.13%**	**5.67%**	**5.87%**	**5.97%**	**5.71%**	**5.68%**	5.87%	5.80%	**5.39%**	**4.96%**	**4.88%**	**4.75%**	**4.60%**	**4.18%**
up to 3 months	...	...	...	5.64%	6.05%	5.61%	5.79%	5.78%	5.61%	5.59%	5.74%	5.74%	5.37%	4.93%	4.87%	4.71%	4.34%	4.07%
3 - 6 months	...	...	...	6.82%	6.71%	6.21%	5.74%	6.35%	6.80%	5.66%	6.02%	5.91%	5.68%	5.14%	6.48%	5.23%	5.82%	5.73%
6 - 12 months	...	...	...	8.13%	7.35%	6.16%	7.56%	7.90%	8.06%	7.82%	8.76%	7.42%	6.52%	6.28%	3.84%	6.08%	7.07%	5.96%
over 1 year	...	...	...	9.94%	9.00%	8.40%	6.37%	6.94%	8.64%	8.04%	8.94%	8.53%	6.14%	5.45%	4.59%	8.32%	8.02%	7.38%

Source: Bank of Estonia

Table 6.2.5 TALIBOR and TALIBID

Date	TALIBID						TALIBOR					
	1 week	1 month	3 months	6 months	9 months	12 months	1 week	1 month	3 months	6 months	9 months	12 months
12/31/96	3.62%	4.82%	6.87%	..	..	..	4.62%	5.82%	7.87%	..	..	..
12/31/97	12.33%	13.67%	14.67%	..	..	..	13.33%	14.67%	15.67%	..	..	..
01/28/98	11.83%	13.67%	14.50%	..	..	..	12.83%	14.67%	15.50%	..	..	..
02/25/98	11.25%	13.00%	13.67%	..	..	..	12.25%	14.00%	14.67%	..	..	..
03/25/98	7.17%	8.33%	9.00%	..	..	..	8.17%	9.33%	10.00%	..	..	..
04/29/98	5.75%	7.58%	9.08%	..	..	..	6.75%	8.58%	10.08%	..	..	..
05/27/98	5.33%	6.85%	8.50%	..	..	..	6.33%	7.85%	9.50%	..	..	..
06/25/98	5.25%	6.92%	8.50%	..	..	..	6.25%	7.92%	9.50%	..	..	..
07/29/98	6.00%	8.42%	10.33%	..	..	..	7.00%	9.42%	11.33%	..	..	..
08/05/98	6.00%	8.00%	10.00%	..	..	..	7.00%	9.00%	11.00%	..	..	..
08/12/98	6.00%	8.00%	10.00%	..	..	..	7.00%	9.00%	11.00%	..	..	..
08/19/98	6.50%	8.67%	10.67%	..	..	..	7.50%	9.67%	11.67%	..	..	..
08/26/98	9.67%	12.00%	14.50%	..	..	..	10.67%	13.00%	15.50%	..	..	..
09/02/98	..	13.17%	14.67%	15.50%	..	..	..	15.17%	16.83%	17.50%	..	..
09/09/98	..	13.25%	14.83%	15.50%	..	..	..	15.25%	17.00%	17.50%	..	..
09/16/98	..	13.25%	14.83%	15.50%	..	..	..	15.25%	17.00%	17.50%	..	..
09/23/98	..	13.17%	14.67%	15.42%	..	..	..	15.17%	16.83%	17.42%	..	..
09/30/98	..	13.00%	14.58%	15.42%	..	..	..	15.00%	16.75%	17.42%	..	..
10/07/98	..	13.00%	14.58%	15.42%	..	..	..	15.00%	16.75%	17.42%	..	..
10/14/98	..	13.33%	14.75%	15.67%	..	..	..	15.33%	16.92%	17.67%	..	..
10/21/98	..	14.23%	14.92%	15.75%	..	..	..	16.23%	17.08%	17.75%	..	..
10/28/98	..	14.75%	15.33%	16.08%	..	..	..	16.75%	17.50%	18.08%	..	..
11/04/98	..	15.50%	16.00%	16.50%	..	..	..	17.67%	18.33%	18.67%	..	..
11/11/98	..	16.50%	16.67%	16.83%	..	..	..	18.67%	18.83%	19.00%	..	..
11/18/98	..	16.50%	16.67%	16.83%	..	..	..	18.67%	18.83%	19.00%	..	..
11/25/98	..	16.33%	16.67%	16.83%	..	..	..	18.50%	18.83%	19.00%	..	..
12/02/98	..	16.25%	16.58%	16.75%	..	..	..	18.42%	18.75%	18.92%	..	..
12/09/98	..	16.25%	16.58%	16.75%	..	..	..	18.42%	18.75%	18.92%	..	..
12/16/98	..	16.17%	16.50%	16.58%	..	..	..	18.33%	18.67%	18.75%	..	..
12/23/98	..	15.83%	16.22%	16.42%	..	..	..	17.83%	18.22%	18.42%	..	..
12/30/98	..	15.75%	16.13%	16.33%	..	..	..	17.75%	18.13%	18.33%	..	..
01/06/99	..	15.67%	16.13%	16.33%	..	..	..	17.67%	18.13%	18.33%	..	..
01/13/99	..	14.75%	15.47%	15.92%	..	..	..	16.58%	17.30%	17.75%	..	..
01/20/99	..	14.25%	14.97%	15.42%	..	..	..	16.08%	16.80%	17.25%	..	..
01/27/99	..	13.42%	14.47%	15.17%	..	..	..	15.25%	16.30%	17.00%	..	..
02/03/99	12.33	..	13.50	14.67	..	..	14.17		15.33	16.50	..	..
02/08/99	11.17	11.83	12.67	13.67	14.58	15.00	12.83	13.50	14.33	15.33	16.25	16.67
02/09/99	11.17	11.83	12.67	13.67	14.58	15.00	12.83	13.50	14.33	15.33	16.25	16.67
02/10/99	9.92	10.75	11.42	12.33	13.25	13.67	11.58	12.42	13.08	14.00	14.92	15.33
02/11/99	9.08	9.92	10.42	11.50	12.67	13.33	10.58	11.42	11.92	13.00	14.17	14.83
02/12/99	9.08	9.92	10.42	11.50	12.67	13.33	10.58	11.42	11.92	13.00	14.17	14.83
02/15/99	9.08	9.92	10.42	11.42	12.67	13.33	10.58	11.42	11.92	13.00	14.17	14.83
02/16/99	8.83	9.50	10.08	11.17	12.17	12.75	10.33	11.00	11.58	12.67	13.67	14.25
02/17/99	8.83	9.50	10.08	11.17	12.17	12.75	10.33	11.00	11.58	12.67	13.67	14.25
02/18/99	8.67	9.25	9.83	11.00	11.83	12.50	10.17	10.75	11.33	12.50	13.33	14.00
02/19/99	8.67	9.25	9.83	11.00	11.83	12.50	10.17	10.75	11.33	12.50	13.33	14.00
02/22/99	8.50	9.00	9.50	10.42	11.25	11.92	10.00	10.50	11.00	11.92	12.75	13.42
02/23/99	8.33	9.00	9.42	10.33	10.75	11.17	9.83	10.50	10.92	11.83	12.42	13.00
02/25/99	8.33	9.00	9.42	10.33	10.67	11.00	9.83	10.50	10.92	11.83	12.33	12.83
02/26/99	8.33	9.00	9.42	10.33	10.67	11.00	9.83	10.50	10.92	11.83	12.33	12.83
03/01/99	8.33	9.00	9.42	10.33	10.67	11.00	9.83	10.50	10.92	11.83	12.33	12.83
03/02/99	8.08	8.58	9.00	9.92	10.58	11.00	9.58	10.08	10.50	11.42	12.08	12.58
03/03/99	8.33	9.00	9.42	10.33	10.67	11.00	9.83	10.50	10.92	11.83	12.33	12.83
03/04/99	8.00	8.50	8.92	9.67	9.98	10.42	9.50	10.00	10.42	11.17	11.48	11.92
03/05/99	8.00	8.50	8.92	9.67	9.98	10.42	9.50	10.00	10.42	11.17	11.48	11.92
03/08/99	7.67	8.33	8.75	9.58	9.90	10.33	9.17	9.83	10.25	11.08	11.40	11.83
03/09/99	7.50	8.33	8.75	9.58	9.90	10.33	9.00	9.83	10.25	11.08	11.40	11.83
03/10/99	7.25	8.08	8.50	9.33	9.65	10.08	8.67	9.50	9.92	10.75	11.07	11.50
03/11/99	6.42	7.33	7.83	8.58	8.90	9.33	7.83	8.75	9.25	10.00	10.40	10.83
03/12/99	6.33	6.83	7.25	8.00	8.50	9.17	7.75	8.25	8.67	9.42	9.92	10.58
03/15/99	6.33	6.83	7.25	7.92	8.50	9.17	7.75	8.25	8.67	9.33	9.92	10.58
03/16/99	6.33	6.83	7.25	7.92	8.50	9.17	7.75	8.25	8.67	9.33	9.92	10.58
03/17/99	6.25	6.83	7.25	7.92	8.50	9.17	7.67	8.25	8.67	9.33	9.92	10.58
03/18/99	5.92	6.42	6.83	7.75	8.42	9.00	7.25	7.75	8.25	9.17	9.83	10.42
03/19/99	5.25	5.92	6.50	7.50	8.17	8.75	6.50	7.08	7.75	8.75	9.42	10.00
03/22/99	5.17	5.67	6.33	7.42	8.08	8.75	6.42	6.92	7.50	8.58	9.25	9.92
03/23/99	5.00	5.58	6.25	7.42	8.08	8.75	6.17	6.75	7.42	8.58	9.25	9.92
03/24/99	5.00	5.58	6.25	7.42	8.08	8.75	6.17	6.75	7.42	8.58	9.25	9.92
03/25/99	5.00	5.58	6.25	7.42	8.08	8.75	6.17	6.75	7.42	8.58	9.25	9.92
03/26/99	5.10	5.78	6.28	7.17	7.77	8.58	6.27	6.95	7.45	8.33	8.93	9.75
03/29/99	5.02	5.78	6.28	7.17	7.77	8.58	6.18	6.95	7.45	8.33	8.93	9.75
03/30/99	4.92	5.67	6.28	7.17	7.77	8.58	6.08	6.83	7.45	8.33	8.93	9.75
03/31/99	4.92	5.67	6.28	7.17	7.77	8.58	6.08	6.83	7.45	8.33	8.93	9.75
04/01/99	4.92	5.67	6.28	7.17	7.77	8.58	6.08	6.83	7.45	8.33	8.93	9.75
04/05/99	4.92	5.67	6.28	7.17	7.77	8.58	6.08	6.83	7.45	8.33	8.93	9.75
04/06/99	4.92	5.67	6.28	7.17	7.77	8.58	6.08	6.83	7.45	8.33	8.93	9.75
04/07/99	4.92	5.67	6.28	7.17	7.77	8.58	6.08	6.83	7.45	8.33	8.93	9.75
04/08/99	4.92	5.67	6.28	7.17	7.77	8.58	6.08	6.83	7.45	8.33	8.93	9.75
04/09/99	4.75	5.50	6.12	7.00	7.60	8.42	5.92	6.67	7.28	8.17	8.77	9.58
04/12/99	4.58	5.50	6.12	7.00	7.60	8.42	5.75	6.67	7.28	8.17	8.77	9.58
04/13/99	4.42	5.33	5.95	6.92	7.43	8.25	5.58	6.50	7.12	8.08	8.60	9.42
04/14/99	4.42	5.33	5.95	6.92	7.43	8.08	5.58	6.50	7.12	8.08	8.60	9.42
04/15/99	4.42	5.33	5.95	6.92	7.43	8.08	5.58	6.50	7.12	8.08	8.60	9.42
04/16/99	4.42	5.33	5.95	6.92	7.43	8.08	5.58	6.50	7.12	8.08	8.60	9.42

Source. Bank of Estonia

Table 7.1 Price Indices and Exchange Rates

Year and month	National currency per U S. dollar	Consumer price index (as a percent change of the previous month)	Producer price index (as a percent change of the previous month)	Consumer price index (as a percent change of the previous December)	Producer price index (as a percent change of the previous December)	Real Exchange rate (June 1992=100)
1993						
January	12.94	3.4	2 7	3.4	2.7	2.16
February	13.12	1.7	6.3	5 1	9.2	2.11
March	13.19	3.6	1.2	8.9	10.5	2.14
April	12.78	2.3	3.9	11.4	14.8	2.15
May	12.84	1.7	1.3	13.3	16.3	2.14
June	13.15	1.3	2.1	14.8	18.7	2 04
July	13.70	2.6	1.2	17.8	20.2	1.94
August	13.59	0.7	3 6	18.6	24.6	1.86
September	13.00	3.0	1.0	22 2	25.8	1.91
October	13.08	2.6	1.1	25.3	27.2	1.90
November	13.59	4.0	4 5	30.3	32 9	1.83
December	13.68	4.1	3.1	35.6	37.1	1.83
1994						
January	13.94	5.5	3.1	5.5	3.1	1.85
February	13.89	5.2	4.9	10.9	8.2	1.93
March	13.54	8.9	4.2	20.8	12.7	2.13
April	13.58	3.1	1.0	24.6	13 9	2.15
May	13.26	1.1	1.6	26.0	15.8	2.17
June	13 06	0.7	1.3	26.8	17.3	2 21
July	12.56	2 8	0 6	30.4	18.0	2.30
August	12.51	1.0	2.1	31.7	20.5	2.31
September	12.41	3.2	6.5	36.0	28.3	2.37
October	12.17	1.1	1.6	37.5	30.3	2.43
November	12.31	1.6	0 2	39.7	30.6	2 41
December	12.57	1.4	1.7	41.7	32.8	2.38
1995						
January	12.26	3.5	8.1	3.5	8.1	2.44
February	12.03	2.9	1.8	6.5	10.1	2.52
March	11.25	2.4	0.8	9.0	10.9	2.67
April	11.03	1.0	0.1	10.2	11.1	2 70
May	11 27	2.6	-0.2	13.1	10.9	2.69
June	11.21	2.3	-0.4	15.6	10.5	2.65
July	11.11	1.7	0.0	17.7	10 5	2.65
August	11.56	0.6	1.3	18.4	11.9	2 56
September	11.70	2.1	1 4	20.8	13.5	2.57
October	11.32	3 1	2.8	24 6	16.7	2.66
November	11.33	1.4	1.0	26 3	17.8	2.65
December	11.52	2.0	3.4	28.9	21.8	2.68
1996						
January	11.69	3.5	2.2	3.5	2.2	2.74
February	11.73	3.3	0 8	6.8	3.1	2.84
March	11.82	1.6	1.2	8.4	4.4	2.85
April	12.03	1.8	-0.1	10.2	4.3	2.88
May	12.26	0.6	-0.1	10.8	4.3	2.86
June	12.21	0.7	2.2	11 5	6.5	2.86
July	12.04	0.4	0.3	11.9	6.8	2 89
August	11.86	-0.3	1 0	11.6	7.8	2.91
September	12.04	0.6	1.0	12.2	8.8	2.91
October	12.23	0.6	1 0	12.8	9.8	2.89
November	12.09	0.6	1.0	13.4	10.8	2.93
December	12.42	0.5	0.3	13.9	11.1	2.91
1997						
January	12.83	1 4	0.2	1.4	0.8	2 90
February	13.39	0.9	0.8	2.4	1 6	2.89
March	13.56	0.8	0.4	3.2	2.1	2.91
April	13.68	1.9	0.8	5.1	2.8	2 95
May	13.62	2.0	2.4	7.2	5.3	3.00
June	13.81	0.7	0.3	8.0	5.6	2.99
July	14.31	0 3	0 7	8.4	6.3	2 93
August	14.74	0.6	1.3	9.0	7.7	2.93
September	14 32	0.6	-0.2	9.7	7.5	2.97
October	14 06	0.9	0.2	10.7	7.7	3.02
November	13.86	0.8	0.0	11.6	7.7	3.07
December	14.22	0.8	0.0	12 5	7.7	3.07
1998						
January	14.53	3.0	1.6	3 0	1.6	3.13
February	14.52	1.0	0.3	4.0	1 9	3.10
March	14 61	0.8	-0.4	4 8	1 5	3.11
April	14.52	0.4	0.1	5.2	1.6	3.14
May	14 19	0.4	-0.3	5.6	1.3	3.15
June	14.33	0 2	0.3	5.8	1 6	3.18
July	14.38	0.6	0.2	6.4	1.8	3 21
August	14.30	-0.1	-0.2	6.3	1.6	3 50
September	13.63	0.0	-0 6	6 3	1 0	3 59
October	13 10	0.2	-0.3	6.5	0 7	3.56
November	13.45	0.0	-1 0	6.5	-0.3	3 62
December	13.35	0.1	-0 3	6.6	-0 2	3.64

Source: Statistical Office of Estonia.

Table 7.2 Average Monthly Gross Wages and Index of Wages by Economic Activity, 1992-1997

	Gross wages, kroons						Index of wages, 1992 = 100.0				
	1992	1993	1994	1995	1996	1997	1993	1994	1995	1996	1997
Agriculture, hunting	388	641	1010	1405	1811	2131	165.2	260.3	362.1	466.7	549.1
Forestry	473	908	1601	2419	2590	3657	192.0	338.5	511.4	547.6	773.2
Fishing	540	1229	1705	1987	2708	3640	227.6	315.7	368.0	501.4	674
Mining and quarrying	737	1487	2362	2968	3944	4412	201.8	320.5	402.7	535.1	598.7
Manufacturing	536	1036	1784	2421	2991	3578	193.3	332.8	451.7	558.1	667.5
Electricity, steam, gas and water supply	835	1467	2432	3262	3872	4835	175.7	291.3	390.7	463.7	579.1
Construction	647	1264	2047	2568	3195	3709	195.4	316.4	396.9	493.9	573.3
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	516	917	1510	2051	2720	3112	177.7	292.6	397.5	527.1	603.2
Hotels and restaurants	403	786	1196	1570	2128	2340	195.0	296.8	389.6	528.1	580.6
Transport, storage and communications	867	1741	2421	3101	3748	4425	200.8	279.2	357.7	432.3	510.3
Financial intermediation	1078	2496	3571	4951	6109	7684	231.5	331.3	459.3	566.7	712.8
Real estate, renting and business activities	488	1031	1748	2562	3213	4078	211.3	358.2	525.0	658.4	835.7
Public administration and defence, compulsory social security	533	1103	2030	2825	3546	4226	206.9	380.9	530.0	665.4	792.9
Education	459	850	1259	1900	2326	2794	185.2	274.3	413.9	506.8	608.7
Health and social work	415	818	1402	1975	2689	3089	197.1	337.8	475.9	647.9	744.4
Other community, social and personal service activities	437	825	1300	1894	2453	2913	188.8	297.5	433.4	561.4	666.5
TOTAL	549	1066	1734	2375	2985	3573	194.2	315.8	432.6	543.8	650.9

Source: Statistical Office of Estonia.

Table 8.1 Gross Agricultural Output, 1994-1997
(at 1995 prices, EEK million)

	1993	1994	1995	1996	1997
Enterprises					
Crop production	1120.7	897.1	815.6	840.0	796.7
Livestock production	2348.8	2025.8	1934.7	1747.1	1717.1
Gross agricultural output	3470.0	2922.9	2750.3	2587.1	2513.8
Household plots and private farms					
Crop production	1995.3	1744.0	2031.7	1884.6	1872.6
Livestock production	1471.3	1289.6	1185.7	1117.2	1119.1
Gross agricultural output	3466.4	3033.6	3217.4	3001.8	2991.7
TOTAL					
Crop production	3115.9	2641.1	2847.3	2724.6	2669.3
Livestock production	3820.1	3315.4	3120.4	2864.3	2836.2
Gross agricultural output	6936.4	5956.5	5967.7	5588.9	5505.5

Source: Statistical Office of Estonia.

Table 8.2 Agricultural Production of Field Crops 1980, 1985, 1990, 1995-1997
(thousand tons)

	1980	1985	1990	1995	1996	1997
Cereals and legumes (preliminary weight)	1197.3	929.3	1177.1	567.8	699.3	705.3
Cereals and legumes (dry weight)	952.1	725.6	957.5	519.8	643.0	667.5
Winter crops	226.5	140.2	230.9	83.6	97.2	109.3
Rye	129.3	93.3	177.9	58.2	62.1	71.9
Wheat	97.2	46.9	53.0	25.4	35.1	37.4
Summer crops and legumes	725.6	585.4	726.6	436.2	545.8	558.2
Wheat	28.4	22.4	12.4	51.7	66.2	73.8
Barley	574.1	477.8	599.9	279.4	317.1	311.7
Oats	100.1	57.6	93.4	80.0	114.8	114.7
Mixed grain	22.5	26.6	20.7	18.8	33.9	41
Buckwheat	...	...	0.0	0.0	0.0	0
Legumes	0.5	1.0	0.2	6.3	13.8	17
Flax stalks	8.4	4.5	1.9	0.2	0.2	0.1
Sugar beet	...	...	...	12.7	2.4	0.5
Rape	...	...	1.1	7.0	10.0	9.6
Vegetables and greens	124.8	126.2	105.0	56.8	54.7	52.3
Open filed vegetables	111.6	108.5	86.0	48.8	48.1	44.2
Potatoes	1146.4	832.9	618.1	537.4	500.2	437.5
Fodder roots	179.2	209.3	534.8	240.8	180.8	146.8
Hay from seeded grassland	516.2	480.9	377.9	618.0	475.8	484.1

Source: Statistical Office of Estonia.

Table 9.1 Industrial Production by Economic Activity, 1992-1996
(current prices, EEK million)

Economic activity	1992	1993	1994	1995	1996
Energetics	1299	1845	2900	3530	4183
Mining	509	682	918	1188	1552
Mining and agglomeration of oil-shale	389	588	781	976	1289
Extraction of peat	34	54	121	183	227
Manufacturing	9976	12008	16014	21400	25677
Food products, beverages and tobacco	3720	5473	6513	7554	8534
o/w Meat and meat products	839	1382	1221	1241	1237
Fish and fish products	423	627	1156	1039	1492
Dairy products	788	1195	1368	1883	2260
Beverages	645	890	1091	1546	1566
Textiles	1388	664	908	1546	2152
Wearing apparel	377	549	643	901	1092
Wood	440	509	922	1743	2054
Paper and paper products	127	48	124	265	419
Chemicals and chemical products	891	976	1502	2102	2251
Other non-metallic mineral products	461	539	923	983	1185
Fabricated metal products	256	389	615	990	1410
Furniture	532	652	888	1235	1483
Other	1784	2209	2976	4081	5097
Total	11784	14535	19832	26118	31412

Source: Statistical Office of Estonia.

Table 9.2 Industrial Production by Economic Activity, 1992-1996
(as percent of total)

Economic activity	1992	1993	1994	1995	1996
Energetics	11.0	12.7	14.6	13.5	13.3
Mining	4.3	4.7	4.6	4.5	4.9
Mining and agglomeration of oil-shale	3.3	4.0	3.9	3.7	4.1
Extraction of peat	0.3	0.4	0.6	0.7	0.7
Manufacturing	84.7	82.6	80.7	81.9	81.8
Food products, beverages and tobacco	31.6	37.7	32.8	28.9	27.2
o/w Meat and meat products	7.1	9.5	6.2	4.8	3.9
Fish and fish products	3.6	4.3	5.8	4.0	4.7
Dairy products	6.7	8.2	6.9	7.2	7.2
Beverages	5.5	6.1	5.5	5.9	5.0
Textiles	11.8	4.6	4.6	5.9	6.9
Wearing apparel	3.2	3.8	3.2	3.4	3.5
Wood	3.7	3.5	4.6	6.7	6.5
Paper and paper products	1.1	0.3	0.6	1.0	1.3
Chemicals and chemical products	7.6	6.7	7.6	8.0	7.2
Other non-metallic mineral products	3.9	3.7	4.7	3.8	3.8
Fabricated metal products	2.2	2.7	3.1	3.8	4.5
Furniture	4.5	4.5	4.5	4.7	4.7
Other	15.1	15.2	15.0	15.6	16.2
Total	100.0	100.0	100.0	100.0	100.0

Source: Statistical Office of Estonia.

Table 9.3 Industrial Production at Constant Prices, 1992-1996
(previous year =100)

Economic activity	1992	1993	1994	1995	1996
Energetics	80.4	83.7	97.6	98.0	106.3
Mining	75.6	72.8	98.9	95.6	105.7
Mining and agglomeration of oil-shale	93.5	79.8	96.4	92.7	108.6
Extraction of peat	87.8	103.1	104.3	109.8	91.9
Manufacturing	62.0	81.4	96.9	102.9	102.2
Food products, beverages and tobacco	73.6	78.7	89.6	96.7	91.8
o/w Meat and meat products	76.0	79.9	69.7	100.1	93.4
Fish and fish products	66.2	107.2	125.6	90.8	112.3
Dairy products	82.5	49.8	90.3	88.1	108.5
Beverages	75.4	131.1	88.5	130.2	73.2
Textiles	55.7	54.0	98.1	128.0	134.3
Wearing apparel	96.2	76.4	95.2	102.3	98.8
Wood	70.5	119.8	114.9	122.2	138.7
Paper and paper products	41.8	20.9	165.8	146.5	113.9
Chemicals and chemical products	54.9	65.5	113.6	108.2	97.5
Other non-metallic mineral products	52.7	84.8	103.1	91.0	97.2
Fabricated metal products	57.0	153.8	124.7	113.2	114.5
Furniture	58.5	91.2	126.4	112.9	114.3
Total	64.4	81.3	97.0	101.9	102.9

Source: Statistical Office of Estonia.

Table 10.1.1 Nature Protection Supervision, 1997

Nature protection activity	Violations	Prescriptions	Administrative penalties	Damage caused, EEK '000
Waste management	479	381	126	447.1
Hunting	132	5	121	77.7
Protection from noise and electromagnetic radiation	3	...	3	...
Fishing	1457	16	1352	424.7
Supervision of protected objects	27	5	22	...
Protection from radioactivity				
Land resources protection	13	11	2	...
Flora protection (incl. Forest)	2230	240	970	39211.7
Soil protection	59	47	14	...
Handling contol of hazardous Chemicals	58	53	5	...
Other protection of fauna	5	2	2	1.5
Other land protection	378	308	70	...
Other protection of air	152	119	23	794
Surveillance of harbours and small ships	441	2	413	...
Protection of air from the pollution of cars	14	...	14	...
Water Protection	2097	1297	503	10706.3
TOTAL	7545	2486	3640	51663

Source: Statistical Office of Estonia.

Table 10.1.2 Protected Areas in Estonia, 1997

Type of protected area	Number	Territory, Ha '000
National Park	4	104
Nature reserve	55	115
Nature park	4	45
Landscape reserve	154	191
Protected areas total	217	455
Programme area	2	640
TOTAL (incl. Programme areas)	219	1,095

Source: Statistical Office of Estonia.

Table 10.2.1 Water Extraction, 1980, 1985, 1990, 1995-1997
(million cubic meters)

	1980	1985	1990	1995	1996	1997
Surface water	2791	2620	2720	1430	1373	1306
Ground water	337	428	495	350	257	322
Sea water	...	68	85	70	70	70
TOTAL	3128	3116	3300	1850	1700	1698

Source: Statistical Office of Estonia.

Table 10.2.2 Water Consumption, 1980, 1985, 1990, 1995-1997
(million cubic meters)

	1980	1985	1990	1995	1996	1997
Domestic use	123	137	112	88	87	76
Industrial use	2752	2685	2833	1471	1410	1352
Agriculture and irrigation[1]	24	42	45	8	7	6
TOTAL	2899	2864	2990	1567	1504	1434

1/ Including domestic and industrial water use in rural areas.
Source: Statistical Office of Estonia.

Table 10.2.3 Water Discharge to Natural Water Bodies, 1980, 1985, 1990, 1996, 1996
(million cubic meters)

Water discharge	1980	1985	1990	1995	1996
To surface water bodies	2830	3022	3254	1848	1691
Doesn't need purification	2596	2558	2717	1452	1375
Needs purification	234	464	537	396	316
Purified	95	406	498	378	301
o/w Insufficiently purified	49	136	196	26	24
Unpurified	139	58	39	18	15
TOTAL	3024	3028	3258	1849	1692

Source: Statistical Office of Estonia.

Table 10.3.1 Pollution Load to Surface Water Bodies, 1990, 1993-1997
(in tons)

Pollutants	1990	1993	1994	1995	1996	1997
Organic substants, BOD 1/	49000	11250	5711	4481	4174	3838
Suspended solids	27900	13743	9221	7490	6330	5641
Total nitrogen	7530	4241	3614	3503	3200	3173
Total phosphorus	792	445	353	321	304	303
Oil products	322	127	76	93	70	83

1/ BOD - quantity of oxygen consumed in the biological decomposition of organic substances (1990 - complete, since 1993 - within 7 days).
Source: Statistical Office of Estonia.

Table 10.3.2 Pollution of Air by Stationary Sources, 1980, 1985, 1990, 1995-1997
(in thousand tons)

Air pollutants	1980	1985	1990	1995	1996	1997
Solid particles	334	309	269	113	99	78
Gasecous and volatile wastes	570	283	341	160	170	161
Sulphur dioxide	462	205	239	110	117	111
Carbon monoxide	49	39	60	27	30	27
Nitrogen oxides	46	28	23	15	16	16
TOTAL	904	592	610	273	269	239

Source: Statistical Office of Estonia.

Table 10.4 Chemical De-Icing Treatment of Roads in Winter, 1992/93--1997/98

	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
Treated roads, 1,000 m2	47646	43847	44111	47555	47328	50696
Use of chemicals						
Calcium chloride, tons	6284	4649	4086	153	117	628
kg/m2	0.7	0.6	1.2	0.2	0.1	0.2
Sodium chloride, tons	20330	17895	20912	28139	32211	42007
kg/m2	0.6	0.5	0.5	0.6	0.7	0.8
Kainite, tons	812	640	319	...	...	...
kg/m2	0.2	0.2	0.2	...	...	...

Source: Statistical Office of Estonia.

Table 10. 5 Generation, Utilization, Destruction and Deposition of Wastes, 1996-97
(in thousand tons)

Wastes	Generation		Utilization		Destruction and deposition	
	1996	1997	1996	1997	1996	1997
Waste of animal and vegetable origin	941.7	821.0	747.9	537.1	159.5	109.2
Inorganic waste	11899.4	11923.1	2661.6	2341.9	9273.3	9796.0
Waste of chemicals and chemical products	1324.9	1383.1	8.1	26.0	1298.4	1368.3
Radioactive waste	0.8	0.6	...	0.0	0.8	0.6
Domestic waste 1/	519.9	270.1	156.1	1667.8	922.3	803.1
TOTAL	14686.7	14397.9	3573.7	4572.8	11654.3	12077.2

1/ Domestic waste is mixed waste generated by households and enterprises and also hospital, water purification waste and sewage.

Source: Statistical Office of Estonia.

Table 10.6 Use of Pesticides by Enterprises, 1993-1997
(active substance)

Pesticide	1993		1994		1995		1996		1997	
	tons	kg/ha	tons	kg/ha	tons	kg/ha	tons	kg/ha	tons	kg/ha
Fungicides	15.6	0.9	9.4	0.7	13.9	1.3	12.1	1.0	6.8	0.9
Insecticides	4.1	0.4	1.7	0.3	2.1	0.3	1.0	0.1	0.7	0.1
Herbicides	129.7	1.1	131.3	1.0	108.7	0.9	84.2	0.6	90.9	0.6
Seed treatment preparations	14.0	0.2	11.1	0.3	10.0	0.4	13.7	0.5	8.0	0.3
Retardants	16.4	1.1	13.7	1.2	8.9	1.3	7.3	0.8	7.2	0.8
Desiccators	0.3	0.4	0.2	0.9	0.2	1.3	0.1	0.9	0.1	0.8
TOTAL	180.1	...	167.4	...	143.8	...	118.4	...	113.7	...

Source: Statistical Office of Estonia.

Table 10.7 Health Safety Inspection, 1995-1997

	Number of Measurements			Of which noncomplying to the standard		
	1995	1996	1997	1995	1996	1997
Examination of food products	1503400	938551	1381160	7443	8190	7962
Examination of drinking water	64430	52932	54086	6204	4989	6276
Examination of water bodies	5684	3119	3933	476	400	329
Noise in population settlements	319	190	377	164	106	213

Source: Statistical Office of Estonia.

Table 10.8 Environmental Expenditures and Receipts of Enterprises, 1997
(EEK million)

Economic activity	Investments	Share of environmental protection investments in total investments (%)[1]	Current expenditure	Receipts	Expenditures on research and development work
Manufacturing	41.3	1.9	177.5	14.9	1
Electricity, steam, hot water production	60.1	7.2	111.7	15.3	2.5
Water supply	397.3	72.8	3.5	0.1	1
Collection and treatment of sewage and waste	31	...	7.9	0.7	0.2
Other activities	9.9	...	33.5	2.1	1.7
TOTAL	539.6	4.8	334.1	33.1	6.4

1/ Provisional data.
Source: Statistical Office of Estonia.

Table 10.9 Environmental Investments, 1995-1997
(million kroons)

Activity of environmental protection	Industry			Other 1/			Total		
	1995	1996	1997	1995	1996	1997	1995	1996	1997
Protection of ambient air	46.0	35.8	16.9	3.0	98.6	44.7	49.0	134.4	61.6
Protection of ambient water and soil	12.6	14.4	21.9	79.3	312.2	398.2	91.9	326.6	420.1
Waste collection and treatment	1.6	4.3	2.2	2.6	15.5	21.5	4.2	19.8	23.7
Other activities (noise nuisance, electromagnetic radiation and other)	4.4	1.4	0.3	7.6	16.4	33.9	12.0	17.8	34.2
TOTAL	64.6	55.9	41.3	92.5	442.7	498.3	157.1	498.6	539.6

1/ Agriculture excluded.
Source: Statistical Office of Estonia.

Table 10.10 Forest Resources, 1983, 1988, 1993, 1996, 1997
(data inventory of forest resources, 1 January)

	1983	1988	1993	1996	1997
Forest and other wooded land (thousand hectares)	1943.2	1916.4	2021.8	2016.2	2015.5
o/w Stands 1/	1812.2	1814.6	1920.0	1919.4	1918.9
Growing stock, million (cubic metres solid volume)	237.1	259.7	274.0	294.9	295.1
Growing stock per hectare, (cubic metres solid volume)	131	143	143	154	154
Area covered with forest (%) 2/	40.1	40.1	47.7	47.7	47.5

1/ Since 1994, the area of stands out of arranged wooded land.
2/ Prior to 1992, the figures are given in proportion to the total area of the territory, and since 1993, in proportion to the area of the terrestrial land.
Source: Statistical Office of Estonia.

Table 10.11 Felling, 1992-1997
(thousand cubic metres solid volume)

	1992	1993	1994	1995	1996	1997
Final felling	1004	1074	1800	1697	2171	3308
Selection felling	...	...	...	...	54	129
Maintenance and other felling	1067 1/	1274 1/	1823	2122	1804	2068
Gross felling	2146	2439	3623	3819	4029	5505
Felling intensity (cubic meters per hectare)	1.08	1.21	1.80	1.89	2.00	2.78
Felling from total growing stock (%)	0.77	0.85	1.24	1.30	1.37	1.87

1/ Data do not include other fellings from non-wooded lands.
Source: Statistical Office of Estonia.

Table 10.12 Reforestation, 1992-1997
(thousand hectares)

Reforestation	1992	1993	1994	1995	1996	1997
Sowing and planting	3.8	4.0	4.2	4.3	4.4	5.0
Contribution to natural forest renewal	0.6	0.5	0.6	1.0	1.0	1.1
TOTAL	4.4	4.5	4.8	5.3	5.4	6.1

Source: Statistical Office of Estonia.

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