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Stabilization in the Baltic Countries: A Comparative Analysis

Prepared by Tapio O. Saavalainen 1/

Authorized for Distribution by Adalbert Knöbl

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Abstract

The Baltic countries began their stabilization and reform process in earnest in mid-1992. During the first two and a half years of reform, these countries have made significant progress in macroeconomic stabilization. Financial policies were tight, inflation was brought down, and by 1994, the output decline had bottomed out and recovery was under way. The paper analyzes the key aspects of this adjustment process in a comparative framework. Apart from comparing the Baltic stabilization programs themselves, major features of their fiscal adjustment, price, and output stabilization are related to the Central European experience. Factors that could explain the good performance in the Baltic countries are suggested and key aspects of an adjustment process typical for an exchange-rate-based stabilization and money-based stabilization, respectively, are discussed. The paper argues that in light of the Baltic experience the credibility of stabilization policies has been of greater importance than the choice of the exchange rate regime per se. Moreover, the cost of disinflation in terms of lost output was limited and short lived.

JEL Classification No.  
E63, E65, O57, P52

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### Summary

The Baltic countries began their stabilization and reform process in earnest in mid-1992. During the first two years of reform, these countries have made significant progress in macroeconomic stabilization despite serious initial imbalances resulting from two major supply shocks. The systemic shock--the collapse of the centrally planned economy--caused major disruptions in trade, payments, and monetary arrangements with Russia and other states of the former Soviet Union. The terms-of-trade shock, resulting from Russia's sudden move toward world market prices in oil and raw material exports to the Baltic countries, called for a sharp adjustment of real incomes. By 1994 the output decline had bottomed out and economic recovery was under way. Financial policies have been tight and inflation has been brought down. With their rapid success, the Baltic countries have become widely recognized as model cases of stabilization for post-Soviet states.

This paper highlights several factors, some general and some specific, contributing to the success of the Baltic countries' transition process. During the first years of serious reform, inflation has fallen more than it did in Poland, for example, during a corresponding period after that country's "big bang." Also, the output cost of the disinflation process has remained very small in Estonia, and has been rather limited in Latvia and Lithuania.

Strong commitment to sound financial policies has been crucial for these achievements. Fiscal positions in the Baltic countries--unlike those in many Central European countries after their economic reforms--have been solid throughout 1992-94 and helped establish the credibility of strong monetary policies.

While the Baltic countries initially adopted different exchange rate regimes, it appears that the credibility of their policies has been more important than the choice between exchange rate and money-based stabilization per se. Inflation has declined to low levels in each country regardless of the exchange rate regime. To some extent, the choice of regime may be reflected in the timing of the output variations, although the evidence for such causality is weak, given the large number of exogenous factors affecting output developments during the transition. The real exchange rate appreciation in each country, which has continued since the outset of the reforms, appears sustainable so far.



## I. Introduction

In mid-1992, each of the Baltic countries adopted comprehensive stabilization and reform programs. Economic conditions were very difficult as reflected in the sharp fall of output and soaring prices. To a large extent, these developments reflected inherited macroeconomic imbalances and supply disturbances as suggested by a strong negative correlation between real output and inflation (Chart 1). The final collapse of Soviet central planning in 1990-91--a systemic shock--caused widespread disruptions in trade, which led to shortages of goods and raw materials, loss of export markets, disfunctioning of payments and monetary arrangements, and a "wait and see" attitude among enterprise managers. On the demand side, rising prices severely cut households' real balances while at the same time price liberalization started to reduce queues and shortages. In 1991, the first year the effects of the systemic shock were truly felt, real net material product in the Baltic countries declined by around 10 percent. At the same time, consumer prices rose 210 percent in Estonia, 124 percent in Latvia, and 225 percent in Lithuania, largely reflecting partial price liberalization. As a result, those holding cash and savings deposits were severely penalized. In Estonia, for example, the stock of cash and savings deposits held by households lost about 75 percent of its real value between 1989 and 1991. 1/

Economic difficulties were aggravated in early 1992 as Estonia, Latvia and Lithuania faced a serious terms-of-trade shock. Russia moved to world market prices in fuel exports to the Baltic countries, and initiated the price liberalization process that increased prices of its exported raw materials and intermediate inputs. In all three Baltic countries, the terms-of-trade deteriorated by 30-40 percent, or by 10-15 percent of GDP, while domestic price increases reached magnitudes of 50 percent or more per month. 2/ Due to their higher dependency on trade with Russia and other states of the former Soviet Union, the terms-of-trade loss for the Baltic countries was much higher than had been experienced by the Central European countries in connection with the dissolution of the CMEA trade system and the move to spot prices from traditional reference prices in their trade with the FSU. For example, in Poland, Hungary, and Czechoslovakia the terms-of-trade shock in 1991 ranged between 3 and 5 1/2 percent of GDP. 3/

Under these conditions, there was little scope for a gradualist approach in policy response. In particular, the terms-of-trade shock and high inflation during the first half of 1992 called for rapid action to

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1/ In fact, the effective stock of household real balances declined even more as Russia blocked the savings accounts of the Savings Banks held by the Baltic countries in Moscow, in 1991.

2/ In January-February 1992, prices rose on average by 80 percent in Estonia, by 57 percent in Latvia, and 48 percent in Lithuania. For the terms-of-trade loss estimates for the Baltic countries, see Tarr (1993).

3/ See Rodrik (1992).

avoid a prolonged decline in output. <sup>1/</sup> A delayed response to these problems could have led to renewed government intervention with a high likelihood of increasing political resistance to market based reforms. In addition, the newly regained independence from the U.S.S.R. and the strong political will to rapidly re-establish historical links to western Europe worked against a gradualist response to the economic difficulties.

## II. Baltic Stabilization Policies

The Baltic stabilization and reform programs were built on common cornerstones. The most urgent task was to realign domestic prices with world prices. For this, all three programs incorporated a rapid completion of price and trade liberalization. In order to insulate themselves from inflationary impulses from the former U.S.S.R., the Baltic countries introduced their own currencies at an early stage of their programs; this enabled them to aim at price stability by pursuing sovereign monetary and exchange rate policies. The budgetary process in the Baltic countries became independent from the Soviet budget system as early as in 1991, and in the stabilization programs, fiscal policies were geared towards balanced budgets in order to prevent inflationary deficit financing. In addition, a series of structural measures aiming at institution building and rationalization of economic incentive structures were implemented.

### 1. Choice of the monetary and exchange rate regime

Initially, the major difference between the three countries in their approach to stabilization was their monetary and exchange rate regimes. The small size of the Baltic economies and their strong will to re-integrate into Europe suggested an open trade regime with strong external competitiveness. However, it was not clear whether this would be achieved better with flexible or fixed exchange rates. The Baltic economies were prone to severe rigidities, as inherited from the Soviet planning system. <sup>2/</sup> Therefore, to improve discipline in price and wage setting, as well as in fiscal management, the setting of an anchor for nominal magnitudes would argue for the adoption of a fixed exchange rate regime. Also, having already experienced a severe terms-of-trade shock, the most likely shocks expected to occur, at least in the short run, would be

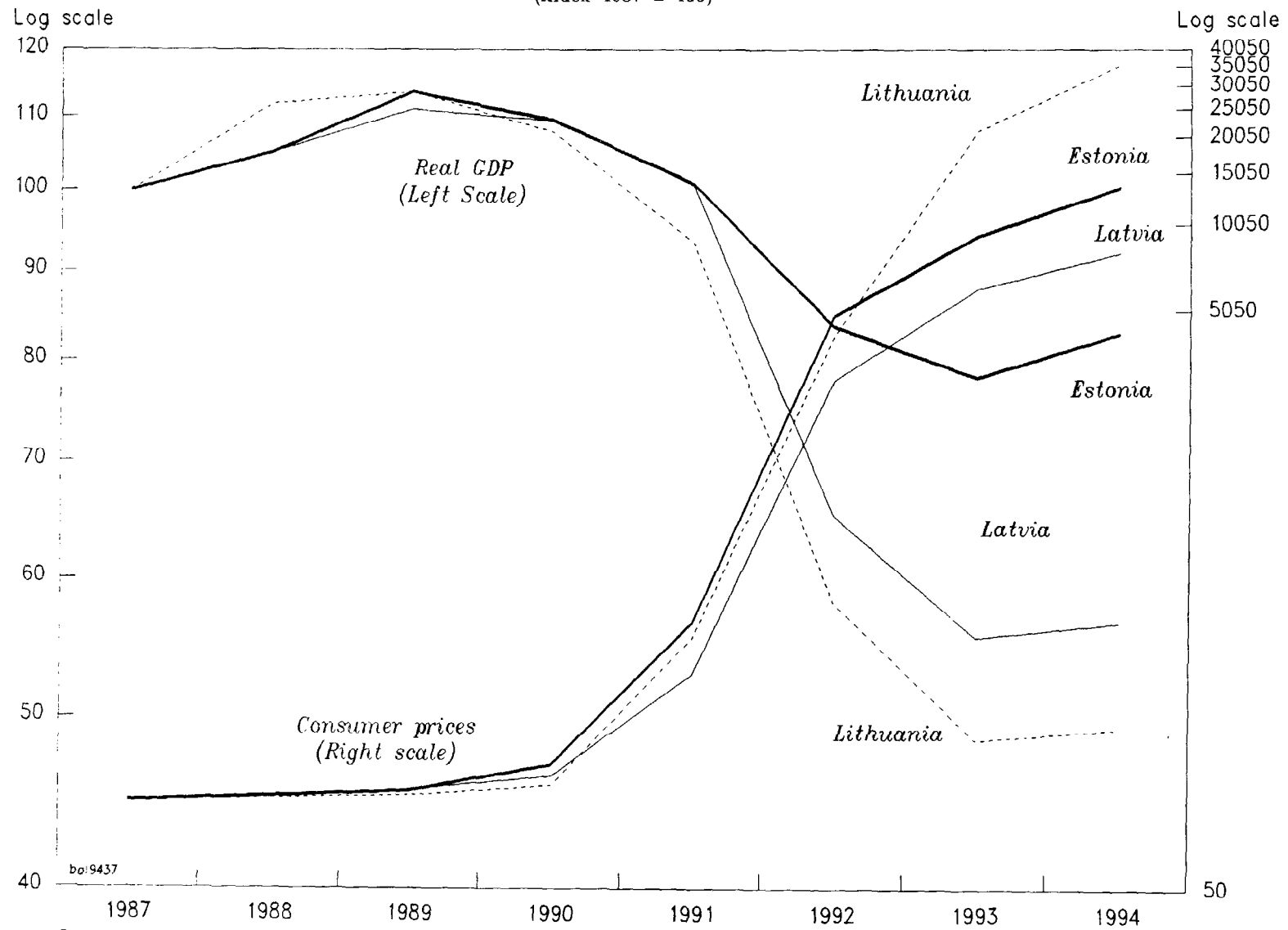
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<sup>1/</sup> After the terms-of-trade shock, but before the adoption of the stabilization programs, the average monthly inflation remained at 15 percent in Estonia, 18 percent in Latvia, and 12 percent in Lithuania.

<sup>2/</sup> For example, minimum wages--and through this, other nominal wages and social benefits--were strongly linked to price increases, the inertia of which was intensified by high inflation expectations reflecting past experience.

CHART 1

REAL OUTPUT AND PRICES  
(Index 1987 = 100)



Sources: National authorities; and IMF estimates.

1/ Preliminary estimates.





monetary in nature, which suggested fixing the exchange rate for monetary discipline. 1/

On the other hand, these arguments had to be balanced against the view that with a fixed exchange rate the Baltic countries would be more exposed to external shocks--further oil price increases, economic and political disturbances in Russia, exchange rate changes in neighboring countries, etc.,--than under a flexible exchange rate regime. In addition, a factor favoring a floating rate regime was the fact that with the recent experience of high price increases and obvious high inflation expectations, a flexible rate could be assumed to help stabilize competitiveness.

Given these considerations it was not surprising that the Baltic countries took diverse views in choosing their exchange rate regimes. In Estonia, the primary consideration for exchange rate policy was credibility. It was thought that the only way to drive the ruble, the Finnish markka, and US dollars from circulation was to fix the exchange rate of the kroon. However, merely fixing the rate was not sufficient; to establish full credibility, the currency needed the backing of assets with recognized value. For this, gold reserves became available in 1992 following the agreement to repatriate gold deposited by Estonia with western central banks before the occupation of the country in 1940. In this context, the idea of a currency board was introduced. The exchange rate for the kroon was set close to the market rate for the ruble. 2/ This rate implied a monthly average wage of around US\$30, or about one seventh the level of Poland at that time--an indication of an initial undervaluation of the exchange rate. The currency board arrangement, which prevented the central bank from extending credit to state enterprises, agriculture, and the Government, made it easier to resist shocks to the supply of money. The money growth thereby became fully demand determined. 3/ The Estonian kroon was fixed at EEK 8 per DM, and the base money supply was fully backed by foreign reserves, initially by gold, but soon afterwards by interest bearing DM assets.

In Latvia, credibility considerations were also important. However, Latvia's restituted gold reserves were not as large as Estonia's, which was one factor supporting the authorities' choice of a floating exchange rate regime. Further, in May 1992 a new central bank law was introduced creating a strong, independent central bank, headed by a Governor who was widely known for his strong anti-inflationary policy stance. Thus, the prospects for the implementation of tight monetary policies were considered good, in particular since such policies were supported by the Government and by the majority in Parliament. It was realized from the outset, that the Latvian

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1/ The risk of uncontrolled monetary expansion was high given the legacy of the planning economy which maintained strong demands for special credit allocations to certain sectors (agriculture, heavy industry etc.).

2/ The conversion rate was set at 10 ruble per kroon.

3/ For a detailed discussion on the operation of Estonia's currency board, see Bennett (1993), and Bennett (1994).

ruble (and later the lats) had to earn its credibility in the market through the pursuit of a tight monetary policy. For this purpose, the central bank chose money as a nominal anchor for the price system. Tight limits for the growth of credit, and later for the monetary base were set to strengthen foreign reserves and keep inflation under control, i.e., a strict monetary rule was adopted to prevent domestic monetary shocks. As in Estonia, the Latvian currency was considered strongly undervalued. It was first floating against foreign currencies but the float became managed already in late 1992, as the Bank of Latvia began to intervene in the foreign exchange market in order to prevent excessive nominal appreciation. Since February 1994, the Bank of Latvia has de facto pegged its currency vis-à-vis SDR. However, a public commitment to a fixed rate regime has not been announced.

Lithuania was the last of the Baltic countries to leave the ruble area, and defining the exchange rate and monetary arrangements was less straightforward. The authorities' initial commitment to stabilization was less pronounced than in Estonia and Latvia, and the independence of the central bank was weak. Also, of the three Baltic states, the Lithuanian central bank had the smallest amount of foreign reserves relative to the size of the country. As a first step toward monetary sovereignty, an interim coupon currency, the talonas, was introduced in May, 1992. However, the talonas circulated in parallel and at a par with the ruble and insulation from instability in Russia was not achieved. It was not until October 1, 1992 that the talonas was declared the sole legal tender and the ruble taken out of circulation. A permanent national currency, the litas, was introduced on June 25, 1993; and on April 1, 1994 Lithuania also introduced a currency board, although initially with a lower degree of reserve backing than Estonia. <sup>1/</sup> The litas was pegged against the U.S. dollar at the rate of 4 litai per U.S. dollar.

## 2. Developments in exchange rates and monetary aggregates

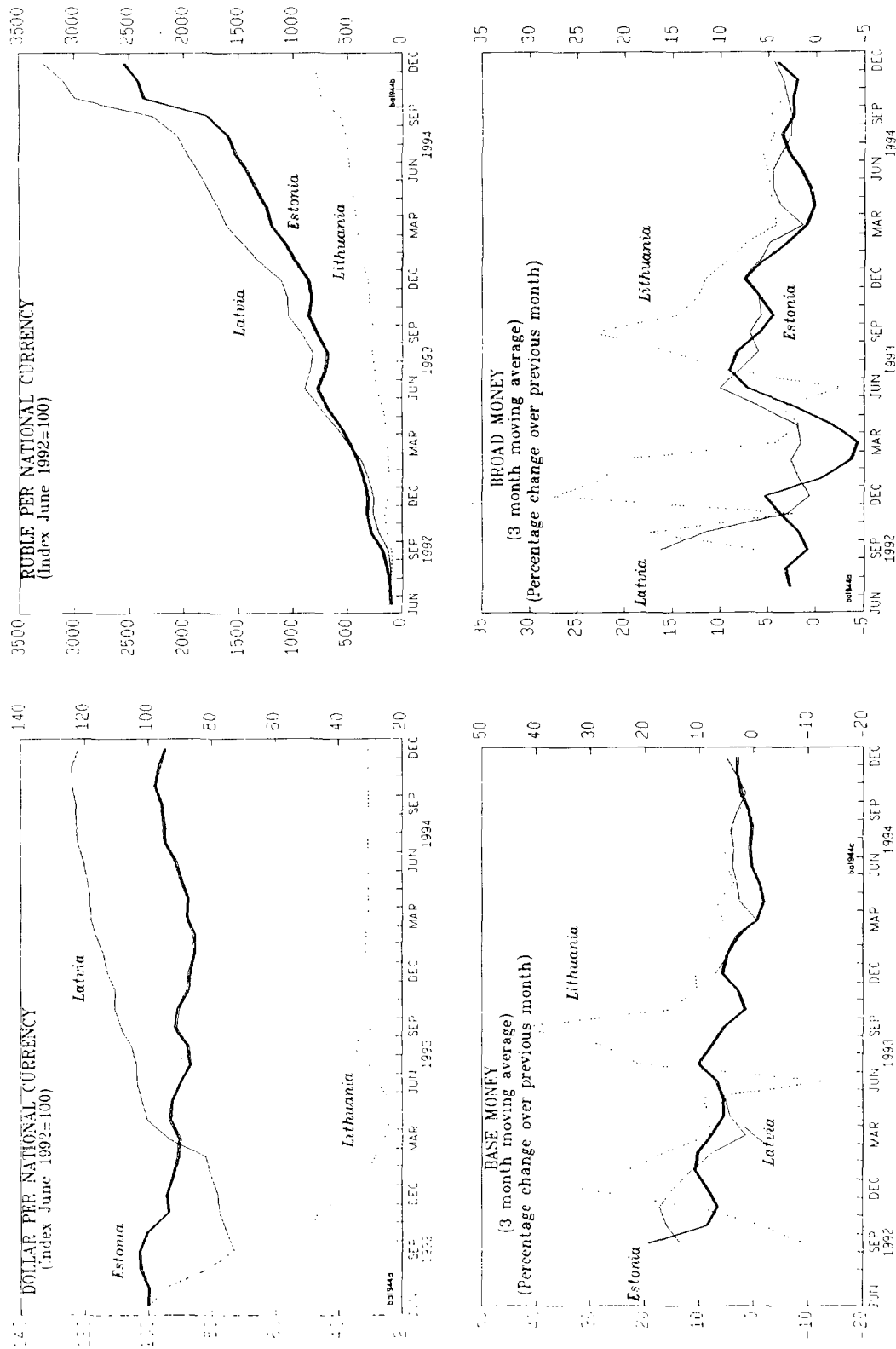
The confidence in the new Baltic currencies and their adopted stabilization policies was reflected in the developments of the exchange rates against the Russian ruble and U.S. dollar (Chart 2). Estonia's nominal exchange rate began to appreciate against the ruble immediately after the currency reform, and the rate vis-à-vis the U.S. dollar moved in line with the DM/dollar cross rate, given the DM peg. As an indication of confidence in the fixed rate regime, foreign reserves began to accumulate rapidly.

In Latvia, a notable premium against the ruble began to develop in August, but the rate against the U.S. dollar stabilized only in October, 1992. This delay in the stabilization against the U.S. dollar reflected the

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<sup>1/</sup> While Estonia's base money was fully backed with net international reserves, in Lithuania, the cover of base money with net international reserves (gross reserves minus purchases from the IMF) remained negative initially, although it was fully covered with gross reserves.

CHART 2  
EXCHANGE RATES AND MONETARY AGGREGATES



Source: National central banks.



authorities' concerns about competitiveness, as the Russian ruble continued to depreciate against the dollar. With a shift of emphasis toward price stabilization, monetary policies were gradually tightened and the currency began to appreciate against the U.S. dollar. Later, with the growth of monetary aggregates slowing down to levels already prevailing in Estonia under the currency board arrangement, tight credit and high interest rates led to considerable capital inflows and further currency appreciation. The overall money supply became endogenous with the de facto fixed exchange rate regime in February 1994. Credit policy has remained tight and the recent appreciation of the lats against the U.S. dollar has reflected more the weakness of the dollar relative to the SDR than the stance of domestic monetary policies.

In Lithuania, monetary discipline remained weak initially as the Bank of Lithuania continued to give in to a wide spectrum of credit demands. In addition, liquidity was boosted by large ruble inflows in late 1992. As a result, the exchange rate vis-à-vis the Russian ruble remained broadly unchanged and it depreciated substantially against the US dollar until spring 1993. The demand for talonai declined and currency substitution expanded. In Spring 1993, the authorities estimated that some 30-50 percent of transactions were being conducted in foreign currency. The course of monetary policy was radically reversed in May by a substantial tightening of reserve requirements. <sup>1/</sup> Monetary stabilization gained momentum and the currency appreciated against the U.S. dollar between May and August 1993. After that, the litas has remained stable. In April, 1994 it was anchored to the U.S. dollar by a currency board arrangement in order to divest the influence of interest groups from the formulation of monetary policies.

### 3. Fiscal policies

Tight fiscal policies were a crucial part of the Baltic economic programs from the outset. The fiscal stance was seen as an important signal of the Government's commitment to stabilization, and fiscal consolidation was aimed at bolstering confidence in the programs and lowering inflationary expectations. Through 1992 and 1993, the Baltic financial balances remained broadly in balance while only more recently small deficits have developed in

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<sup>1/</sup> Apart from raising the reserve requirement ratio from 10 percent to 12 percent, foreign currency deposits were also made subject to reserve requirement, implying a more than doubling of the effective reserve requirements.

Latvia and Lithuania. 1/ This is in sharp contrast to the experience in Poland, Hungary, Russia and other states of the former Soviet Union where fiscal deficits were major impediments to the stabilization process (Table 1).

Did the Baltic countries have some comparative advantage in establishing fiscal equilibrium at the outset of the reform process, and to what extent did their fiscal management contribute to apparent fiscal prudence? One explanation appears to be that the initial fiscal position in all three Baltic countries was indeed better than in Russia and the transition economies in Central Europe. Partly this reflected the early budget reforms in 1990-91. During the Soviet era, the Baltic countries, in particular Latvia and Lithuania, had rendered large net transfers to the all-union budget. 2/ With the abolition of these transfers in connection with the budget reforms, their financial balances improved considerably. For example, a large part of Latvia's and Lithuania's swing from a fiscal deficit in 1989-90 into a surplus of 5-6 percent of GDP in 1991 can be explained by this factor.

Also, a comparison of the initial level of revenues suggests that the Baltic countries may have had a greater potential for strengthening their revenue base than the Central European countries where revenue-to-GDP ratios were very high at the beginning of the reform process (Table 2). 3/ Revenue levels in the Baltic countries before the reforms appear to have been about one third lower relative to GDP than in Hungary and former Czechoslovakia, although at about the same level as in Poland. 4/ The large difference between the Baltic countries and Hungary and former Czechoslovakia was partly due to the latter's very high statutory payroll tax rates (over 50 percent in former Czechoslovakia and as high as 63 percent in Hungary), and higher nontax revenue collection.

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1/ In their first programs (from mid-1992 to mid-1993), Estonia and Lithuania aimed at balanced budgets (measured by the financial balance, i.e., overall fiscal balance minus net lending), despite a large expected fall in economic activity, while Latvia's program allowed for a small deficit (1-2 percent of GDP). In their second programs (mid-1993 to end-1994), all three countries allowed a small, (1-2 percent of GDP) financial deficit mainly to accommodate unexpected expenditure pressures (such as a higher than expected rise in unemployment benefits) or revenue shortfalls.

2/ In Latvia, this net transfer was estimated to have reached 14 percent of GDP in 1988 and 1989, and in Lithuania about 6 percent of GDP in 1989-90 on average. Estonia, though, had already reduced its net transfers from earlier, higher levels, to some 2 percent of GDP by 1989.

3/ Inferences based on GDP estimates here and elsewhere in the paper must be treated with a great deal of caution given the well-known measurement problems as regards national accounts in the former planned economies.

4/ Pre-reform comparisons are for 1989 for Central Europe and 1991 for the Baltic countries.

In particular, Estonia and Latvia took the opportunity to augment tax revenues early on. Indeed, after declining in 1992, revenue-to-GDP ratios rose in Estonia and Latvia in 1993, the first full year with stabilization programs, while the decline continued in Lithuania. In Estonia, a strong revenue package amounting to 5-6 percent of GDP was introduced to support the currency reform in mid-1992. The VAT rate was raised from 10 percent to 18 percent and the tax rates on corporate and personal incomes were increased. Later, increases were decreed on excise taxes. As a result, the collection of indirect taxes relative to GDP returned to the pre-reform level. Moreover, payroll taxation had been increased in early 1992 by introducing a new medical tax at a rate of 13 percent of wage earnings. In addition, tax scales were not fully adjusted to compensate for inflation and personal income tax collection was higher in 1993 than before the reform. However, revenue from corporate taxation has declined relative to GDP, which mainly reflected the initial increase in tax arrears, falling profitability in state enterprises, and the difficulty in collecting taxes from the emerging private sector.

In Latvia, new tax measures were delayed to late 1992. Thereafter, the VAT rate was raised first from 10 percent to 12 percent, and further to 18 percent in October, 1993, while administration of this tax was greatly improved. Similarly, excise taxes were increased on several occasions. As a result, the share of indirect taxes in GDP increased despite the fact that the tax base (mainly private consumption) fell more rapidly than nominal GDP in 1993. Profit taxes remained surprisingly resilient to the output fall, owing to highly profitable re-exports of goods from the FSU states. Payroll taxes were buoyant due to a change in the shares of factor incomes in favor of wages as employment fell less than real GDP.

Among the Baltic countries, but also in comparison to Central Europe, Lithuania has faced the largest shortfall in revenues. Unlike in other Baltic countries, no turnaround in revenue ratios took place in 1993, and the tax ratio declined to a level of about 10 percentage points below that in Estonia and Latvia. The major factor contributing to this decline was a marked adjustment in the distribution of factor incomes away from wages. With a differentiated tax treatment of profits and labor this shift is estimated to have contributed to the decline in the revenue-to-GDP ratio by one third to one half. <sup>1/</sup> The fall in the share of indirect taxes to GDP was due largely to a decline in consumption relative to GDP as real wages declined sharply. In addition, it appears that the efficiency of tax collection in Lithuania has lagged behind that in other Baltic countries as suggested by higher tax arrears and the fact that the share of profit taxes of GDP continued to decline despite the shift in functional distribution of income in favor of profits.

The structure and management of public expenditures also contributed to the good fiscal performance in the Baltic countries (Table 3). First, given

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<sup>1/</sup> See IMF (1994).

the initial surplus in the fiscal accounts and better revenue performance, it was easier to implement strict cash rationing as a tool for expenditure control compared with Central European countries with initial fiscal deficits. Tight cash rationing has effectively controlled spending on nonpriority areas (mainly purchases of goods and services) but also in local governments and social security funds which to a large extent have been dependent on central government budget transfers in financing their outlays. In addition, central bank credit to finance government expenditures has been eliminated completely by institutional arrangements, as in Estonia, or it has been limited as a matter of policy, as in Latvia and in Lithuania even prior to the introduction of the currency board in the latter. With these practices, cash rationing has worked effectively in the Baltic countries.

Another marked difference relative to Central European countries (in particular in Estonia and Lithuania) has been the development of social security benefits. The share of these outlays, contrary to Central Europe, has remained stable in Estonia and declined in Lithuania partly reflecting the low officially recorded unemployment, but also tight pension policies. In Latvia, though, these benefits have increased faster than GDP, partly due to rising recorded unemployment, but also reflecting more generous pensions and social benefits.

In Central European countries, in particular in Hungary and Poland, interest payments have been higher than in the Baltic countries, reflecting high initial debt levels and further increases in interest payments stemming from the cleanup of bad loans of the state enterprises in commercial banks' balance sheets. Finally, it also appears that the Baltic governments have been more successful in reducing subsidies to very low levels, while they still made up some 2 1/2-5 percent of GDP in Central Europe after two-three years of reform.

### III. Stabilization performance

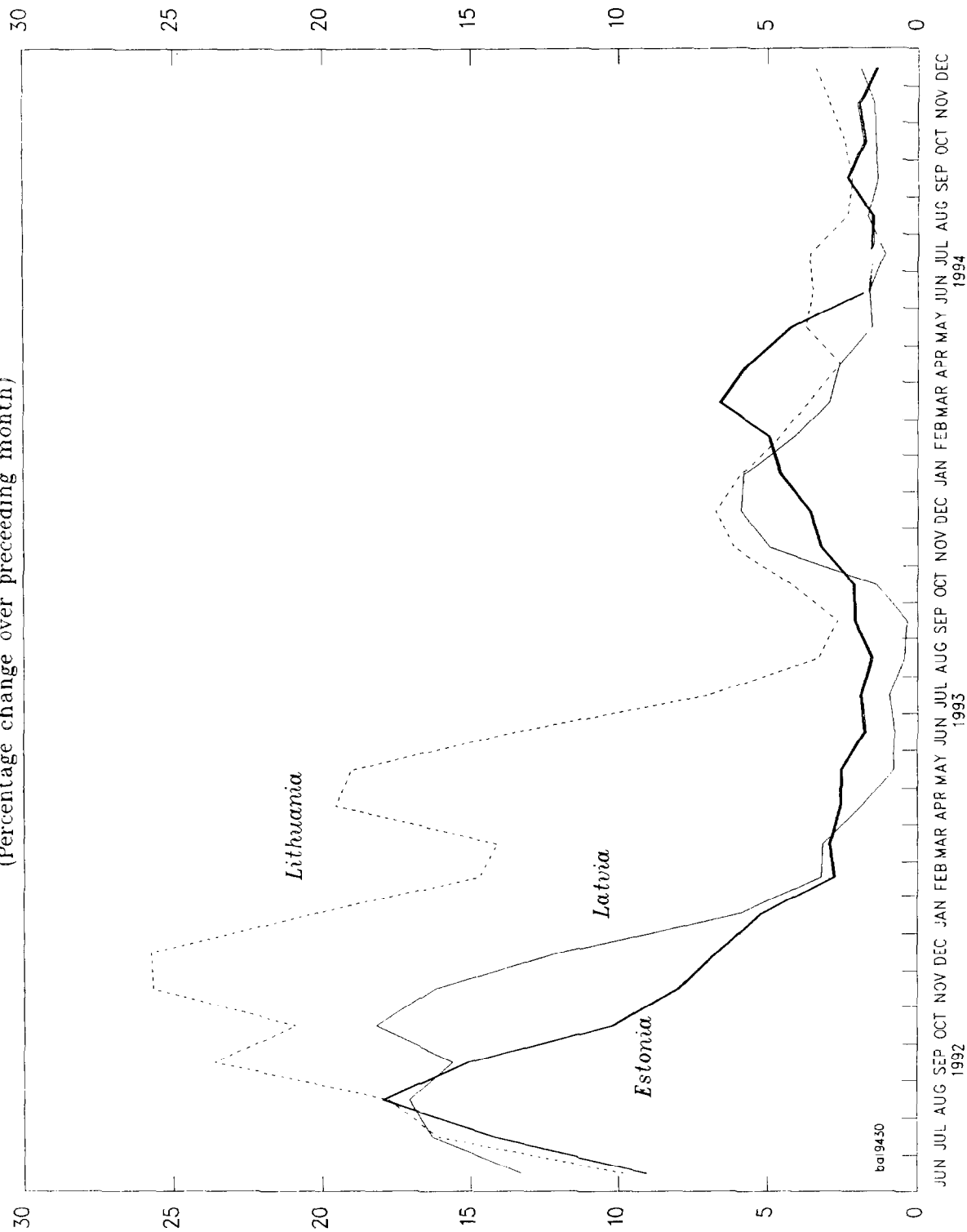
#### 1. Inflation

Successful financial policies have been reflected in a rapid slowdown of inflation in the Baltic countries (Chart 3). As in Poland and Czechoslovakia, the price level began to stabilize quickly after the adoption of stabilization programs in Estonia and Latvia, while it took somewhat longer in Lithuania. As portrayed in Chart 4, since autumn 1992, the price levels in Estonia and Latvia have moved broadly in parallel with that in Poland. However, two years after the introduction of the stabilization programs, the monthly price increases appear to have remained stubborn at levels implying an annual rate of inflation of 20-30 percent. Similar inflation rates, and even higher, were observed in Poland where annualized monthly inflation was above 50 percent after two years of reform.



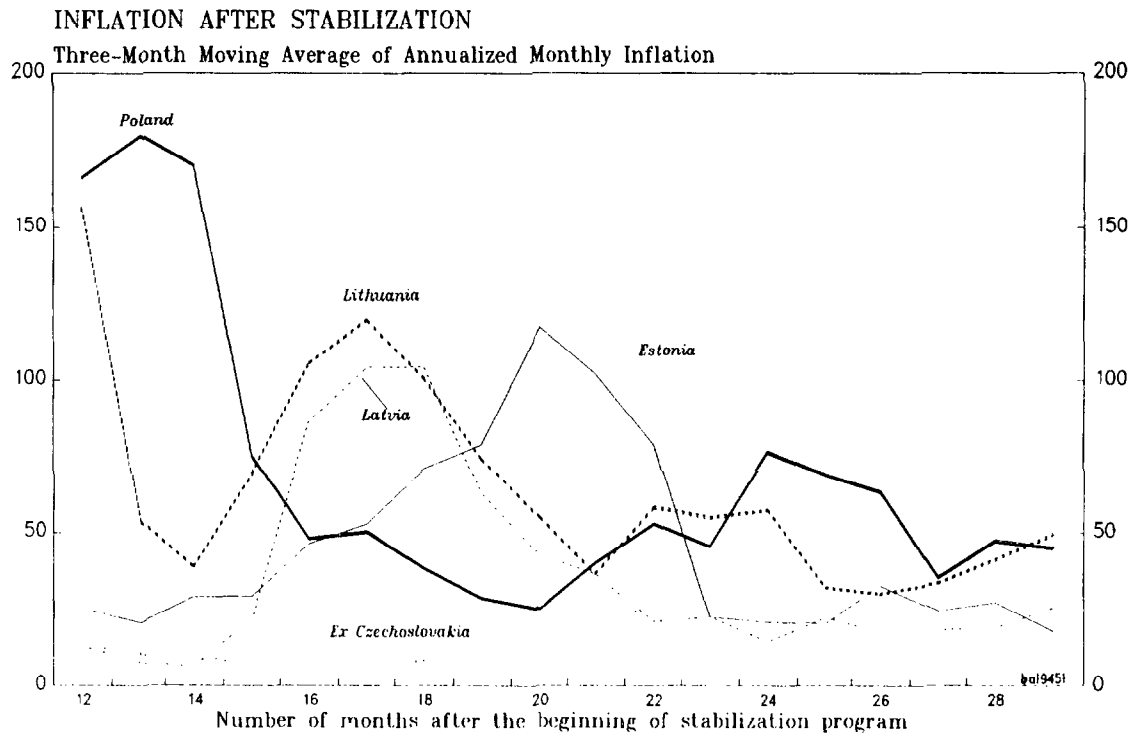
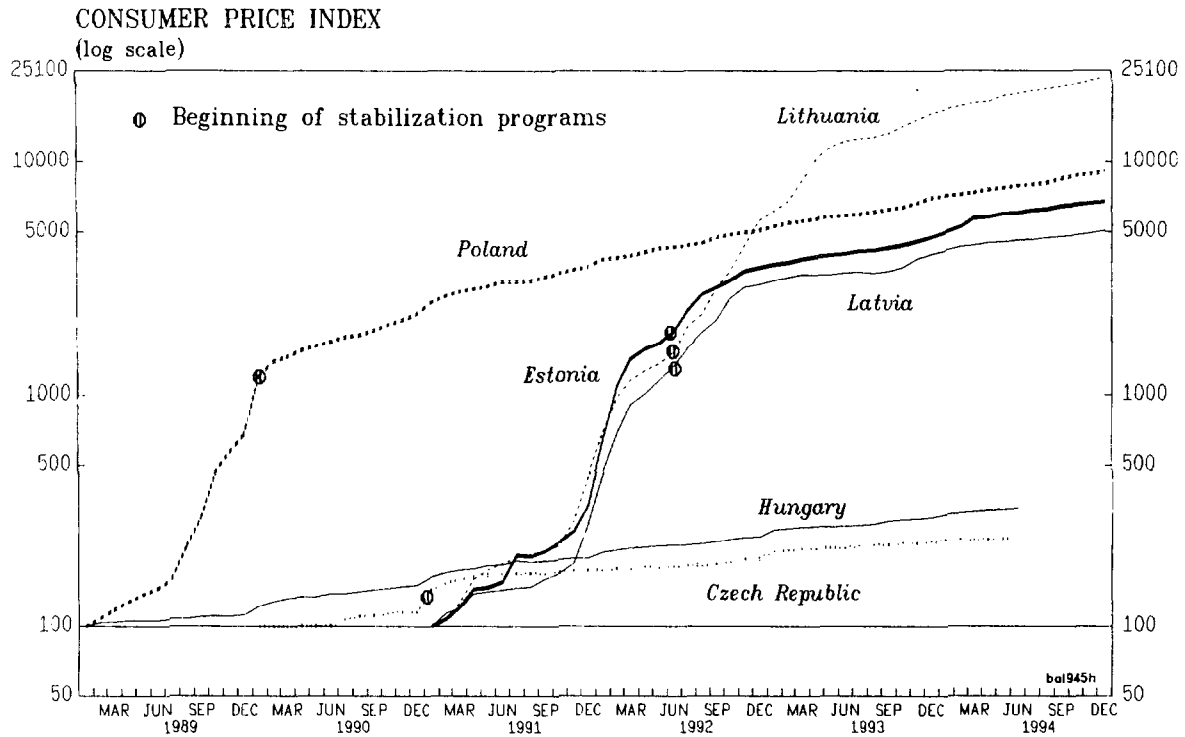
CHART 3  
CONSUMER PRICE INDEX

Three month moving average  
(Percentage change over preceding month)



Source: National authorities.

# INFLATION IN BALTIC AND CENTRAL EUROPEAN COUNTRIES



Source: Author's calculations.

However, in the former Czechoslovakia the monthly inflation remained lower after the reform than in the Baltic countries. 1/

Excessive wage increases do not appear to explain the price pressures in the Baltic context (Chart 5). The real wage adjustment has been significant in all three countries, although it took place with varying speed. At the time of the adoption of the stabilization and reform programs in mid-1992, real wages in Estonia had already declined by more than 40 percent compared to the level before the terms-of-trade shock. Sharp reductions, although from higher levels, took place also in Lithuania and a further decline in real wages was called for in the beginning of the program. In Latvia, real wages have declined less, and a larger part of the adjustment took place through higher unemployment. 2/ After the initial declines, the average measured real wage has remained relatively stable in each Baltic country.

*Lax financial policies cannot explain the Baltic inflation, either.* As discussed above, both monetary and fiscal policies have remained strict in Estonia and Latvia throughout 1993 and 1994. In Lithuania, fiscal policies have been roughly in line with those in the other two Baltic countries, and monetary discipline has been strong since mid-1993. These observations suggest two other sources of inflation--administrative price increases and exchange rate developments.

A gradual elimination of implicit subsidization has kept administered price increases high in all Baltic countries. In particular, housing rents, transportation fares, and prices of public utilities (electricity, gas, water, sewage, etc.) have risen faster than overall inflation. Pressures on rents have resulted from a low initial cost recovery ratio in rental housing, the stock of which largely remains under governmental ownership, except in Lithuania. Similarly, utility prices have continued to increase faster than the general price level reflecting remnants of cross-subsidization of households from electricity and gas companies owing to slowness in breaking up these monopolies and their lack of true incentives to rationalize their operations. In the same vein, public transportation

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1/ In 1994, the annualized inflation rates fell to below 10 percent in the Czech Republic, were slightly higher than 10 percent in the Slovak Republic, and hovered at around 30 percent in Poland. In Hungary, the annualized rate of inflation was around 13 percent in the first three quarters of 1994.

2/ Although the official data on unemployment is not comparable to western figures due to definitional differences, a comparison between the Baltic countries where cross-country definitional problems are smaller indicates that Latvia's unemployment figures are higher than in Estonia and Lithuania. However, the access and eligibility rules in the Latvian unemployment compensation scheme appear more generous than in Estonia and Lithuania, which may account for part of the differences in official unemployment figures.

still remains subsidized, maintaining the pressure on fares. As these structures were not dismantled at the outset of the reform, the governments have been slow in restoring full cost recovery, partly due to the low ability to pay among large segments of the population. <sup>1/</sup> With a gradual improvement in the social safety net and real incomes, corrections in these prices have gathered speed and have kept actual price increases above the levels of underlying inflation.

The initial undervalued level of the real exchange rates appear to explain a large part of the Baltic inflation process. With undervaluation of the exchange rate, a free trading system and a rapid movement to current and capital account convertibility, international price arbitrage became effective in moving the prices of tradeable goods toward world market levels. The adjustment of the real exchange rate took place through inflation in Estonia's fixed exchange rate regime, while until early 1994 Latvia's policy allowed part of this adjustment to be carried out through nominal appreciation, a factor that largely explains Latvia's success relative to Estonia in inflation performance. In Lithuania, until the of spring 1993, price increases--instead of the exchange rate--were the chief channel for real appreciation. While possibilities for price arbitrage in the tradeable goods sector surely have diminished in all three countries over the last two and a half years, it appears that the real exchange rate may still remain below its equilibrium level (see below) and inflationary pressures from this source may continue to be present for still some time, although to a lesser degree than before.

However, once the price arbitrage process is over, prices of tradeable goods should move in tandem with world market prices barring exchange rate variations, the elimination of which is presently a major goal of each Baltic central bank. <sup>2/</sup> But inflation (abstracting from the removal of remaining subsidization) may still remain higher than in trading partner countries due to productivity growth differentials between the tradeable and nontradeable goods sectors. <sup>3/</sup> This latter point can be illustrated by regarding domestic inflation as the sum of the change in the price level of traded goods and the productivity growth differential between the traded and nontraded goods sectors. With lagging productivity growth in the nontradeable goods sector and competitive wage setting, prices of home goods tend to rise faster than in the tradeable goods sector where price equalization to world market prices takes place through commodity arbitrage.

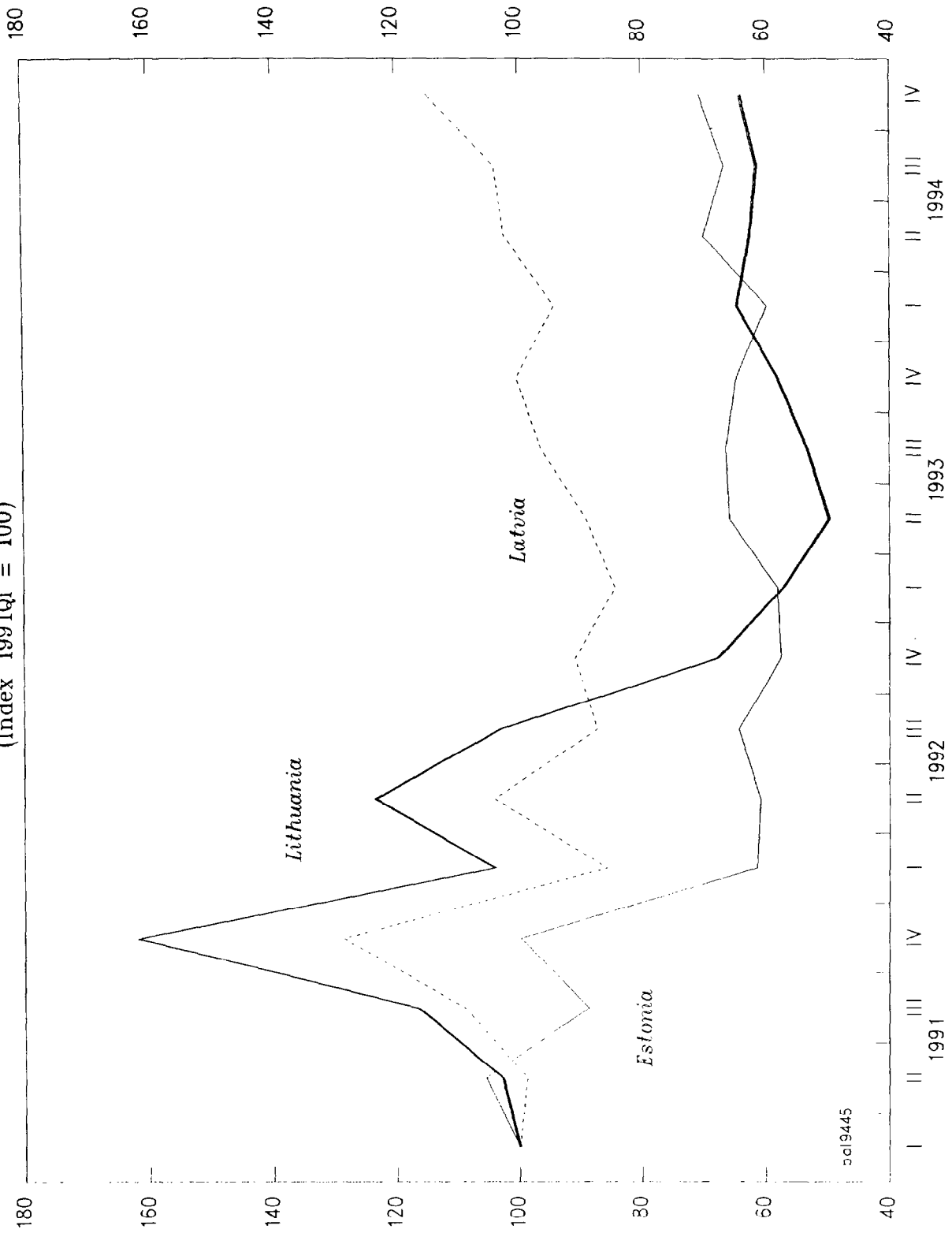
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<sup>1/</sup> Unpaid heating bills and rents, in particular, have been a common phenomenon during the early stages of the reform in major cities in the Baltic countries.

<sup>2/</sup> Variations in the real exchange rate between the Baltic currencies and the Russian ruble have occasionally contributed to the Baltic inflation. For example, the acceleration of inflation in all three Baltic countries in late 1993 largely reflected the real appreciation of the Russian ruble at that time.

<sup>3/</sup> See Balassa (1964)

CHART 5  
REAL WAGES, 1991-94  
(Index 1991Q1 = 100)



Source: National authorities.



As a result, the overall inflation is higher than world inflation, but it is not necessarily inconsistent with external equilibrium.

In addition, with higher productivity growth compared to its trading partners, a country would benefit from better profitability in the tradeable goods sector. This, in turn, would lead to capital inflows and add to real appreciation either through inflation (fixed rate) or nominal appreciation (floating rate). However, as this real appreciation reflects a movement in the equilibrium real exchange rate, it is sustainable. The data in the Baltic countries suggest that with renewed economic growth, this kind of process may well be under way and explain why inflation has remained at current relatively high levels. Recent production estimates suggest that output has begun to recover in all Baltic countries. Meanwhile, industrial employment has declined and new jobs are created mainly in services, i.e., in the nontradeable goods sector. This suggests that productivity gains in the tradeable goods sector could be significant. Also, in particular in Estonia, strong inflows of foreign direct investment have supported productivity growth in the tradeable goods sector.

## 2. Output developments in perspective

Stabilization of output has taken place relatively rapidly in the Baltic countries. Real GDP declined cumulatively by 30 to 50 percent in 1991-93 compared to 16 to 23 percent in Poland, Hungary, and the former Czechoslovakia in the similar time period of 1990-92 (Chart 6). However, within two years after the reform, all three Baltic countries reported that the output decline had bottomed out. In Estonia, several indicators (real GDP, industrial output, retail sales) suggest that the recovery had already begun in the first half of 1993. Recovery in Latvia is estimated to have started in late 1993, and in Lithuania in early 1994. For 1994, preliminary estimates suggest positive growth. Despite the fact that the Baltic stabilization programs started about two years later than in Central Europe, they are estimated to have recorded similar growth rates in 1994.

Part of this rapid recovery of output can be explained by the steeper initial decline due to the more severe systemic and terms-of-trade shocks than in Central Europe at the outset of the reform process. However, there were also several supply side characteristics that could have contributed to the rapid stabilization of output. Thus, the initial allocation of labor and capital may have been less distorted in the Baltic countries than in Russia and other economies of the FSU. The labor force, with a high level of skills and low labor costs which characterize the comparative advantage of the Baltic countries, as well as capital, were largely concentrated in light and consumption goods industries (food processing, textile and light metal) (Table 4). This initial industrial structure made it possible to shift exports from declining FSU markets to stable markets in industrial countries without a massive reallocation of labor and capital. In addition, the fact that the Baltic countries had been an experimental area in the Soviet planning system in these industries may have put them in a better

position to take advantage of the new opportunities offered by a more market-oriented economy.

Another important factor in the rapid output stabilization was the level of labor costs. Monthly dollar wages in the Baltic countries at around US\$30 at the time of the adoption of the stabilization programs were low compared to about US\$200 in Poland, and similar or even higher levels in Hungary and former Czechoslovakia. While productivity differentials may explain part of these large differences, Baltic producers surely benefitted from low initial levels of unit labor costs relative to Central Europe. The low cost level of the Baltic countries helped them shift exports away from the markets of Russia and other former Soviet Union states. Moreover, the high purchasing power of the neighboring Nordic countries with high labor costs provided a near-by market and effective demand for Baltic exports. And perhaps even more importantly, foreign direct investment into the Baltic area became attractive since low-cost, skilled labor combined with an obsolete inherited capital stock made the expected rate of return on new direct investments high. Indeed, as regards foreign direct investment, which was also stimulated by the stabilization of macroeconomic environment, an important difference between the Baltic countries and Central Europe was that at the time of the Baltic reforms, the political risk in investing in these countries may have been smaller than in Central Europe at the time of reforms in 1990-91 in that the Soviet Union still existed, presumably adding to the risk premium for foreign direct investments. 1/

Both trade and price liberalization were crucial for the recovery in output in the Baltic countries as well as in Central Europe. However, as discussed above, the Baltic countries made more rapid progress in abolishing subsidies, and thus hardening the budget constraints in the enterprise sector. This may have contributed to a sharper initial decline of output in the Baltic countries, but it would also explain the more rapid recovery as enterprises became exposed to the new relative price structure determined by the world market and were forced to adjust or go out of business. Central European countries may also have suffered more from attempts to halt the decline in output by providing subsidies which delayed the transition process and recovery.

The relatively strong financial discipline among Baltic enterprises has also benefitted from the general avoidance of moral hazard problems in dealing with troubled banks and enterprises. Large-scale bailouts of banks and enterprises have been avoided so far, although such pressures may still arise with further restructuring of the banking system and enterprise sector. Also, bankruptcy legislation has been enforced successfully, in

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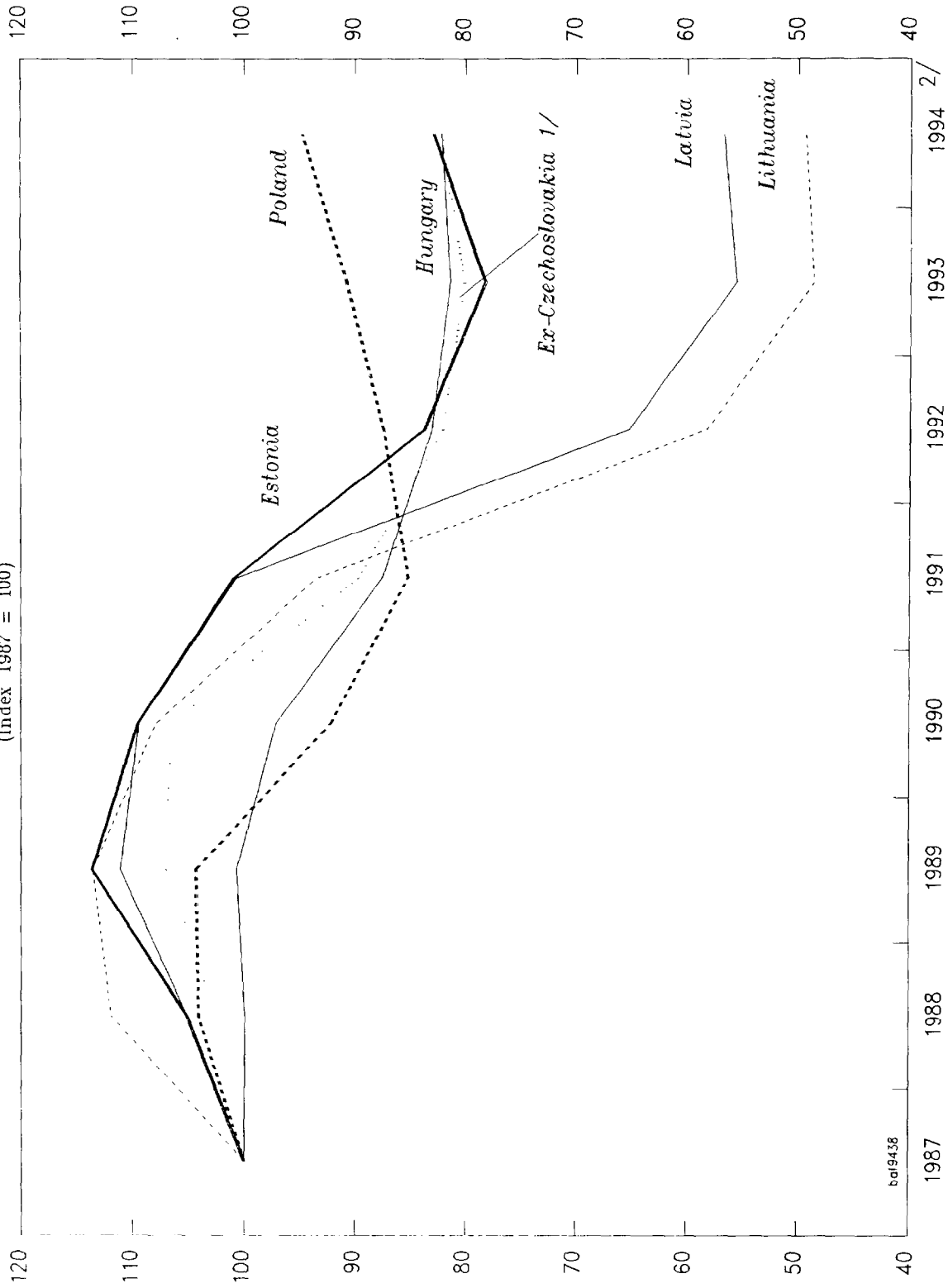
1/ While the share of foreign direct investment of purchasing power GDP in Estonia was second only to Hungary in 1993, the share in Latvia and Lithuania also exceeded that in Poland, although it was smaller than in the former Czechoslovakia. See EBRD (1994).



CHART 6

REAL GDP

(Index 1987 = 100)



Source: IMF estimates.

1/ For 1993 and 1994, the Czech Republic

2/ Preliminary estimates.



particular in Estonia. 1/ Similarly, Estonia's treatment of the banking crisis in late 1992/early 1993 stands out as an example of introducing hard budget constraint through discipline in the banking sector. 2/ Although some recapitalization of the banking system took place through a government bond issue, this scheme appears stricter than in many Central European bail-out schemes. For example in Poland, the Government recapitalized seven large banks by treasury bonds in 1993, and in the former Czechoslovakia considerable sums were injected into the banking system to add to banks' capital in 1991. 3/

### 3. Did the policy regime matter?

The stabilization performance of the Baltic countries has much in common with the predictions of the standard exchange rate versus money based stabilization models. 4/ These models, and experiences in other countries would predict Estonia's fixed exchange regime to yield a rapid disinflation and better initial growth performance than in Latvia and Lithuania, which first let their exchange rate float and relied on controls of monetary aggregates as major tools of stabilization. With a credible disinflation program, the fixed exchange regime would bring down inflation rapidly. Nominal interest rates, being linked to the anchor country's interest rate levels, would decline more leading to declining real interest rates due to remaining inflation inertia, stronger demand, and more buoyant output. However, with inflation inertia, real appreciation would emerge, and if exceeding the equilibrium real exchange rate, would lead to a trade deficit. Eventually, output would fall and recession follow. A floating regime with a credible, tight monetary policy would also bring down inflation quickly. However, interest rates would remain higher than in the fixed exchange rate case, because of the lack of a link to the interest rate level in a low-inflation anchor country. Therefore, in the money-based stabilization, real interest rates would remain higher and output initially more depressed, with a further slowdown in inflation. Eventually, real interest rates would decline enough to stimulate demand, and output would begin to grow. Hence, an exchange-rate-based stabilization would produce "boom first, recession later" while a money-based program would introduce a pattern of "recession first, boom later". Chart 7 shows developments in inflation, real interest rate, real exchange rate, and real GDP in the Baltic countries, and the following discussion attempts to shed more light on these adjustment patterns.

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1/ The number of bankruptcy proceedings since autumn 1992 has been 200-300 in Estonia, compared with 1,045 in Poland since 1990 (EBRD, 1994).

2/ As three major Estonian banks with deposits equivalent of 40 percent of money supply, turned out to be both insolvent and illiquid, they were closed down, two of them were merged, and the third one was liquidated.

3/ See IMF (1994), EBRD (1994).

4/ See e.g., Rodriguez (1982), Dornbusch (1982), Fischer (1986), Kiguel and Liviatan (1992), and Calvo and Végh (1990 and 1993), Dornbusch and Werner (1994).

a. Disinflation and policy credibility

Following the implementation of their stabilization programs, inflation decelerated rapidly in both Estonia (fixed rate regime) and Latvia (floating rate regime) suggesting that both stabilization programs were highly credible. Indeed, it appears that Latvia, with a floating exchange rate regime and nominal appreciation, has been able to bring down inflation to slightly lower levels than Estonia with its fixed rate regime. Both of these countries have clearly outperformed Lithuania, which also applied a floating exchange rate for most of the observation period. Broadly speaking, however, the reduction of inflation has been successful in each country regardless of the exchange rate regime.

Hence, the Baltic experience does not appear to support the commonly held hypothesis that the use of a fixed exchange rate is more successful in reducing inflation than the use of money-based stabilization policies. In this respect, one problem with international evidence is that it is not clear to what extent the correlation between the exchange rate regime and disinflation reflects causality. Does the exchange rate anchor contribute in its own right to disinflation or does the correlation reflect the fact that countries that have chosen a fixed exchange rate regime instead of a floating one happened to be those most committed to pursuing disinflation through aggressive policies? If the two countries' financial policies are equally aggressive against inflation, the outcome could be the same, and the fixed regime would have no effect in its own right.

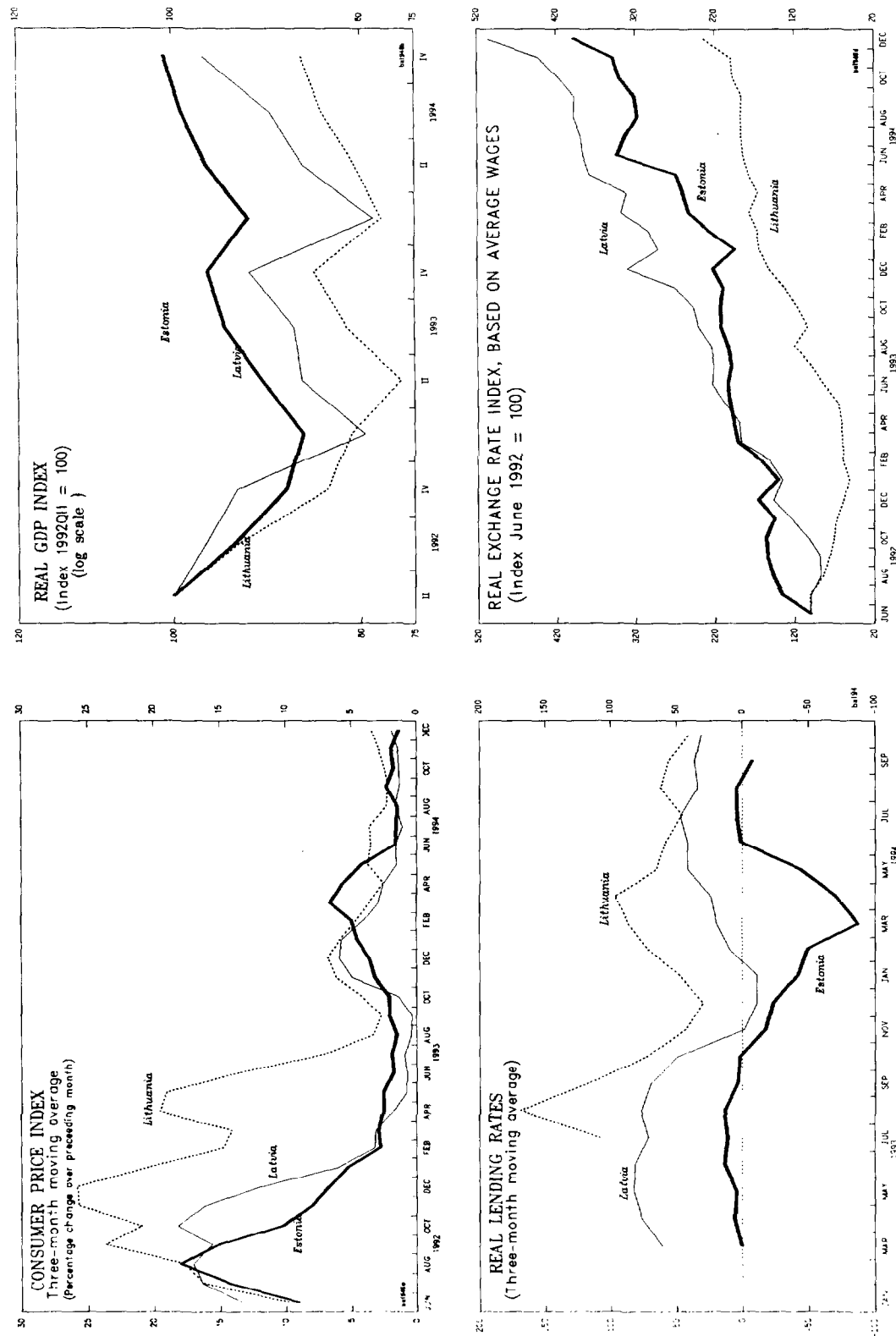
A comparison of the tightness of monetary conditions in the Baltic countries is suggestive in this respect. When measured by the growth of base and broad money, monetary conditions have been broadly similar under Estonia's currency board and Latvia's floating regime as was suggested by Chart 2. In other words, the same degree of policy tightening relative to the pre-reform period did produce a broadly similar reduction in inflation in a country with a fixed exchange rate (Estonia) as in a country with a flexible rate initially (Latvia). On the other hand, in Lithuania both base and broad money grew faster than in Estonia and Latvia, which is consistent with Lithuania's poorer inflation performance.

As regards fiscal policy, Table 1 indicated that the fiscal stance, as measured by the level of the financial deficit, has remained broadly similar since mid-1992 in each country. Also, the fiscal impulse--proxied by the change in the financial balance--has been of the same order of magnitude. Hence, it does not seem that fiscal policies have been so much different that they would have produced different outcomes in inflation performance.

Thus, the evidence from the Baltic experience supports the notion that what matters for disinflation is not so much the policy framework (e.g., fixed versus flexible exchange rate regime) but the policy content.

CHART 7

# EXCHANGE RATE AND MONEY BASED STABILIZATIONS: STYLIZED FACTS



Sources: Central Banks of the Baltic countries; and author's calculations.



b. Interest rates and credibility of the exchange rate

It was argued above that interest rates with an exchange rate anchor would be lower than without such an anchor even if both stabilization policies were successful in reducing inflation. Indeed, interest rates, both nominal and real, have remained higher in Latvia and Lithuania compared with Estonia as suggested by theory (Chart 8). Some observers have explained the lower interest rates in Estonia by the supposedly greater credibility gains obtained by its currency board arrangement. 1/

There are several factors in addition to policy credibility, however, that can explain this. First, the higher lending rates in Latvia and Lithuania could partly reflect slower restructuring of the enterprise sector associated with lower creditworthiness of borrowers, and thus higher risks involved in banks' lending operations. Also, banks in Latvia and Lithuania may have been more compelled than in Estonia to push up lending rates in order to improve their capital ratios given the slower restructuring in the financial market, and therefore, weaker solvency. 2/ After accounting for different spreads, the lending rate differential of Latvia and Lithuania vis-à-vis Estonia of 23 to 32 percentage points converts into a deposit rate differential of 15-18 percentage points in October 1994 (Table 5). However, higher deposit rates in Latvia and Lithuania relative to Estonia could largely reflect the lower confidence of the Latvian and Lithuanian depositors in their banking systems, i.e., higher risk of bank default, which increases banks' funding costs. Abstracting from this factor and comparing the auction interest rates on nonrisk government assets (i.e., short-term certificates of deposit of the Bank of Estonia (CD) and Treasury Bills in Latvia and Lithuania) indicates that rates for low risk financial assets are indeed lower than deposit rates, suggesting about 5-6 percentage points risk premium for bank deposits in these countries in October 1994. The remaining interest rate differentials (i.e., 15-18 percentage points) could thus reflect some residual risk differentials and different exchange rate premia between the Baltic countries.

In principle, the interest rate differential between domestic and foreign nonrisk assets could detect the risk premium that the public sets on the exchange rate. However, a comparison of the above auction rates to detect this premium is not straightforward. Measuring parities for interest rates through results from central bank credit auction may include an upward bias because of the adverse selection problem. 3/ However, the auctions in Latvia and Lithuania are not for central bank credit (a liability of the banks) but for Treasury bills (asset). The adverse risk selection argument would not apply in this case. It is still possible, however, that some residual credit risk applies to government securities (Latvia and Lithuania)

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1/ See Hansson and Sachs (1994).

2/ For the stage of enterprise restructuring and financial reform in the transition economies (including the Baltic countries), see EBRD (1994).

3/ See Mathieson and Haas (1993).

by comparison to central bank securities (Estonia) since only the latter are guaranteed to be honored in cash (which is also a central bank liability).

Indeed, given these caveats, a comparison of domestic and foreign currency deposit rates may be more accurate in measuring the degree of the exchange rate credibility, in particular in Latvia and Lithuania. This comparison suggests a small exchange rate risk (3-4 percent) for the Estonian kroon in 1994. <sup>1/</sup> In the case of Latvia and Lithuania, this risk premium was somewhat higher in October 1994, some 10 percent in Latvia and 6 percent in Lithuania for a maturity of three to six months. However, in early 1994, these premiums were higher. Perhaps one half of the lending and deposit rate differentials between Lithuania and Estonia reflected exchange rate risk considerations. As for Latvia, the risk premium on the exchange rate may have explained one third of the lending rate differential relative to Estonia, and less than half of the deposit rate differential.

The above decomposition of the interest rate differentials between the Baltic countries suggest that for the most part they are likely to reflect other factors than credibility considerations. <sup>2/</sup> However, the exchange rate risk premiums in Latvia and Lithuania do suggest that Estonia's stabilization and lower levels of interest rates may have also gained somewhat from the credibility effects associated with its currency board arrangement. Such a conclusion is also supported by the developments of interest rates in Lithuania before and after the adoption of the currency board arrangement. Measured by the differential between domestic and foreign currency deposit rates, the exchange rate risk premium declined steeply from some 40 percent in March, i.e., one month before the adoption of the currency board, to only 6 percent in October, suggesting a strong improvement of the confidence in the Lithuanian currency. Hence, the above discussion suggests that, while credibility factors may have been indifferent as regards successful disinflation in the Baltic countries, they may have had some role to play as regards the interest rate levels, and they may have affected the level of economic activity in the early phase of the reform process.

There is another way to test this latter proposition. That is, to see whether inflation was brought down with smaller output cost in Estonia than in Latvia and Lithuania. The underlying argument to test is that with full credibility of the exchange rate and with flexible prices, disinflation should involve none, or only limited output losses. Hence, with better credibility in the exchange rate and thus lower real interest rates,

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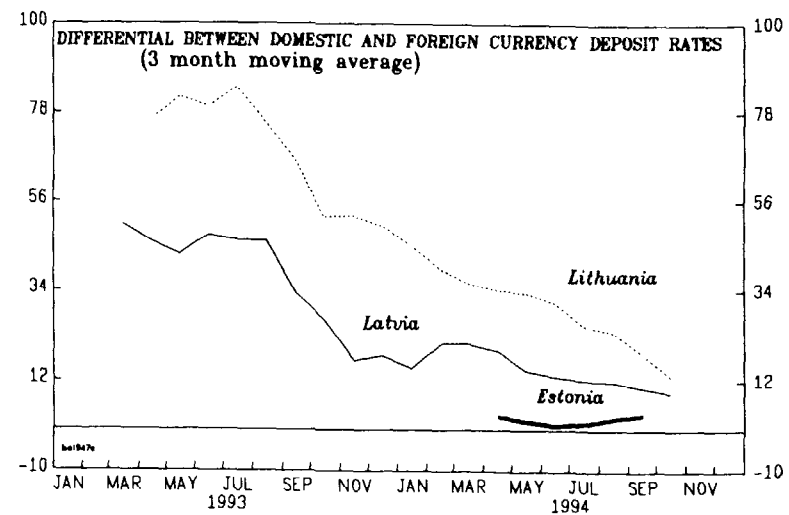
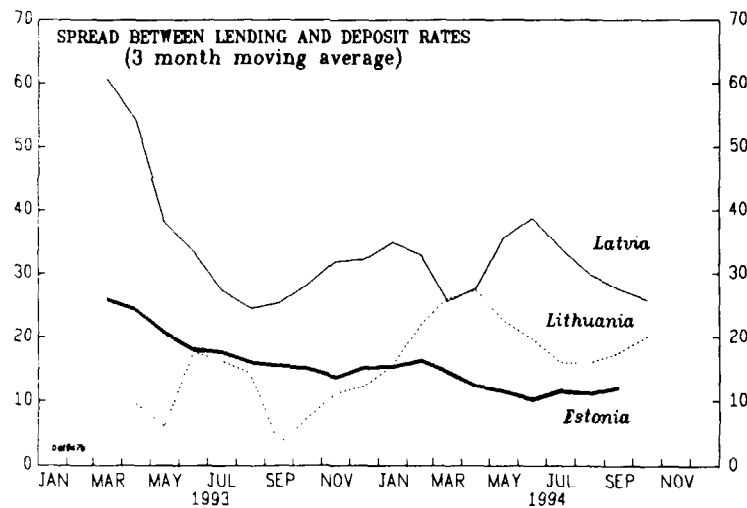
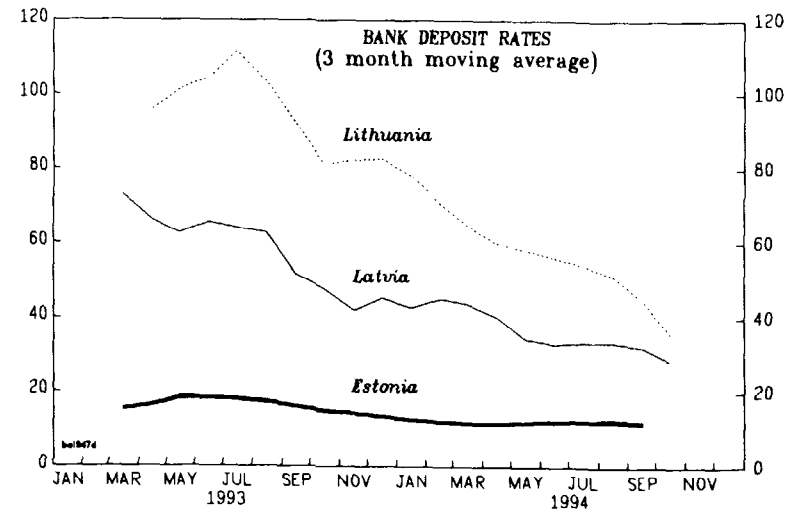
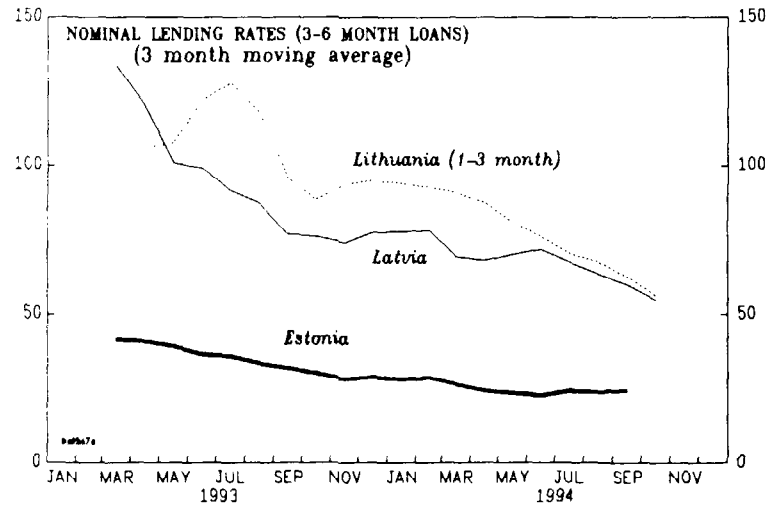
<sup>1/</sup> However, comparing Estonia's interbank market or the Bank of Estonia's CD rates to German money market rates suggest full credibility of the Estonian kroon.

<sup>2/</sup> This conclusion is also supported by the observation (subject to qualifications due to GDP measurement problems) that the income velocity of money appears to have declined earlier in Latvia than in Estonia suggesting faster remonetization and rapid confidence build-up in the economy.



CHART 8

# INTEREST RATES IN THE BALTIC COUNTRIES



Sources: Central Banks of the Baltic countries; and author's calculations.



Estonia's disinflation process should have coincided with smaller output declines since mid-1992. Chart 9 indicates that Latvia's inflation has declined to the lowest level among the Baltic countries. However, at the same time output losses have been more pronounced than in Estonia. 1/ In Lithuania, inflation has been highest while output losses have been most severe.

A more specific calculation of such a sacrifice ratio is presented in Table 6. It suggests that since the beginning of the stabilization programs, each 100 percentage point decline in the 12-month inflation rate has involved a loss in real GDP only by 0.7 percentage point in Estonia. 2/ In Latvia, the loss of output was somewhat higher (1.7 percentage point), and it was highest in Lithuania (2.7 percentage points). However, these observations can be interpreted in the first place to be consistent with the earlier discussed relative levels of interest rates

1/ The indices of quarterly real GDP were smoothed by estimating a quadratic trend over the period 1992 Q2 to 1994 Q4. Trend estimates were based on the following equations:

$$Y_{est} = 103.2 - 4.33 * Time + 0.36 * (Time)^2$$

(19.3) (2.5) (3.0)

$$Y_{lat} = 114.8 - 8.27 * Time + 0.55 * (Time)^2$$

(16.3) (3.7) (3.5)

$$Y_{lit} = 112.6 - 8.65 * Time + 0.55 * (Time)^2$$

(22.2) (5.3) (4.8)

where y denotes the real GDP, and values in brackets are t-statistics.

2/ The Cumulative loss of output between 1992 Q2 and 1994 Q4 is calculated according to the following formula:

$$L = \left( \frac{\sum_{t=1}^{10} (y_t^* - y_t)}{\sum_{t=1}^{10} y_t^*} \right) * 100$$

Where L is the cumulative percentage loss of real output, y\* is the initial level, and y the actual level of real GDP, respectively, and t denotes time subscript.

which could largely reflect such structural impediments as different degrees of enterprise creditworthiness and varying confidence in the financial systems. Moreover, the results of this crude test must be further qualified as regards other exogenous factors affecting the output performance during the transition. For example, while the high level of foreign direct investment in Estonia relative to Latvia and Lithuania may partly reflect credibility considerations, it surely owes also to Estonia's closer historical, political, and cultural links to Finland and Sweden, the major foreign investors in Estonia. Similarly, the test does not allow for differences in supply side disturbances; for example Lithuania was particularly hard hit by energy shortages in 1992. Also, the speed in privatization has been different, Latvia recording the slowest progress among the Baltic countries. However, it cannot be excluded that part of the explanation also lies in different levels of policy credibility as measured by the risk premium of the exchange rate embodied in the interest rate differentials between the Baltic countries.

c. The real exchange rate

A key feature in the exchange rate based as well as money based stabilization process is the real appreciation of the currency. In a fixed regime the real appreciation could lead to a recession after an initial boom, while in a money based stabilization, the real exchange rate would initially appreciate but depreciate later with stimulative effects on output. However, the Baltic experience is somewhat different at least as regards the initial stages of stabilization. As was noted before, the currencies of the Baltic countries were highly undervalued against the currencies in industrialized countries at the beginning of the reform. Apart from the general issue of overvaluation and its detrimental effects, two considerations follow from such a starting position. First, what were the benefits, if any, for the stabilization strategy? Second, to what extent does such an undervaluation pose risks for the stabilization of prices? To be sure, the real exchange rate in each country has appreciated considerably since the beginning of the reform; based on consumer prices, the real exchange rate of Estonia's kroon vis-à-vis the U.S. dollar has appreciated by over 200 percent since mid-1992, Latvia's lats and Lithuania's litas by nearly 350 percent (Chart 10). <sup>1/</sup>

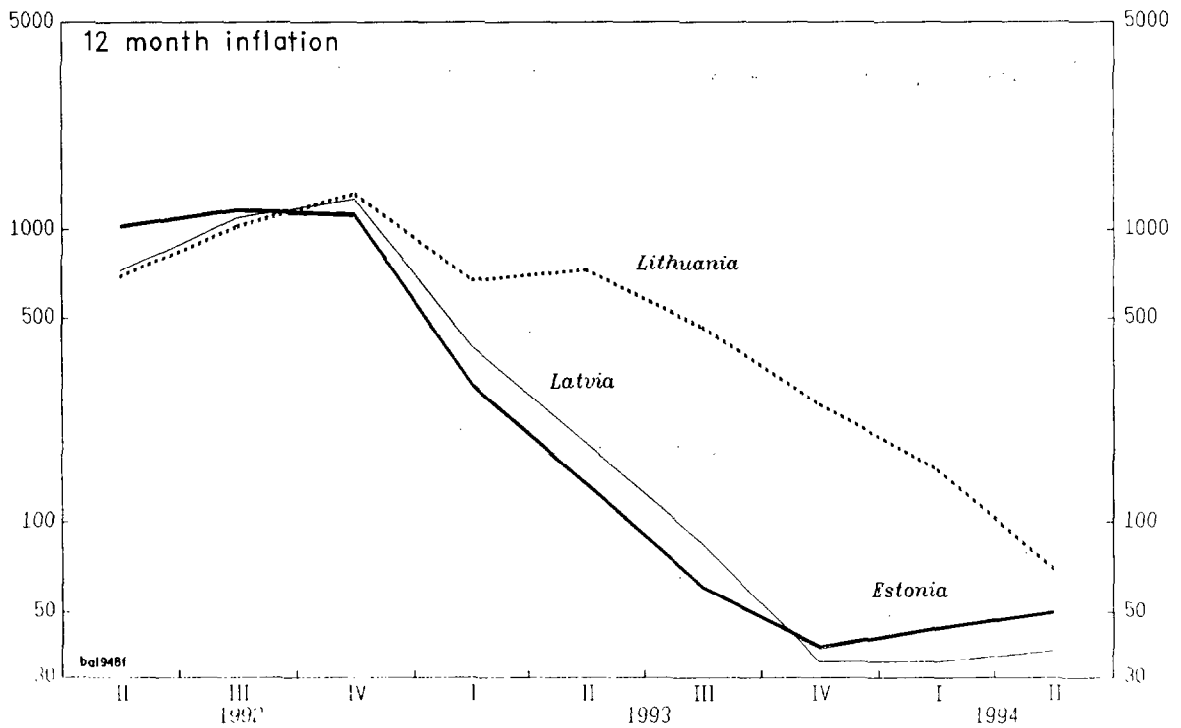
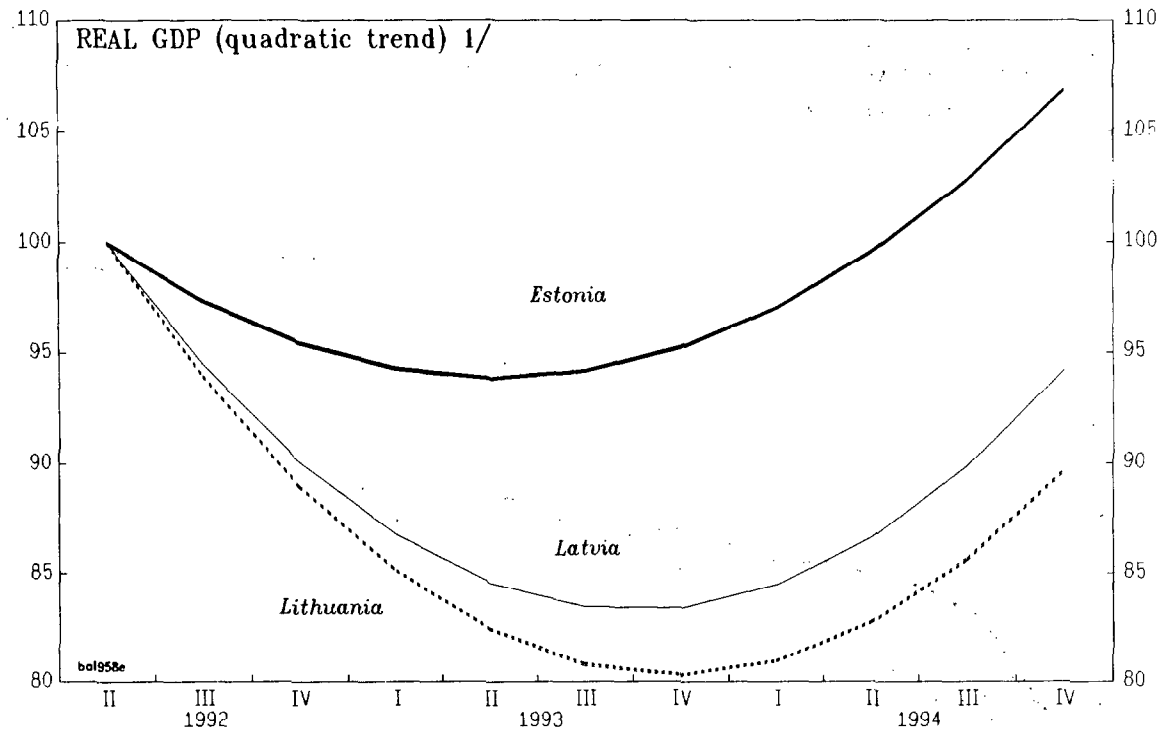
From the perspective of the stabilization strategy, there have been several advantages for the Baltic countries from this initial undervaluation-gradual appreciation approach. First, it has served well in making their products competitive in western markets and reorienting exports away from Russia and other countries of the former Soviet Union. This, in turn, has spurred the importation and development of capital, new

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<sup>1/</sup> However, if the real exchange rate is computed based on wage inflation, which may be a more appropriate indicator of external competitiveness, the real appreciation is smaller in Lithuania than in Estonia and Latvia.

CHART 9

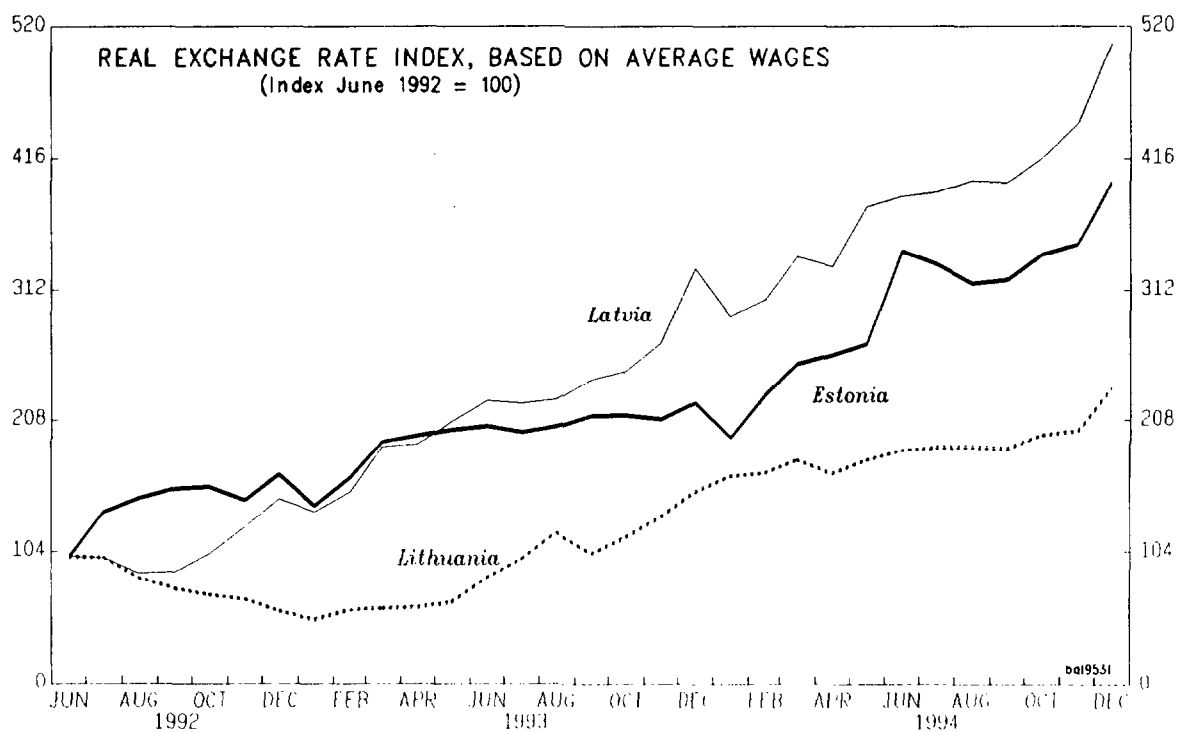
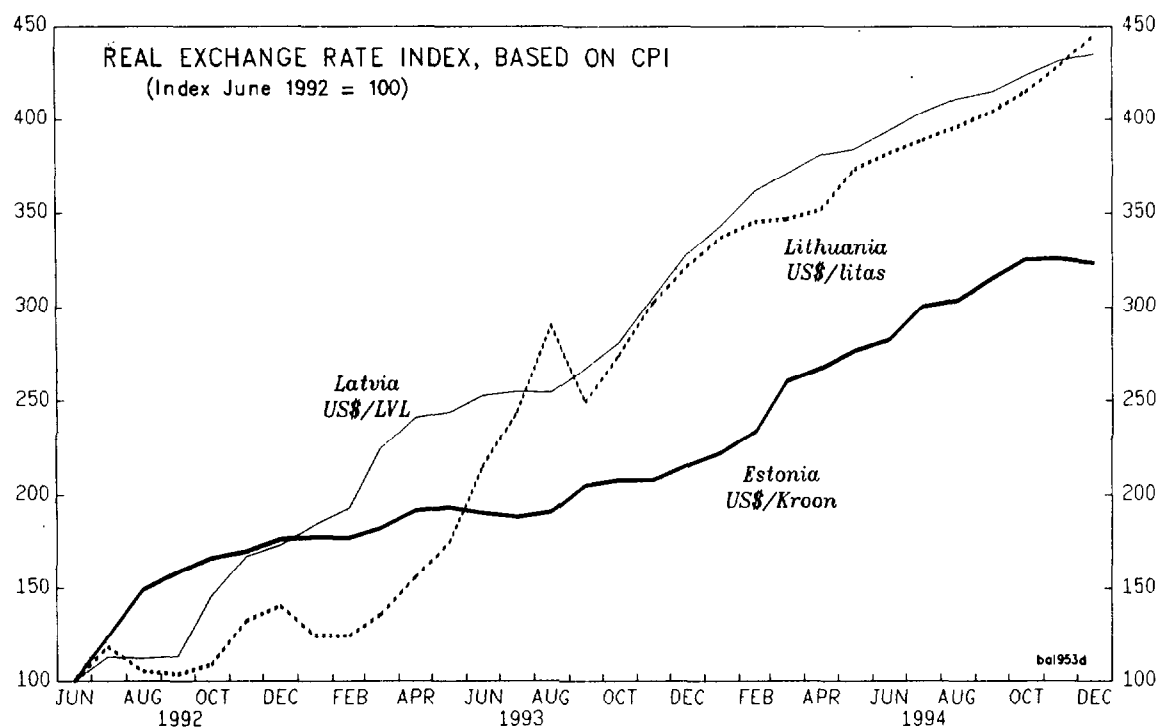
COST OF DISINFLATION



Source: Author's calculations.  
1/ See footnote 1, on page 17.

CHART 10

REAL EXCHANGE RATE DEVELOPMENTS 1/



Source: Author's calculations.

1/ Upward movement indicates appreciation

technologies, skills, and thus productivity. Second, a sharp increase in dollar wages has improved the purchasing power of the population in terms of imported goods, which now comprise about one half of goods consumed. Realizing these benefits has been an important factor in mobilizing popular support for the reforms. Third, to the extent that the real appreciation has resulted from nominal strengthening of the currency (e.g., in Latvia), it has helped keep inflation in check. On the negative side, as was mentioned before, initial undervaluation of the currency together with a fixed exchange rate may work against bringing down inflation. This can gradually weaken a country's competitiveness and thus, in an open economy, its foundation for growth. However, the Baltic experience suggests that these latter considerations may not be too important in the early stages of stabilization for several reasons.

First, the inflationary bias originating from setting the exchange rate at an undervalued level, either intentionally or in the absence of firm knowledge about the equilibrium level of the real exchange rate, may not be too important in the circumstances where a country's past inflation has been 15-20 percent per month. What matters initially is to reverse such a path toward hyperinflation and move to a regime of significantly reduced inflation. Fixing the nominal rate at existing "market" levels (even if this rate is considered undervalued) combined with sound financial policies provided an anchor for such a reduction of inflation in Estonia, even though price arbitrage continued due to the exchange rate disequilibrium. Estonia's monthly inflation was halved from 14 percent in April-August 1992 to 7 percent in September-December 1992, to 2 1/4 percent during the first half of 1993, and to below 2 percent in the second half of 1994. In this case, the initial undervaluation of the exchange rate did not turn around the disinflation process. To further illustrate the magnitudes involved: when Lithuania adopted its currency board, there was some debate about the appropriate level of the exchange rate. However, setting the U.S. dollar rate of the litas at 3.8 or 4.2, the levels at which opposing views existed, represented a difference of only some 10 percent--an increase in the price level which would in any event have taken place in about two months in the inflation environment immediately preceding the pegging. The lower the immediate past inflation, however, the more important it is to find a "correct" initial level of the fixed exchange rate.

Second, as regards competitiveness, the initial undervaluation leaves room for real appreciation without undermining export performance, and thereby can be an important factor for economic recovery. If a country gains in productivity relative to trade partners, at the same time, the level of the equilibrium real exchange rate would rise, thus leaving further room for real appreciation. Such a catch-up effect may result from trade liberalization, low wage costs, and an upgrading in the capital stock (in part due to foreign direct investment) leading to high marginal productivity of capital. In this case, overall inflation in a transition country may for some time exceed that in its main trading partners without threatening the sustainability of a fixed exchange rate (or managed floating) regime. Hence, the Baltic experience suggests that the key to success is to ensure

that the initial exchange rate is not overvalued, or excessively undervalued; otherwise the precise level may not be too important.

While it is very difficult to establish the equilibrium level of the real exchange rate to which the Baltic currencies would converge, some light on this issue can be shed by analyzing current developments in the trade balance, export performance, foreign direct investment and foreign reserves, and interest rate differentials. In light of these indirect indicators of competitiveness it can be argued that so far the Baltic real exchange rates are not at excessive levels.

As shown in Chart 11, there has been a trend-wise deterioration in the trade balance in Estonia since end-1992, and since mid-1993 in Latvia, raising a question of a possible overvaluation of the exchange rate. However, Estonia's exports have continued to increase at very rapid rates in U.S. dollar terms, foreign direct investment has been very buoyant, and foreign reserves have continued to increase, all suggesting confidence in the currency. In addition, as was noted above, the interest rate differential of nonrisk short-term securities between Estonia and Germany, the anchor currency for the Estonian kroon, has remained small.

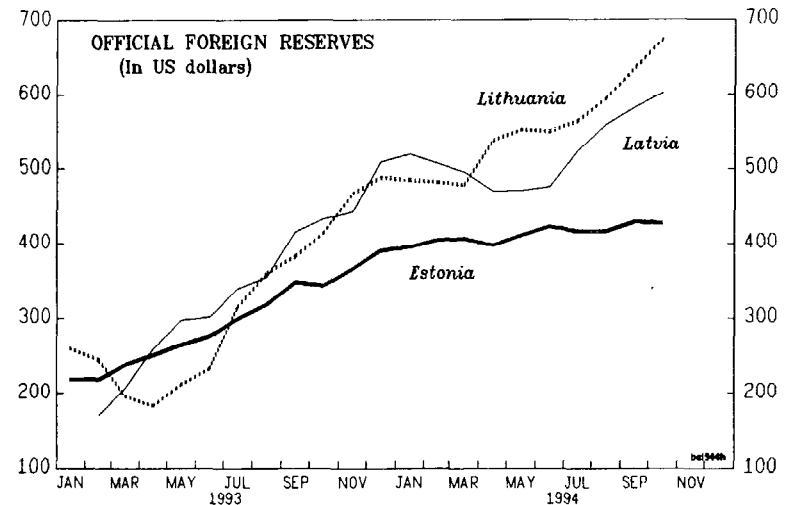
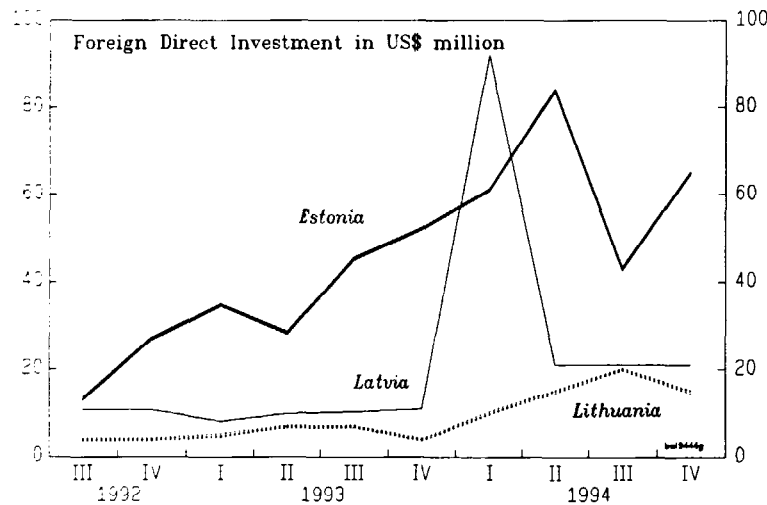
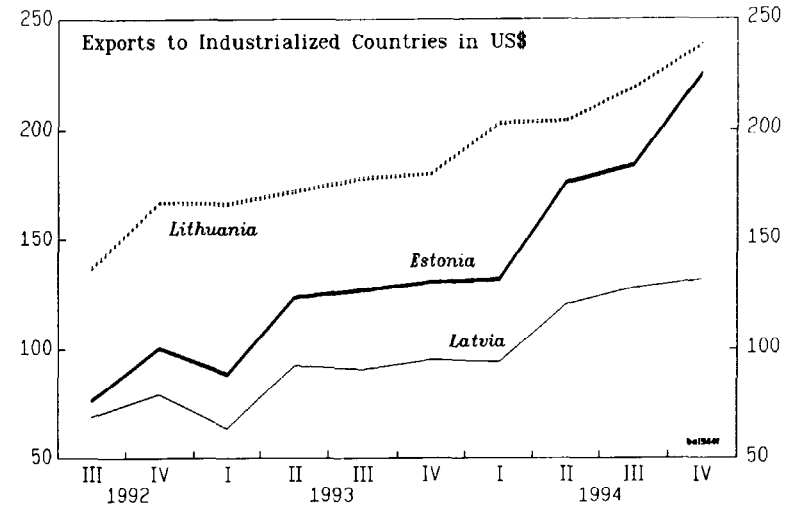
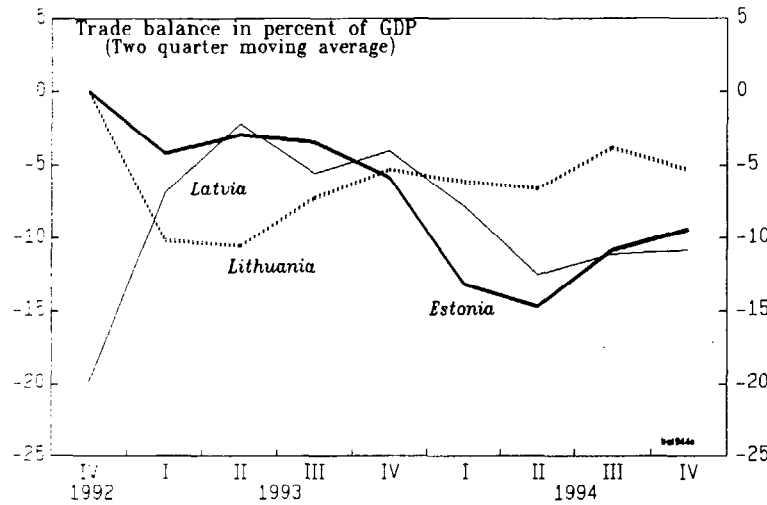
In Latvia, dollar exports have also remained on a rising trend and foreign reserves have grown rapidly. Foreign direct investments, although still at a much lower level than in Estonia, have begun to rise reflecting, inter alia, strong foreign participation in upgrading the Latvian telecommunication system. Interest rate differentials between domestic and foreign assets may be related to doubts about the sustainability of the recent real appreciation, but these differentials have been on a declining trend since early 1994. In the case of Lithuania, the trade deficit declined during 1993 and has been relatively stable in 1994. At the same time, Lithuania's dollar exports have continued to increase although foreign direct investments are picking up more slowly. Foreign reserves have increased rapidly, in particular since the introduction of the currency board; and interest rate differentials have diminished substantially in recent months.

However, if competitiveness is to be maintained, continued real appreciation either through higher-than-abroad inflation or nominal appreciation requires a good degree of real wage flexibility to maintain profitability in the tradeable goods sector. Based on the rapid response of the Baltic real wages to adverse external shocks in 1991-92 it would appear that this flexibility has been high, at least so far. However, caution in conclusions is warranted since it appears that under conditions of high inflation, wage and price rigidities generally tend to be small as experienced in several CIS countries. The decline of real wages after the price shocks in early 1992 can well be explained by the remaining legacy of a planning economy as prices were partially liberalized but wages were still used as a nominal anchor, preventing wage response to higher prices



# CHART 11

## INDIRECT INDICATORS OF COMPETITIVENESS



Source: Data provided by the National authorities.



and leading to a real wage decline. <sup>1/</sup> In the Baltic countries, where wages had been liberalized, the real wage adjustment reflected nonaccommodating money supply, which was evident in early 1992 as widespread cash shortages.

Nevertheless, if current institutional patterns are maintained, the Baltic labor market could remain quite flexible. In the absence of strong trade unions there has not been room for western European-type insider-outsider phenomena. Also, unemployment compensation and related social benefits have remained at levels which do not distort incentives for job search, skill enhancement, and occupational mobility. In addition, the role of the minimum wage as a leading indicator for higher reservation wages and budgetary social expenditures has eroded with declines in the replacement ratios and dismantling or weakening of the links between the minimum wage and social benefits. Finally, the Baltic governments have so far been successful in resisting demands for various wage and price indexation schemes.

#### IV. Conclusion

The Baltic countries have made significant progress in macroeconomic stabilization. Their experience highlights several factors, partly general and partly specific, which have made their transition process successful so far. In fact, during the first two years or so into serious reform, inflation has fallen more than for example in Poland during a corresponding period after the "big bang". Within the same period, the output cost of this disinflation process has remained small in Estonia, and rather limited also in Latvia and Lithuania. There is little doubt that one of the key explanations for this has been the Baltic authorities' apparent and early determination to take rapid action to liberalize the economy and adopt strong stabilization policies, an attitude enhanced by the political events in the late 1980s and early 1990s before they regained their independence.

There have been several specific factors that help explain the Baltic success in stabilization. Strong commitment to sound financial policies has been absolutely crucial. Solid fiscal positions throughout 1992-94 helped establish the credibility of strong monetary policies, particularly in Estonia and Latvia, and more recently also in Lithuania. Similarly, it appears that the credibility of these policies has been of greater importance than the choice of the exchange rate regime per se. In light of the Baltic experience, the choice of such a regime may not make significant difference in terms of bringing down inflation. To some extent, it may be reflected in the timing of the output variations, although the evidence for such causality remains weak given the large number of exogenous factors affecting output developments during the transition. The appreciation of the real exchange rate in each country, which has continued since the outset of the reform, has thus far been sustainable, and there are signs that the recovery of output that is taking place in each country is also sustainable.

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<sup>1/</sup> See Sahay and Végh (1994).

Table 1. FISCAL BALANCES <sup>1/</sup>  
(In percent of GDP)

	1989	1990	1991	1992	1993	1994
<b>Estonia</b>						
Financial balance <sup>2/</sup>	...	...	5.2	0.8	1.4	0.9
Fiscal balance	...	...	5.2	0.2	0.7	--
<b>Latvia</b>						
Financial balance <sup>2/</sup>	...	...	6.3	0.0	1.0	-1.7
Fiscal balance	...	...	6.4	-0.8	0.6	-4.1
<b>Lithuania</b>						
Financial balance <sup>2/</sup>	...	...	4.6	0.8	1.4	-1.9
Fiscal balance	...	...	2.5	0.9	-4.0	-4.7
<b>Russia</b>						
Fiscal balance <sup>2/</sup>	...	...	-16.0	-18.8	-8.0	...
<b>Poland</b>						
Financial balance <sup>3/</sup>	-7.3	3.2	-6.5	-6.7	-2.9	...
<b>Hungary</b>						
Financial balance <sup>4/</sup>	-1.7	0.5	-2.1	-5.5	-6.7	...
<b>Ex-Czechoslovakia</b>						
Financial balance <sup>4/</sup>	-2.7	0.1	-1.9	-3.6	...	...

Source: IMF.

<sup>1/</sup> Financial balance is defined as overall fiscal balance (GFS methodology) minus net lending.

<sup>2/</sup> On a cash basis.

<sup>3/</sup> On a commitment basis, except external interest payments on a cash basis.

<sup>4/</sup> On a commitment basis.

Table 2. General Government Revenue  
(In percent of GDP)

	1989	1990	1991	1992	1993	1994 1/
<b>ESTONIA</b>						
Total revenue		...	41.0	33.3	39.9	34.9
Of which:						
Tax revenue		...	38.1	30.8	37.9	33.4
Corporate tax		...	8.4	5.6	4.8	3.0
Personal income tax		...	7.4	6.7	8.5	7.2
Payroll tax		...	8.8	9.2	12.0	10.5
VAT and excises		...	11.1	8.5	11.1	11.3
<b>LATVIA</b>						
Total revenue		...	37.4	28.2	35.8	36.3
Of which:						
Tax revenue		...	36.5	27.9	35.4	35.4
Corporate tax		...	7.3	5.6	7.8	3.8
Personal income tax		...	3.6	2.7	3.9	4.8
Payroll tax		...	10.3	9.3	11.3	12.2
VAT and excises		...	10.1	6.5	8.7	11.8
<b>LITHUANIA</b>						
Total revenue		...	43.0	33.1	28.6	25.4
Of which:						
Tax revenue		...	41.5	32.1	26.6	24.7
Corporate tax		...	6.8	5.8	5.3	2.6
Personal income tax		...	5.2	5.2	5.1	5.5
Payroll tax		...	10.2	8.2	6.4	7.0
VAT and excises		...	13.9	10.8	8.0	7.3
<b>POLAND</b>						
Total revenue	41.5	43.0	41.5	44.0	45.5	
Of which:						
Tax revenue	33.8	35.6	34.5	37.4	39.1	
Corporate tax	...	14.0	6.1	4.6	5.3	
Personal income tax	...	3.0	2.4	7.4	9.1	
Payroll tax	...	7.4	9.9	10.7	9.9	
VAT and excises	...	6.3	7.4	9.0	10.6	
<b>HUNGARY</b>						
Total revenue	59.2	54.0	52.2	56.1	55.5	
Of which:						
Tax revenue	46.4	44.6	42.3	41.5	42.1	
Corporate tax	...	7.0	5.3	2.5	2.0	
Personal income tax	...	5.7	6.9	7.7	8.1	
Payroll tax	...	12.8	13.1	13.7	13.5	
VAT and excises	...	11.4	11.5	11.9	12.4	
<b>EX-CZECHOSLOVAKIA</b>						
Total revenue	69.5	60.1	51.5	51.6	...	
Of which:						
Tax revenue	58.6	53.4	43.3	43.1	...	
Corporate tax	...	12.5	13.7	11.7	...	
Personal income tax	...	6.7	6.1	7.7	...	
Payroll tax	...	14.4	11.0	10.3	...	
VAT and excises	...	18.0	12.6	12.8	...	
Other	...	...	...	...	...	

Source: IMF.

1/ Preliminary estimates.

Table 3. General Government Expenditure  
(In percent of GDP)

	1989	1990	1991	1992	1993	1994 1/
<b>ESTONIA</b>						
Total expenditure		...	35.8	32.5	38.5	34.0
Goods and services		...	17.5	21.4	22.3	21.8
Interest payments		...	--	--	0.1	...
Social security benefits		...	11.7	8.0	10.6	9.0
Subsidies		...	2.8	1.7	1.5	0.5
Capital expenditure		...	3.8	1.4	2.5	1.3
<b>LATVIA</b>						
Total expenditure		...	31.1	28.2	34.8	38.0
Goods and services		...	15.4	16.5	17.4	
Interest payments		...	--	0.1	0.9	0.7
Social security benefits		...	11.4	9.8	14.0	16.1
Subsidies		...	1.3	0.3	--	0.2
Capital expenditure		...	3.0	1.5	1.1	1.1
<b>LITHUANIA</b>						
Total expenditure		...	38.4	32.3	27.2	27.3
Goods and services		...	13.6	14.8	12.1	12.9
Interest payments		...	--	--	--	0.1
Social security benefits		...	14.6	12.8	10.7	10.1
Subsidies		...	5.5	2.1	1.5	1.3
Capital expenditure		...	4.7	2.6	2.9	3.0
<b>POLAND</b>						
Total expenditure	48.8	39.8	48.0	50.7	48.4	
Goods and services	21.4	18.7	21.9	22.6	20.3	
Interest payments	--	0.4	1.5	3.2	3.9	
Social security benefits	11.2	10.6	17.3	19.9	20.4	
Subsidies	12.9	7.3	5.1	3.3	2.3	
Capital expenditure	3.3	2.8	2.2	1.7	1.5	
<b>HUNGARY</b>						
Total expenditure	60.9	53.5	54.3	61.6	62.2	
Goods and services	25.4	23.6	20.4	23.8	28.7	
Interest payments	2.4	2.8	3.8	6.0	4.7	
Social security benefits	14.4	13.9	16.9	18.4	17.4	
Subsidies	12.1	8.9	7.5	5.6	4.3	
Capital expenditure	6.6	4.3	5.8	7.8	7.0	
<b>EX-CZECHOSLOVAKIA</b>						
Total expenditure	72.2	60.0	53.4	55.2	...	
Goods and services	25.2	23.5	22.5	25.0	...	
Interest payments	--	0.2	0.5	1.1	...	
Social security benefits	13.6	13.7	16.1	16.4	...	
Subsidies	25.0	15.7	7.6	5.2	...	
Capital expenditure	8.5	6.8	6.7	7.5	...	

Source: IMF.

1/ Preliminary estimates.

Table 4. Industrial Specialization in the Baltic Countries in 1988  
(The Baltic Share of Output for Selected Industrial Products in the U.S.S.R.)

	Estonia	Latvia	Lithuania
Share of total value added	0.6	1.1	1.4
Share of:			
A.C. electric motors	2.3	...	4.6
Metal-cutting machines	...	...	6.6
Equip. for livestock and fodder prod.	0.4	4.2	2.6
Excavators	4.5	...	...
Mineral fertilizers	0.6	0.5	1.8
Synthetic fibers	3.3	0.9	...
Paper	1.5	2.2	1.9
Cement	0.8	0.5	2.4
Roofing materials	...	...	2.4
Bricks	0.6	1	2.4
Window glass	0.8	1.6	1.7
Cotton cloth	2.3	0.7	1.2
Woolen cloth	1.1	2.2	3.1
Silk cloth	0.5	1.3	2.4
Hosiery	0.8	3.7	5.0
Knitted garments	1.2	2.2	3.2
Shoes	0.9	1.2	1.4
Radios	...	17.4	...
Televisions, all	...	...	6.2
Televisions, color	...	...	4.6
Tape recorders	...	1.7	3.3
Refrigerators	...	3.2	5.5
Vacuum cleaners	...	...	3.6
Electric irons	...	8.2	...
Washing machines	...	4.2	...
Bicycles, children's	...	4.0	2.6
Furniture	2.2	2.1	2.3
Sugar	...	1.9	1.8
Meat products	1.4	1.9	3.4
Fish products	3.6	4.9	3.7
Lard	1.8	2.7	4.5
Canned goods	1.7	2.4	2.0

Source: A Study of the Soviet Economy, Volume 1, IMF, World Bank, OECD, EBRD, Paris, February 1991.

Table 5. Interest rate differentials between the Baltic countries

	Estonia 1994		Latvia 1994		Lithuania 1994	
	March	October	March	October	March	October
(In percent per annum)						
1. Lending rate (3-6 months)	23.9	22.5	69.5	54.7	79.2	45.0
Difference vs. Estonia	...	...	45.6	32.2	55.3	22.5
2. Deposit rate (3-6 months)	11.6	11.2	43.8	28.8	73.0	26.5
Difference vs. Estonia	...	...	32.2	17.6	61.4	15.3
3. Forex deposit rate (3-6 months)	7.9	7.9	22.7	18.9	33.3	20.6
Difference vs. Estonia	...	...	14.8	11.0	25.4	12.7
4. Spread (1-2)	12.3	11.3	25.7	25.9	6.2	18.5
5. Auction rate <sup>1/</sup>	5.6	5.8	23.8	23.3	...	20.9
6. Exchange rate risk (2-3)	3.7	3.3	21.1	9.9	39.7	5.9

Sources: The Baltic central banks.

<sup>1/</sup> The Bank of Estonia's certificates of deposit rate (28 days) for Estonia, Treasury bill rates (30 days) for Latvia and Lithuania.



Table 6. Disinflation and Output Loss

	Estonia	Latvia	Lithuania	Estonia	Latvia	Lithuania
	<u>Real GDP Index</u>			<u>12 Month Inflation</u>		
1992						
QII	100.0	100.0	100.0	1,029	723	688
QIII	93.0	96.3	92.5	1,167	1,100	1,031
QIV	87.0	92.7	83.2	1,102	1,222	1,294
1993						
QI	85.7	79.6	80.9	253	363	652
QII	90.0	85.8	76.2	134	182	723
QIII	94.0	86.6	81.3	60	83	452
QIV	95.9	91.3	84.5	37	34	241
1994						
QI	91.5	78.8	78.1	44	34	148
QII	96.0	85.6	80.5	51	38	69
QIII	98.9	89.1	83.8	51	41	62
QIV	100.9	96.5	85.8	45	31	49
Output loss in percent (-)						
- end of period	0.9	-3.5	-14.2			
- cumulative 1/	-6.7	-11.8	-17.3			
Disinflation in percentage point			Since 1992 QII	984	692	639
Cumulative output loss in percent per 100 units of disinflation			Since 1992 QII	-0.7	-1.7	-2.7

Source: Author's calculations.

1/ See footnote 2, on page 17.

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