Oesterreichische Nationalbank

Focus on Transition

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Contents

> *The main aim of this paper is to examine the exchange rate behavior of a group of four transitional EU accession countries, with a view to making policy recommendations regarding their accession to full European Monetary Union. We employ a dynamic OLS panel estimator to investigate the relative importance of demand and supply influences on the exchange rates of these countries. Our analysis shows that both supply- and demand-side effects are important for the accession countries, although their overall effect on inflation differentials and competitiveness seems to be small. An additional focus of the paper is the examination of the role that administrated, or regulated, prices and the productivity of the distribution sector play in the real exchange rate dynamics. Based on a unique data base, we show that administered prices have been a powerful force behind price and real exchange developments for our group of accession countries. The distribution sector is shown to have an independent effect on the internal price ratio over and above that generated by the Balassa-Samuelson effect.*

> *This paper examines the impact of monetary and fiscal policy on exchange rates and interest rate spreads in three Central European accession countries (the Czech Republic, Hungary and Poland). In the main section of the paper country-specific unrestricted VAR models are estimated and used to examine the impact of state budget balances and money market interest rate differences between the three Central European countries and a reference country/currency basket on exchange rates (gross official reserves for the exchange rate peg case) and yield differences for five-year bonds. For the Czech Republic and Poland the most recent monthly data since the introduction of the direct inflation targeting/floating rate regime were used. The Hungarian estimates are based on the May 1997 to April 2001 interval from the crawling peg/narrow band era. While bond spreads do not appear to be affected by budget balances in all three cases, for the Czech Republic there is some evidence of an indirect effect on the exchange rate. Except in Poland monetary policy is able to exert an influence on the longer sections of the yield curve, but there is no statistically significant link between short-term interest differences and the exchange rate. As a result, the exchange rate channel of the monetary transmission mechanism becomes highly unpredictable.*

Contents

Jarko Fidrmuc

This contribution analyzes the relationship between the current account and the fiscal balance. The study finds significant hysteresis (unit root) of the current account and fiscal balance for the majority of industrial countries as well as selected emerging and transition economies between 1970 and 2001. Twin deficits are defined as a positive long-run relationship between the current account and the fiscal balance. Evidence for twin deficits in several OECD countries is provided, and differences between the 1980s and the 1990s discerned. Higher investment is found to worsen the current account. Our data sample shows that the CEECs are facing high current account deficits of a historically unprecedented size which are accompanied by high fiscal deficits. Unlike in the first country group, we find no significant relationship between the internal and external imbalances. The Slovak current account deficit has been determined largely by investment, while Estonia and the Czech Republic show no hysteresis of the analyzed variables.

Banking in the Baltics –
The Development of the Banking Systems of Estonia, Latvia and Lithuania since Independence:

Stephan Barisitz

The paper analyzes the development of banking in the Baltics from the collapse of the USSR up to the second half of the 1990s, when, after having weathered their first profound crises, market-oriented banking sectors with some degree of stability emerged. Estonia, Latvia and Lithuania seem to have broken with their ex-Soviet legacy in a particularly decisive manner. Estonia was one of the first transition countries to witness a banking crisis in 1992–93 and to conduct painful restructuring; Latvia's banking crisis followed in 1995, and Lithuania's in 1995–96. Estonia and Lithuania established currency board regimes, whereas Latvia opted for a fixed exchange rate peg operating like a quasi-currency board. Although lender-of-last-resort functions were limited, these clear regimes appear to have improved incentives for credit institutions and reined in moral hazard. Sustained macrostabilization as well as effective structural reforms and privatization proved essential in creating preconditons for a first breakthrough to successful financial intermediation.

Banking in the Baltics –
The Development of the Banking Systems of Estonia, Latvia and Lithuania since Independence:

Martin Ådahl

The Baltic banking sectors continued to evolve dynamically in the more recent period, from the impact of the Asian and Russian crises to the internationalization that took hold at the end of the 1990s. A wave of regional consolidation and foreign, mainly Swedish, strategic investments made the crisis years of 1998–99 a turning point. After the crises, the Estonian and Latvian banking sectors achieved rapid lending and deposit growth and strong profitability, so that they caught up with the most developed accession countries, while Lithuanian banks went through a phase of successful restructuring. An important factor behind the success was the robustness of the macroeconomic framework (Estonia, Lithuania: currency boards, Latvia: quasi-currency board regime). The paper focuses mainly on microeconomic factors, such as openness to foreign investment, improved regulation and supervision, and completed privatization, which forced the pace of restructuring of the sector. Important challenges remain ahead, though, in the form of increased competition, and the risk that local supervision comes to rely too heavily on the security of the large Baltic banking groups' much larger parent banks.

The views expressed are those of the authors and need not necessarily coincide
with the views of the Oesterreichische Nationalbank.

Editorial

Since the beginning of the transition process in 1989, Central and Eastern European countries have undergone fundamental political and economic reforms. They chose different transformation strategies, and varying policies led to divergent adjustment speeds. However, these countries had at least one thing in common, namely their "return to Europe": They put membership of the European Union on top of their agenda, not only for economic reasons, but also to reunite what had been sundered a few decades previously.

At the beginning of the new century, the enlargement process gained speed, and in fall 2002 the positive results of the Irish referendum and the European Council in Brussels opened the door for the concluding negotiations at the European Council in Copenhagen. December 13 became the historic date on which the enlargement of the EU by ten countries was finally endorsed after some last-minute agreements on financing and agricultural issues. In fact, this is the second fundamental change in Europe within a very short period of five years. After the introduction of the euro by most EU Member States in 1999, the increase in the number of EU Member States from 15 to 25 will mark the next big milestone in EU history.

In the near future the EU's focus will shift to the signature of the Accession Treaty, scheduled for April 2003, and then to the ratification process, in particular to the referendums on EU accession, which will be held in all accession countries. Alongside, further efforts are needed to ensure a smooth inclusion of accession countries into EU structures, in particular into the Single Market. The time left until May 1, 2004, the agreed accession date, has to be used prudently, not only by the newly acceding Member States, but also by the incumbent members.

In a forward-looking perspective, exchange rate issues will receive added attention, as accession countries begin to consider in more concrete terms how to design their exchange rate regimes upon EU accession, and when and at what rate to enter ERM II. This is a challenge for both sides, in particular because it requires finding the appropriate entry parity or, perhaps more realistically, making a huge effort to avoid setting wrong entry parities. In this respect, the experience of the countries which decided to join EMU from the beginning with their choice of entry rate to ERM I may provide useful guidance.

While the Focus on Transition 1/2002 had analyzed the economic impact of enlargement on the EU thoroughly, this edition of the Focus on Transition takes a broader view. Several issues are reviewed, and very fundamental questions about the transition process and its completion are raised, as this special area of research has gained heightened importance at the current stage. The examination of exchange rate behavior is one such issue. Much research is being done on the Balassa-Samuelson effect and other determinants of real appreciation in accession countries, and rightly so, given the policy relevance of this topic. Ronald MacDonald and Cezary Wójcik contribute to this debate substantially, in particular by using decomposed tradables and nontradables productivity data as explanatory variables and by bringing administered prices into play as a factor that explains an important part of real appreciation.

Another interesting area of research is the possible impact of monetary and fiscal policy on exchange rates and interest rate spreads. Although important interlinkages are determined by theory, little research is done with data of Euro-

pean accession countries. Franz Schardax has started to close this gap with his analysis of data from the Czech Republic, Hungary and Poland. As results differ from country to country, the data sets do not support a number of the theoretical underpinnings. While bond spreads do not appear to be affected by budget balances in any of the three cases, for the Czech Republic there is some evidence of an indirect effect on the exchange rate. Except in Poland, monetary policy is able to exert an influence on the longer sections of the yield curve, but there is no statistically significant link between short-term interest differences and the exchange rate.

The twin deficit hypothesis, a concept which is widely used in policy discussions, states that there is a long-run relationship between the fiscal and the current account balance. Jarko Fidrmuc examines this hypothesis in the next study in this issue. Notably, he finds that there is relatively little evidence for this hypothesis, neither in developed industrial nor in emerging economies, including some transition economies. Furthermore, in several accession countries, investment fostering the catching-up process, rather than fiscal imbalances, is an important explanatory variable for current account deficits. On the other hand, in those cases in which fiscal policy is flexible, current account imbalances also tend to be stationary. This implies that flexible fiscal policy can be a powerful tool to preserve external balance.

A "twin study" by Stephan Barisitz and Martin Ådahl on banking systems in the Baltics continues the series on banking sector developments in subgroups of Central and Eastern European countries. It is particularly noteworthy that this is the outcome of a joint analytical effort between the OeNB and Sveriges Riksbank, and therefore another example of fruitful research cooperation within the ESCB. The outcome of this study is also very gratifying, as it reports on a clear success story that is all the more remarkable for the fact that the Baltic economies started out from a dismal position at the beginning of transition. It is excellent proof that the path dependency argument does not always hold and that it is possible to break away from a bad legacy by determined and sustained policy action.

Vladimír Zlacký, one of the three Olga Radzyner Award winners in 2002, investigates the relationship between political institutions and bond prices on international markets, with a particular focus on emerging market countries. Several characteristics of a political system are extracted and their impact on the pricing of bonds at the time they are launched is estimated. This compelling study undertakes a combined analysis of political and economic characteristics of countries and therefore enriches the analyses of emerging markets, to which such a comprehensive approach is particularly suited.

One area where further action is needed is fiscal consolidation, both in some EU countries and in a number of accession countries, in particular those of Central Europe. This has been the clear message emanating from a fiscal workshop the OeNB hosted in early November 2002 for fiscal experts from the European System of Central Banks and their counterparts from the accession countries' central banks. Against this background, Peter Backé explores the fiscal effects of EU membership for Central European and Baltic EU accession countries. He finds that in the short run, membership in the European Union will add to the fiscal strains on accession countries. In the medium run, overall

effects can be expected to be broadly neutral or slightly positive, while some uncertainty prevails on the magnitude of several individual effects, in particular on future public investment needs.

Finally, this issue contains a summary of the highlights and main findings of the OeNB's East-West Conference 2002, which took place from November 3 to 5, 2002, in Vienna and attracted 30 renowned speakers and more than 250 participants from over 30 countries. The topic of the conference, Structural Challenges and the Search for an Adequate Policy Mix in the EU and in Central and Eastern Europe, underlines the perspectives for future EU Member States on the basis of current experience. Interestingly, as the conference has shown, this is not only a one-way street. For instance, in the area of pension reform, an area with which most Western countries are struggling, some accession countries shine with ambitious systemic changes. Overall, the conference obviously met the needs of many listeners, as the very high participation rate and interesting discussions evidenced.

This very successful series of OeNB East-West Conferences will be continued November 2 to 4, 2003, when the Oesterreichische Nationalbank will host the next conference together with the Joint Vienna Institute. As the date of actual accession to the EU will then be very near, the topic of this conference will be dedicated to the determinants for successful economic development, in particular for catching-up economies in an enlarged European Union.

If you are interested in participating in the forthcoming East-West Conference or in any event focusing on the CEECs that is organized by the Foreign Research Division, or if you have any comments or suggestions about this publication, please contact:

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Klaus Liebscher
Governor

Recent Economic Developments

Developments in Selected Countries

Stephan Barisitz,
Jarko Fidrmuc,
Pawel Kowalewski,
Wolfgang Maschek,
Thomas Reininger,
Franz Schardax

1 Introduction

Like in the European Union (EU), economic growth in the Central European applicant countries slowed down somewhat in the first six months and the summer of 2002. Still, economic expansion remained more robust on the average in Central Europe than in the EU. With the exception of Poland, whose real GDP expanded by some tenths of a percentage point in the first six months of 2002 (compared to the same period of the previous year), the other Central European countries (the Czech Republic, Slovakia, Hungary and Slovenia) witnessed growth rates of between 2.6% and 3.9%.

Given the sluggish economic development of the major trading partner EU, domestic demand has continued to function as a main support of economic activity in Central Europe. It is private and public consumption as well as publicly financed investment that are most dynamic, as demonstrated by the examples of Slovakia and Hungary, where elections took place in 2002. Other than that, investment was rather weak. In Poland shrinking gross fixed capital formation was the main contributor to economic stagnation. The key factors in this scenario were continuing high real interest rates, reduced corporate profits and stubbornly weak economic expectations.

Consumer price inflation was on the decline in all Central European countries. In the Czech Republic it descended to an extraordinarily low level (0.6% in October year on year). Strong inflows of foreign direct investment (FDI) triggering an appreciation of the koruna are among the major factors that helped keep consumer price inflation down. The strength of the currency and the extremely modest inflation even prompted the Czech central bank to reduce its interest rates to below the level of ECB key interest rates. While inflation fell to less than 3% until the fall of 2002 in most of Central Europe, it amounted to 4.6% in September in Hungary and reached 7.2% in Slovenia. In the case of Slovenia, one-time factors as well as effects of indexation and the lack of competition in the provision of infrastructural services play a role.

With the exception of Slovenia, all Central European countries are saddled with *twin deficits,* i.e. deficits of both federal budgets and current accounts. In most countries there is considerable scope for fiscal consolidation. The current account deficits mainly reflect persistent trade disequilibria. In Slovakia the current account deficit came to 8% of GDP in the first half of 2002. Foreign direct investment still plays an important role in covering the deficits, but could lose importance once privatization comes to an end. Following a more or less balanced current account in 2001, Slovenia registered a surplus in the first eight months of 2002. This is partly attributable to rising exports to the reviving markets of the other former constituent republics of ex-Yugoslavia.

The positive result of the Irish referendum on the Treaty of Nice, the recent agreement of EU member countries on the contentious issue of direct payments for agriculture, and a number of recent rating upgrades were followed by strong inflows of portfolio capital to some Central European countries in October and November 2002. The resulting appreciation pressure triggered interest rate cuts in Slovenia and Hungary. With the exception of Hungary (August 2002: 5.9%), unemployment rates are stagnating at or just below double-digit levels across Central Europe.

Supported by the relatively high world market oil price and stimulated by wage increases and rising private consumption, real Russian GDP grew by 3.9% in the first half of 2002 (against the same period of the previous year). This is less than the expansion of 2001 (+5.0%), but given the weak global economic environment, it is nonetheless remarkable. After a number of years of shrinking real export surpluses, Russian net exports stabilized in the first half of 2002. Annual inflation declined slightly and came to 15% (year on year) in October 2002. In 2002, Russia will continue to feature *twin surpluses.* By generating budget surpluses, fiscal policy continues to perform an important function in sterilizing liquidity stemming from export proceeds. Despite the contraction of the current account surplus, the decline in private capital outflows caused Russian foreign exchange reserves to climb to new record levels (October: USD 47 billion). The decline of unemployment observed in recent years continued in 2002 (jobless rate in September: 7.6%).

In the context of the negotiations on EU enlargement, the European Council of Brussels (October 24 to 25, 2002) took decisions enabling the EU to present negotiating positions on all open questions (in particular, on agriculture and households) to the applicant countries at short notice. This should make it possible for the European Council of Copenhagen to close accession negotiations with ten applicant countries (the Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia) in December 2002. Furthermore, the Council laid down guidelines for continuing the negotiating process with those countries that will not participate in the first round of enlargement (Bulgaria, Romania, Turkey). The Accession Treaty for the first round of new Member States is to be signed in April 2003 in Athens. The hitherto contentious question of direct payments to farmers in accession countries will be settled by introducing a transition period lasting from 2004 to 2013. The accession countries will have to pay full contributions to the EU budget as of the date of accession. If the expected balance of payment flows between the EU budget and each new Member State in the years from 2004 to 2006 are negative compared to 2003, temporary budgetary equalization payments will be offered. These will comprise lump sum and degressive payments from the EU budget.

2 Individual Country Reports

2.1 Czech Republic: After the Devastating Floods

The Ministry of Finance estimates the physical damage caused by the disastrous floods in August to surpass 3% of GDP. Given the ongoing reconstruction activities, the Ministry of Finance, however, expects the floods to impact real GDP growth only by a relatively moderate 0.1% to 0.3% in 2002. In the first half of 2002, sluggish global economic growth rather seems to have dampened investment demand, whereas the contribution of net exports to GDP growth even improved against the second half of 2001, despite a distinct appreciation of the Czech koruna. The continued strength of the koruna, however, might put a brake on net exports with a certain time lag.

On the labor market, the economic cooling translated into a rise in the unemployment rate from 8.4% in October 2001 to 9.3% in October 2002. As in most other Central European economies, inflation also contracted in

Table 1

Gross Domestic Product and GDP Demand Components

	1998	1999	2000	2001	2001 2nd half	2002 1st half
Real year-on-year change in %						
Gross domestic product (GDP)	− 1.0	0.5	3.3	3.3	3.0	2.6
Private consumption	− 1.5	1.7	2.5	3.9	4.2	3.8
Public consumption	− 4.8	2.4	− 0.9	0.2	1.5	4.7
Gross fixed capital formation	2.1	−1.1	5.3	7.2	7.0	3.5
Exports of goods and services	10.7	6.1	17.1	12.6	8.0	4.8
Imports of goods and services	6.8	5.3	16.9	14.1	9.5	4.0

Source: Eurostat, national statistical office, OeNB, WIIW.

Table 2

Labor Productivity, Wages, Producer Prices and the Exchange Rate

	1998	1999	2000	2001	2001 2nd half	2002 1st half
Year-on-year change of period average levels in %						
Gross production of industry (real)	2.0	−3.1	5.4	6.7	4.6	4.5
Labor productivity of industry (real)	2.3	3.6	9.1	6.1	5.0	5.0
Gross average wage of industry (nominal)	10.1	6.6	7.1	6.4	5.8	6.7
Unit labor cost of industry (nominal)	7.6	3.0	−1.8	0.3	0.8	1.6
Producer price index (PPI) of industry	4.9	1.0	4.9	2.9	1.7	− 0.2
Consumer price index (CPI)	10.7	2.1	3.9	4.7	4.8	3.0
Exchange rate (nominal):						
CZK[1]) per 1 EUR, + = EUR appreciation	1.0	2.0	−3.4	−4.3	−4.5	−10.0
EUR per 1 CZK, + = CZK appreciation	− 1.0	−1.9	3.6	4.5	4.7	11.2
Period average levels						
Key interest rate per annum (in %)	14.0	6.8	5.3	5.1	5.1	4.1
Exchange rate (nominal):						
CZK per 1 EUR	36.17	36.88	35.61	34.07	33.59	31.08
EUR per 1 CZK	0.0276	0.0271	0.0281	0.0294	0.0298	0.0322

Source: Bloomberg, Datastream, national statistical office, national central bank, OeNB, WIIW.
[1]) *CZK: Czech koruna.*

the Czech Republic in the course of 2002. The appreciation of the koruna played an essential role in the 0.6% record low in inflation registered in October 2002. In particular, food prices plummeted.

Since the beginning of 2002, Česká Národní Banka (ČNB), the Czech central bank, has been using the year-on-year CPI rise as a target; its bandwidth is set to go down from 3% to 5% in January 2002 to 2% to 4% in December 2005. The strength of the koruna and the extremely low inflation rate caused the ČNB to cut interest rates to below the ECB key interest rate level. As a result of the last rate cut on October 31, 2002, the two-week repo rate comes to 2.75%, while the discount and lombard rates are 100 basis points below/ above the repo rate. The ČNB employed various instruments (including secret intervention) to stop the koruna's uptrend against the euro; still, the koruna appreciated by an average of 11% against the euro year on year. To date, the ČNB has spent EUR 2.3 billion on interventions in 2002. In the first half of 2002, monetary growth decelerated slightly (both in nominal and real terms) to 8.7% year on year, with changes in banks' net external assets and claims on the public sector continuing to contribute to growth, while the contribution of claims on the corporate sector diminished.

Table 3

Key Interest Rate, CPI Inflation and Nominal Exchange Rate Changes

	Dec. 1998	Dec. 1999	Dec. 2000	March 2001	Dec. 2001	Sept. 2002
	%					
Key interest rate (per annum)	9.5	5.3	5.3	5.0	4.8	3.0
CPI inflation (year on year)	6.8	2.5	4.0	4.1	4.1	0.8
Nominal year-on-year change of the exchange rate:						
CZK[1]) per 1 EUR, + = EUR appreciation	− 8.7	2.0	− 3.4	− 2.8	− 6.4	−11.7
EUR per 1 CZK, + = CZK appreciation	9.5	− 2.0	3.6	2.9	6.8	13.2

Source: Bloomberg, Datastream, national statistical office, national central bank, OeNB, WIIW.
[1]) CZK: Czech koruna.

Table 4

Monetary Developments

	1998	1999	2000	2001	2002 1st half
	Nominal year-on-year change of annual average stock in %				
Broad money (incl. foreign currency deposits)	6.0	9.0	6.4	11.1	8.7
	Contributions to nominal year-on-year change of broad money in percentage points				
Net foreign assets of the banking system	6.5	13.2	7.8	8.1	6.9
Domestic credit (net) of the banking system	4.2	− 4.8	− 1.0	0.0	− 9.3
thereof: claims on households	*0.3*	*0.2*	*0.3*	*1.1*	*1.3*
claims on enterprises	*2.1*	*− 4.0*	*− 5.3*	*− 7.2*	*−16.5*
claims (net) on general government	*0.1*	*0.7*	*3.9*	*6.0*	*5.9*
Other domestic assets (net) of the banking system	− 4.6	0.6	− 0.4	3.1	11.0

Source: National central bank, OeNB.

In contrast to the original target for the central government budget deficit of 2% of GDP, the Ministry of Finance meanwhile expects a shortfall of 2.7% of GDP, which is only in part attributable to the economic impact of the floods. All told, almost half of the recorded damage (well over 3% of GDP) will affect the public sector – a fact which will mainly impair the budgets for 2003 and 2004. As measured by the ESA 95 methodology, the 2002 public sector deficit stands at 6.4% of GDP.

In the first half of 2002, the current account improved further, as imports slowed down faster than exports. At the same time, direct investment inflows

Table 5

Government Budget

	1998	1999	2000	2001	2002 (Budget Act)
	% of GDP				
Central government					
Revenues	29.2	29.8	29.5	29.0	28.6
Expenditures	30.8	31.4	31.9	32.2	30.6
thereof: interest payments	*1.0*	*0.9*	*1.0*	*0.8*	*0.9*
Balance	− 1.6	− 1.6	− 2.3	− 3.1	− 2.0
Primary balance	− 0.6	− 0.7	− 1.3	− 2.3	− 1.0
General government					
Balance (national methodology)	− 1.5	− 0.6	− 3.1	− 2.8	− 3.3
Balance (European Commission)[1])	− 4.4	− 3.2	− 3.3	− 5.2	− 6.4

Source: European Commission, Eurostat, national ministry of finance, OeNB, WIIW.
[1]) Most recent data and forecast provided by the European Commission.

Table 6

Balance of Payments

	1998	1999	2000	2001	2001 1st half	2002 1st half
EUR million						
Merchandise exports	23,063	24,651	31,509	37,274	18,599	20,360
Merchandise exports: year-on-year change in %	*16.7*	*6.9*	*27.8*	*18.3*	*24.3*	*9.5*
Merchandise imports	25,398	26,448	34,918	40,723	20,077	21,042
Merchandise imports: year-on-year change in %	*5.3*	*4.1*	*32.0*	*16.6*	*24.6*	*4.8*
Trade balance	− 2,335	− 1,797	− 3,409	− 3,448	− 1,479	− 682
% of GDP	− *4.6*	− *3.5*	− *6.1*	− *5.4*	− *4.9*	− *1.9*
Services balance	1,713	1,130	1,536	1,706	680	586
Income balance (factor services balance)	− 973	− 1,265	− 1,490	− 1,726	− 794	− 1,207
Current transfers	461	552	403	524	184	188
Current account balance	− 1,134	− 1,379	− 2,960	− 2,945	− 1,409	− 1,116
% of GDP	− *2.2*	− *2.7*	− *5.3*	− *4.6*	− *4.7*	− *3.1*
Direct investment flows (net)	3,193	5,879	5,356	5,397	2,767	6,021
% of GDP	*6.3*	*11.4*	*9.6*	*8.5*	*9.2*	*17.0*

Source: National central bank, OeNB.

Table 7

Gross Official Reserves and Gross External Debt

	end-1998	end-1999	end-2000	end-2001
EUR million				
Gross official reserves (excluding gold)	10,815	12,745	13,937	16,261
Gross external debt	20,611	22,473	22,671	24,391
% of GDP				
Gross official reserves (excluding gold)	21.3	24.7	25.0	25.7
Gross external debt	40.5	43.6	40.7	38.5
Import months of goods and services				
Gross official reserves (excluding gold)	4.3	4.8	4.1	4.2

Source: Eurostat, national central bank, OeNB, WIIW.

reached a record high of 17% of GDP – the main reason behind the upward pressure on the koruna.

In November 2002, Moody's increased its rating of long-term foreign currency liabilities of the Czech Republic to A1. Standard & Poor's, by contrast, maintained its rating for foreign currency liabilities at A– with a stable outlook.

In the reporting period, structural reform focused on continuing privatization projects and on harmonizing Czech law with the corresponding EU regulations. The rising share of mandatory or quasi-mandatory expenditures in total public expenditure indicates a need for public finance reform. But the devastating floods in August and the narrow government majority in parliament have so far prevented any progress in this direction.

In the course of November, the government is to decide on the sale of the country's dominating telecommunications provider. Before November, a syndicate of Deutsche Bank and Tele Danmark had won the tender on the government package of shares. Privatization in the steel industry made some progress as well: A contract on the sale of one steel producer has been signed, and exclusive negotiations on a second plant are underway. The privatization of the country's largest oil/petrochemical company, by contrast, had to be canceled, as the buyer failed to meet his obligations.

As far as the financial sector is concerned, the ČNB issued guidelines on the implementation of the Amendment to the Banking Act adopted in May. In June, parliament adopted a new law strengthening the powers of the securities regulator by empowering it to issue secondary legislation and by extending the information requirements for market participants.

2.2 Hungary: Expansive Fiscal Policy and Moderate GDP Growth

Following the vigorous growth rates of recent years, GDP growth declined to about 3.0% year on year during the first six months of 2002. The main reasons for this downtrend were a lack of demand in export markets (Germany, EU) as well as stable imports owing to a surge in private consumption, which, all told, translated into a negative contribution of net exports to GDP growth. In addition, Hungary's price competitiveness was undermined by the nominal appreciation of the forint. Strong private consumption and construction investments, triggered by public infrastructure projects, were the mainstays of the moderate growth rate. The acceleration of household spending largely resulted from the substantial rise in minimum and public-sector wages before and after the parliamentary elections in April 2002.

Table 8

Gross Domestic Product and GDP Demand Components

	1998	1999	2000	2001	2001 2nd half	2002 1st half
Real year-on-year change in %						
Gross domestic product (GDP)	4.9	4.7	5.3	3.8	3.5	3.0
Private consumption	5.1	5.4	4.4	4.9	5.1	9.0
Public consumption	1.8	7.7	1.4	0.1	−0.1	3.7
Gross fixed capital formation	13.3	11.0	7.5	3.2	3.0	6.9
Exports of goods and services	17.5	13.1	21.7	10.0	2.8	7.0
Imports of goods and services	23.1	12.4	20.8	7.3	−1.5	7.6

Source: Eurostat, national statistical office, OeNB, WIIW.

Table 9

Labor Productivity, Wages, Producer Prices and the Exchange Rate

	1998	1999	2000	2001	2001 2nd half	2002 1st half
Year-on-year change of period average levels in %						
Gross production of industry (real)	12.6	10.1	18.5	4.0	− 0.3	1.2
Labor productivity of industry (real)	10.9	5.1	17.0	5.6	2.3	3.2
Gross average wage of industry (nominal)	16.6	13.4	15.0	14.5	13.5	13.1
Unit labor cost of industry (nominal)	5.2	7.9	− 1.7	8.4	10.9	9.6
Producer price index (PPI) of industry	11.3	5.1	11.6	5.2	2.0	− 2.2
Consumer price index (CPI)	14.3	10.0	9.8	9.2	7.9	5.9
Exchange rate (nominal):						
HUF[1]) per 1 EUR, + = EUR appreciation	14.2	4.9	2.9	− 1.3	− 4.1	− 6.9
EUR per 1 HUF, + = HUF appreciation	−12.4	− 4.7	− 2.8	1.3	4.3	7.4
Period average levels						
Key interest rate per annum (in %)	18.2	15.2	11.5	11.1	10.8	8.8
Exchange rate (nominal):						
HUF per 1 EUR	240.87	252.78	260.06	256.65	251.70	243.50
EUR per 1 HUF	0.00415	0.00396	0.00385	0.00390	0.00397	0.00411

Source: Bloomberg, Datastream, national statistical office, national central bank, OeNB, WIIW.
1) HUF: Hungarian forint.

The unemployment rate (ILO methodology) has remained relatively stable at around 5.5% to 6% for quite some time, but regional disparities are still pronounced. As wages picked up much more strongly than labor productivity in the first half of 2002, unit labor costs climbed substantially. Magyar Nemzeti Bank (MNB), the Hungarian central bank, envisages an average inflation rate of 5.4% for the full year 2002 and of 5.1% for the end of December 2002 and would thus meet the 2002 inflation target of 4.5% (±1%).

Against the backdrop of an expansive fiscal policy and substantial wage increases, the MNB raised its key interest rate (two-week sterilization rate) by a total of 100 basis points to 9.5% in May and July 2002. The relatively high interest rate spread to Western markets, the approaching accession to the EU – made even more imminent by the positive Irish referendum – and the upgrade of Moody's rating for long-term public foreign currency liabilities from A3 to A1 have boosted portfolio investment inflows since the end of October, thus putting considerable appreciation pressure on the Hungarian forint. By mid-November, the MNB had reacted to this situation by cutting its key interest rate by 50 basis points to the present 9.0%. Soon after the upgrade by Moody's, Standard & Poor's, by contrast, downgraded its rating of long-term public foreign currency liabilities from A+ to A, stating as the main reason doubts as to the government's ability to meet its fiscal consolidation targets.

The Ministry of Finance reported an overall public sector deficit of 3.1% in 2001; the Budget Act had projected a 3.2% deficit for 2002. The methodology traditionally employed by the Ministry of Finance, however, deviates from that

Table 10

Key Interest Rate, CPI Inflation and Nominal Exchange Rate Changes

	Dec. 1998	Dec. 1999	Dec. 2000	March 2001	Dec. 2001	Sept. 2002
	%					
Key interest rate (per annum)	16.8	14.3	11.8	11.3	9.8	9.5
CPI inflation (year on year)	10.3	11.2	10.1	10.5	6.8	4.6
Nominal year-on-year change of the exchange rate:						
HUF[1]) per 1 EUR, + = EUR appreciation	13.9	− 0.5	4.2	3.6	− 6.5	−4.7
EUR per 1 HUF, + = HUF appreciation	−12.2	0.5	− 4.0	− 3.5	7.0	4.9

Source: Bloomberg, Datastream, national statistical office, national central bank, OeNB, WIIW.
[1]) HUF: Hungarian forint.

Table 11

Monetary Developments

	1998	1999	2000	2001	2002 1st half
	Nominal year-on-year change of annual average stock in %				
Broad money (incl. foreign currency deposits)	17.9	17.7	14.3	13.7	16.8
	Contributions to nominal year-on-year change of broad money in percentage points				
Net foreign assets of the banking system	10.9	11.4	13.5	9.3	5.2
Domestic credit (net) of the banking system	18.2	4.8	7.2	9.6	9.8
thereof: claims on households	1.0	1.7	2.9	4.2	5.3
claims on enterprises	13.4	7.4	14.0	12.6	9.1
claims (net) on general government	3.8	− 4.3	− 9.7	− 7.2	− 4.6
Other domestic assets (net) of the banking system	−11.2	1.5	− 6.4	− 5.2	1.7

Source: National central bank, OeNB.

of the European Commission and Eurostat (ESA 95) inasmuch as it does not include publicly guaranteed loans granted by the Hungarian Investment Bank for infrastructure investments and the expenses of the state-owned Privatization and State Holding Company APV Rt. In the course of 2002, the budget situation deteriorated at a monthly pace. At the beginning of November, the Hungarian Ministry of Finance expected the general government deficit for 2002 to come to 8.7% of GDP (ESA 95 methodology).

Table 12

Government Budget

	1998	1999	2000	2001	2002 (Budget Act)
% of GDP					
Central government					
Revenues	26.0	28.3	28.0	27.5	25.1
Expenditures	29.7	31.3	30.8	30.2	28.2
thereof: interest payments	. .	. .	*6.1*	*4.9*	*4.5*
Balance	− 3.7	− 3.0	− 2.8	− 2.8	− 3.0
Primary balance	. .	. .	3.3	2.1	1.5
General government					
Balance (national methodology)	− 6.3	− 3.4	− 3.4	− 3.1	− 3.2
Balance (European Commission)	− 8.0	− 5.3	− 3.0	− 4.1	− 6.9

Source: European Commission, Eurostat, national ministry of finance, OeNB, WIIW.
1) Most recent data and forecast provided by the European Commission.

In the first half of 2002, the Hungarian current account deficit widened to EUR 1.8 billion or 5.5% of GDP. This expansion was largely carried by a considerable decrease of the services surplus as well as the higher deficit on trade. In addition, direct investment in the first half of 2002 clearly lagged behind the level of the previous year.

Table 13

Balance of Payments

	1998	1999	2000	2001	2001 1st half	2002 1st half
EUR million						
Merchandise exports	18,447	20,521	27,988	31,346	15,390	16,273
Merchandise exports: year-on-year change in %	+ 6.1	+ 11.2	+ 36.4	+ 12.0	+ 19.5	+ 5.7
Merchandise imports	20,527	22,574	29,904	33,611	16,432	17,587
Merchandise imports: year-on-year change in %	+ 7.4	+ 10.0	+ 32.5	+ 12.4	+ 20.2	+ 7.0
Trade balance	− 2,080	− 2,054	− 1,916	− 2,265	− 1,042	− 1,314
% of GDP	− 5.0	− 4.6	− 3.8	− 3.9	− 3.9	− 4.0
Services balance	1,591	1,315	1,938	2,425	962	348
Income balance (factor services balance)	− 1,662	− 1,556	− 1,706	− 1,681	− 1,038	− 1,009
Current transfers	130	320	249	273	111	177
Current account balance	− 2,020	− 1,975	− 1,434	− 1,248	− 1,007	− 1,799
% of GDP	− 4.8	− 4.4	− 2.8	− 2.2	− 3.8	− 5.5
Direct investment flows (net)	1,387	1,634	1,179	2,348	1,265	578
% of GDP	3.3	3.6	2.3	4.1	4.8	1.8

Source: National central bank, OeNB.

From mid-2001 to mid-2002, official gross foreign reserves contracted from EUR 13.5 billion to EUR 10.3 billion and gross external debt contracted from EUR 37.8 billion to EUR 36.6 billion. Since GDP (as measured in euro) went up, this decline was even more pronounced when expressed in GDP

Table 14

Gross Official Reserves and Gross External Debt

	end-1998	end-1999	end-2000	end-2001
EUR million				
Gross official reserves (excluding gold)	7,981	10,757	11,883	12,072
Gross external debt	23,383	29,155	32,610	37,533
% of GDP				
Gross official reserves (excluding gold)	19.1	23.9	23.5	20.8
Gross external debt	55.8	64.7	64.5	64.8
Import months of goods and services				
Gross official reserves (excluding gold)	4.0	4.9	4.1	3.6

Source: Eurostat, national central bank, OeNB, WIIW.

ratios, which dropped from 26.8% to 17.7% and from 74.7% to 63.1%, respectively.

The socialist-liberal government, which has been in office since the parliamentary elections in April 2002, aims to accelerate privatization. Of the approximately 180 companies currently controlled by the Privatization and State Holding Company APV Rt., around 100 are to be (partly) privatized within the next two years. The government passed the respective decision at the end of October. Another 45 companies are shortlisted for privatization between 2005 and 2006. There are concrete plans for the sale of the government stock in the pharmaceutical firm Richter, the steel company Dunaferr, the airline Malev and the energy group Mol. Postabank is to be separated from the state-owned Hungarian postal services and will be privatized so as to achieve the target of complete bank privatization by November 2003 at the latest. During the next few years, these measures are to reduce the APV-held capital of around HUF 675 billion (almost EUR 2.8 billion) by nearly HUF 475 billion (some EUR 2 billion).

According to the allocated budget for 2003, the privatization proceeds are to be used for public investments through a special fund to be established for this purpose. The 1998 reform of the pension system, whose three-pillar model has been weakened by a number of measures in recent years, is to be fully reestablished. An amendment adopted at the beginning of 2002 that is to enter into force at the beginning of 2003 provides the basis for the gradual opening of the energy market to private suppliers. Full liberalization is scheduled for 2010. The privatization of the Hungarian power stations (Magyar Villamos Muvek, MVM) has been delayed. The new government will continue to support the "Széchenyi Plan," which was launched by the previous government and, inter alia, provides for infrastructural improvements and the stronger support of SMEs.

2.3 Poland: Economic Situation Remains Fragile

Economic growth in Poland may have bottomed out in the fourth quarter of 2001. In the first six months of 2002, real GDP growth increased by 0.6% vis-à-vis the corresponding period of the previous year. In the second quarter, GDP even grew at a slightly faster pace (0.8% year on year). The uptrend appears to have continued into the summer and fall of 2002. The Polish economy is driven by the external sector (net exports) and a modest recovery of

Table 15

Gross Domestic Product and GDP Demand Components

	1998	1999	2000	2001	2001 2nd half	2002 1st half
Real year-on-year change in %						
Gross domestic product (GDP)	4.8	4.1	4.0	1.0	0.4	0.6
Private consumption	4.9	5.3	2.6	2.1	2.7	3.2
Public consumption	1.4	1.0	1.1	0.6	1.2	1.4
Gross fixed capital formation	16.9	8.9	− 2.9	− 8.3	−13.0	−10.8
Exports of goods and services	15.1	− 2.5	37.8	1.2	− 6.2	5.2
Imports of goods and services	18.9	1.0	15.5	− 0.1	1.6	3.4

Source: Eurostat, national statistical office, OeNB, WIIW.

Table 16

Labor Productivity, Wages, Producer Prices and the Exchange Rate

	1998	1999	2000	2001	2001 2nd half	2002 1st half
Year-on-year change of period average levels in %						
Gross production of industry (real)	5.0	4.7	7.8	0.6	− 0.9	− 1.0
Labor productivity of industry (real)	6.1	9.6	17.9	6.0	4.8	5.8
Gross average wage of industry (nominal)	14.9	9.4	10.9	6.9	6.7	4.4
Unit labor cost of industry (nominal)	8.3	− 0.1	− 5.9	0.8	1.7	− 1.3
Producer price index (PPI) of industry	7.3	5.6	7.9	1.6	0.1	0.4
Consumer price index (CPI)	11.7	7.3	10.1	5.5	4.3	2.8
Exchange rate (nominal):						
PLN[1]) per 1 EUR, + = EUR appreciation	5.9	7.8	− 5.1	− 8.5	− 6.1	1.0
EUR per 1 PLN, + = PLN appreciation	− 5.6	− 7.2	5.4	9.3	6.5	− 1.0
Period average levels						
Key interest rate per annum (in %)	20.6	13.7	17.9	15.9	14.0	10.0
Exchange rate (nominal):						
PLN per 1 EUR	3.9228	4.2277	4.0113	3.6687	3.7052	3.6684
EUR per 1 PLN	0.2549	0.2365	0.2493	0.2726	0.2699	0.2726

Source: Bloomberg, Datastream, national statistical office, national central bank, OeNB, WIIW.
[1]) PLN: Polish zloty.

private consumption (+3.2% in the first half of 2002). The major factor holding back the economy is gross fixed capital formation, which contracted by almost 11% in the first half of 2002. Aside from continuously high real interest rates, this slump reflects reduced corporate profits coupled with still weak expectations.

The rate of inflation fell to levels not seen since the outset of transition. In October 2002 inflation reached 1.1% (year on year). The considerable decline in inflation forced the monetary authorities to revise their inflation target for 2002. The adjusted target range was set at 3% (±1%), but the actual rate is almost certain to be even lower.

Unemployment remains high and declined only slightly from 18.1% in March to 17.5% in October 2002. The mix of low inflation and rather fragile economic conditions led to a series of interest rate cuts. The latest adjustment (by 0.25 percentage points) took place on November 27, 2002. This was the eighth reduction in the current year. Since the beginning of 2002, the key interest rate has been reduced by a total of 4.75 percentage points to 6.75%.

In the first ten months of 2002 the central government deficit amounted to 85% of the projected shortfall for the entire year 2002, which is forecast to

Table 17

Key Interest Rate, CPI Inflation and Nominal Exchange Rate Changes

	Dec. 1998	Dec. 1999	Dec. 2000	March 2001	Dec. 2001	Sept. 2002
	%					
Key interest rate (per annum)	15.5	16.5	19.0	15.5	11.5	7.5
CPI inflation (year on year)	8.6	9.8	8.5	6.2	3.6	1.3
Nominal year-on-year change of the exchange rate:						
PLN[1]) per 1 EUR, + = EUR appreciation	4.4	3.0	− 8.1	−18.8	− 7.7	6.0
EUR per 1 PLN, + = PLN appreciation	− 4.2	− 2.9	8.8	23.1	8.3	−5.6

Source: Bloomberg, Datastream, national statistical office, national central bank, OeNB, WIIW.
[1]) *PLN: Polish zloty.*

Table 18

Monetary Developments

	1998	1999	2000	2001	2002 1st half
	Nominal year-on-year change of annual average stock in %				
Broad money (incl. foreign currency deposits)	25.2	24.5	15.1	12.0	4.3
	Contributions to nominal year-on-year change of broad money in percentage points				
Net foreign assets of the banking system	10.8	7.8	7.0	4.2	1.7
Domestic credit (net) of the banking system	19.2	23.2	10.9	6.8	8.9
thereof: claims on households	*5.6*	*6.3*	*6.9*	*4.2*	*3.6*
claims on enterprises	*11.2*	*10.3*	*6.4*	*3.3*	*0.3*
claims (net) on general government	*2.5*	*6.6*	*− 2.4*	*− 0.6*	*5.0*
Other domestic assets (net) of the banking system	− 4.8	− 6.6	− 2.9	1.0	− 6.3

Source: National central bank, OeNB.

Table 19

Government Budget

	1998	1999	2000	2001	2002 (Budget Act)
	% of GDP				
Central government					
Revenues	22.9	20.5	19.8	19.5	19.2
Expenditures	25.2	22.5	22.1	24.0	24.5
thereof: interest payments	*3.2*	*3.1*	*2.6*	*2.9*	*3.4*
Balance	− 2.4	− 2.0	− 2.2	− 4.5	− 5.3
Primary balance	0.9	1.0	0.4	− 1.6	− 1.9
General government					
"Financial" balance (national methodology)	− 3.2	− 3.2	− 2.6	− 5.6	− 6.1
"Economic" balance (national methodology)	− 3.2	− 2.9	− 2.1	− 4.8	− 4.9
Balance (European Commission)[1])	. .	. .	− 3.8	− 3.9	− 4.4

Source: European Commission, Eurostat, national ministry of finance, OeNB, WIIW.
[1]) *Most recent data and forecast provided by the European Commission.*

come to 5.4% of GDP. This is more or less in line with budget plans, but constitutes an increase vis-à-vis previous years. Given the substantial deterioration of the fiscal position over the last two years, the projected 2003 budget provides a number of consolidation measures.

After trading at a fairly stable level between mid-July and late October 2002, the zloty strengthened as a result of the positive outcome of the Irish referendum on the Treaty of Nice, falling below the psychological level of PLN 4 both against the euro and the U.S. dollar.

Both the trade balance and balance of payments (as measured in euro) improved further in the first half of 2002, as exports held stable while imports

Table 20

Balance of Payments

	1998	1999	2000	2001	2001 1st half	2002 1st half
	EUR million					
Merchandise exports	26,882	24,697	30,569	33,787	16,634	16,569
Merchandise exports: year-on-year change in %	12.0	− 8.1	23.8	10.5	21.5	− 0.4
Merchandise imports	39,127	38,175	44,815	46,816	23,227	21,978
Merchandise imports: year-on-year change in %	15.1	− 2.4	17.4	4.5	11.4	− 5.4
Trade balance	−12,245	−13,478	−14,246	−13,029	− 6,593	− 5,409
% of GDP	− 8.7	− 9.3	− 8.3	− 6.6	− 7.0	− 5.6
Services balance	− 436	− 1,529	− 1,824	− 1,089	− 609	− 549
Income balance (factor services balance)	− 508	− 745	− 821	− 1,000	− 523	− 846
Current transfers	1,732	1,513	1,819	2,216	886	987
Unclassified transactions (small cross-border trade)	5,350	3,410	4,306	4,905	1,897	1,481
Current account balance	− 6,106	−10,829	−10,767	− 7,997	− 4,942	− 4,335
% of GDP	− 4.3	− 7.4	− 6.3	− 4.1	− 5.2	− 4.5
Direct investment flows (net)	4,435	5,954	8,838	7,732	3,113	2,088
% of GDP	3.1	4.1	5.2	3.9	3.3	2.2

Source: National central bank, OeNB.

Table 21

Gross Official Reserves and Gross External Debt

	end-1998	end-1999	end-2000	end-2001
	EUR million			
Gross official reserves (excluding gold)	23,421	26,192	28,179	28,836
Gross external debt	50,710	64,962	73,687	79,874
	% of GDP			
Gross official reserves (excluding gold)	16.6	18.0	16.5	14.7
Gross external debt	35.9	44.6	43.2	40.6
	Import months of goods and services			
Gross official reserves (excluding gold)	6.8	7.2	7.1	6.8

Source: Eurostat, national central bank, OeNB, WIIW.

shrank owing to weak domestic demand. The share of exports to the sluggish EU markets declined (from 70.2% to 69.3% of total Polish exports), which was compensated by an increase in deliveries to Central and Eastern Europe (from 17.6% to 18.6%). However, in September the current account deficit widened to a greater extent than expected. With the zloty strengthening, the current account may weaken even further.

Given the developments of last fall, Poland is all the more likely to enter the EU at some stage in 2004; this fact along with the most recent information on a slight recovery of the economic situation prompted Moody's to upgrade the country's long-term sovereign foreign currency liabilities by 2 points from Baa1 to A2. This latest upgrade should mitigate the negative effect of the downgrading effected by Standard & Poor's in July (from A+ to A), which had been triggered by fiscal problems.

In July 2002 the Polish Minister for Finance, Marek Belka, resigned. His post was taken by Grzegorz Kołodko from the Democratic Left Alliance, the ruling majority party. Minister Kołodko appears to be adopting almost exactly the same macroeconomic course his predecessor set, pursuing a cautious fiscal policy and not interfering with monetary policy. But several changes have been

announced in structural policies, including a new approach to corporate restructuring in which banks are supposed to play a key role. The Finance Ministry's proposal aims to offer a bailout package for troubled enterprises in exchange for a credible pledge to undertake serious restructuring. Banks are to receive a series of incentives (e.g. the possibility to write off part of their dubious claims on firms undergoing restructuring, a move which will be compensated by tax incentives) targeted at helping their debtors complete the restructuring process. But this plan is controversial because it may stimulate "moral hazard" among bad debtors. Furthermore, it may come into conflict with Kołodko's goal to contain public spending and thus improve the country's fiscal position.

On July 26, 2002, several amendments to the Labor Act were adopted. As a result, the labor market has become more flexible, as the bureaucratic burden on enterprises has been reduced and entrepreneurial activity has become less costly. Still, the impact of this reform will probably be felt no earlier than in the second half of 2003. Earlier this year, the government launched a new program (First Job) aimed at making it easier for young people (mainly recent graduates) to find their first jobs. On October 1, 2002, the new Foreign Exchange Act entered into force, lifting all restrictions on capital transactions. However, capital market liberalization has been confined to relations with OECD countries. As a result, the zloty is not yet a fully convertible currency, and further liberalization will be needed to fulfill EU requirements.

So far, 2002 has seen a substantial slowdown in privatization. During the first six months only 37 companies were privatized, which translated into privatization proceeds to the tune of PLN 737 million. The original revenue target for 2002 had been fixed at PLN 6.7 billion and is already widely believed to be beyond reach. Still, in the second half of 2002 privatization should gain some momentum, as the government is determined to go ahead with the controversial sale of the Warsaw energy distributor STOEN, which should generate about USD 1.5 billion.

2.4 Slovakia: Parliamentary Elections Confirm Reform Efforts

Despite the slowdown in international economic activity, GDP growth in the Slovak Republic accelerated from 3.3% in the entire year 2001 to 3.9% in the first half of 2002. This increase is largely traceable to private (+5.5%) and public (+6.7%) consumption. Investment and exports, by contrast, stag-

Table 22

Gross Domestic Product and GDP Demand Components

	1998	1999	2000	2001	2001 2nd half	2002 1st half
Real year-on-year change in %						
Gross domestic product (GDP)	4.0	1.3	2.2	3.3	3.7	3.9
Private consumption	6.3	3.4	− 1.8	3.9	5.1	5.5
Public consumption	11.5	− 7.7	0.7	5.0	6.8	6.7
Gross fixed capital formation	11.9	−18.3	2.0	9.9	10.0	−0.3
Exports of goods and services	13.2	5.3	13.8	6.7	3.1	0.5
Imports of goods and services	16.8	− 6.3	10.2	12.1	9.7	−0.6

Source: Eurostat, national statistical office, OeNB, WIIW.

nated. The fact that consumption and investment are developing at different speeds is reflected in stagnating imports. On the back of real economic growth, the unemployment rate declined from 17.4% in September 2001 to 16.6% in September 2002.

By October 2002, the annual inflation of the consumer price index (CPI) had contracted to 2.9%. Core inflation came to 1.7%, thus lagging substantially behind the target bandwidth of between 3.2% and 4.7% defined by Národná Banka Slovenska (NBS), the central bank of Slovakia. In line with its monetary policy strategy, the NBS expects a year-on-year CPI rise of between 3.5% and 4.9% for December 2002. The actual CPI rise is likely to remain below this range, however.

Table 23

Labor Productivity, Wages, Producer Prices and the Exchange Rate

	1998	1999	2000	2001	2001 2nd half	2002 1st half
Year-on-year change of period average levels in %						
Gross production of industry (real)	4.8	− 2.6	8.5	7.0	6.1	3.4
Labor productivity of industry (real)	9.2	0.3	12.0	6.0	5.2	3.6
Gross average wage of industry (nominal)	8.1	7.9	9.1	10.2	10.1	8.0
Unit labor cost of industry (nominal)	− 1.1	7.5	− 2.6	4.0	4.7	4.2
Producer price index (PPI) of industry	3.3	3.7	9.9	6.5	4.2	2.0
Consumer price index (CPI)	6.7	10.5	12.1	7.1	7.1	3.9
Exchange rate (nominal):						
SKK[1]) per 1 EUR, + = EUR appreciation	4.1	11.4	− 3.4	1.7	0.3	− 1.9
EUR per 1 SKK, + = SKK appreciation	− 4.0	−10.2	3.5	− 1.7	− 0.3	1.9
Period average levels						
Key interest rate per annum (in %)	8.8	8.8	8.5	7.8	7.8	8.0
Exchange rate (nominal):						
SKK per 1 EUR	39.58	44.10	42.59	43.31	43.18	42.61
EUR per SKK	0.0253	0.0227	0.0235	0.0231	0.0232	0.0235

Source: Bloomberg, Datastream, national statistical office, national central bank, OeNB, WIIW.
[1]) *SKK: Slovak koruna.*

Following a rise of key interest rates in April 2002, rates were cut twice this fall as inflation declined. In a first move, the NBS cut the 14-day repo rate on October 30, 2002, leaving the other two official rates unchanged at that point. Then, rather unexpectedly, the NBS reduced all its key interest rates by 1.5 percentage points on November 18, 2002, which meant that the 14-day repo rate came to 6.5%, the overnight sterilization rate to 5% and the refinancing rate to 8%. This decision came as a surprise to markets and was probably intended to

Table 24

Key Interest Rate, CPI Inflation and Nominal Exchange Rate Changes

	Dec. 1998	Dec. 1999	Dec. 2000	March 2001	Dec. 2001	Sept. 2002
%						
Key interest rate (per annum)	8.8	8.8	8.0	7.8	7.8	8.3
CPI inflation (year on year)	5.6	14.2	8.4	6.6	6.4	2.8
Nominal year-on-year change of the exchange rate:						
SKK[1]) per 1 EUR, + = EUR appreciation	10.6	0.0	2.2	5.0	−0.9	−1.2
EUR per 1 SKK, + = SKK appreciation	− 9.6	0.0	−2.2	−4.8	0.9	1.2

Source: Bloomberg, Datastream, national statistical office, national central bank, OeNB, WIIW.
[1]) *SKK: Slovak koruna.*

Table 25

Monetary Developments

	2000	2001	2002 1st half
	Nominal year-on-year change of annual average stock in %		
Broad money (incl. foreign currency deposits)	15.0	11.9	8.6
	Contributions to nominal year-on-year change of broad money in percentage points		
Net foreign assets of the banking system	6.6	2.3	3.6
Domestic credit (net) of the banking system	7.9	11.3	9.9
thereof: claims on households	*1.9*	*1.2*	*1.4*
claims on enterprises	*0.0*	*−15.9*	*− 3.3*
claims (net) on general government	*6.4*	*24.7*	*10.4*
Other domestic assets (net) of the banking system	0.0	− 1.3	..

Source: National central bank, OeNB.

prevent a further appreciation of the Slovak currency. In nominal terms, broad money picked up 8.6% in the first half of 2002, while its real-term (CPI-deflated) growth came to 4.5%.

For 2002, the Ministry of Finance budgeted an overall public sector deficit of 3.5% of GDP (national methodology), following a realized shortfall of 3.9% of GDP in 2001. This figure contains revenues from loan repayments received minus loans granted as well as privatization proceeds; it does not contain one-time payments, in particular for banking sector restructuring. As 2002 was an election year, the announced spending cuts proved to be difficult to realize, which led to an intrayear revision of the 2002 target to 4.5% of GDP. According to the IMF, the Slovak Republic's 2002 household deficit (national definition) will run to 5.5% of GDP and thus deteriorate by 1.6 percentage points against 2001. The most recent economic outlook of the European Commission expects a budget deficit of 6% of GDP; this figure, however, also includes the costs of banking reform. Compared to the corresponding figure for 2001 (i.e. a household deficit of 5.4% according to the same definition), the fiscal balance is thus expected to deteriorate by about 0.5 percentage point.

Coming to 8% of GDP in the first half of 2002, the current account deficit improved only slightly against the comparable 2001 figure of 8.6%. This slight uptrend is largely attributable to decelerating imports and the resulting

Table 26

Government Budget

	1998	1999	2000	2001	2002 (Budget Act)
	% of GDP				
Central government					
Revenues	22.9	26.7	23.5	20.8	20.6
Expenditures	25.4	28.8	26.5	25.2	24.2
thereof: interest payments	*..*	*2.7*	*2.5*	*..*	*2.6*
Balance	− 2.5	− 2.1	− 3.0	− 4.5	− 3.6
Primary balance	..	0.6	− 0.6	..	− 1.0
General government					
Balance (national methodology)	− 4.4	− 3.5	− 2.0	− 3.9	− 3.5
Balance (European Commission)[1]	..	..	− 4.8	− 5.4	− 6.0

Source: European Commission, Eurostat, national ministry of finance, OeNB, WIIW.
[1]) Most recent data and forecast provided by the European Commission.

Table 27

Balance of Payments

	1998	1999	2000	2001	2001 1st half	2002 1st half
	EUR million					
Merchandise exports	9,520	9,558	12,841	14,097	7,070	7,191
Merchandise exports: year-on-year change in %	*22.8*	*0.4*	*34.4*	*9.8*	*15.4*	*1.7*
Merchandise imports	11,566	10,592	13,833	16,479	8,039	8,175
Merchandise imports: year-on-year change in %	*27.8*	*− 8.4*	*30.6*	*19.1*	*26.2*	*1.7*
Trade balance	− 2,046	− 1,034	− 992	− 2,382	− 968	− 984
% of GDP	*− 10.4*	*− 5.5*	*− 4.6*	*− 10.4*	*− 8.8*	*− 8.1*
Services balance	18	140	475	535	179	198
Income balance (factor services balance)	− 137	− 282	− 382	− 349	− 204	− 261
Current transfers	328	162	127	236	120	80
Current account balance	− 1,838	− 1,015	− 771	− 1,960	− 873	− 967
% of GDP	*− 9.4*	*− 5.4*	*− 3.6*	*− 8.6*	*− 7.9*	*− 8.0*
Direct investment flows (net)	333	657	2,227	1,630	736	295
% of GDP	*1.7*	*3.5*	*10.4*	*7.1*	*6.7*	*2.4*

Source: National central bank, OeNB.

improvement of the trade balance. The deficit on the overall 2002 current account is likely to be offset by a financial account surplus which, in turn, will be mainly attributable to FDI inflows. The majority of FDI inflows are expected for the second half of the year.

In November, Moody's raised its rating of Slovak long-term public foreign currency liabilities from Baa3 to A3. A similar upgrade is expected for the Standard & Poor's rating, which at present still stands at BBB–.

Table 28

Gross Official Reserves and Gross External Debt

	end-1998	end-1999	end-2000	end-2001
	EUR million			
Gross official reserves (excluding gold)	2,506	3,404	4,325	4,709
Gross external debt	10,200	10,453	11,461	12,415
	% of GDP			
Gross official reserves (excluding gold)	12.8	18.0	20.3	20.6
Gross external debt	52.1	55.2	53.7	54.3
	Import months of goods and services			
Gross official reserves (excluding gold)	2.2	3.3	3.3	3.0

Source: Eurostat, national central bank, OeNB, WIIW.

The results of the parliamentary election confirmed the reform measures launched by Slovak economic policymakers to date. The new government consists of four parties with a narrow joint majority in parliament (78 out of 150 members). The result of the election was generally viewed as positive for both the country's accession to the European Union and to NATO.

Structural reforms had already speeded up considerably before the parliamentary elections. Additional sectors, including infrastructure, have lately been prepared for privatization in 2003. Over the past few months, the government has set the course for the structural reform of Slovak Railways, which comprised separating railway infrastructure administration from transport services; the latter have been outsourced and are now ready for privatization. Further-

more, the government has arranged for significant deregulations of administered prices to take effect as soon as 2003.

Substantial changes also took place in public administration. Thus, the job security of civil servants has been enhanced by relevant provisions and the position of the regional authorities was strengthened by granting them powers in cultural, educational, social assistance and health care matters, among others. In total, however, these measures are likely to push up public spending. The uptrend in public spending was only partly offset by stopping the new employment of civil servants between April and September 2002.

2.5 Slovenia: Inflation Proves to be Persistent

The second quarter of 2002 saw real GDP growth accelerate to 3.2% year on year, following a low in the current business cycle at 2.2% in the first quarter. The most recent forecast of the Institute for Macroeconomic Analysis and Development (IMAD) for the entire year 2002 envisages a real GDP increase of 3.2% year on year. In the first half of 2002, domestic demand contributed more strongly to GDP growth than in the entire year 2001; the contribution

Table 29

Gross Domestic Product and GDP Demand Components

	1998	1999	2000	2001	2001 2nd half	2002 1st half
Real year-on-year change in %						
Gross domestic product (GDP)	3.8	5.2	4.7	3.0	3.0	2.7
Private consumption	3.3	6.1	0.8	1.7	1.8	2.0
Public consumption	5.8	4.6	3.1	3.2	3.2	3.3
Gross fixed capital formation	11.3	19.1	0.2	−1.9	−0.2	2.9
Exports of goods and services	6.7	1.7	12.7	6.2	3.9	4.7
Imports of goods and services	10.4	8.2	6.1	2.1	1.5	4.1

Source: Eurostat, national statistical office, OeNB, WIIW.

Table 30

Labor Productivity, Wages, Producer Prices and the Exchange Rate

	1998	1999	2000	2001	2001 2nd half	2002 1st half
Year-on-year change of period average levels in %						
Gross production of industry (real)	3.9	-0.5	6.3	3.1	2.6	2.2
Labor productivity of industry (real)	5.4	1.3	7.2	2.3	2.2	3.4
Gross average wage of industry (nominal)	10.7	9.3	11.7	10.8	9.4	8.8
Unit labor cost of industry (nominal)	5.0	7.9	4.2	8.3	7.0	5.3
Producer price index (PPI) of industry	6.0	2.2	7.6	9.0	7.9	5.7
Consumer price index (CPI)	8.0	6.2	8.9	8.4	7.8	7.8
Exchange rate (nominal):						
SIT[1]) per 1 EUR, + = EUR appreciation	3.3	4.0	5.9	5.9	5.3	4.3
EUR per 1 SIT, + = SIT appreciation	− 3.2	− 3.8	− 5.6	− 5.6	− 5.0	−4.1
Period average levels						
Key interest rate per annum (in %)	10.0	8.0	8.7	10.8	11.0	9.5
Exchange rate (nominal):						
SIT per 1 EUR	186.27	193.63	205.03	217.19	219.53	224.10
EUR per 1 SIT	0.00537	0.00516	0.00488	0.00460	0.00456	0.00446

Source: Bloomberg, Datastream, national statistical office, national central bank, OeNB, WIIW.
[1]) SIT: Slovenian tolar.

of net exports to GDP was slightly positive, however. Climbing 2.9% in the first half of 2002, gross fixed capital formation seems to have recorded a trend reversal after a real-term decline in 2001.

In recent months, the unemployment rate augmented slightly, coming to 11.7% in September (national definition). Recording an inflation rate of 7.2% over the year to October 2002, prices went up faster in Slovenia than in the other Central European transition economies. This is in part ascribable to one-time factors (a boost in indirect taxes and administered prices), but second-round effects caused by indexing mechanisms and insufficient competition in infrastructure services also have an impact.

Since the end of 2001, the monetary strategy of Banka Slovenije, the Slovenian central bank, has been to continuously monitor a number of indicators with the aim of lowering inflation to 4% by end-2003. At the beginning of November, however, Banka Slovenije was forced to revise its inflation forecasts upward by 0.4 percentage point to 7.5% for the end of 2002 and by 1.2 percentage points to 5.3% for end-2003. The bank now expects the inflation rate to come to 4% in the course of 2004. To reach this target, monetary policy will most likely have to rely more heavily on the exchange rate instrument. Although the central bank has changed its monetary strategy, the Slovenian tolar has continued to depreciate slightly against the euro in nominal terms; the tolar's real effective exchange rate, by contrast, remained basically unchanged in 2001 and in the first half of 2002. The strong rise in broad money in the first half of 2002 is mostly attributable to higher foreign investment inflows and higher net claims on the public sector.

Table 31

Key Interest Rate, CPI Inflation and Nominal Exchange Rate Changes

	Dec. 1998	Dec. 1999	Dec. 2000	March 2001	Dec. 2001	Sept. 2002
	%					
Key interest rate (per annum)	10.0	8.0	10.0	10.0	11.0	10.0
CPI inflation (year on year)	6.5	8.0	8.9	8.9	7.0	7.2
Nominal year-on-year change of the exchange rate:						
SIT[1]) per 1 EUR, + = EUR appreciation	0.9	4.5	7.1	6.8	4.8	3.9
EUR per 1 SIT, + = SIT appreciation	− 0.9	− 4.3	− 6.6	− 6.4	− 4.6	− 3.8

Source: Bloomberg, Datastream, national statistical office, national central bank, OeNB, WIIW.
[1]) *SIT: Slovenian tolar.*

Table 32

Monetary Developments

	1998	1999	2000	2001	2002 1st half
	Nominal year-on-year change of annual average stock in %				
Broad money (incl. foreign currency deposits)	23.8	16.1	14.0	19.4	25.9
	Contributions to nominal year-on-year change of broad money in percentage points				
Net foreign assets of the banking system	8.9	1.8	3.6	11.5	12.1
Domestic credit (net) of the banking system	17.0	16.9	15.2	9.8	20.9
thereof: claims on households	*3.7*	*7.3*	*4.4*	*2.1*	*1.7*
claims on enterprises	*8.9*	*8.4*	*9.8*	*10.5*	*8.4*
claims (net) on general government	*4.4*	*1.2*	*1.0*	*− 2.8*	*10.8*
Other domestic assets (net) of the banking system	− 2.1	− 2.6	− 4.8	− 6.5	− 5.3

Source: National central bank, OeNB.

Table 33

Government Budget

	1998	1999	2000	2001	2002 (Budget Act)
	% of GDP				
Central government					
Revenues	25.0	25.8	24.6	25.1	25.5
Expenditures	26.1	26.4	25.5	26.2	26.0
Balance	− 1.1	− 0.5	− 0.9	− 1.1	− 0.5
General government					
Balance (national methodology)	− 0.8	− 0.6	− 1.4	− 1.4	− 3.0
Balance (European Commission)[1]	− 2.3	− 2.2	− 3.2	− 2.5	− 1.8

Source: European Commission, Eurostat, national ministry of finance, OeNB, WIIW.
[1] Most recent data and forecast provided by the European Commission.

In July 2002, a supplementary budget was passed for the current year, projecting a deficit of 2.8% of GDP against the 2.6% in the original budget. The Pre-Accession Economic Programme (PEP) of August 2002 expects the deficit (Slovenian methodology) for 2002 to come to 3% of GDP, which is slightly above the target defined in the supplementary budget. According to the ESA 95 methodology, the household deficit is expected to contract from 2.5% of GDP in 2001 to 1.8% in 2002.

Table 34

Balance of Payments

	1998	1999	2000	2001	2001 1st half	2002 1st half
	EUR million					
Merchandise exports	8,114	8,082	9,529	10,426	5,290	5,500
Merchandise exports: year-on-year change in %	*9.5*	*− 0.4*	*17.9*	*9.4*	*14.2*	*4.0*
Merchandise imports	8,818	9,249	10,761	11,119	−5,653	−5,632
Merchandise imports: year-on-year change in %	*8.9*	*4.9*	*16.3*	*3.3*	*7.6*	*− 0.4*
Trade balance	− 704	−1,167	− 1,232	− 694	− 363	− 132
% of GDP	*− 4.0*	*− 6.2*	*− 6.3*	*− 3.3*	*− 3.5*	*− 1.2*
Services balance	440	341	472	559	273	334
Income balance (factor services balance)	25	− 23	− 27	− 83	− 25	− 63
Current transfers	109	115	125	143	65	52
Current account balance	− 131	− 734	− 662	− 75	− 40	160
% of GDP	*− 0.8*	*− 3.9*	*− 3.4*	*− 0.4*	*− 0.4*	*1.4*
Direct investment flows (net)	223	135	118	377	149	466
% of GDP	*1.3*	*0.7*	*0.6*	*1.8*	*1.5*	*4.2*

Source: National central bank, OeNB.

Table 35

Gross Official Reserves and Gross External Debt

	end-1998	end-1999	end-2000	end-2001
	EUR million			
Gross official reserves (excluding gold)	3,119	3,148	3,390	4,868
Gross external debt	4,213	5,367	6,595	7,551
	% of GDP			
Gross official reserves (excluding gold)	17.9	16.7	17.2	23.2
Gross external debt	24.1	28.5	33.5	35.9
	Import months of goods and services			
Gross official reserves (excluding gold)	3.7	3.5	3.3	4.6

Source: Eurostat, national central bank, OeNB, WIIW.

After the Slovenian current account had been more or less balanced in 2001, it even recorded a surplus of around EUR 235 million in the first eight months of 2002. This surplus was carried by a slight exchange rate-related decline in unit labor costs and rising exports to the recovering markets of the former constituent republics of ex-Yugoslavia and of the CIS countries. Direct investment started out from a low level and has so far surged in 2002.

In November 2002, Moody's raised its rating of Slovenia's long-term foreign currency liabilities from A2 to Aa3; Slovenia is rated A by Standard & Poor's.

Slovenia's structural reform focused on administration and the financial sector. In the first half of 2002, parliament decided on a new public-sector wage system, which will enter into force at the beginning of 2004. The new law will enhance the flexibility of remuneration systems and is to create incentives for better performance. In addition, the social partners agreed to abolish the indexation of private sector wages as of January 1, 2004. In June, the Slovenian parliament adopted a new Central Bank Act, which is now in compliance with the relevant EU law on central bank independence and the prohibition of direct public sector financing.

After some delays, the first privatization phase of the country's largest bank, Nova Ljubljanska Banka (NLB), was completed at the beginning of September 2002: A 34% stake was sold to the Belgian KBC Bank, 5% went to the European Bank for Reconstruction and Development (EBRD). Another 9% of NLB's equity capital were offered for sale to domestic portfolio investors, but a mere 0.3% were actually sold. As a result, the government now considers reopening the tender and/or selling a higher share to the EBRD. In November, the Swiss company Novartis took over Lek, Slovenia's second-largest pharmaceutical enterprise, which had already been majority-owned by private investors. By rerunning the tender for NLB equity capital, the government hopes to attract part of the privatization proceeds accrued by the takeover of Lek. Bolstered by the abolition of capital market restrictions and the Lek transaction, the Slovenian stock index rose spectacularly in the first ten months of 2002, with stock prices surging by almost 60% against end-2001 figures.

Russia: Upturn Loses Steam, Sluggish Investment
Russian GDP increased by 3.9% in the first half of 2002, signaling a slowdown of growth compared to 2001, when GDP went up by 5.0%. But this performance is still remarkable when compared to that of other transition economies, and in particular to the weak global economic situation. After a slowdown in the first quarter of 2002, growth gathered momentum in the following months, and GDP is expected to expand by 4% in the entire year. The economic expansion is driven by household consumption, which is reflected in an increasing retail trade turnover (+9% from January to September 2002 year on year). On the other hand, investment growth contracted dramatically. After an 11.5% rise in 2001, gross fixed capital formation went up by only 2.5% in the first nine months of 2002. Following a number of years of shrinking real export surpluses, net exports recovered again slightly in the first half of 2002.

Private demand has been particularly stimulated by the strong rise in (minimum) wages and pensions in recent years. However, rising wages as well as the adjustment of administered prices and other factors have helped reduce corpo-

Table 36

Gross Domestic Product and GDP Demand Components

	1998	1999	2000	2001	2001 2nd half	2002 1st half
Real year-on-year change in %						
Gross domestic product (GDP)	− 4.9	5.4	9.0	5.0	4.8	3.9
Private consumption	− 2.4	− 4.4	9.3	8.7	7.7	5.6
Public consumption	0.4	2.6	1.2	− 0.9	− 0.8	1.9
Gross fixed capital formation	− 9.8	4.7	13.3	11.5	12.0	2.5
Contribution to real year-on-year GDP change in percentage points						
Net exports of goods and services	7.8	10.7	− 1.4	− 2.0	− 2.5	0.5

Source: National statistical office, OeNB, RECEP, WIIW.

Table 37

Labor Productivity, Wages, Producer Prices and the Exchange Rate

	1998	1999	2000	2001	2001 2nd half	2002 1st half
Year-on-year change of period average levels in %						
Gross value added of industry (real)	− 4.9	5.4	9.1	5.0	4.7	3.8
Labor productivity of industry (real)	− 3.4	5.0	8.3	3.9	4.4	2.8
Gross average wage of industry (nominal)	14.9	42.6	42.5	45.7	46.0	37.8
Unit labor cost of industry (nominal)	18.9	35.9	31.6	40.2	39.8	34.0
GDP deflator	7.9	59.1	41.3	18.0	16.5	12.6
Consumer price index (CPI)	27.6	85.7	20.8	21.6	20.0	16.9
Exchange rate (nominal):						
RUR[1]) per 1 EUR, + = EUR appreciation	69.1	137.2	− 0.8	0.4	6.8	7.8
EUR per 1 RUR, + = RUR appreciation	−40.9	− 57.8	0.8	− 0.4	− 6.3	− 7.2
Period average levels						
Key interest rate per annum (in %)	59.8	57.1	32.0	25.0	25.0	24.0
Exchange rate (nominal):						
RUR per 1 EUR	11.06	26.24	26.03	26.13	26.40	27.86
EUR per 1 RUR	0.0904	0.0381	0.0384	0.0383	0.0379	0.0359

Source: Datastream, national statistical office, national central bank, OeNB, RECEP, WIIW.
[1]) RUR: Russian ruble.

rate profits, which in turn put pressure on investment. On the other hand, banks' rather modest lending activities recently gathered momentum. Another stimulating factor was the world market oil price, which, despite a short-lived decline in the last quarter of 2001, has remained at a high level. The jobless rate (ILO definition) fell to 7.6% in September 2002. Real unit labor costs, which have expanded considerably since 2000, might jeopardize the competitiveness of some branches of the manufacturing sector, however.

Monetary policy continued to be restrictive. Despite the ongoing strong inflow of foreign exchange through high export proceeds, the authorities successfully reduced monetary growth from 43% in 2001 to 32% in the first six months of 2002 (compared to the corresponding period of 2001). Annual CPI inflation slightly declined and came to 15% (year on year) in October 2002. Given the managed float of the Russian ruble and its orientation toward the U.S. dollar, the nominal depreciation of the latter against the euro in the summer of 2002 brought the ruble's continued slow real appreciation tendency to a halt (for the time being). Indeed, the real effective exchange rate of the ruble was slightly lower in November 2002 than at the beginning of the year.

Table 38

Key Interest Rate, CPI Inflation and Nominal Exchange Rate Changes

	Dec. 1998	Dec. 1999	Dec. 2000	March 2001	Dec. 2001	Sept. 2002
%						
Key interest rate (per annum)	60.0	55.0	25.0	25.0	25.0	21.0
CPI inflation (year on year)	84.4	36.6	20.1	23.8	18.8	15.0
Nominal year-on-year change of the exchange rate:						
RUR[1]) per 1 EUR, + = EUR appreciation	255.0	15.6	− 7.4	− 5.1	6.9	4.2
EUR per 1 RUR, + = RUR appreciation	− 71.8	−13.5	8.0	5.4	− 6.5	− 4.1

Source: Datastream, national statistical office, national central bank, OeNB, RECEP, WIIW.
[1]) *RUR: Russian ruble.*

Table 39

Monetary Developments

	1999	2000	2001	2002 1st half
Nominal year-on-year change of annual average stock in %				
Broad money (incl. foreign currency deposits)	56.7	58.4	43.4	31.7
Contributions to the nominal year-on-year change of broad money in percentage points				
Net foreign assets of the banking system	32.3	63.5	39.9	18.4
Domestic credit (net) of the banking system	57.4	17.8	23.6	32.6
thereof: claims on households	29.5	−17.3	5.7	5.7
claims on enterprises	23.1	32.3	28.8	26.3
claims (net) on general government	4.9	2.8	−10.9	0.6
Other domestic assets (net) of the banking system	− 33.0	−22.8	−20.1	−19.3

Source: National central bank, OeNB, RECEP.

Budgetary policies also remained restrictive. According to estimates of the Economic Expert Group, which is affiliated to the Ministry of Finance, changes in the tax system and rising raw material prices enabled the authorities to achieve a federal budget surplus of 3.1% of GDP in the first eight months of 2002, even though wage adjustments in the public sector drove up public spending. This surplus is more or less in line with the budget surplus for the entire year 2001, thus surpassing the target of 1.6% budgeted for 2002. This shows that fiscal policy continues to perform an important function in sterilizing liquidity stemming from export proceeds.

Despite reduced trade surpluses, foreign currency inflows from trade remain high. In the first half of 2002, the current account posted a surplus

Table 40

Government Budget

	1998	1999	2000	2001	2002 (Budget Act)
% of GDP					
Central government					
Revenues	9.8	12.7	16.0	17.6	19.4
Expenditures	14.0	13.8	13.5	14.6	17.8
thereof: interest payments	3.9	3.4	2.4	2.5	2.6
Balance	− 4.2	− 1.2	2.5	2.9	1.6
Primary balance	− 0.3	2.2	4.7	5.5	4.3
General government					
Balance (national methodology)	− 4.5	− 1.2	2.8	2.9	. .

Source: OeNB, RECEP, Russian Economic Expert Group (Ministry of Finance of the Russian Federation), WIIW.

Table 41

Balance of Payments

	1998	1999	2000	2001	2001 1st half	2002 1st half
EUR million						
Merchandise exports	66,847	70,955	114,247	113,386	57,102	53,203
Merchandise exports: year-on-year change in %	− 14.8	6.1	61.0	− 0.8	11.1	− 6.8
Merchandise imports	51,764	37,024	48,577	60,041	27,716	29,829
Merchandise imports: year-on-year change in %	− 18.4	− 28.5	31.2	23.6	30.6	7.6
Trade balance	15,083	33,837	65,670	53,345	29,608	23,374
% of GDP	6	18	23	15	19	14
Services balance	− 3,659	− 4,030	− 8,222	− 9,486	− 4,118	− 4,675
Income balance (factor services balance)	7,497	−16,590	− 40,571	− 28,346	−19,034	−15,137
Current account balance	625	23,152	51,173	38,614	23,264	16,584
% of GDP	0	13	18	11	15	10
Direct and portfolio investment flows (net)	10,353	1,968	− 7,790	1,897	1,113	890
% of GDP	4.2	1.1	− 2.8	0.5	0.7	0.5

Source: National central bank, OeNB, RECEP, WIIW.

Table 42

Gross Official Reserves and Gross External Debt

	end-1998	end-1999	end-2000	end-2001
EUR million				
Gross official reserves (excluding gold)	6,686	8,406	25,739	36,585
% of GDP				
Gross official reserves (excluding gold)	2.7	4.6	9.1	10.5
Import months of goods and services				
Gross official reserves (excluding gold)	1.6	2.7	6.4	7.3

Source: National central bank, national statistical office, OeNB, RECEP, WIIW.

of EUR 16.6 billion (10% of GDP). Notwithstanding high debt service payments, private net capital outflows contracted. Therefore, the central bank's foreign currency reserves (including gold) rose by about EUR 10 billion in the first ten months of 2002 and reached a record level of EUR 47 billion in October, which corresponds to more than nine months' worth of imports. Given this buffer of foreign exchange and the current twin surpluses, Russia should not meet with serious problems in paying its debt servicing costs of USD 17 billion due in 2003, even if oil prices decline.

Russia's long-term sovereign foreign currency liabilities have been rated Ba3 by Moody's (since November 2001) and BB– by Standard & Poor's (since July 2002). Both ratings are the result of upgrades.

Russia continued to substantially speed up structural reform in 2002, although changes were slow in some key areas. At the beginning of November, the EU formally recognized Russia as a market economy in appreciation of the country's successful reform activities. The United States took a similar decision. Russia's new status as a market economy makes it more difficult for trading partners to resort to antidumping measures, and it will facilitate Russia's strived-for accession to the WTO. At mid-year, the tax code was modified in favor of SMEs. The tax burden was reduced somewhat and payment procedures were streamlined. Registration procedures for newly founded enterprises were

also simplified: Instead of calling on a considerable number of state agencies and authorities, since July 1, 2002, new entrepreneurs have only needed to register with the tax office.

Following prolonged negotiations, the new Central Bank Act was passed in July 2002. It provides for the creation of a "National Bank Council," the majority of whose members is to be nominated by the Russian president, the State Duma and the government. The major task of the National Bank Council is to improve the supervision of activities for which the monetary authorities are accountable to the government (provisions on accounting and the disclosure of information, personnel, investment and other expenditures, capital interest in other banks, annual reports). The new agency, however, is also vested with the authority to draft monetary policy guidelines and could thus jeopardize central bank independence. Also during the summer, the Land Code was amended by a new law permitting the purchase and sale of agricultural land.

After Russia had further tightened its anti-money laundering legislation in spring 2002, the Financial Action Task Force (FATF) decided in October to take Russia off its list of "uncooperative states." At the end of October, a new insolvency law was adopted which strengthens the independence of bankruptcy receivers. It aims at improving the protection of debtors against being declared bankrupt for minor reasons. In recent years, the insolvency law was frequently employed as an instrument for unfriendly and not market-oriented enterprise takeovers and was sometimes even abused to liquidate still solvent enterprises.

By contrast, the authorities have hardly advanced in the reform of "natural monopolies" (electricity, natural gas, railroads). In the course of the year, a number of tariff increases have taken place, but cost recovery is still far off. According to OECD estimates, the industrial price for natural gas in Russia in 2000 only came to about 10% of the OECD average. The industrial price for Russian electricity stood at one quarter of the OECD average. Banking reforms have also remained in the preparatory stage. In September 2002, the Russian central bank established a new inspection agency for credit institutions.

Cutoff date for data: November 28, 2002.

STUDIES

Catching Up: The Role of Demand, Supply and Regulated Price Effects on the Real Exchange Rates of Four Accession Countries

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I Introduction

In October 2002 the European Commission indicated that it saw no further barriers to a group of CEEC countries becoming full members of the European Union (EU). Such membership, in turn, requires a commitment to Economic and Monetary Union (EMU). Current EU arrangements imply that the move to monetary union for the accession countries should be a two-stage process, with countries participating in ERM II for (at least) two years before joining the euro area. Therefore once the accession countries have gained entry to the EU, one of the key issues, perhaps the key issue, facing these countries is at what point and at what exchange rate they should enter ERM II. Should they, for example, wait until they have reached a high degree of convergence with respect to key economic indicators, such as inflation or real growth, or should they enter ERM II contemporaneously with their membership in the EU? Some commentators (see for example Gros, 2001) have argued that real convergence should not be an obstacle to a rapid movement to ERM II and, indeed, full monetary union for the accession countries. The argument is that since convergence is likely to be a supply-side phenomenon, it is unlikely to affect the accession countries' competitiveness (this is discussed in more detail below). In contrast, others (see for example MacDonald, 2001) have issued a cautionary note that economic convergence should be addressed prior to participation in EMU. The latter argument is based on the degree of catching-up the accession countries face, which is very different to the experience of previous accession countries.

The issue of catching-up arises because CEE accession countries' GDP per capita (calculated using PPP weights) is only around USD 8,638 compared to the current EU average of approximately USD 22,303 (in 1999)[3]), implying that the accession countries' per capita GDP would have to grow by about 160% to reach the EU level. Of course, catching up with the EU average is the *raison d'être* for the accession countries' participation in EU. However, the catching-up process will necessarily have implications for the participating countries' inflation, which in turn could have important implications for competitiveness, especially if a country aims for a rigid locking of its exchange rate. Such inflationary consequences will, of course, also have a significance for the ability of the country to meet the Maastricht criterion for inflation (set at no more than 1.5 percentage points above the average rate of inflation of the three

EU Member States with the lowest inflation). However, proponents of a relatively fast entry to EMU stress that the inflationary pressures generated by the catching-up process are likely to be benign, because they are viewed as emanating from the supply side in the form of the Balassa-Samuelson effect. Although such supply-side effects are likely to be important for the accession countries, it seems highly likely that demand-side influences will also be important determinants of inflation differentials and, as we shall argue in this paper, such demand-side effects are likely to have a deleterious effect on inflation and competitiveness.

The main purpose of the present paper is to examine econometrically the relative importance of demand- and supply-side effects on the internal price ratios, and CPI-based real exchange rates, of a group of four accession countries.[1]) One of the key novelties in our work is that we build new measures of demand- and supply-side effects. For example, previous studies proxied the Balassa-Samuelson effect using the ratio of output to employment in industry (see for example Halpern and Wyplosz, 1997, 2001 and Égert, 2002), and demand-side influences have been captured using GDP per capita and the acceleration of inflation (Halpern and Wyplosz, 2001). Here we also use the ratio of output to employment as our chosen measure of productivity, but we build this measure from output and employment in the traded sector. We also use new demand-side factors, namely private and government consumption.

Additionally, we attempt to calculate the effect of regulated prices on the internal price ratios and CPI-based real exchange rates of our group of accession countries. Such prices are likely to be important, given that they still have a share of between 13% and 24% of the accession countries' consumer goods basket. We try to quantify how important these prices are for real exchange rates relative to the demand and supply influences discussed above. Finally, we attempt to measure the influence of the distribution sector on the internal price ratios and on the CPI-based real exchange rates. MacDonald and Ricci (2001) have demonstrated, for example, that total factor productivity from the distribution sector can have a statistically significant effect on the real exchange rate which behaves much like a Balassa-Samuelson effect but coexists with this effect and is not a proxy for it. Since a considerable proportion of the current inward foreign direct investment in the accession countries is aimed at their distribution sector, we believe that analyzing this effect separately is an important element in understanding the behavior of these countries' exchange rates.

The outline of the remainder of this paper is as follows. In the next section we present a motivational overview of the influence of demand- and supply-side effects on real exchange rates and also survey the extant empirical literature on the Balassa-Samuelson effect. In section 3 the data set used for our econometric tests is presented, along with our econometric tests. Section 4 contains our empirical results. Section 5 concludes.

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1 *Our choice of countries reflects the availability of data rather than any form of self-selection bias.*

2 Catching Up and Demand and Supply Influences on Real Exchange Rates

A useful way of thinking about the sources of systematic movements in real exchange rates is to consider the following decomposition of the real exchange rate. As usual, we define the logarithm of the (CPI-based) real exchange rate as:

$$q_t \equiv s_t - p_t + p_t^* \tag{1}$$

where q represents the real exchange rate, s is the nominal exchange rate, p is the overall price measure (the CPI), an asterisk denotes a foreign variable and lower-case letters denote natural logarithms. These overall prices may be decomposed into traded and nontraded components as:

$$p_t = \alpha_t p_t^T + (1 - \alpha_t) p_t^{NT}, \tag{2}$$

$$p_t^* = \alpha_t^* p_t^{T*} + (1 - \alpha_t^*) p_t^{NT*}, \tag{2'}$$

where p_t^T denotes the price of traded goods, p_t^{NT} denotes the price of nontraded goods and the α's denote the share of traded goods in the economy. A similar relationship to (1) may be defined for the price of traded goods as:

$$q_t^T \equiv s_t - p_t^T + p_t^{T*}. \tag{3}$$

By substituting (2) into (3), we may obtain our desired decomposition of the real exchange rate as:

$$q_t = q_t^T + q_t^{T,NT},$$

where $q_t^{T,NT} = (\alpha_t - 1)(p_t^{NT} - p_t^T) + (\alpha_t - 1)(p_t^{NT*} - p_t^{T*})$ is the so-called internal price ratio, the relative price of nontraded to traded goods in the home country relative to the foreign country. What are the factors driving these two components of the real exchange rate? Consider, first, the internal price ratio, $q_t^{T,NT}$.

In the traditional Balassa-Samuelson approach to understanding systematic movements in the real exchange rate (see for example De Gregorio, Giovannini and Wolf, 1994) productivity shocks in the traded sector are the key force driving the internal price ratio and, ultimately, the CPI-based real exchange rate. The key assumptions in the Balassa-Samuelson approach is that the law of one price (LOOP) holds and therefore q_t^T is zero, or constant, production technology is Cobb-Douglas, with constant returns to scale, and there is some mechanism equalizing wages between the traded and nontraded sectors. With these assumptions it is then straightforward to demonstrate that a positive shock to total factor productivity in the traded sector raises the average wage in the economy, the relative price of nontraded to traded goods rises, and the CPI-based real exchange rate appreciates. Hence the Balassa-Samuelson prediction is that there should be a positive (negative) relationship between total factor productivity in the traded (nontraded) sector and the CPI-based real exchange rate, and the coefficient should be equal to the share of expenditure on nontraded goods.

A second supply-side influence on the internal price ratio involves relative factor endowments. In the traditional Hecksher-Ohlin two factor, two good relative factor endowments model, nontraded (traded) goods are assumed to be

relatively labor-intensive (capital-intensive) in production. High per capita-income countries are assumed to have a comparative advantage in producing commodities, so the relative price of nontraded goods will be higher in countries with relatively high per capita income.

The influence of demand, of both the public and private sector, on the internal price ratio has been highlighted by Dornbusch (1988), Neary (1988) and Bergstrand (1991). As a country catches up and income rises, demand-side factors can affect the internal price ratio if preferences are nonhomothetic. Usually preferences are thought to be biased in favor of the nontraded good because services are viewed as superior goods. In this case, of course, the demand-side influences would reinforce the supply-side effects, and although this may be thought of as an equilibrium relationship, there may be policy issues in the short to medium run for an accession country wishing to avoid excessive inflationary consequences. Of course, the policy implications of demand-side effects are likely to be more pronounced if preferences are skewed in favor of traded goods.

Starting with Bergstrand (1991), a number of studies have sought to capture both the demand- and supply-side influences on the real exchange rate using GDP per capita. For example, Bergstrand (1991) has demonstrated that over 80% of the cross-sectional variation of real exchange rates can be explained by per capita GDP and a constant, and that a 1% increase in per capita GDP produces a 0.5% increase in the real exchange rate (or the inflation differential). Slok and De Broek (2000) have demonstrated that a similar relationship also holds for the current group of accession countries.

As we have seen, an essential component of the Balassa-Samuelson hypothesis is that the LOOP holds continuously and that q_t^T is constant or zero. However, the broad thrust of the empirical evidence for developed countries is that the LOOP in fact does not hold. This is evident from studies which focus explicitly on testing the LOOP (see, for example, Isard, 1977) and also studies which examine the decomposition of the CPI-based real exchange rate. For example, Engel (1993) and Rogers and Jenkins (1995) have shown that for developed countries the variability of q_t^T always dominates the variability of $q_t^{T,NT}$. There are a number of interpretations for this finding, such as the importance of sticky prices (see for example Mussa, 1986), the pricing-to-market behavior of firms (see Betts and Devereux, 1996), the importance of transaction costs in imparting nonlinear adjustment to q_t^T (see Obstfeld and Taylor, 1997), or the imperfect substitutability of traded goods across countries (see MacDonald and Ricci, 2002). Although all of the foregoing arguments seem plausible, the issue of imperfect substitutability seems especially so, given that casual empiricism suggests that goods entering international trade are imperfectly substitutable: a 3 series BMW produced in Germany, for example, is not a prefect substitute for, say, a Ford Mondeo produced in the UK. Indeed, for white goods such as refrigerators, which appear to be very similar across brands and countries, it is well know that even within Europe such items are highly differentiated to appeal to different tastes in different countries.

Of course, even if $q_t^{NT,T}$ is the dominant component in explaining real exchange rate variability, this does not necessarily mean that Balassa-Samuelson effects are unimportant. A number of studies have examined the impact of pro-

ductivity in the traded and nontraded sectors on the real exchange rate. For example, using the OECD sectoral data base to construct measures of total factor productivity (TFP), Chinn and Johnston (1999) demonstrate for the U.S. dollar bilateral exchange rates of a set of developed countries that the Balassa-Samuelson terms are correctly signed and statistically significant with a point estimate close to 0.8. MacDonald and Ricci (2001) confirm this result for a similar panel of countries, although they show that once the productivity terms enter unconstrained, the coefficients are not equal and opposite from the prediction of the Balassa-Samuelson proposition. Furthermore, when wages enter as a conditioning variable in addition to the Balassa-Samuelson term, the coefficient on TFP in the traded sector becomes statistically negative rather than zero as predicted. MacDonald and Ricci (2001) also show that the distribution sector behaves much like the effect of productivity on the real exchange rate and should therefore not be included in the nontraded sector, by contrast to what has been assumed in other studies.

MacDonald and Ricci (2002) present an alternative theory of how productivity effects impact on real exchange rates, which helps to explain the seemingly perverse effect productivity has once the real exchange rate has been conditioned on relative wages. The starting point of this new approach is a model based on the so-called new trade theory of Helpman and Krugman (1985). This has at its core product differentiation and a love of variety: in contrast to the standard neoclassical trade theory underpinning the Balassa-Samuelson effect, the imperfect substitutability of traded goods is a *sine qua non* in this approach. MacDonald and Ricci demonstrate, inter alia, that the coefficient on the productivity of tradables should be smaller in the presence of imperfectly substitutable traded goods and a home bias in favor of home goods. This differs from the Balassa-Samuelson effect, where the coefficient on productivity in nontradables should be equal and opposite relative to the coefficient on productivity in the tradable sector. Additionally, when the wage enters the exchange rate relationship as a conditioning variable, the regression coefficient on productivity in the tradable sector can become significantly negative (because of the imperfect substitutability of traded goods).

A number of studies have quantified the Balassa-Samuelson effect, and also demand-side effects, for the current group of accession countries. The first study to estimate the effects of productivity for transitional economies is that of Halpern and Wyplosz (1997), who use a reduced-form approach to capture the effects of productivity and other measures of economic effectiveness on the real exchange rates of a panel of 80 countries (the countries in the panel fall into the following panel groupings: OECD countries, Africa, Southeast Asia, Latin America and transition economies). Halpern and Wyplosz are able to distinguish between these different groupings using fixed and random effects estimators. The productivity measure is average productivity (i.e. they do not distinguish between productivity in the tradable and nontradable sectors), and this is captured by GDP per worker. Their measure of aggregate average productivity produces a large and significant coefficient, which is shown to be sensitive to the inclusion of regional and country dummies — it declines quite dramatically as such dummies are added in. Conversely, the coefficient on investment in human capital (proxied using secondary school enrollment) rises as the regional and

country dummies are introduced. They also find that a 10% decline in the size of agriculture relative to industry increases the dollar wage by between 1% and 2%. A 10% increase in the size of the government raises wages by 3% to 6%. This effect is interpreted as measuring the effect of public services and infrastructure on aggregate productivity.

Halpern and Wyplosz (2001) focus more directly on the Balassa-Samuelson effect, using a panel data set for nine transition countries over the period 1991 to 1999. Their measure of productivity in the tradable sector is taken to be the ratio of industry output to employment, while the measure of productivity in the nontradable sector is taken to be the ratio of output to employment in the service sector. Their panel regressions involve regressing the relative price of the service sector to the industry price onto the two productivity measures and the two demand-side proxies, namely PPP-adjusted GDP per capita and the change in the rate of inflation. The productivity terms enter with the correct signs and are both statistically significant. The coefficient on productivity in the industry sector is 0.24, that for the coefficient on productivity in the service sector is –0.18. GDP per capita also entered with a small, though positive, coefficient; the inflation effect did not have a clear-cut impact on the internal price ratio. Halpern and Wyplosz demonstrate that their results are robust to a number of different estimation methods and that the Balassa-Samuleson effect is strongest in a regime of floating exchange rates.

Égert (2002) examines the Balassa-Samuelson effect for the Czech Republic, Hungary, Poland, Slovakia and Slovenia over the first quarter of 1991 to the second quarter of 2001. The productivity measure used is the ratio of the index of industrial production to employment in that sector (productivity in nontradables is set to zero, as no data are available). As in Halpern and Wyplosz, the industrial sector proxies the traded sector while the service sector represents the nontraded sector. The relative price of nontraded goods is determined as changes in the price of services relative to the producer price index of final industrial goods. The econometric results are generated using the Johansen cointegration method, on a country-by-country basis, and using panel cointegration tests for the group of countries. Significant and correctly signed productivity effects are reported for this group of countries with respect to both the internal price ratio and also the CPI-based real exchange rate. In sum, significant and correctly signed effects of productivity effects on the internal price ratio and on the real exchange rate are reported.

In this section we have discussed the potential impact demand- and supply-side effects can have on the real exchange rate. We now explore the relationship between these variables for a group of accession countries. Having done so, we then draw out the policy implications of our findings in a concluding section.

3   Data Description and Estimation Methods

The countries considered in this study are Estonia, Hungary, the Slovak Republic and Slovenia. Austria serves as the foreign, or numéraire, country. The choice of Austria as numéraire reflects the fact that it is geographically very close to Hungary, Slovenia and the Slovak Republic (it has a common border with these countries), has close trading links with these countries and is structurally very similar to the German economy, which is their main trading part-

ner. The data frequency is quarterly, and the time series dimension differs across countries and variables. However, we have constructed a balanced panel from the individual countries for the first quarter of 1995 to the first quarter of 2001. Apart from the interest rates, all of the data are in constant prices and are transformed into a base index with 1st quarter 1995 = 100. All time series, apart from the real interest rates (RIR) and net foreign assets (NFA), have been seasonally adjusted using an X-11 filter, and apart from the interest rates, all data have been transformed by taking natural logarithms. Data on NFA and interest rates are taken from the IMF's International Financial Statistics CD-ROM, while data on Austrian interest rates are sourced from the OeNB. All other data were obtained from the respective central banks or statistical offices.

We use two key dependent variables in our study. The first is the internal price ratio, Lrp100nta, the price index of nontradables relative to the price index of tradables. For this measure, tradables comprise the following categories: food and nonalcoholic beverages, alcoholic beverages and tobacco, clothing and footwear, transport and communication. Nontradables comprise the following categories: housing, household goods, health, recreation and entertainment, miscellaneous goods and services.[1] The second dependent variable is the index of the CPI-based effective long-run equilibrium real exchange rate (LRER). We have constructed this index so that an increase implies an appreciation of the real exchange rate.

The key independent variable used in our study is productivity in the tradable relative to the nontradable sector. We use labor productivity as a proxy for marginal total factor productivity; it is calculated by dividing value added, or GDP, by employment in the respective sector. The tradable sector includes the following categories: agriculture, hunting and forestry; fishing; mining and quarrying; manufacturing, transport and communication. The nontradable sector includes the following categories: electricity, gas and water supply; construction; wholesale and retail trade; hotels and restaurants; financial intermediation; real estate, renting and business activities; public administration and defense; education, health and social work; other community; and social and personal activities.

Due to the lack of more disaggregated data for Hungary, tradables contained mining and quarrying; manufacturing and electricity; transport, storage and communications. Nontradables for Hungary comprised construction; trade; repair; hotels and restaurants; financial intermediation and real estate activities; public administration; education, health and social work; other community; social and personal service activities. For Slovakia, the tradable sector contains agriculture; mining and quarrying; manufacturing and transport; storage and communication; while the nontradables, in turn, consist of electricity, gas and water supply; trade; repair of motor vehicles, and other services.

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1   *For Hungary tradables contain the category "goods total," i.e. food and alcoholic beverages, tobacco, clothing and footwear,*
     consumer durable goods, other goods including motor fuels and lubricants. Nontradables contain the category "services total,"
     i.e. repairs, clothing and footwear, rent, services for dwellings, household services, personal care and health services, transport
     services, communication, cultural, educational and entertainment services, gambling, membership, recreational services, other
     services.

Our constrained productivity measure is labeled lratna, and the uncon-strained measures are lrata (productivity in tradables) and lrana (productivity in nontradables). To evaluate the role of the distribution sector we use labor productivity in that sector (wholesale and retail sales). Data availability means that this variable can only be calculated for Estonia and Slovenia. In any estimation involving that sector, we exclude the distribution sector from non-tradables.

The demand-side variables included as explanatory variables are: consumption as a proportion of GDP; private consumption as a proportion of GDP; total consumption as a proportion of GDP. For Slovenia, quarterly data on consumption are only available from 1999. Therefore, to construct a quarterly series for the period before 1999, we have extrapolated the annual values. The final set of explanatory variables involve regulated prices.

As noted above, our empirical tests are conducted for a panel of four countries. Recent developments in the econometrics of panel data sets has sought to address the potential nonstationarity of the series entering the panel. In particular, McKoskey and Kao (1998), Pedroni (1997) and Phillips and Moon (1998) have proposed panel equivalents to the single equation fully modified estimator while McKoskey and Kao (1998) and Mark and Sul (1999) have proposed using a panel dynamic ordinary least squares (DOLS) estimator. Since Kao and Chiang (1999) have demonstrated that the panel DOLS procedure exhibits less bias than the panel ordinary least squares OLS and panel fully modified estimators and Mark and Sul (1999) have emphasized the tractability of the estimator, we employ a panel DOLS estimator for all our regressions.

A version of the panel DOLS estimator which allows for limited heterogeneity in the form of fixed effects is:

$$y_{it} = \theta_{1i} + \theta_{2t} + \theta_3 x_{it} + \sum_{j=-p}^{+n} \theta_{4j} \Delta x_{it+j} + \omega_{it},$$

where y_{it} is a scalar, taken to be either lrpnta or LRER in our application, x_{it} is a vector of explanatory variables, discussed above, with dimension k, θ_{1i} is an individual fixed effect, θ_{2t} is a time effect, θ_3 represents a vector of coefficients, p is the maximum lag length, n is the maximum lead length and ω is a Gaussian vector error process. The leads and lags of the difference terms are included to ensure that the error term is orthogonalized. Our representation of the panel DOLS estimator assumes that the dynamics are the same across individuals.

4 Empirical Results

4.1 The Baseline Model and the Balassa-Samuelson Effect

In this section we consider the effect of the Balassa-Samuelson term on the internal price ratio and on the CPI-based real exchange rate. For example, in the first column of table 1 we report results from the panel DOLS regression of the internal price ratio (lrpnta) onto the constrained Balassa-Samuelson effect. The point estimate is correctly signed and strongly significant. The magnitude of the coefficient on the Balassa-Samuelson effect, although numerically below the magnitude of the expenditure share on nontraded goods, is nonetheless insignificantly different from this expenditure share. The unconstrained

coefficients reported in column 2 are correctly signed, strongly significant and of a plausible magnitude. The unconstrained estimates show that the coefficient on tradable productivity is much larger than the coefficient on productivity in nontradables, and indeed the hypothesis that they are equal and opposite is clearly rejected. This would seem to be evidence against a Balassa-Samuelson interpretation of the effect of productivity and favor the MacDonald and Ricci (2002) interpretation. Columns 3 and 4 show that the constrained and unconstrained Balassa-Samuelson terms have a similar effect on the CPI-based real exchange rate (LRER).

In columns 5 and 6 we incorporate the constrained and unconstrained Balassa-Samuelson terms into a regression for the CPI-based real exchange rate containing both relative net foreign assets as a proportion of GDP and the real interest differential as explanatory variables. These variables are seen as key variables in explaining systematic movements of real exchange rates (see MacDonald, 1999), and we include them here to ensure that the effects of the Balassa-Samuelson effect on the real exchange rate are not spurious. In accordance with theory, the coefficient on both NFA and RIR is expected to be positive. Note that coefficients on the Balassa-Samuelson terms are similar, in terms of significance and sign, to the regressions where NFA and the real interest differential are not included, although the magnitude of the coefficent on lrata is different. Note also that the NFA and RIR terms are themselves correctly signed and statistically significant.

The last three columns contain the results from regressing the real exchange rate on various permutations of the two macrovariables. The sign, magnitude and significance of the coefficients in these regressions are similar to the regressions which include the macrovariables with the Balassa-Samuelson term, thereby confirming the robustness of our results. The unconstrained estimates of the Balassa-Samuelson effect contrast with that reported in MacDonald and Ricci (2002) for a panel of G-7 countries. They found that the coefficient on productivity in the tradable sector was smaller, in absolute terms, than the coefficient on nontradables. In the context of their model, MacDonald and Ricci rationalized this in terms of imperfectly substitutable traded goods and a home expenditure bias. We explain the opposite finding here in terms of an expenditure bias in favor of foreign goods.

4.2 Demand-Side Variables and the Balassa-Samuelson Effect

The first three columns of table 2 explore the effects of adding in the three demand variables – government consumption, private consumption and total consumption – in addition to the Balassa-Samuelson effect onto the internal price equation. As can be seen, the coefficients on the demand variables are similar across the three equations, each being approximately –0.1. It is noteworthy that the coefficient on the Balassa-Samuelson terms is unaffected by the introduction of the demand-side variables, and it would seem that the two variables coexist and have independent influences on the real exchange rate. Perhaps the most notable feature of the coefficient on the demand-side variables is that they have negative signs. This means they are wrongly signed in terms of the conventional effect referred to in section 3. Of course, as we have noted, the conventional (positive) sign presupposes that the law of one price holds. If it

does not, and this is likely to be particularly so for the accession countries, then the negative sign is not entirely unexpected, since traded goods are more likely to be regarded as luxury goods in the accession countries than services are, which is the conventional assumption. However, the negative sign clearly has important implications for these countries as they catch up: some of the catching-up, by spilling over into the traded sector, is likely to make that sector uncompetitive.

However, when the demand-side variables are introduced into the internal price equation with the Balassa-Samuelson term unconstrained (columns 4, 5 and 6), the coefficients on the demand-side variables increase and become insignificant. The source of the insignificance of the demand-side variables in the unconstrained regressions would seem to stem from the collinearity of the variables. For example, the correlation coefficients between lratna and each of the demand-side variables is around 0.1 in absolute terms; however, when the productivity variables are entered unconstrained, the correlation coefficient between the demand variables and lrana is between 0.4 and 0.5 in absolute terms. Qualitatively, the results for the internal price ratio are confirmed in the regressions for the CPI-based real exchange rate. Here the coefficients on productivity, NFA and the real interest differential remain unchanged as demand-side variables are added in, although the coefficients on the demand-side variables are all insignificant.

In sum, the demand-side variables have a small, significantly negative effect on the internal price ratio and an effect on the CPI-based real exchange rate which is small and statistically insignificant.

4.3 The Balassa-Samuelson Effect and the Wage Effect

As we noted in section 3, the key channel through which the Balassa-Samuelson effect influences the overall CPI-based real exchange rate is through wages. Following MacDonald and Ricci (2001), we include wages in our regressions containing the Balassa-Samuelson effect. If wages are indeed the channel through which the Balassa-Samuelson effect operates, then their introduction should make the productivity term (s) insignificant. These results are presented in table 3 for both the internal price ratio and the overall CPI-based real exchange rate. The results for the overall real exchange rate are very interesting, since, as predicted by the Balassa-Samuelson model, the coefficient on productivity becomes insignificantly distinguishable from zero. This finding contrasts sharply with the results in MacDonald and Ricci (2001) for the G-7. As we have noted, these authors find that when the relative wage term is introduced into a regression of the real exchange rate on relative productivity, the coefficient on productivity becomes significantly negative, and this can only be rationalized by using a non-Balassa-Samuelson-type framework. The result here seems to suggest that the Balassa-Samuelson interpretation of productivity is more relevant for the accession countries.

4.4 The Influence of Regulated Prices

Deregulation of prices has been one of the main components of transition from central planning to market economies. For example, there is considerable empirical evidence that the adjustment of regulated prices played an important

role in the inflationary process and in the development of relative prices in the transitional economies throughout the last decade (see e.g. Pujol and Griffith, 1998, and Wozniak, 1998).[1]) The cost recovery hypothesis developed by Zavoiko (1995) provides the most influential theoretical justification of this evidence.

So far, however, the importance of regulated prices in determining relative prices and real exchange rates in these economies has been analyzed separately from the Balassa-Samuelson effect. Our data set allowed us to address this problem and to analyze both effects simultaneously in order to gauge their relative importance. Table 4 reports the main results. Our regulated price term (lrpa) has a (highly) statistically positive effect on the internal price ratio and on the real exchange rate, irrespective of the specification considered. The point coefficient is high and in most cases ranges between 0.10 and 0.16. Moreover, introducing the regulated price term significantly increases the model's explanatory power, and this would seem to confirm the importance of this variable for the relative price and real exchange rate developments in these countries.

Probably the most striking and the most interesting result of these estimates is that once the regulated price term is introduced into the model, the significance of the Balassa-Samuelson term vanishes. In particular, when regulated prices are introduced into the internal price equation jointly with productivity, the constrained Balassa-Samuelson term becomes insignificantly distinguishable from zero. The same holds when we introduce the regulated price term into the macroequation with the real exchange rate as the dependent variable: the constrained Balassa-Samuelson term becomes statistically insignificant.

The results change somewhat when we use the unconstrained Balassa-Samuelson term: the coefficient on tradable productivity becomes much smaller compared to the benchmark Balassa-Samuelson model reported in table 1, although it still remains significant at the 1% level. Nontradable productivity, however, becomes insignificantly different from zero. The results are similar when we introduce the regulated price term into the macroequations for the real exchange rate, the only exception being that the estimate of tradable productivity is significant at the 10% level.

All in all, our results seem to suggest that the adjustment of regulated prices had an independent and possibly much stronger effect on internal price ratios and on real exchange rates in transitional economies than the Balassa-Samuelson effect did. This finding is important, given the fact that regulated prices still account for a high share of the accession countries' consumer basket, and many of them are still below the cost recovery level.[2])

4.5 The Distribution Sector

Following MacDonald and Ricci (2001), we experimented with including a proxy for productivity in the distribution sector into our regressions. For example, MacDonald and Ricci demonstrate that for the G-7 countries, the share of

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1   *Administrative prices still have a share of approximately 13% to 24% in the accession countries' consumer basket. See Backé et al. (2002).*

2   *The share of regulated prices in the consumer basket in 2001 was 15% in Estonia, 18.5% in Hungary, 19.3% in the Slovak Republic (value for 2000) and 12.7% in Slovenia (value for 2000). See Backé et al. (2002).*

the distribution sector in value added was an average of 15% for the 10 OECD countries studied and its share in total employment was 19% for these countries. For the two countries for which we have access to distribution data, namely Estonia and Slovenia, the employment share of the distribution sector in 2000 was approximately 14% for both countries, while the sector's value added share came to 15% and 12%, respectively. Given that a large proportion of inward FDI in the accession countries consists of investment in the distribution sector, these numbers seem set to rise over time.

The results from incorporating the distribution sector for Slovenia and Estonia are reported in tables 5 and 6. For Slovenia, the new Balassa-Samuelson terms are correctly signed and significant and of the same order of magnitude as in the panel regresssions. The distribution term has a significantly positive effect in the regression with a constrained Balassa-Samuelson term, but the effect is insignificant in the unconstrained Balassa-Samuelson regression, a finding we attribute to the collinearity among the series. For Estonia the Balassa-Samuelson terms are all statistically significant, although the coefficient on productivity of the nontraded sector becomes wrongly signed (suggesting that with the exclusion of the distribution sector, we are capturing a greater traded element in the nontraded sector). We note that the coefficient on distribution is correctly signed and significant in both the constrained and unconstrained cases. In the former, the coefficient on the Balassa-Samuelson term remains significant, as does the coefficient on productivity of the tradable sector in the unconstrained regression (although the coefficient on nontraded production is insignificant). In sum, productivity in the distribution sector has an independent effect on the internal price ratio over and above that generated by the Balassa-Samuelson effect.

4.6 Robustness Checks

We also implemented all of the above-noted tests using a variety of other estimators, such as static OLS and DOLS with a correction for contemporaneous correlation. The application of these different estimators did not change the tenor of our results and they are therefore not reported here (but are available from the authors on request).

5 Concluding Comments

In this paper we have reexamined the effect of productivity differentials and demand-side effects on the CPI-based real exchange rates and internal price ratios of a group of four accession countries. In contrast to other empirical studies of CEECs, we use new, and we believe superior, measures of both productivity and demand-side effects for these countries. Our tests were conducted for a panel of four countries, comprising Estonia, Hungary, the Slovak Republic and Slovenia. Among our main findings are: The effects of productivity in the traded and nontraded sectors on both real exchange rates and internal price ratios are statistically significant; the influence of demand-side effects on the two dependent variables (CPI-based real exchange rates and internal price ratios) is weakly negative; regulated prices are significant in our regressions and remove the significance of the relative productivity effect. We have demonstrated that productivity in the distribution sector has a significantly positive effect on the internal

price ratios of Estonia and Slovenia. We now consider the policy implications of our results for the membership of our group of countries in EMU.

Recently some economists (see for example Gros, 2001) have advocated a relatively rapid movement by the current group of accession countries to full monetary union with the EU. In this view, catching-up is not deemed to be an important issue with respect to an accession country's competitiveness because it is seen as a purely supply-side phenomenon, and any inflation generated is regarded as benign in the context of a Balassa-Samuelson effect. Our results would seem to offer some support for this view in the sense that the inflationary implications of the Balassa-Samuelson effect would seem to be very small, in particular much smaller than those reported in other studies. For example, for the two fast-growing countries in our study (namely Hungary and Estonia) we calculate a Balassa-Samuelson effect-implied inflation differential (against the numéraire country, Austria) of only 0.5 percentage points to 0.6 percentage points, while for the remaining, slower-growing countries we obtain an inflation differential of around 0.2 percentage points (this partly reflects a low share of nontradable prices in the CPI indices of these countries). Indeed, a doubling of productivity growth still produces inflation differentials which are well within the Maastricht criteria. These inflationary effects are little changed when the effects of the demand side are added in. The negative coefficient of our demand term suggests, however, that such demand-side effects could have a potentially deleterious effect on competitiveness and therefore should not be neglected.

The other main conclusion to stem from our work is that the role of regulated prices has a much more significant effect on the real exchange rates and internal price ratios of our group of accession countries than the Balassa-Samuelson effect does. Therefore, in future discussions of the European monetary process for accession countries more weight should be given to the effect of regulated prices rather than the emphasis which has so often been placed on productivity effects, which seem to be relatively benign.

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Appendix: Definitions and Notation of Variables

Country coding:

_ee Estonia
_hu Hungary
_si Slovenia
_sk Slovak Republic
_aa Austria

Variables:

a) Prices:

Lp100nta — log of relative prices of nontradables to tradables, seasonally adjusted

Lrpa — log of regulated prices, seasonally adjusted

Lrpnta — log of relative prices of nontradables to tradables, relative to the same variable in Austria, seasonally adjusted

b) Productivity Variables:

Latna — log of relative productivity in tradable sector to nontradable sector, seasonally adjusted

Latnas — log of relative productivity in tradable sector to nontradable sector, seasonally adjusted, corrected by labor shares

Lata — log of productivity in tradable sector, seasonally adjusted

Lana — log of productivity in nontradable sector; seasonally adjusted

Lratnas, Lratna, Lrata, Lrana — as above, but all relative to similar variables for Austria

Latnoda — log of relative productivity in tradable sector to nontradables sector, without the distribution sector, seasonally adjusted

Latoda — log of productivity in tradable sector, without the distribution sector, seasonally adjusted

Lanoda — log of productivity in nontradable sector, without the distribution sector, seasonally adjusted

Ladisa — log of productivity in distribution sector, seasonally adjusted

c) Demand Variables:

Lgcgdpa — log of government consumption over GDP, seasonally adjusted

Lpcgdpa — log of private consumption over GDP, seasonally adjusted

Ltcgdpa — log of total consumption over GDP, seasonally adjusted

Lcapitaa — log of GDP per capita, seasonally adjusted

Lrgcgdpa, Lrpcgdpa, Lrtcgdpa — the same but all relative to similar variables for Austria

From the above it follows that:

L — log
p — prices
a — productivity
a (at the end of the name) — seasonally adjusted
capita — GDP per capita
t — tradable

n	–	nontradable
gc	–	government consumption
pc	–	private consumption
tp	–	total consumption
gdpa	–	GDP, seasonally adjusted
rir	–	relative real interest rates
r	–	relative variables
rp	–	regulated prices
od	–	without the distribution sector
s	–	corrected by labor shares

Table 1

Basic Balassa-Samuelson Model and a Robustness Check

Estimation Method: PDOLS

	Lrpnta	Lrpnta	LRER	LRER	LRER	LRER	LRER	LRER	LRER
NFA/GDP (mfagdpa)					0.00006** (2.19)	0.00004 (1.18)	0.00008*** (2.77)	0.00004	
Real interest rates (rir)					0.005*** (3.87)	0.004** (2.039)	0.008*** (6.59)		0.007*** (5.53)
Balassa-Samuelson effect (lratna)	0.41*** (5.79)		0.15*** (3.57)		0.42*** (4.63)				
Productivity in tradables (lrata)		0.51*** (7.45)		0.72*** (9.15)		0.49*** (3.26)			
Productivity in nontradables (lrana)		−0.23* (3.08)		−0.46*** (5.33)		−0.43*** (4.63)			
Testing restrictions on Balassa-Samuelson effect** − Chi-square − Probability									
Adj. R-squared	0.27	0.39	0.13	0.53	0.53	0.53	0.35	0.006	0.27
Number of observations	100	100	100	100	100	100	100	100	100

Estimations are in levels; *, **, *** statistically significant at the 10%, 5% and 1% level; absolute t-values in parentheses. ** Wald Test on restrictions: HO: lata = lana.

Table 2

Basic Balassa-Samuelson Model, the Demand Side and a Robustness Check

Estimation Method: PDOLS

	Lrpnta	Lrpnta	Lrpnta	Lrpnta	Lrpnta	Lrpnta	LRER	LRER	LRER	LRER	LRER	LRER
NFA/GDP (mfagdpa)							0.00006** (2.04)	0.00006** (0.071)	0.00006** (2.02)	0.00003 (0.82)	0.00004 (1.04)	0.00004 (1.01)
Real interest rates (rir)							0.005** (3.39)	0.005*** (3.67)	0.005*** (3.52)	0.003 (1.41)	0.004* (1.78)	0.004* (1.69)
Balassa-Samuelson effect (lratna)	0.42*** (5.97)	0.43*** (6.01)	0.51*** (6.59)				0.43*** (4.49)	0.41*** (4.12)	0.42*** (4.27)			
Productivity in tradables (lrata)				0.52*** (7.18)	0.51*** (7.28)	0.51*** (7.26)				0.57*** (3.22)	0.51*** (3.1)	0.52*** (3.09)
Productivity in nontradables (lrana)				−0.21** (2.51)	−0.21** (2.45)	−0.21** (2.46)				−0.42*** (4.22)	−0.40*** (3.88)	0.41*** (4.02)
Government consumption/GDP (lrgcgdpa)	−0.10** (2.27)			−0.003 (0.06)			0.004 (0.07)			0.06 (0.89)		
Private consumption/GDP (lrpcgdpa)		−0.13** (2.03)			−0.03 (0.46)			-0.04 (0.6)			0.006 (0.07)	
Total consumption/GDP (lrtcgdpa)			−0.11* (1.73)			−0.01 (0.28)			-0.03 (0.42)			0.02 (0.29)
Wald Test*												
− Chi-square												
− Probability												
Adj. R-squared	0.28	0.27	0.24	0.37	0.37	0.37	0.51	0.51	0.51	0.51	0.5	0.5
Number of observations	100	100	100	100	100	100	100	100	100	100	100	100

*Estimations are in levels; *, **, *** statistically significant at the 10%, 5% and 1% level, absolute t-values in parentheses. * Wald Test on restrictions: HO: lata = lana = (demand variable) = 0.*

Table 3

Introducing the Wage Effect

Estimation Method: PDOLS

	LRPNTA	LRPNTA	LRER	LRER	LRER	LRER
NFA/GDP (mfagdpa)					0.00007*** (2.90)	0.00005* (1.67)
Real interest rates (rir)					0.003*** (3.40)	0.003* (1.82)
Balassa-Samuelson effect (lratna)	0.33*** (3.47)		0.25*** (2.91)		0.12 (1.36)	
Productivity in tradables (lrata)		0.45*** (4.76)		0.35*** (4.01)		0.17 (1.26)
Productivity in nontradables (lrana)		−0.19** (2.06)		−0.15* (1.68)		−0.13 (1.43)
Real wage (lrwea)	0.08 (1.58)	0.05 (1.14)	0.31*** (6.48)	0.29*** (6.24)	0.28*** (6.21)	0.27*** (5.87)
Adj. R-squared	0.30	0.42	0.62	0.66	0.69	0.68
Number of observations	100	100	100	100	100	100

*Estimations are in levels; *, **, *** statistically significant at the 10%, 5% and 1% level; absolute t-values in parentheses.*

Table 4

Basic Balassa-Samuelson Model, Regulated Prices and a Robustness Check

Estimation Method: PDOLS

	Lrpnta	Lrpnta	LRER	LRER	LRER	LRER	LRER	LRER	LRER
NFA/GDP (mfagdpa)				0.00001 (0.36)	−0.00002 (0.50)			−0.00002 (0.37)	
Real interest rates (rir)				0.006*** (5.13)	0.004*** (2.53)			0.006** (1.87)	
Balassa-Samuelson effect (lratna)		0.07 (1.05)		0.15 (1.36)		0.43*** (4.42)			
Productivity in tradables (lrata)			0.17*** (3.01)		0.26* (1.75)		0.55*** (5.61)		
Productivity in nontradables (lrana)			0.10 (1.88)		−0.14 (1.26)		−0.29** (2.87)		
Regulated prices (lrpa)	0.16*** (11.78)	0.14*** (8.26)	0.14*** (10.56)	0.10*** (3.57)	0.10*** (3.52)	0.07*** (2.97)	0.07*** (2.90)	0.14*** (6.65)	0.15*** (7.11)
Adj. R-squared	0.62	0.62	0.77	0.63	0.62	0.49	0.55	0.62	0.38
Number of observations	100	100	100	100	100	100	100	100	100

*Estimations are in levels; *, **, *** statistically significant at the 10%, 5% and 1% level; absolute t-values in parentheses.*

Table 5

The Role of the Distribution Sector in Estonia from January 1994 to January 2001

(OLS with White Heteroskedasticity-Consistent Coefficient Covariance)

	Lp100nta	Lp100nta	Lp100nta	Lp100nta	Lp100nta	Lp100nta
Balassa-Samuelson effect (out of distribution) (latnoda)	0.349*** (5.30)				0.171*** (2.69)	
Productivity in tradables (out of distribution) (latoda)		0.371*** (6.62)		0.245*** (3.79)		0.173** (2.51)
Productivity in nontradables (out of distribution) (lanoda)			0.70*** (4.60)	0.368* (1.83)		0.09 (0.50)
Productivity in the distribution sector (ladisa)					0.545*** (8.35)	0.401** (2.38)
Testing restrictions on Balassa-Samuelson effect − Chi-square − Probability						64.77 0.000
Adj. R-squared	0.26	0.55	0.49	0.61	0.72	0.75
Number of observations	29	29	29	29	29	29

*Estimations are in levels; *, **, *** statistically significant at the 10%, 5% and 1% level; absolute t-values in parentheses. Wald Test on restrictions: HO: lata = latoda = lanoda = ladisa = 0.*

Table 6

Distribution Sector in Slovenia from January 1994 to January 2001

(OLS with White Heteroskedasticity-Consistent Coefficient Covariance)

	Lp100nta	Lp100nta	Lp100nta	Lp100nta	Lp100nta	Lp100nta
Balassa-Samuelson effect (out of distribution) (latnoda)	0.15*** (11.12)				0.179*** (8.35)	
Productivity of tradables (out of distribution) (latoda)		0.275*** (5.73)		0.204*** (5.74)		0.177*** (3.57)
Productivity of nontradables (out of distribution) (lanoda)			−0.167*** (-5.07)	−0.12*** (−6.22)		−0.181** (−2.72)
Productivity in the distribution sector (ladisa)					0.056* (1.83)	0.59 (0.733)
Dummy 97						
Testing restrictions on Balassa-Samuelson effect — Chi-square — Probability						115.30 0.0000
Adj. R-squared	0.78	0.52	0.53	0.8	0.8	0.8
Number of observations	29	29	29	29	29	29

*Estimations are in levels; *, **,*** statistically significant at the 10%, 5% and 1% level; absolute t-values in parentheses. Wald Test on restrictions: HO: lata = latoda = lanoda = ladisa = 0.*

Exchange Rates and Long-Term Interest Rates in Central Europe:
How Do Monetary and Fiscal Policy Affect Them?[1])

Franz Schardax[2])

I Introduction

Against the background of the future integration of Central and Eastern European accession countries into the euro area (which includes membership in ERM II), the issue of the consistency of monetary and fiscal policies in an environment of increasingly liberalized capital flows will play an ever more important role. However, in order to pursue such consistent policies, macroeconomic policymakers require information about the likely impact of their actions on financial as well as real variables. By analyzing the impact of monetary and fiscal policy impulses in the Czech Republic, Hungary and Poland under floating exchange rate regimes as well as under crawling peg/band regimes, this paper attempts to provide such information.

After a review of empirical investigations of monetary and fiscal policy which apply vector autoregression (VAR) techniques in section 2, section 3 provides on overview of the macroeconomic framework in the three Central European accession countries (CEEC-3) covered by this study. In section 4, three country-specific unrestricted VAR models are estimated and used to examine the impact of central government budget balances and money market interest rate differences between CEECs and a reference country/currency basket on exchange rates (gross official reserves for the exchange rate peg case) and yield differences for five-year bonds. For the Czech Republic and Poland, the most recent monthly data since the introduction of the direct inflation targeting/floating rate regime were used. The Hungarian estimates are based on the May 1997 to April 2001 interval from the crawling peg/narrow band era. Finally, the concluding section summarizes the results and draws conclusions.

2 Literature Review

The empirical vector autoregression (VAR) literature on the measurement of the impact of monetary and fiscal policy on macroeconomic and financial variables is fairly extensive for developed market economies, but very limited for emerging market and transition economies. Generally, empirical investigations for developed market economies focus on the effects of either monetary policy or fiscal policy, but mostly do not address both policies in more detail.

VAR analyses of monetary policy in the closed economy context have been successful in resolving a number of empirical puzzles and have produced consistent empirical results, which are now confronted with existing theories of the monetary transmission mechanism. The open economy literature, however, has so far been unable to produce generally accepted solutions to a number of empirical puzzles.

In closed economy analyses, the "liquidity puzzle" (the positive reaction of interest rates to an expansionary shock to monetary aggregates) and the "price puzzle" (the positive reaction of the price level to a contractionary monetary

policy shock) have been explained and solved by focusing on the market for bank reserves rather than on broader monetary aggregates to extract monetary policy shocks, and by the inclusion of the commodity price index as a leading indicator of inflation in VAR models.

In the open economy literature, the emergence of the "forward discount premium puzzle" for the United States (i.e. following a restrictive monetary policy move in the United States, the U.S. dollar persistently appreciates and the response of the U.S. interest rate is persistently higher than that of the foreign interest rate) and of the "exchange rate puzzle" (i.e. a restrictive monetary policy shock in countries other than the U.S.A. causes the foreign currency to depreciate against the U.S. dollar) has not yet found a generally accepted explanation.

McCallum (1994) suggests that some of these puzzles could be due to the incapability of VAR models to distinguish exogenous monetary policy shocks from the endogenous reaction of monetary authorities to changes in exchange rates in open economies. This comment stimulated the production of a number of papers that attempt to overcome the potential identification problem in structural VAR monetary policy models that would arise from the simultaneous feedback between interest rates and the exchange rate. Notable examples include Kim and Roubini (2000) and Smets (1996, 1997).

While these papers were able to resolve the empirical puzzles mentioned above, Bagliano, Favero and Franco (1999) criticize Kim and Roubini's (2000) approach for potential parameter instability arising from different monetary policy regimes in the sample and for reintroducing broad monetary aggregates in their model. A drawback in Smets' (1996, 1997) work is seen in the neglect of the commodity price index. In Bagliano, Favero and Franco's (1999) model, the identification problem is solved by using information extracted from financial markets independently from the VAR to measure monetary policy shocks, but the authors conclude that the potential simultaneity between exchange rates and interest rates is not an empirically relevant problem in the case of Germany. As these results suggest that the simultaneity between interest rates and exchange rates may be a less serious econometric issue than thought, this paper does not address that issue explicitly. Moreover, I did not consider the alternative of imposing too much structure on a transition economy by means of identification procedures very appealing.

The VAR literature that deals with fiscal policy shocks in developed market economies generally aims at investigating the impact of fiscal shocks on GDP or particular aggregated demand components. For this purpose, quarterly or annual data are employed. Recent examples include Blanchard and Perotti (1999), Mountford and Uhlig (2002) or Fatas and Mihov (2001). Van Aarle, Garretsen and Gobbin (2002) provide one of the rare examples from among the VAR literature that integrates the empirical analysis of monetary and fiscal policy shocks.

This paper deviates from the VAR literature for developed market economies in a number of ways. First, it aims at investigating the impact of monetary and fiscal policy on exchange rates and bond yields, i.e. it differs from the majority of studies mentioned above because of its consideration of both policies. Moreover, the impact on financial variables (exchange rates and bond

yields) is analyzed, rather than the resulting impact on the real economy. Next, it employs monthly data, which is partly dictated by the constraints of data availability for transition economies, but has a number of advantages for the aim of this paper. As economic agents are able to form expectations regarding the outcome of annual or quarterly budget results well ahead of the release of new data, the timing of the impact of these data on exchange rates and bond yields is highly uncertain. Monthly budget data are more likely to have an immediate impact on financial variables, as their information content is probably higher. Moreover, the problem of endogenous interest rate reactions by central banks in response to changes in the exchange rate is presumably less relevant for monthly data, as central banks that do not have an explicit exchange rate target are unlikely to react immediately to short-term fluctuations in exchange rates.

For a small, open economy in a catching-up process, the impact of fiscal and monetary policy impulses is of particular relevance for preserving macroeconomic stability. In an environment of high capital import needs and rather high sensitivity of the economy with respect to exchange rate fluctuations, inconsistencies in the macroeconomic policy mix are likely to have strong effects. Agenor, McDermott and Ucer (1997) analyze the interaction of fiscal imbalances, capital inflows and the real exchange rate for the Turkish case. Their findings challenge the view that capital inflows "cause" the real exchange rate to appreciate. Rather, capital inflows and movements in the real exchange rate seem to respond endogenously to macroeconomic equilibrium conditions and the overall policy stance. The aim of this paper is closely related to that in the study cited above, as it also investigates the impact of macroeconomic policies on financial variables.

3 The Macroeconomic Policy Framework

3.1 Exchange Rate Policy

The monetary policy framework in all three countries underwent considerable changes in the course of economic transition (see table 1). Backé (1999) provides an excellent review of the evolution of exchange rate regimes in Central and Eastern Europe in the course of transition and the run-up to EMU. As a general trend, the CEEC-3 opted for exchange rate-based stabilization policies in the early phase of transition, but recently switched to a direct inflation targeting/managed float framework. Against the backgound of increasingly liberalized capital flows, CEEC-3 central banks felt they were in a better position to achieve their disinflation goals with a greater degree of monetary autonomy and exchange rate flexibility.

However, country-specific factors determined the changes in the exchange rate policy strategy to a large degree. After having widened the fluctuation band for the koruna in 1996 under the Czech koruna's fixed peg versus a DEM/USD basket, the central bank had to abandon the koruna's fixed peg altogether in 1997, when the currency came under severe pressure in the course of the Asian crisis. Thus, the search for a new nominal anchor was the main motivation for the new monetary regime in the Czech Republic (see Ettl and Krzak, 1999, for more details on this subject). By now, the Czech Republic has gained the longest experience with a floating exchange rate system. At the beginning of 2002, a change in the conduct of exchange rate policy of relevance for the empirical

Table 1

Exchange Rate Regimes in the CEEC-3, 1995–2002

Date	Regime	Band %	Monthly Devaluation	Basket
Czech Republic				
Since January 1993	Fixed	±0.5	no	DEM 65, USD 35
February 1996	Fixed	±7.5	no	–
May 27, 1997	Floating	no	no	no
Poland				
Since May 1995	Crawling band	±7	1.20	USD 45, DEM 35, GBP 10, FRF 5, CHF %
December 1995	6% revaluation	–	–	–
January 1996	–	–	1.00	–
February 26, 1998	–	±10	0.80	–
July 17, 1998	–	–	0.65	–
September 10, 1998	–	–	0.50	–
October 28, 1998	–	±12.5	–	–
January 1, 1999	–	–	–	EUR 55, USD 45
March 25, 1999	–	±15	0.30	–
April 12, 2000	Floating	no	no	no
Hungary				
Since March 16, 1995	Crawling peg	±2.25	1.90	USD 30, ECU 70
June 29, 1995	–	–	1.30	–
January 2, 1996	–	–	1.20	–
January 1, 1997	–	–	–	USD 30, DEM 70
April 1, 1997	–	–	1.10	–
August 15, 1997	–	–	1.00	–
January 1, 1998	–	–	0.90	–
June 15, 1998	–	–	0.80	–
October 1, 1998	–	–	0.70	–
January 1, 1999	–	–	0.60	USD 30, EUR 70
July 1, 1999	–	–	0.50	–
October 1, 1999	–	–	0.40	–
January 1, 2000	–	–	–	EUR 100
April 1, 2000	–	–	0.30	–
April 1, 2001	–	–	0.20	–
May 13, 2001	Crawling band	±15	0.20	–
October 1, 2001	Floating	–	no	–

Source: Habib (2002), Magyar Nemzeti Bank.

analysis took effect: The government agreed with the central bank that the central bank would buy the (very large) privatization proceeds directly in exchange for koruna, increasing the central bank's foreign exchange reserves as a result, instead of using the foreign exchange market, which contributed to the marked appreciation of the Czech koruna versus the euro.

From May 1995 Poland had a crawling band regime vis-à-vis a USD/DEM/GBP/FRF/CHF basket with a relatively wide fluctuation band (±7%). Subsequently, the monthly devaluation rate was gradually reduced and the fluctuation band was widened even further. Moreover, at the beginning of 1999 the Polish zloty's basket was streamlined to a 55% EUR/45% USD composition.

As of April 2000, Poland moved to a floating regime without target bands and to a monthly devaluation rate. Beside the standard argument that under fully liberalized capital movements the control of both interest rates and the exchange rate is contradictory, the NBP, the National Bank of Poland (2001), presented two additional arguments in favor of the move to a full flotation of the zloty: First, the NBP argued that the determination of the external value of the zloty by market forces would be helpful in discovering the correct equilibrium exchange rate versus the euro when Poland enters the euro area. Second, the NBP cited the association of currency crises with attempts to

control the exchange rate. As this decision was taken at a time when the zloty's target band was already as wide as ±15% and the crawling band as low as 0.3% per month, the complete abolition of exchange rate targets had no clearly discernible impact on the zloty's exchange rate. Thus, in order to obtain at least a minimum number of observations for empirical investigations, this study uses data as of the beginning of the second quarter 1999.

Burdened with relatively high amounts of foreign debt, Hungary pursued an exchange rate policy that attached a strong weight to the preservation of international competitiveness while aiming for gradual disinflation. Between March 1995 and May 2001 Hungary operated a crawling peg system with a narrow band versus a basket with a strong weighting of euro predecessor currencies and – since January 2000 – with a 100% euro orientation. Since May 2001 Hungary has observed a wide ±15% fluctuation band versus the euro, and the monthly devaluation rate was cut to zero soon afterwards. As a result, Hungary's short experience with a wide fluctuation band precludes any econometric analysis of the impact of fiscal and monetary impulses on exchange rates and bond yields under the new exchange rate regime. Conversely, Hungary's comparatively long history of an exchange rate-based monetary strategy provides a very interesting point of reference for the Czech Republic and Poland as "floating rate countries."

3.2 Fiscal Policy

Analyzing the development of the CEEC-3's fiscal stance is somewhat difficult, as the central government budget only represents a relatively small portion of the general government budget. In the Czech Republic budget balances have been strongly influenced by bank consolidation measures in recent years. Nevertheless, table 2 suggests that fiscal policy became more expansive between 1997 and 2002 despite the ongoing economic recovery.

Poland's general government deficit increased recently, too, but from higher levels at the end of the 1990s. As Poland's cyclical position is nearly diametri-

Table 2

Real GDP Growth and Fiscal Balances in the CEEC-3						
	1997	1998	1999	2000	2001	2002
Czech Republic						
Real GDP, % change	−0.8	−1.0	0.5	3.3	3.3	3.2
Central government budget, % of GDP	−0.9	−1.6	−1.6	−2.3	−3.1	−2.0
General government balance, % of GDP	−2.0	−2.4	−3.5	−4.5	−5.3	−9.1
General government balance, % of GDP, adjusted for grants to transformation institutions	−1.6	−1.4	−3.1	−3.5	−2.9	−5.0
Poland						
Real GDP, % change	6.8	4.8	4.1	4.0	1.0	1.4
Central government budget, % of GDP	−2.6	−2.4	−2.0	−2.2	−4.5	−5.0
General government balance, % of GDP	−3.2	−3.3	−3.4	−3.1	−5.3	−5.7
Economic balance, % of GDP, commitments basis[1]	–	–	−3.0	−2.6	−4.8	−4.5
Hungary						
Real GDP, % change	4.6	4.9	4.2	5.2	3.8	3.5
Central government budget, % of GDP						
General government balance, % of GDP	−4.8	−4.8	−3.7	−3.7	−3.3	−3.2
General government balance, % of GDP, SNA basis, adjustments for off-budget spending	–	–	−6.0	−3.5	−4.9	−5.7

Source: IMF (2001a, 2001b, 2001c, 2002a, 2002b, 2002c), 2001: CZ Statistical appendix.
[1] For 2001: cash basis.

cally opposed to that of the Czech Republic during this time period, the recent rise in Poland's general government deficit seems to be mainly attributable to the slowdown in economic growth.

Despite the blessing of consistently high economic growth in the 1997 to 2002 period, Hungary's general government deficit (inclusive of adjustments for off-budgetary expenditure) was mostly higher than in the two other CEECs. The changes in the general government balance appear to broadly track the economic cycle.

4 VAR Analysis

4.1 Data and Time Series Properties

Changes in exchange rate regimes (see the discussion in this section) and data availability determined the choice of monthly data for each individual CEEC. The sample for the Czech Republic covers the June 1997 to June 2002 period (61 observations). Estimates for Poland refer to the period May 1999 to July 2002 (39 observations), while the Hungarian estimates are based on the May 1997 to April 2001 interval (48 observations) from the crawling peg/narrow band era. In general, interest rate data and the JP Morgan bond index were obtained from Bloomberg, balance of payments data from central banks' websites, and the remaining time series were provided by The Vienna Institute for International Economic Studies' (WIIW) monthly database. Table 3 reports details. In some cases, the most recent observations were obtained from relevant country websites (statistical offices, ministries of finance, central banks).

The following variables were used in the country-specific VAR models: For the Czech Republic and Poland, the nominal exchange rates versus a reference currency was used as an endogenous variable. In the case of the Czech Republic (variable: czk_euro), this currency is the Deutsche mark and later the euro. Because of the greater relevance of the U.S. dollar for Poland, a specification with a 55% EUR/45% USD basket ("basket") was estimated in addition to the PLN/DEM (EUR) rate. Results for the alternative specifications for Poland did not differ much, but the basket-based specification was preferred on the basis of AIC (Akaike's Information Criterion) and Schwarz criteria. For Hungary, however, due to its tightly controlled exchange rate, an empirical analysis of the impact of monetary and fiscal variables on the exchange rate would not make sense. Thus in this case, pressures on the exchange rate will be reflected in changes in official reserves in euro terms exclusive of gold ("reserves").

"Bospread" measures the yield difference between five-year bond yields in the particular CEEC and the reference currency, i.e. the euro or the respective currency basket for Poland and Hungary. For the short-term interest rate spread ("mmspread"), the interest rate difference for one-month interbank rates was used. As in the case of the bond spread variable, a weighting in line with currency baskets for Poland and Hungary was applied. The fiscal variable "budgetm" measures the gap (in percent of GDP) between seasonally adjusted monthly central government budget balances and a Hodrick-Prescott (HP) trend for the seasonally adjusted budget figures. While the need for a seasonal adjustment of monthly budget balances is obvious, the HP trend is intended to capture broadly the development of monthly balances that is due to the changes in annual budgets. Constructed in this way, "budgetm" should better reflect the

information content of monthly budget data that is not due to the information provided by annual budget targets. Finally, the month-on-month change in the consumer price index ("cpi_mom") is included as an endogenous variable.

Among exogenous variables, the monthly returns of JP Morgan's Global Composite Emerging Markets Bond Index ("jpm_ind") represents a measure of international investors' attitude towards emerging markets. Moreover, "fdi" stands for foreign direct investment (expressed as a percentage of GDP) and is intended to capture the effect of interest-insensitive capital flows. Finally, for the Czech Republic, privatization revenues in percentage-of-GDP terms ("priv") are used as an additional external variable. The use of this variable for the Czech Republic is motivated by two main reasons: First, monthly balance of payments data for foreign direct investment are not available for the Czech Republic. As privatizations during the sample period consisted mainly of sales to foreign strategic investors, this variable should capture a significant part of interest-insensitive foreign capital inflows in the Czech Republic. Secondly, privatization revenues represented an important source of financing for budget deficits. Thus, it may be interesting to investigate this direct link between public deficits and capital flows in more detail.

As reported in table 3, according to augmented Dickey-Fuller (ADF) test results, all short- and long-term interest spread time series are nonstationary, reflecting progress in disinflation, a reduction of risk premia and upward pressure on the exchange rate during the (fairly short) sample period. Similarly, exchange rates and reserves are nonstationary in levels, except in the case of Poland, where the ADF test does not provide as clear-cut an answer as for the Czech Republic and Hungary. As expected, budget balances, net foreign

Table 3

Unit Root Tests and Sources of Time Series

Variable	Short Description	Source	k	ADF Test Statistic
Czech Republic				
cpi_mom	Monthly CPI	CNB	0	−8.199009***
budgetm	Budget balance	WIIW, MoF	3	−4.869253***
bospread	Bond spread	CNB, Bloomberg	1	−0.357954
mmspread	Short-term interest spread	Bloomberg	2	−0.920568
czk_euro	CZK / EUR	CNB, WIIW	0	0.23487
jpm_ind	JPM em. markets bond index	Bloomberg	1	−6.732865***
priv	Privatization revenues	CNB	0	−8.161597***
Poland				
cpi_mom	Monthly CPI	WIIW	0	−5.563181***
budgetm	Budget balance	WIIW, MoF	0	−3.742303***
bospread	Bond spread	Bloomberg	0	−0.290309
mmspread	Short-term interest spread	Bloomberg	0	−0.006362
basket	PLN / EUR-USD basket	NBP, WIIW	1	−2.796835*
jpm_ind	JPM em. markets bond index	Bloomberg	1	−6.732865***
fdi	Net foreign direct investment	NBP	0	−6.245655***
Hungary				
cpi_mom	Monthly CPI	WIIW	4	−3.913898***
budgetm	Budget balance	WIIW, MoF	1	−4.393504***
bospread	Bond spread	MNB, Bloomberg	4	−0.498511
mmspread	Short-term interest spread	Bloomberg	0	−0.774334
reserves	Gross official reserves	MNB	0	−0.750128
jpm_ind	JPM em. markets bond index	Bloomberg	1	−6.732865***
fdi	Net foreign direct investment	MNB	0	−7.767846***

*** *Rejection of hypothesis of unit root at the 1% level.*
** *Rejection of hypothesis of unit root at the 5% level.*
* *Rejection of hypothesis of unit root at the 10% level.*

direct investment, CPI changes and bond index returns are stationary series. Thus, in order to address the nonstationarity of interest rates, exchange rates and reserves, these variables enter the country-specific VAR models in first differences. This transformation of variables is indicated in the variable name with the ending "f_1." Budget balances and monthly changes in the consumer price index enter the VAR models in levels. The models were estimated with two lags for the endogenous variables.

In order to identify the impulse responses, errors were orthogonalized by a Cholesky decomposition assuming the following order of variables: budget balance, short-term interest spreads, long-term interest spreads, exchange rates.

4.2 Results

The results reported in tables 4 to 6 show that exogenous variables, i.e. variables that are not under the direct control of fiscal and monetary authorities, are very relevant in explaining the development of exchange rates and bond yields. A change in the risk appetite of international investors, measured in terms of returns in the JP Morgan bond index, has a significant impact on the exchange rate of the Polish zloty, while in the Czech Republic and Hungary the biggest impact was on the yield difference for five-year government bonds. Regarding the impact of this variable on the exchange rates of the Czech and Polish currencies, the results in this paper are broadly in line with the findings of Habib (2002). However, Habib's (2002) methodology differs from that used in this paper in a number of ways. For instance, he used daily data and did not employ a "bond spread variable." Thus, the results are not fully comparable, which is particularly true for Hungary, as in this case the dependent variable is a different one.

An increase in FDI inflows[1]) causes a (statistically significant) rise of gross official reserves in Hungary and a decline in bond spreads in Poland. For the Czech Republic, where FDI data on a monthly basis are not available, privatization inflows with a lag of two seem to exert appreciation pressure on the exchange rate, although the coefficient is not significant. However, for a sample that does not include the last five months in the sample, i.e. the time after the introduction of the agreement between the central bank and the government to restrict the crown's appreciation, the privatization revenue variable is significant at the 10% level with lag zero and at the 5% level with lag two. Thus, there is some empirical support for the relevance of this variable as well as for the effectiveness of this agreement.

Consistently with the inflation targeting regime, bond spreads in the Czech Republic and Poland react to CPI changes, although the response for the Czech Republic is just above the 5% level of significance. In the case of Hungary, *ceteris paribus,* a higher monthly CPI increase results in an increase in official exchange reserves. Given Hungary's exchange rate target, higher inflation probably signals that interest rates will remain high, thereby attracting inflows.

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1   While FDI and privatization inflows are treated as exogenous variables in the model, they may not be fully external from an economic point of view: Privatization inflows as well as privatization-related FDI flows serve as a source of financing for public deficits and are under the authorities' control.

Despite rather high budget deficits in all CEEC-3, bond spreads do not seem to be influenced by central government budget balances (compare charts 1 to 3). Thus, no evidence of crowding-out effects that would run via the interest rate channel was detected. As central government budgets represent just a part of total public sector balances, this result has to be qualified somewhat. On the other hand, on a monthly basis, central government balances should track the dynamics of total public sector balances quite well.

Chart 1

Impulse-Response Functions for the Czech Republic

Response to Cholesky One S.D. Innovation ±2 S.E.
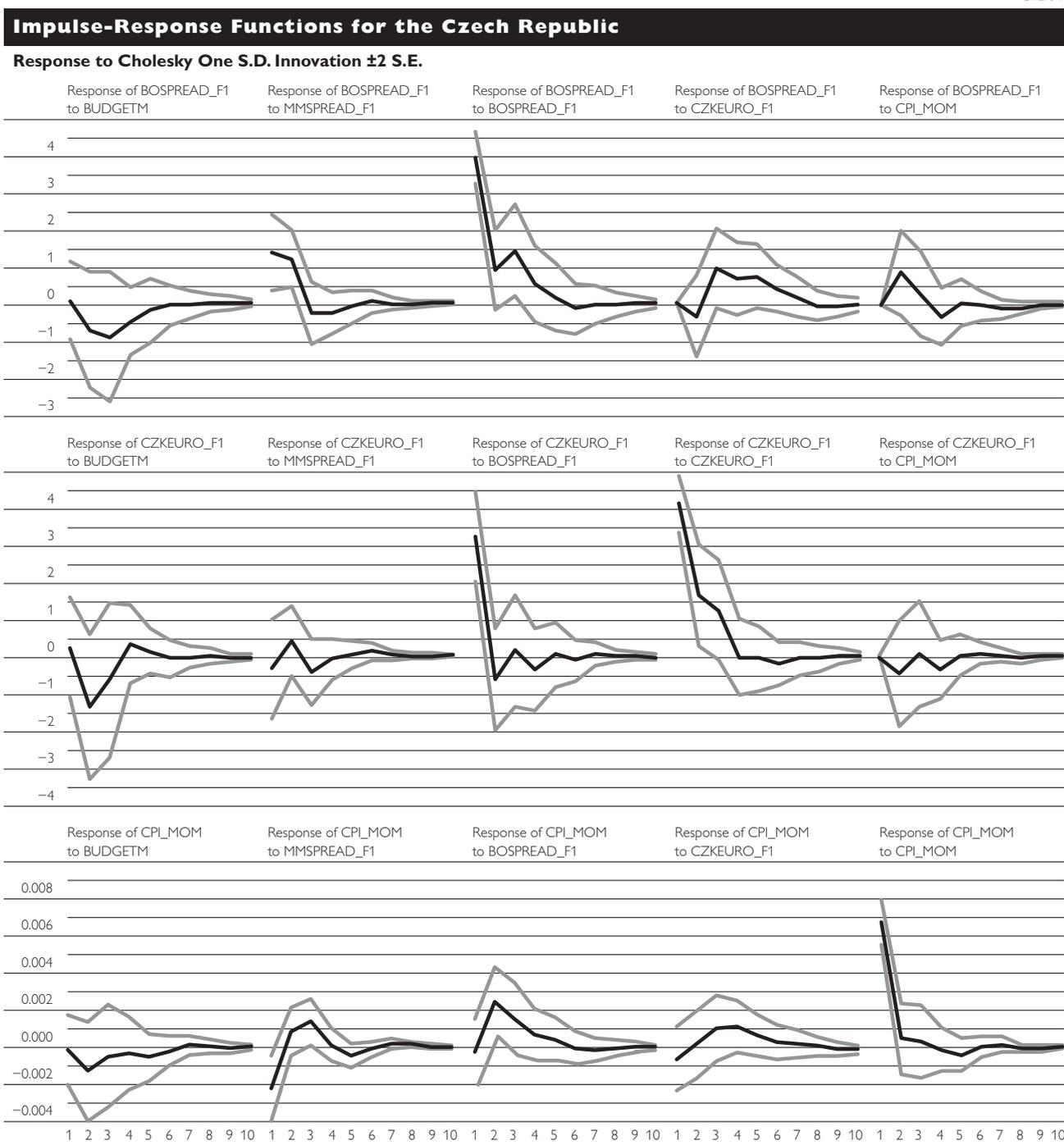
While no relationship between budget balances and bond spreads was detected, there are strong hints of a link between exchange rates and fiscal policy: In the Czech Republic, privatization revenues (which are a significant source of finance for public deficits) were found to influence exchange rates. Thus, interest-insensitive capital imports seem to push up exchange rates, while bond spreads remain unaffected.

When evaluating the influence of policy variables on the exchange rate, one should take the dynamics of the exchange rate into account: in the Czech Republic and in Poland, changes in the exchange rate with lag one have a significant impact on the change in the exchange rate at time t. Thus, policy impulses may be magnified because of the overshooting behavior of the exchange rate.

In all three countries long-term interest spreads respond swiftly to short-term interest rate impulses, but interestingly, long-term spreads in Poland react negatively to short-term spread impulses. Thus, monetary authorities in the Czech Republic and Hungary are able to exert an influence on the longer end of the yield curve that goes in the same direction as the short end, whereas

Chart 2

Impulse-Response Functions for Poland

Response to Cholesky One S.D. Innovation ±2 S.E.
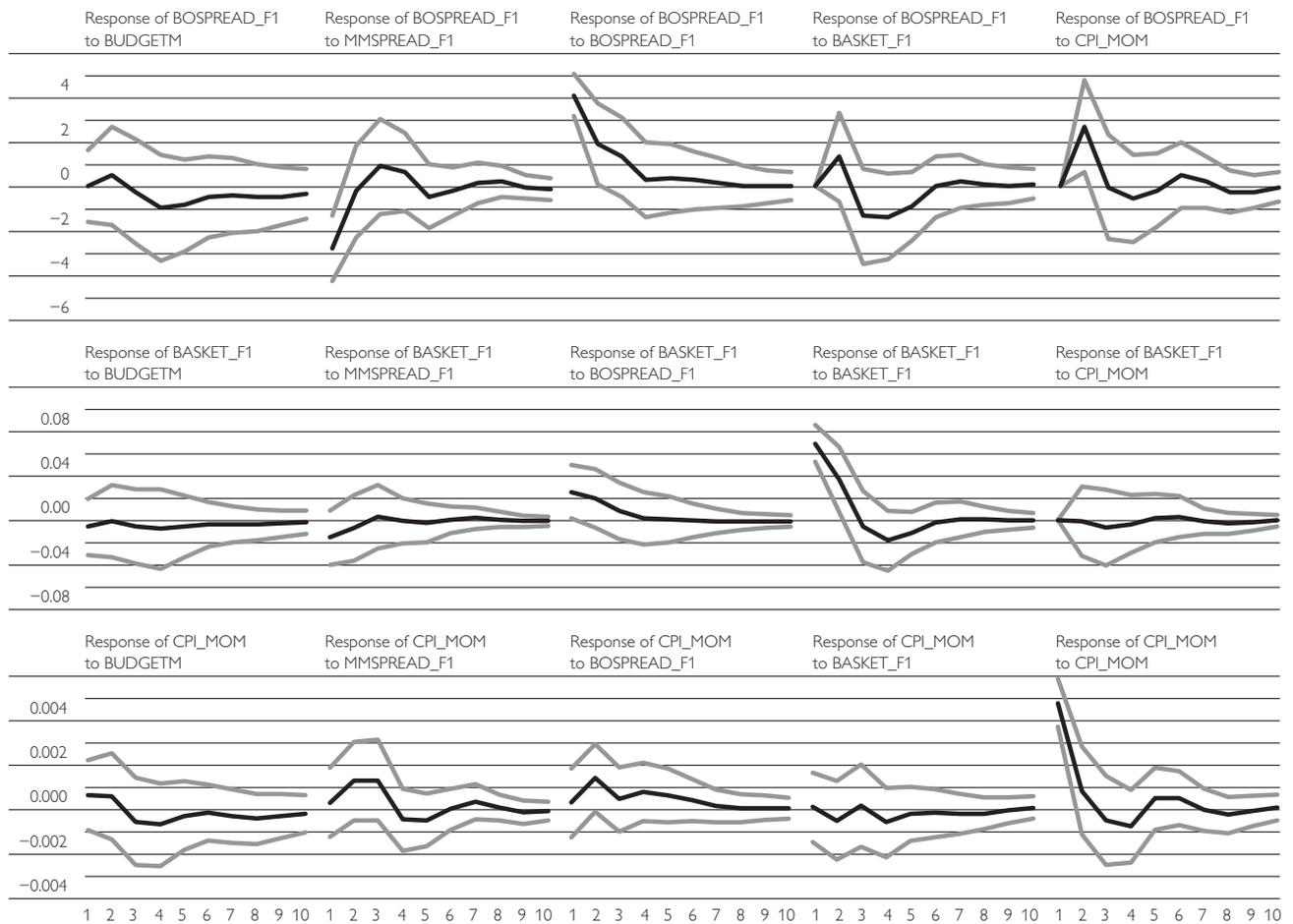
monetary policy impulses in Poland seem to be weakened by the movement in the opposite direction of long-term rates.

The direct influence of monetary policy (as measured by short-term interest rate spreads) on exchange rates differs across the CEEC-3. In line with Hungary's exchange rate peg, a shock to short-term interest rate spreads results in an increase in exchange reserves. In Poland, the exchange rate appreciates in response to a shock to short-term interest rate spreads, but this reaction is not significant at the 5% level. The Czech koruna does not seem to react to impulses to short-term interest rate spreads at all.

Long-term interest rates, however, have an influence on exchange rates in all three country cases. The empirical evidence for the relatively greater importance of long-term interest rates than of short-term interest rates for exchange

Chart 3

Impulse-Response Functions for Hungary

Response to Cholesky One S.D. Innovation ±2 S.E.
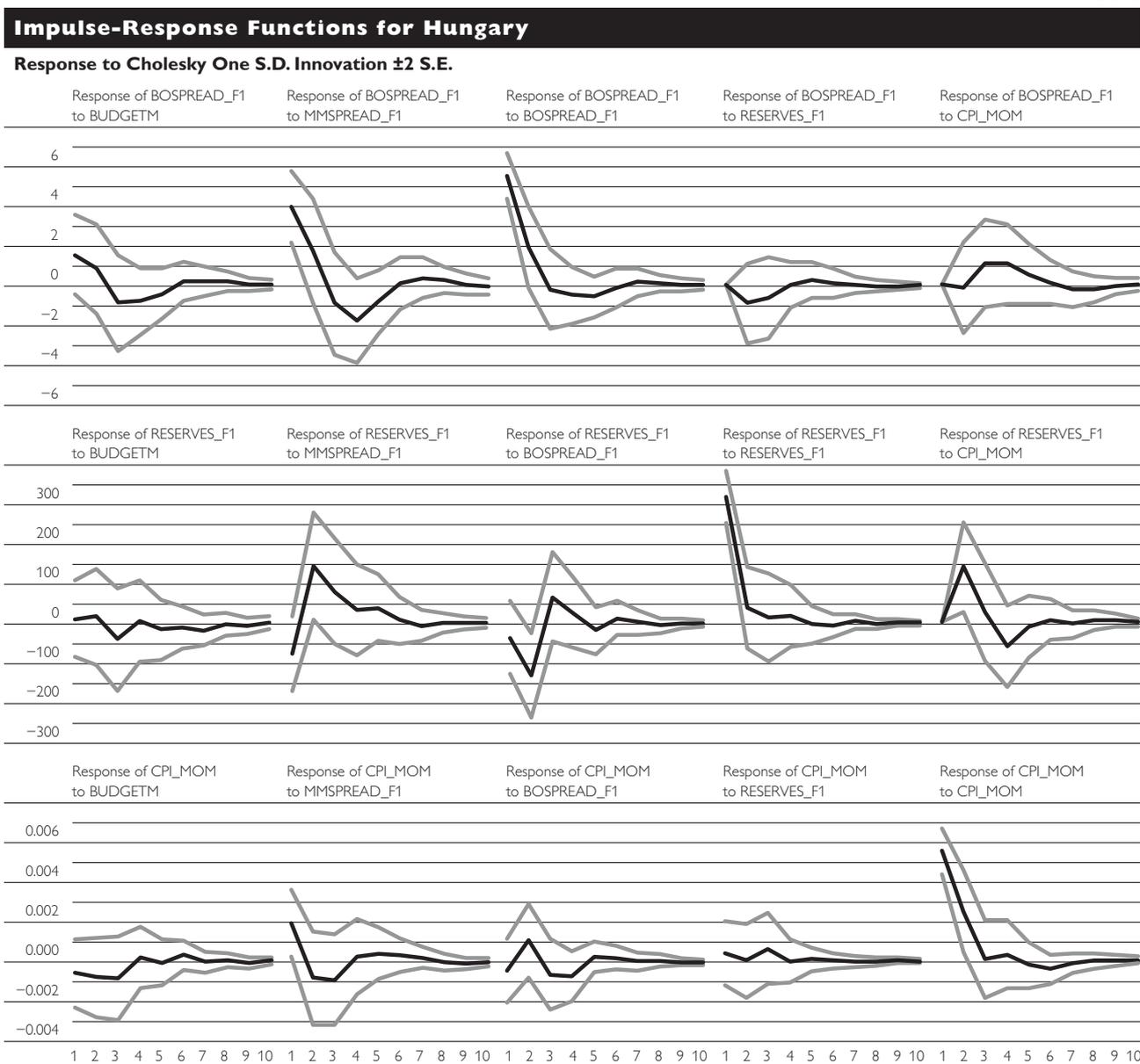
rates is in line with Derviz's (2002) theoretical and empirical analysis. A positive shock to long-term interest rate spreads is associated with downward pressure on the exchange rate in the floating rate countries and a decrease of reserves in Hungary.

According to the results reported in chart 1 to 3, consumer price changes seem to be little affected by interest rates. In the Czech Republic and in Hungary, monthly CPI changes respond significantly to short-term interest rate impulses, but the reaction time is implausibly short. There is also a significant response of changes in the CPI to long-term bond spreads in the Czech Republic, but the reaction time is also too short in this case. In Poland, monthly changes in the CPI hardly seem to react to interest rate impulses at all. However, the methodology employed in this paper is not well suited to capturing the long and possibly changing lags in the impact of changes in interest rates on the inflation rate. Thus, this does not necessarily mean that interest rate policy is totally ineffective in influencing inflation.

The responses of CPI changes to exchange rate impulses appear more plausible: in the Czech Republic, the response of the change in the CPI to an exchange rate shock reaches a maximum after three to four months and is close to the 5% significance level. Conversely, inflation in Poland appears to be unaffected by exchange rate changes. Given Poland's larger size relative to the Czech Republic, this result is in line with expectations.

5 Conclusions

This paper investigated the impact of fiscal and monetary policy impulses on long-term interest rate spreads and exchange rates (gross official reserves) for the Czech Republic, Poland and Hungary. While the most recent monthly data available were used to conduct an (unrestricted) VAR analysis for the Czech Republic and Poland under the direct inflation targeting/floating rate regime currently in place in these countries, the Hungarian sample for the period May 1997 to April 2001 served as an example for an exchange rate-based monetary regime (narrow-band crawling peg). Some caveats apply because of the relatively small number of observations available for the empirical analysis, which seems to be particularly relevant for Poland.

Exogenous variables (JP Morgan's emerging markets bond index returns, FDI, privatization revenues and inflation) were found to be very important in explaining exchange rate pressures and bond spreads for five-year bonds in all three country cases. In line with theoretical expectations, the impact of monetary and fiscal policy variables is more distinctly discernible under an exchange rate targeting regime.

Bond yields were found to be unaffected by fiscal policy, reflecting a sufficient absorption capacity of domestic bond markets, good access to international financing sources and the absence of public finance sustainability concerns. However, there seems to be a link between fiscal policy and exchange rates. In the case of the Czech Republic (which operates a floating exchange rate regime), privatization revenues were found to exert upward pressure on the exchange rate. Thus, by utilizing ample sources of interest-insensitive financing from abroad, budget deficits indirectly seem to affect exchange rates rather than bond spreads. Therefore, despite prevailing benign financing conditions, macro-

economic stability could be further strengthened by a reduction of budget deficits. In the case of Hungary and Poland, no statistically significant impact of the fiscal variable on exchange rates (reserves) and bond spreads was found. However, the limitations of this analysis (use of monthly data, coverage of the central government only) and in particular the smaller sample size than in case of the Czech Republic have to be considered when evaluating this result.

Monetary policy in the Czech Republic and Hungary is able to influence the long end of the yield curve as well, thereby enhancing the effectiveness of monetary policy in these countries. In Poland, monetary policy seems to be less powerful, as changes in long-term interest rate spreads are negatively related to short-term spreads.

No meaningful links between interest rate spreads and inflation could be detected, which seems to suggest that the interest rate channel of monetary policy is not (yet) very well developed in these countries. However, lag structures for the relationship between interest rate spreads and inflation were not explored in more detail. As a result, serious caveats apply with respect to this result.

The possibilities of influencing exchange rates by means of interest rate policy seem to be weak under a floating rate regime, making the exchange rate channel of monetary policy highly unpredictable. At the same time, inflation seems to be influenced by exchange rate changes in the Czech Republic, while no such link could be detected for Poland. Thus, monetary policymakers in the Czech Republic have to devote more attention to exchange rate developments than their peers in Poland.

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Annex A

Table 4

Czech Republic – Exogenous Variables

	BUDGETM	MMSPREAD_F1	BOSPREAD_F1	CZKEURO_F1	CPI_MOM
JPM_IND	−0.139973	−3.697128	−5.611612	−3.916571	−0.014521
	[−0.82485]	[−1.07329]	[−3.47082]	[−1.92336]	[−0.52066]
PRIV(−2)	−0.027149	1.109993	0.279264	−3.317547	0.016509
	[−0.15155]	[0.30523]	[0.16361]	[−1.54320]	[0.56072]
Adj. R-squared	−0.056340	0.585409	0.338879	0.141890	0.195878

Table 5

Poland – Exogenous Variables

	BUDGETM	MMSPREAD_F1	BOSPREAD_F1	BASKET_F1	CPI_MOM
DLOG(JPM_INDEX)	−0.106393	14.21649	−3.293361	−1.509647	0.090362
	[−0.48343]	[2.34283]	[−0.75210]	[−2.23152]	[2.11215]
FDI(−1)	0.084843	0.604450	−5.648361	−0.505220	−0.002000
	[0.77678]	[0.20071]	[−2.59910]	[−1.50476]	[−0.09419]
Adj. R-squared	0.351270	0.242974	0.287951	0.323501	0.180100

Table 6

Hungary – Exogenous Variables

	BUDGETM	MMSPREAD_F1	BOSPREAD_F1	RESERVES_F1	CPI_MOM
DLOG(JPM_INDEX)	0.022140	−1.504167	−8.805691	−269.5242	0.031058
	[0.12504]	[−1.00953]	[−3.02750]	[−0.19785]	[1.24986]
FDI(−1)	0.321261	−1.285022	−3.902110	5488.133	0.015175
	[1.56259]	[−0.74273]	[−1.15536]	[3.46943]	[0.52592]
Adj. R-squared	0.005589	0.285984	0.229636	0.341493	0.077232

Twin Deficits: Implications of Current Account and Fiscal Imbalances for the Accession Countries[1])

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I Introduction

Growing fiscal and current account imbalances in a relatively large number of countries have motivated increasing research on so-called twin deficits. Taylor (2002) discusses the development of current account deficits over a period of about 120 years. He shows that external imbalances have been an important feature of the world economy, although their role has changed several times. Similarly, McCoskey and Kao (1999) look for panel cointegration in the OECD countries.

Several authors address twin deficits from the point of view of macroeconomic stability (see Edwards, 2001). In this vein, Halpern (1998) and Megarbane (2002) underline the negative implications of a combination of adverse factors (e.g. twin deficits, high interest rates and exchange rate depreciation), which may increase the vulnerability of transition countries. Megarbane (2002) also points out a possible interrelationship between the mentioned variables: an adverse fiscal development has to be counteracted by a more prudent monetary policy, implying higher interest rates. He concludes that fiscal instruments are crucial for sound macroeconomic policy in transition countries. Therefore, twin deficits should be avoided. Finally, Milesi-Ferretti and Razin (1998a, 1998b) discuss the relation between current account deficits and currency crises in emerging markets. They also stress the importance of further research regarding the role of macroeconomic policies during periods of high current account deficits and their reversals.

In line with McCoskey and Kao (1999), we define twin deficits as a long-run (positive) relationship (cointegrating relationship) between the current account and the fiscal balance, including some other factors. Thus, this paper contributes to the discussion of current account and fiscal policy in the following ways. First, we analyze the determinants of the long-run current account position in a broad set of countries including OECD countries as well as emerging economies between 1970 and 2001. Second, we use quarterly data, while comparative studies (see Edwards, 2001, and Ventura, 2002) are based on annual data.[3]) Thus, we can address the issue of structural breaks and nonstationarity in our analysis, an issue most authors of comparative studies (except for McCoskey and Kao, 1999), have omitted. By contrast, several country studies[4]) have focused strongly on the properties of analyzed time series. Third, we consider both investment and the fiscal balance determinants of the current account in the long run, while the majority of the previous studies concentrated on only one of these factors. Finally, we focus on the development of the current account and the fiscal balance in transition economies in the past decade, while also presenting evidence for selected countries for comparison. With few exceptions, this group of countries has been omitted from the analysis so far.

2   Foreign Research Division, Oesterreichische Nationalbank.

3   Several country studies (e.g. Hatemi and Shukur, 2002) use similar quarterly data.

4   See for instance Vamvoukas, 2002, and Leachman and Francis, 2002, for analyses of twin deficits in Greece and in the U.S.A., respectively.

Edwards (2001) includes several Eastern European countries (partly before transition) in his data set. Megarbane (2002) discusses the sustainability of the current account deficit in Slovakia.

The paper is structured as follows. The next section presents some theoretical foundations for the analyses of interlinkages between the balance of payments and the fiscal balance in national accounts. Section 3 describes the external balance and fiscal policy in selected countries. Section 4 tests the "twin deficit" hypothesis defined as a long-run (cointegrating) relationship between the current account and the fiscal balance. The role of other factors, like investment or the exchange rate, is also analyzed. Finally, the last section summarizes and provides some indications for future research.

2 The Current Account and Fiscal Balance in National Accounts

National accounts provide for a clear relationship between budget deficits and the external balance. The basic economic identity defines income, Y, as the sum of private and public consumption, C and G, investment, I, and net exports, $X - M$ (which, for the sake of simplicity, are identified with the current account below),

$$Y_t = C_t + I_t + G_t + X_t - M_t \tag{1}$$

By simply rearranging the variables, we can see that

$$X_t - M_t = Y_t - C_t - G_t - I_t = S_t - I_t. \tag{2}$$

This means that the external account has to equal the difference of national savings (defined as income less private and public consumption) and investment. This relation implies that the current account is directly related to saving and investment in the economy. Therefore, the policies supporting investment have a negative impact on the current account, while policy measures reducing private or public consumption have a positive impact on the current account, because they increase national savings.

Further insights for policy implications are given by separating public from private savings (see Mann, 2002). Public savings, S^g, which correspond to the fiscal budget position, are defined as the difference between tax income, T, and expenditures, G. Similarly, private savings, S^p, are defined as disposable income, that is, income less taxes, $Y - T$, and private consumption. It follows that

$$X_t - M_t = (Y_t - T_t - C_t) + (T_t - G_t) - I_t = S_t^p + S_t^g - I. \tag{3}$$

If private savings is roughly equal to investment, it is clear from this equation that the external account and public budget are directly interrelated, or twinned. The external account and the fiscal balance, labeled the "twin deficits," have to move in the same direction by the same amount.

Finally, it is important to keep in mind that the external account has to equal the capital and financial account,

$$X_t - M_t = B_{t+1} - B_t, \tag{4}$$

where the capital and financial account is given as the change of an economy's net foreign assets, B. Thus, countries may accumulate foreign assets or sell

domestic assets to foreigners. Therefore, countries which experience large inflows of foreign capital (including foreign direct investment) necessarily face a negative current account of the same size if we ignore the changes in foreign exchange reserves. This opens the question of the sustainability of current account deficits. In general, a current account deficit is sustainable if it can be easily financed by associated foreign capital inflows (see for example Mann, 2002; Obstfeld and Rogoff, 2000b; Megarbane, 2002). However, the sustainable level of the current account deficit may be ambiguous, if we consider the possibility of reversal (or sudden stops) of capital flows (see Milesi-Ferretti and Razin, 1998a, 1998b).

It follows that accumulated current account deficits are equal to external debt associated with a particular period T, $\sum_{i=1}^{T}(X_t - M_t) = \sum_{i=1}^{T}(B_{t+1} - B_t)$. Of course, this debt generates a continuous flow of interest payments (or transferred dividends related to equity investment) to creditor countries and possibly a repayment or debt rescheduling (or portfolio restructuring, or investment withdrawal) at some later point. As a result, the country has to be able to meet all these obligations by means of export surpluses if required. The current account has to be sustainable not only at a particular point in time; rather, the whole trajectory of the current account has to be considered. This issue is also known as external debt sustainability. Therefore, it is obviously necessary to differentiate between investment-induced and consumption-induced current account deficits (see for example Megarbane, 2002), because only the former increase productivity and export capacity in the long run.

Along the line of these arguments, we can see the current account as a long-run phenomenon (see Kraay and Ventura, 2002). Reflecting the possible long-run role of the capital account, Obstfeld and Rogoff (1995, 1996) discuss the intertemporal approach to the balance of payments. Under the assumption of consumption smoothing, they note the possibility that countries can finance large investment and budgetary needs[1]) or equalize negative income shocks by external deficits and, by definition, surpluses on the capital account. Also under the assumption of the intertemporal approach to the balance of payments, the determination of the current account is nearly the same as in equation (3); its derivation is not presented here because it would exceed the scope of this paper.[2])

The possibility of intertemporal trade may be especially important for transition economies. On the one hand, these countries experienced large declines of income during the first years of economic reform (see Campos and Coricelli, 2002). On the other hand, these countries have the prospect of EU membership, which will support their growth and convergence. Furthermore, the countries are already well integrated into the international financial markets. Several economies in the region are experiencing large investment inflows (see Ditlbacher, Fidrmuc and Walter, 2002). This framework creates good preconditions for income smoothing in these countries.

1   Székely (2002) discusses possible budgetary needs in transition economies during the accession to the European Union in more detail.

2   See Obstfeld and Rogoff (1996, pp. 1–127) for details.

The specific conditions of transition economies result in high investment and budgetary needs on the road to the EU. Therefore, these economies are likely to experience large twin deficits as a common feature of economic transition, convergence, and accession to the EU.

3 Development of the Current Account and the Fiscal Balance in Selected Countries

We collected data on the current account and the fiscal balance (as a percentage of GDP) for 11 OECD countries, 3 emerging markets and 4 transition economies in Central and Eastern Europe (see tables 1 and 2) in the last three decades (shorter time period for the last two groups of countries). The IMF's International Financial Statistics are the major source of the data. These data are complemented by national statistics for the transition countries which are of special interest here. The current account and the fiscal balance are expressed as a share of nominal GDP, the data for which is from the IMF or from national statistics.

The original data are characterized by a strong seasonal pattern. Therefore, we adjusted the raw data first, using standard seasonal filters (Census X-12). Tables 1 and 2 demonstrate that the data still show a large variance after seasonal adjustment. In general, large countries show a smoother behavior of the current account.

Furthermore, some countries possibly underwent structural changes during the analyzed period, notably Germany due to reunification in October 1990. In fact, the German current account exhibits a clearly visible structural break at the end of 1990, while the German fiscal balance seems to be unaffected by this regime change. As a result, tables 1 and 2 report all statistics for the whole period and for the period after reunification. Structural breaks are likely to have occurred in some other countries as well. For example, Hatemi and Shukur (2002) identify structural breaks for twin deficits (however, they define deficits of the current account and the fiscal balance in a slightly different way) in the U.S.A. in 1989.

Table 1

Descriptive Current Account Statistics

Country	Period	Minimum	Maximum	Mean	Standard deviation	ADF/Levels	ADF/First differences
Australia	1st qu. 1970 to 4th qu. 2001	− 1.647	0.446	−0.897	0.449	−2.666*	−5.171***
Austria	1st qu. 1970 to 4th qu. 2001	− 6.607	2.836	−1.413	1.806	−2.312	−5.607***
Brazil	1st qu. 1990 to 4th qu. 2000	− 5.282	2.707	−2.018	2.284	−1.658a	−5.287a***
Bulgaria	1st qu. 1994 to 3rd qu. 2001	−11.964	16.403	−1.603	5.258	−1.975a	−5.830a***
Canada	1st qu. 1970 to 4th qu. 2001	− 1.305	1.151	−0.497	0.511	−1.968	−6.948***
Czech Republic	1st qu. 1993 to 3rd qu. 2001	− 8.901	4.546	−3.394	3.081	−3.219a**	
Estonia	1st qu. 1993 to 4th qu. 2001	−14.006	7.869	−6.534	4.565	−3.186a**	
Finland	1st qu. 1975 to 4th qu. 2001	− 8.798	9.595	−0.249	4.179	−0.948	−4.507***
France	1st qu. 1975 to 4th qu. 2001	− 3.313	3.079	0.345	1.276	−2.106	−5.220***
Germany − 1	1st qu. 1971 to 4th qu. 2001	− 2.265	5.620	0.792	1.922	−2.438	−4.193***
Germany − 2	1st qu. 1991 to 4th qu. 2001	− 1.862	1.468	−0.616	0.629	−5.550a***	
Hungary	1st qu. 1996 to 4th qu. 2001	− 6.721	− 0.671	−3.324	1.694	−1.629a	−3.559a**
Korea	1st qu. 1976 to 4th qu. 2001	−10.917	16.726	−0.084	5.038	−2.299	−4.535***
Mexico	1st qu. 1981 to 4th qu. 2001	− 1.943	1.153	−0.574	0.830	−2.498	−3.512**
Poland	1st qu. 1995 to 3rd qu. 2000	− 8.557	1.232	−3.731	2.926	−0.901a	−3.602a**
Slovakia	1st qu. 1993 to 1st qu. 2002	−16.007	6.910	−5.064	5.711	−1.811a	−4.348a***
Spain	1st qu. 1975 to 4th qu. 2001	− 5.017	2.998	−1.473	1.945	−3.057**	
UK	1st qu. 1970 to 4th qu. 2001	− 6.006	4.443	−0.821	1.988	−2.381	−5.265***
U.S.A.	1st qu. 1973 to 4th qu. 2001	− 4.695	1.234	−1.425	0.369	1.476	−4.330***

Note: ADF − augmented Dickey-Fuller test (in levels and first differences) using four lags; a − using one or two lags; */**/*** denote significance at the 10%, 5% and 1% level.

Table 2

Descriptive Fiscal Balance Statistics

Country	Period	Minimum	Maximum	Mean	Standard deviation	ADF/Levels	ADF/First differences
Australia	1st qu. 1970 to 4th qu. 2001	− 1.658	0.806	−0.359	0.509	−2.557	−6.095***
Austria	1st qu. 1970 to 4th qu. 1998	− 8.586	− 0.019	−3.768	1.570	−2.439	−6.527***
Brazil	1st qu. 1990 to 4th qu. 2000	− 6.643	4.359	−0.642	1.816	−4.689a***	
Bulgaria	1st qu. 1994 to 3rd qu. 2001	−29.190	9.958	−2.429	8.013	−2.324a	−5.863a***
Canada	2nd qu. 1976 to 3rd qu. 1995	− 1.902	− 0.175	−0.974	0.382	−2.159	−5.676***
Czech Republic	1st qu. 1993 to 3rd qu. 2001	− 4.977	4.314	−0.701	2.051	−3.177a**	
Estonia	4th qu. 1993 to 2nd qu. 2002	− 7.512	6.170	−0.369	2.668	−2.972a**	
Finland	1st qu. 1970 to 3rd qu. 2000	−21.200	3.969	−2.430	4.784	−1.855	−5.533***
France	1st qu. 1970 to 4th qu. 1998	− 7.784	2.195	−2.002	2.097	−2.466	−6.710***
Germany − 1	1st qu. 1970 to 4th qu. 1998	− 4.304	0.376	−1.533	0.925	−3.544***	
Germany − 2	1st qu. 1991 to 4th qu. 1998	− 3.321	0.019	−1.569	0.775	−4.150a***	
Hungary	1st qu. 1997 to 4th qu. 2001	−10.568	1.748	−4.229	2.774	−2.131a	−3.294a**
Korea	1st qu. 1970 to 3rd qu. 2000	− 7.621	5.652	−0.124	1.983	−3.384**	
Mexico	1st qu. 1981 to 4th qu. 2001	− 4.237	1.711	−0.964	1.340	−1.138	−3.702***
Poland	1st qu. 1993 to 2nd qu. 2002	− 6.060	− 0.040	−2.781	1.402	−2.427a	−6.810a***
Slovakia	1st qu. 1993 to 2nd qu. 2002	−12.430	2.074	−4.940	2.786	−2.395a	−4.173a***
Spain	1st qu. 1970 to 4th qu. 1999	−16.235	11.843	−3.676	3.234	−2.378	−7.684***
UK	1st qu. 1970 to 1st qu. 1998	− 8.929	5.200	−3.121	2.858	−2.485	−5.516***
U.S.A.	1st qu. 1970 to 4th qu. 2001	− 6.562	3.268	−2.344	2.202	−1.684	−5.120***

Note: The fiscal balance definition is according to the IMF and does not correspond to domestic statistics or ESA 95. ADF − augmented Dickey-Fuller test (in levels and first differences) using four lags; a − using one or two lags; */**/*** denote significance at the 10%, 5% and 1% level.

We should also note that there is a general tendency to record current account deficits. In particular, only two countries (Germany and France) in our data sample have current account surpluses in the average of the whole period. Japan and the Netherlands, which are not included in our data sample, are also characterized by high trade surpluses. By contrast, other countries not covered are also likely to have negative current account balances, which reflects the accumulation of debt by developing countries. To some extent this trend may be explained by the overestimation of exports and the underestimation of imports for tariff reasons. Nevertheless, changes in levels should be less affected by these factors.

Already the first analysis of the available data reveals interesting features regarding the persistence and possible nonstationarity of the time series. Like the authors of previous studies, e.g. Taylor (2002), we find that the current account deficit is highly persistent in several developed countries. A well-known example is Australia, which has displayed a persistent deficit of the current account (up to 1% or 2% of GDP) since the beginning of the 1970s. Similarly, the U.S.A. has reattained a positive current account balance only in one quarter since the beginning of the 1980s (the deficit was close to 2% of GDP for most of this period). By contrast, Canada, which is another country mentioned in the previous literature, has shown an improvement of the current account from a permanent deficit of 1% of GDP to a surplus in 2000.

These observations are largely true also for medium-term analyses. Only one country (Korea) had a nearly balanced current account during the whole period available (1976–2001). Furthermore, only one more country (Finland) displays average current account deficits below 0.5% of GDP, while France has a current account surplus of a similar size. By contrast, several countries (Austria and Spain)[1]) have typically posted average current account deficits close to 1.5% of GDP for a period of about 30 years.

1   Note that the balance of trade in services (tourism) is already part of the current account.

Finally, the unit root test confirms the hysteresis of the current account. The last two columns of table 1 show the results of the augmented Dickey-Fuller test (ADF)[1] for the levels and first differences. The ADF test fails to reject the null hypothesis of a unit root for all countries with the exception of Spain, Estonia, the Czech Republic (although for a relatively short time period), and Germany after reunification. Differenced time series are stationary for all countries at any obvious significance level, implying that the current account is integrated of order 1 for nearly all countries.

We can see similar results for fiscal balances.[2] Several countries have faced persistent government deficits above 2% or even 3% of GDP over a period of 20 or 30 years. However, there seem to be more countries with a nonaccommodative fiscal policy than countries with nonpersistent external accounts. According to the ADF test, Germany and Korea show no persistence of fiscal shocks during the whole period of about 30 years. For a shorter time period, similar results are reported also for the Czech Republic, Brazil and Estonia.

We should note that both indicators are stationary for the Czech Republic, Estonia and Germany (after reunification). Similarly, Korea's average current account has been close to 0 (although the time series is nonstationary), while its fiscal balance has no unit root. Thus, countries with a relatively flexible fiscal policy are generally likely to have a flexible or balanced external account. This can be seen as a first result relating fiscal policy and the current account.

Last but not least, data presented in table 1 show that the imbalances of the current account may be comparably large in shorter periods. Nearly all reported countries (whose data are available for the whole period) experienced maximum deficits well above the usually quoted 5% mark, notably Austria: –6.6%, Finland: –8.8%, Korea: –10.9%. Nevertheless, a comparison of these examples reveals the historical uniqueness of the development in the transition economies in the 1990s. Slovakia, for example, reports the maximum current account deficit in our data sample (–16.0% of GDP), followed by Estonia (–14.0% of GDP) and Bulgaria (–12.0% of GDP). Furthermore, these extraordinarily high levels of current account deficits are characterized by much stronger persistence than on previous occasions. As a result, transition economies have average current account deficits above 6% of GDP in Estonia, 5% in Slovakia and above 3% in Hungary, Poland and the Czech Republic over the available period (see table 1). These levels are much higher than those reported for developed economies or emerging markets earlier, although those levels were computed for a different period. This finding is further supported by Edwards (2001), who establishes that only a rather small number of countries experienced large current account deficits for longer periods (e.g. five years).

It is interesting to note that the fiscal development is less outstanding in transition countries (see table 2).[3] Nevertheless, Slovakia and Hungary report

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1   Hatemi and Shukur (2002) apply the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) unit root test (Kwiatkowski et al., 1992). This test also finds nonstationarity of the U.S. data.

2   Note that the fiscal balance is defined according to the IMF and is not comparable to national definitions or ESA 95.

3   However, it is more difficult to assess the reliability of the fiscal data for transition economies.

the highest level of government deficit (above 4% of GDP in the 1990s), but some other countries are also close to the 4% mark (e.g. Spain and the UK) over a longer period of time (since the 1970s).

4 Twin Deficits: A Myth or Reality?

Although we can determine negative external and fiscal balances for the majority of analyzed countries, earlier studies report mixed evidence on the relation between fiscal and external deficits (see McCoskey and Kao, 1999). A first look at the data already confirms this finding. On the one hand, we find only few examples where fiscal and external accounts develop along a joint path. Normandin (1999) and Mann (2002) note the emergence of twin deficits in the U.S. economy in the 1980s as a major motivation for the twin deficit hypothesis. As a more recent example, Finland faced moderate current account and fiscal deficits until 1990. Then, both balances became strongly negative until 1995, when both time series showed a significant improvement. However, there is a higher number of counterexamples, including Mexico and the U.S.A. (only in the 1990s). The correlation between both time series is high and negative (–0.58 for Mexico in the whole sample and –0.84 in the case of the U.S.A. in the 1990 to 2001 period). Actually, the majority of countries in our data sample shows negative correlations of both variables.

Unfortunately, this adverse behavior is difficult to explain. The application of the so-called *Lawson's doctrine*[1] in the economic policy of some countries may provide a partial explanation. In particular, Lawson's doctrine states that a large current account deficit is not a cause for concern if the fiscal accounts are balanced. As a result, policymakers may postpone corrective measures if both indicators develop in different directions as a result of idiosyncratic fiscal and external shocks.[2] Therefore, if fiscal and external shocks are not fully correlated, but the policy tends to react more strongly to combinations of negative fiscal and external innovations, we can see relatively longer periods characterized by a nonpositive correlation between the variables.

Actually, the relation between the current account and the fiscal balance is unclear also for the transition economies. We can see low positive correlations (about 0.3) for the Czech Republic and Hungary. However, the remaining transition economies facing larger fiscal and external imbalances in the region are reporting either 0 correlation (Poland and Slovakia) or even a negative correlation (–0.2 in the case of Bulgaria and Estonia).

On the other hand, the comparison of tables 1 and 2 provides strong evidence for a positive relation between both variables in a cross-country analysis.[3] All countries facing current account problems also experience budgetary problems. As a result, we find a positive correlation between the average current account deficit/surplus and the average fiscal balance (0.21 for the

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1 *This argument was associated with former UK Chancellor of the Exchequer Nigel Lawson. See Edwards (2001) for a critique of Lawson's doctrine.*

2 *As a recent example, the U.S.A. experienced a positive fiscal shock related to the New Economy, and a negative external shock related to the slower growth of its trading partners.*

3 *However, McCoskey and Kao (1999) find mixed evidence for panel cointegration of fiscal and current account deficits in OECD countries.*

whole data sample). Further improvement of our data base is necessary to draw more reliable conclusions on the cross-country evidence. Nevertheless, this finding indicates a positive long-run relationship between external and fiscal balances, which may stand in opposition to an unclear short-run (or even medium-run) correlation of the variables.

Alternatively, we have tried to find long-run relationships between the external and the fiscal balances in selected countries. This causality is suggested by the intertemporal approach to the balance of payments (see Obstfeld and Rogoff, 1995 and 1996), which also stresses the role of private investment. Therefore, we include gross capital formation as a share of GDP[1] (denoted as above by I) in the long-run (cointegrating) relationship between the current account (CA) and the fiscal balance ($T - G$),

$$CA = \beta_1 + \beta_2(T - G) - \beta_3 I. \qquad (5)$$

As indicated by (5), we expect a positive sign for the fiscal balance and a negative sign for investment. Thus, a budget deficit and high investment worsen the current account. The coefficient of both variables should equal 1 if countries are perfectly integrated into the world economy and budgetary investment expenditures are financed on the world financial market. However, Feldstein and Horioka (1980) showed that a high portion of domestic investment is still financed from domestic sources (domestic savings).[2] This is demonstrated in coefficient β_3, which is significantly lower than 1. A similar effect may be expected also for the fiscal balance.

The earlier literature on this subject has emphasized the importance of structural breaks in the determination of the current account. Leachman and Francis (2002) split their data sample (1948–1992) in 1973, when the Bretton Woods system was dissolved. Edwards (2001) discusses several events, including the oil price shocks in the 1970s and the debt crisis in 1982. The latter event is also stressed by Ventura (2002), who excludes the developing countries from his sample due to possible bias as a result of the debt crisis in 1982. Finally, Hatemi and Shukur (2002) find a structural break at the beginning of the 1990s, which they attribute to the New Economy, globalization and the integration of the former socialist economies into the world economy. The differences between the 1980s and 1990s due to the New Economy are also stressed by Mann (2002). We also find support for structural breaks corresponding to the listed events. Therefore, we test for cointegration in two separate periods, 1980–89 and 1990–2001 (see table 3).[3]

We find a long-run relationship between the variables for several countries in the 1980s, but only in few cases in the 1990s.[4] The explanatory variables

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1   Private investment was also revealed to be I(1) for all analyzed countries. The inclusion of additional variables (e.g. the real exchange rate) does not change our results significantly.

2   This result, which is generally referred to as the Feldstein-Horioka puzzle, has been widely confirmed by subsequent intensive research. Obstfeld and Rogoff (2000a, 2000b) discuss this issue.

3   We label the respective periods the 1980s and the 1990s throughout the paper, although the latter subperiod is slightly longer for some countries.

4   The overall performance of the models is also worse for the 1990s. This indicates that the current account has become increasingly determined by short-term factors recently. This observation also corresponds to the high frequency of financial crises around the world in this decade.

Table 3

Cointegration Test (Trace Test) for Selected Countries

A. Period from 1980 to 1989 (wherever available)

	Number of lags	Trace test			Long-run (cointegrating) equation
		$H_0 : r = 0$	$H_0 : r = 1$	$H_0 : r = 2$	
Australia	5	31.79*	5.88	0.01	$CA = -7.90 - 0.34\,(T{-}G) + 0.25\,I$ $\quad\quad\quad (-2.07)\quad\quad (2.66)$
Austria	1	24.69	8.40	2.08	
Canada	1	46.79*	17.29*	2.67	$CA = -3.43 - 1.01\,(T{-}G) + 0.08\,I$ $\quad\quad\quad (-7.21)\quad\quad (2.50)$
Germany	1	33.17*	9.32	4.46	$CA = 18.79 + 4.31\,(T{-}G) - 0.47I$ $\quad\quad\quad (5.92)\quad\quad (-1.18)$
Finland	1	38.50**	8.67	2.26	$CA = 16.03 - 0.20\,(T{-}G) - 0.70\,I$ $\quad\quad\quad (-1.55)\quad\quad (-4.76)$
France	1	38.50**	15.02	5.83	$CA = 40.81 + 2.14\,(T{-}G) - 1.76\,I$ $\quad\quad\quad (5.71)\quad\quad (-4.78)$
Mexico[1]	3	16.87*	3.45		$CA = 0.07 + 0.01\,(T{-}G)$ $\quad\quad\quad (0.04)$
Spain	1	27.46	9.05	1.90	
UK	2	37.50**	8.50	0.14	$CA = 44.77 + 0.79\,(T{-}G) - 2.34\,I$ $\quad\quad\quad (3.77)\quad\quad (-7.59)$
U.S.A.	3	53.37**	11.02	4.76	$CA = 4.77 + 1.40\,(T{-}G) - 0.09\,I$ $\quad\quad\quad (8.38)\quad\quad (-0.37)$

B. Period from 1990 to 2001 (wherever available)

	Number of lags	Trace test			Long-run (cointegrating) equation
		$H_0 : r = 0$	$H_0 : r = 1$	$H_0 : r = 2$	
Australia	4	29.80	13.77	2.43	$CA = 11.41 + 0.39\,(T{-}G) - 0.55\,I$ $\quad\quad\quad (1.16)\quad\quad (-4.30)$
Austria	1	23.13	8.14	1.25	
Bulgaria	1	11.48	4.69		
Canada	2	25.26	12.40	1.17	
Finland[1]	1	10.44	2.02		
France	3	32.23*	6.76	0.76	$CA = 310 + 16.71\,(T{-}G) - 13.39\,I$ $\quad\quad\quad (4.86)\quad\quad (-4.91)$
Mexico[1]	1	12.85	5.07		
Slovakia	1	33.99*	14.01	5.50	$CA = -34.75 - 0.07\,(T{-}G) - 1.31\,I$ $\quad\quad\quad (-0.29)\quad\quad (-8.59)$
UK	3	33.57*	13.13	0.06	$CA = 18.28 + 0.24\,(T{-}G) - 1.12\,I$ $\quad\quad\quad (2.60)\quad\quad (-8.43)$
U.S.A.	2	16.53	2.33	0.06	

Note: All reported time series are I(1) in the subperiods. Time series for the nonreported countries are I(0). */** denote rejection of H0 at the 5% and 1% significance level.

[1] Investment share is not available or stationary in levels. See tables 1 and 2 for data availability and description. t-statistics based on asymptotic standard errors are in parentheses.

generally show the expected sign and size in nearly all equations, although the performance of investment seems to be slightly better. We find unexpectedly high coefficients only for France[1] in the 1980s. By contrast, we can see very low coefficients on investment in the U.S.A., which confirms the Feldstein-Horioka puzzle for this country. This result basically confirms earlier findings. For example, Obstfeld and Rogoff (1996, 2000b) interpret similar results for the U.S.A. as indicating that the country is still relatively closed despite its integration into the world economy and the recent wave of globalization.

However, the reported coefficients are relatively high, close to or even higher than 1 for many, mainly European countries. This implies that the whole amount of investment[2] is financed from international sources (including other

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1   *Note that the French data show much larger short-run fluctuations than other time series.*

2   *Actually, the coefficient may be larger than 1 if investment is lower than new production expenditures (including for example operative costs in addition to fixed investment).*

EU countries, however). By contrast, non-EU countries (for example Canada) still rely strongly on domestic sources (savings) to finance their investment, which is demonstrated by estimated coefficients for investment close to 0.

In Central and Eastern Europe, we find only weak evidence for the relationship between the external and internal accounts. The long-run equation estimated for the Slovak Republic implies that the current account deficit is determined mainly by investment.[1]) This conclusion confirms the descriptive analysis by Megarbane (2002). Note that the coefficient estimated for investment in Slovakia is close to 1. This indicates that in fact all investment in Slovakia is financed from foreign sources. Thus, the Feldstein-Horioka puzzle does not seem to hold in transition economies, either.

No significant results are available for Bulgaria, while no final conclusions are possible for Hungary and Poland due to the brevity of comparative time series published by the IMF. As mentioned before, the Czech Republic and Estonia display a high degree of flexibility of the current account and fiscal balance, as documented by the stationarity of the corresponding time series.

5 Conclusions

The association of high external and internal deficits, which are generally referred to as twin deficits, has attracted increasing attention in the last two decades. Since the second half of the 1990s, this phenomenon has gained importance also in the transition economies of Central and Eastern Europe, on which we have focused here. Because there are many questions related to data reliability in this region, we start our analysis with a comparison of a set of OECD countries and emerging economies.

For this data sample, we find that both current accounts and fiscal balances have been displaying a significant degree of hysteresis as shown by the unit root tests. Correspondingly, we define "twin deficits" as a cointegrating relationship between the current account, the fiscal balance and investment. This paper shows that twin deficits emerged in the 1980s. As expected, investment contributed significantly to the current account deficit.

Furthermore, we find that the countries which pursue sustainable fiscal policies (e.g. Korea, Germany, Estonia, and the Czech Republic) also display a high flexibility of the current account. However, we find less evidence for twin deficits in the 1990s. Following the arguments of earlier studies (e.g. Mann, 2002), we attribute this feature to the New Economy and the changes in the world economy (globalization, the breakdown of the central planning system in Central and Eastern Europe) in the 1990s.

Despite the increasing role of international financial markets, we find that several countries are still financing their investment mainly from domestic sources (savings). This feature confirms earlier results on the so-called the Feldstein-Horioka puzzle. However, we find less evidence for the Feldstein-Horioka puzzle for the EU countries and also for transition economies (Slovakia). This result indicates that EU integration has significantly increased the degree of openness in the participating economies.

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1   However, note that a large part of investment in Slovakia was related to the public sector.

We see remarkable similarities, but also important differences between the transition economies in Central and Eastern Europe and comparable countries. In particular, the transition economies are found to have high current account deficits which are unique in a historic comparison, both in relation to developed countries and to emerging markets. Over the last nine years, the average GDP ratio of the Slovak current account deficit has reached nearly 5%, which is about twice as high as comparable figures reported by other regions. But other transition countries also have current account deficits well above the levels in other countries. By contrast, the transition economies' fiscal indicators are more similar to those reported by other regions.

Possibly, the large current account deficits and fiscal expenditures may be viewed as an intertemporal phenomenon related to the output collapse at the beginning of transition. As a result, transition countries can make use of the possibility of financing current investment and consumption from future income, which is expected to converge rapidly in the course of accession to the EU. Nevertheless, the policies in transition countries have to focus on the sustainability aspects of high current account deficits. Unsustainable macroeconomic policies may increase the vulnerability of these countries from the perspective of international investors. This aspect underlines the importance of sound fiscal policies in the region.

Last but not least, these results indicate possible directions for future research. First, the application of panel data methods is likely to lead to better results. This is reflected in the observation that we found some evidence for twin deficits in cross-country comparisons. Second, the results may be sensitive to structural breaks. Therefore, more detailed analysis of structural changes may be necessary. Finally, the data base has to be improved for further transition economies in order to extend these analyses to more CEECs (e.g. Hungary and Poland).

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Banking in the Baltics – The Development of the Banking Systems
of Estonia, Latvia and Lithuania since Independence

The Emergence of Market-Oriented Banking Systems
in Estonia, Latvia and Lithuania (1988–1997)[1]

Stephan Barisitz[2]

1 Introduction

Banking reform has proved to be one of the most difficult elements of structural reform in economies in transition. So far, nowhere in the transition world does a banking system appear to have emerged yet that would deal with the basic function of efficient financial transmission in a satisfactory manner. This goes particularly for most countries of the former USSR. But the Baltic states have obviously developed in a substantially different manner than their ex-Soviet neighbors, with whom they arguably share a common point of departure. This study will attempt to outline the major reasons why the Baltic countries and their banking sectors have been so successful in "taking off" and outstripping their Eastern neighbors and in their establishment of market-oriented systems. The subject of this study is the development of banking in the Baltics from the collapse of the USSR up to the point in the second half of the 1990s when, after having weathered their first profound crises, relatively stable market-oriented Baltic banking sectors emerged. Moreover, at this point a first break-through toward successful financial intermediation between savers and the real sector occurred. Reference is made to the relatively calm period immediately preceding the Asian and Russian economic crises of 1997 to 1999.

The comparative analysis of the development of the Estonian, Latvian and Lithuanian banking sectors from 1988 to 1997 is carried out in four main chapters. Although respective evolutions have been at variance, it is possible to discern a number of common successive stages of development in all three countries. Chapter 2 deals with the late Soviet period (from the end of the 1980s to late 1991). Chapter 3 examines independence, currency reforms and the initial expansion of banking sectors (which took place at different periods during the first half of the 1990s). Chapter 4 covers the establishment of fixed exchange rate regimes and the tightening of banking regulations and analyzes ensuing banking crises (around the mid-1990s). Chapter 5 reports on recovery from the crises and temporary stability (up to late 1997), which was followed by the impact of the Asian and Russian crises.[3] Chapter 6 summarizes the study and draws some conclusions.

Generally, the study attempts to give a concise overview over historic evolutions and interrelationships. Topics covered comprise legal foundations, banking supervision, banks' major sources of assets, liabilities, earnings and related changes, bank restructuring and the role of foreign banks and foreign direct investment (FDI). Where necessary, the major traits of real sector development will be briefly outlined, given their importance for the state of health of banks.

2 Soviet Period (until August 1991)

The paths of transformation of the Baltic banking systems started from a quite common point of departure: In 1988 the Soviet monobank system was formally changed into a two-tier banking system, consisting of Gosbank (the State Bank of the USSR) and a number of specialized state-owned institutions: Promstroibank (Industry and Construction Bank), Agroprombank (Agricultural Bank), Zhilsotsbank (Residential Construction and Light Industry Bank), Vneshekonombank (Foreign Economic Relations Bank) and Sberbank (Savings Bank). Gosbank as well as the specialized banks had branches in all Union republics, including the Baltic republics. In 1989 Soviet enterprise and banking legislation allowed the creation of (private) cooperatives, including banking cooperatives. This was the initial step for establishing commercial banks. Tartu Commercial Bank in the Estonian Republic was the first commercial bank established in the Soviet Union (1989).[1]

As the political decentralization of the USSR accelerated, the Baltic republics seized the opportunity to achieve greater economic and political independence. In December 1989 the Estonian authorities passed their own banking law, which reestablished Eesti Pank as the central bank of the republic, after almost half a century of control by Gosbank, whose branch, however, continued to exist and function in Tallinn. Given that the Soviet ruble remained Estonia's currency for the time being, Eesti Pank's authority was confined to monitoring commercial banks. In February 1990, Lietuvos Bankas, the Lithuanian central bank, was founded. In July 1990 Latvijas Banka, the Latvian central bank, followed. They too initially focused their attention on the banking sector. Eventually, the three central banks started preparations for the introduction of national currencies.

Given the further weakening of Soviet power, increasing macroeconomic instability and lax or nonexistent banking regulations and supervision, the number of credit institutions established in the Baltic republics (and in other parts of the former USSR) started to expand strongly. Barriers to entry were very low: Minimum capital requirements initially amounted to RUB 5 million (equivalent to about USD 100,000 at end-1991) and were quickly eroded by mounting inflation. The total number of commercial banks in the Baltics grew from about 20 in 1989 to over 50 in the fall of 1991. The main sources for quick earnings in this situation were foreign currency speculation and short-term foreign trade arbitrage transactions between the former USSR and the West.[2] Many banks were set up specifically to finance such deals. In some cases credit institutions were also established to provide cheap financing for their owners/owner enterprises.[3]

In 1990 most of the Soviet specialized state-owned banks in Estonia were restructured into joint stock companies and toward the end of the year became independent of their headquarters in Moscow. Most of them in fact came under

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1 Korhonen (1996, p. 33).

2 As long as the prices of many commodities in the former Soviet Union and the world markets differed substantially, there were considerable profit-taking opportunities to be had from e.g. purchasing raw materials in Russia and reexporting them to the West.

3 Such banks often functioned like extended financial departments of respective firms and were called "pocket banks."

control of the Estonian authorities. In the course of 1991 the Latvian and Lithuanian central banks took over the majority of the specialized banks in their republics and thus, at least temporarily, took up commercial banking themselves. A notable exception were the republican branches of Sberbank, which for the time being remained connected to the all-Union Sberbank, since most of their assets were held and effectively frozen by the Soviet headquarters. Whatever the reorganizational measures, the specialized banks largely continued to allocate credits to their traditional clients – big industrial enterprises, collective farms and other institutions, with scant regard for profitability.

3 Independence, Currency Reforms, Initial Expansion of Banking Sectors

Independence achieved by the Baltic states in August 1991 enabled them to decisively push forward and accelerate market-oriented reforms, establish their own currencies and reintegrate into the world economy after half a century of isolation. This isolation had been very profound and was characterized by a strong dependence of the Baltics on raw material and energy deliveries from the rest of the USSR in exchange for (heavy) industrial products sold almost entirely on the Soviet market.[1])

The collapse of the centrally planned economy and the foundering of ties with the former Soviet Union were accompanied by the collapse of exports to the Baltics' eastern neighbors in 1990 to 1991 and the energy price shock of 1992, when Russia substantially increased its export prices for oil and other raw materials. The combination of the above-mentioned factors triggered precipitous declines of economic activity. In the four years from 1990 to 1993, according to official estimates, real GDP plummeted by a cumulative 35% in Estonia, by 45% in Lithuania and 48% in Latvia. This was only partly compensated for by an expanding unregistered, informal sector.

Toward the end of 1991 and early in 1992 the Baltic branches of Gosbank were taken over by the respective national central banks. However, the Baltic countries at this point were still part of the ruble area. This coincided with a situation where the supply of rubles from Russia was disrupted more and more. Urgent measures became necessary to maintain monetary equilibrium.

3.1 Estonia (until the Autumn of 1992)

Estonia opted for the boldest and swiftest strategy to solve its monetary problems. In June 1992 the Soviet (Russian) ruble was fully replaced by the final new currency, the Estonian kroon. At the same time, a currency board regime, Eesti Pank was established and linked the kroon to the Deutsche mark (DEM 1 = EEK 8). This new monetary framework meant that the role of Eesti Pank as a lender of last resort was strongly restrained and confined to exceptional situations. With the currency board regime, central bank lending to commercial banks is only possible if there are sufficient excess reserves surpassing the amount of foreign exchange reserves necessary to match the currency in circulation. This has been the case in Estonia, where reserves expanded strongly in the years following the inception of the currency board.

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1   Most of the factories participating in this division of labor had been erected by the Soviet authorities.

The currency board regime proved successful in combating inflation. End-year CPI inflation, boosted by price liberalization in 1991 and 1992, had grown to about 950% in 1992, but was brought down to 36% in 1993 (table 1). Strict fiscal policies constituted another element of successful macroeconomic stabilization. True enterprise privatization started in 1992, with small-scale privatization soon accompanied by tenders and direct sales of a number of larger firms. A bankruptcy law also applicable to banks was passed in September 1992.

After being corporatized, most of the former specialized state-owned banks were (indirectly) privatized as a result of the privatization of their owner companies. In 1992 Eesti Pank took over the Savings Bank and guaranteed the deposits of the bank. The successful monetary reform decreased the opportunities for quick profits from currency speculation. Moreover, the large number of participants in the foreign exchange market must have contributed to pushing down returns on these transactions. Lack of professional banking know-how, continued weak supervision and frequent insider lending practices giving rise to bad loans added to the destabilization of the young Estonian commercial banking sector. In the fall of 1992, the first Baltic transition-era banking crisis – and one of the first such crises in any transition country – loomed in Estonia.

Table 1

Banking Sector-Related Indicators for Estonia (1991 to 1997)									
Year	Number of banks (of which foreign-owned, year-end)	Asset share of state-owned banks	Consumer price inflation (year-end)	Deposit rate (over 12 months, year-end)	Lending rate (over 12 months, year-end)	Domestic credit (year-end)	Domestic credit to the private sector	Nonperforming loans	EBRD index of banking sector reform (1 to 4+)[1]
	number	%		% p.a.		% change	% of GDP	% of total loans	
1991	..	..	304	..	..	..	18.8	..	1.0
1992	..	..	936	..	..	30	7.6	..	2.0
1993	21 (1)	25.7	35.6	..	..	53	11.1	..	3.0
1994	22 (1)	28.1	41.7	8.8	17.5	42	13.4	3.5	3.0
1995	18 (4)	9.7	28.9	8.7	15.8	59	14.7	2.4	3.0
1996	15 (3)	6.6	14.8	10.5	13.9	92.5	19.2	2.0	3.0
1997	12 (3)	0.0	12.5	10.8	11.2	78.3	26.4	2.1	3.3

Source: EBRD.
[1]) 1 means little progress beyond establishment of a two-tier system; 4+ corresponds to standards and performance norms of advanced industrial economies, provision of full set of competitive banking services.

3.2 Latvia (until the End of 1993)

Latvia implemented a step-wise currency reform. First, an interim currency, the Latvian ruble, was issued alongside the Russian ruble at an exchange rate of 1:1 in May 1992. Latvijas Banka maintained this exchange rate until mid-July 1992, when the Latvian ruble became the sole legal tender in the country. The exchange rate was also delinked from the Russian currency; inflation in Russia increasingly outstripped that in Latvia. The Latvian ruble was floated against all currencies. After some delays, the permanent currency, the Latvian lats, was introduced in March 1993 (rate of exchange: LVB 200 = LVL 1). Again, the interim currency was only gradually phased out, and Latvian ruble notes were finally withdrawn from circulation in October 1993.

Latvia, too, proved to be quite successful with disinflation and macrostabilization. Given the central bank's restrictive monetary policy, largely carried out by foreign exchange and open market transactions, end-year CPI inflation fell from a triple-digit level to 35% in 1993. The fiscal stance was substantially

tightened in 1992 and remained tight in the following years. As opposed to small-scale privatization, the privatization of large companies initially lagged behind other areas of reform. Although a bankruptcy law had been passed in 1991, it proved ineffective in the first years of transition.

In 1992 the Latvian government took over Sberbank in Riga. The central bank law passed in May 1992 stressed the independence of Latvijas Banka, and the commercial banking law passed the same month provided the legal foundations for market-oriented banking in Latvia. In mid-1993 the central bank separated itself from the commercial branches it had acquired two years earlier. Some branches were auctioned off to private commercial banks, some were made independent credit institutions, some were liquidated, and the remaining branches were consolidated into a new government-owned commercial bank, Universal Bank. Thus it can be said that this change finally brought about a two-tier banking system in Latvia.

With the number of credit institutions continuing to rise, the central bank tightened or, in some instances, started to seriously apply, banking supervision rules. Among other things, capital requirements were raised, credits granted to single borrowers were capped at 50% of a bank's own capital, banks were required to start evaluating the quality of their credit portfolios. To ensure compliance, on-site inspections were launched. This curbed the growth of the number of new banks in Latvia, which nevertheless reached a maximum of 62 at end-1993 (table 2).

The stricter regulations and supervision added to other forces that were changing the environment for banking business in Latvia. Apart from the fading of earnings from currency speculation, the profits from financing trade deals between Russia and the West started to gradually disappear. Latvian banks were more involved than others in such trade deals, and were thus hardest hit by the shift.[1] These factors contributed to reducing the profitability of most banks and forced them to focus increased attention on their loan portfolios, which were often in a weak condition.[2]

Table 2

Banking Sector-Related Indicators for Latvia (1991 to 1997)

Year	Number of banks (of which foreign-owned, year-end)	Asset share of state-owned banks	Consumer price inflation (year-end)	Deposit rate (short-term, under 1 year, year-end)	Lending rate (short-term, under 1 year, year-end)	Domestic credit (year-end)	Domestic credit to the private sector	Nonperforming loans	EBRD index of banking sector reform (1 to 4+)[1]
	number	%		% p.a.		% change	% of GDP	% of total loans	
1991	14 (..)	..	262	..	..	91	..	..	1.0
1992	50 (..)	..	959	..	..	304	..	..	2.0
1993	62 (..)	..	35.0	28.4	70.8	146	..	..	2.0
1994	56 (..)	7.2	26.3	18.8	36.7	72.3	15.9	11.0	3.0
1995	42 (11)	9.9	23.1	15.0	31.1	− 28.2	7.4	19.0	3.0
1996	35 (14)	6.9	13.1	10.0	20.3	6.0	6.8	20.0	3.0
1997	32 (15)	6.8	7.0	5.3	12.1	39.3	10.5	10.0	3.0

Source: EBRD.
[1] 1 means little progress beyond establishment of a two-tier system; 4+ corresponds to standards and performance norms of advanced industrial economies, provision of full set of competitive banking services.

1   According to some estimates, during the early years of transition, Russian transit trade and financing made up as much as a fifth of the country's GDP. See Jones (1998, p. 51).

2   Korhonen (1996, p. 36).

3.3 Lithuania (until the Beginning of 1994)

Lithuania's monetary reform was generally conducted in a similar way to Latvia's: A temporary currency was launched, followed by a permanent one. In May 1992 the talonas (coupon) was introduced alongside and at par with the ruble. Rubles were withdrawn from circulation at end-September 1992; after that, they were regarded as foreign currency and could be exchanged for talonai at the market exchange rate. The Lithuanian permanent currency, the litas, was finally put into circulation in June 1993. In August 1993 the litas became the sole legal tender.

Disinflation was not achieved in Lithuania as quickly as it was in its two Baltic neighbors. Inflation surpassed 1,100% in 1992 and still reached about 190% in 1993, before it descended to 45% in 1994. Unlike in Estonia and Latvia, monetary policy remained more accommodating in 1992 and was strongly tightened only in 1993. Fiscal policy was also somewhat looser than in the other two Baltic countries and featured general government deficits of 3.3% of GDP in 1993 and 5.5% in 1994. While privatization of small businesses progressed swiftly, large-scale privatization in the first years of independence was preferably carried out through MEBOs (management and employee buy-outs). The new owners, many of them worker collectives, often lacked necessary capital and know-how for restructuring and favored job security over labor shedding. A bankruptcy law was enacted in September 1992, but supporting regulations were not passed until several years later.

Like its Latvian counterpart, Lietuvos Bankas soon divested its commercial banking operations. After some sales, in September 1992 the remaining commercial branches of the central bank were separated from the latter and organized into the State Commercial Bank of Lithuania. This can be seen as the definite establishment of a two-tier banking system in the country. Like its predecessors, former specialized state-owned banks, the State Commercial Bank's major activity was granting credits to (former) state-owned enterprises. Its loan portfolio was therefore poor in quality. The same goes for the state-owned Agricultural Bank, which extended subsidized credit to the farm sector. The majority interest in the Savings Bank was taken over by the state.

Newly founded private banks specialized on foreign currency deals, which remained lucrative throughout 1993, as well as on financing trade. On the other hand, due to a number of obstacles (including a lack of information and the above-mentioned bankruptcy regime), medium- to long-term credits to the new private sector remained largely unavailable. This hampered private sector growth. While the commercial banking law of July 1992 introduced prudential regulations, these only started to be seriously enforced in the following year. Capital adequacy standards were established and minimum capital requirements raised. The total number of banks climaxed in 1993 and then started to fall.

Table 3

The Baltic Banking Sectors – Chronology of Some Important Events (1988 to 1997)

Former USSR-Related Events

1988	– Soviet monobank system changed into two-tier banking system, consisting of Gosbank (State Bank of the USSR) and a number of specialized state-owned banking institutions
1989	– Soviet enterprise and banking legislation allows creation of (private) cooperatives, including banks – Establishment of Tartu Commercial Bank in the Estonian Republic, the first commercial bank established in the Soviet Union

	Estonia	Latvia	Lithuania
1989	– December: Estonian banking law adopted, reestablishment of Eesti Pank	–	–
1990	– Estonian authorities assume control of most Soviet specialized state-owned banks in the republic	– July: Latvijas Banka founded	– February: Lietuvos Bankas established
1991	–	– Fall: Latvijas Banka takes over most Soviet specialized state-owned banks – December: Latvijas Banka acquires Riga branch of Gosbank	– First half year: Lietuvos Bankas takes over most Soviet specialized state-owned credit institutions – December: Lietuvos Bankas acquires Vilnius branch of Gosbank
1992	– January: Eesti Pank takes over Tallinn branch of Gosbank – April: Eesti Pank takes over (former state-owned) Savings Bank – June: currency reform: Soviet (Russian) ruble fully replaced by the final new currency, the Estonian kroon; establishment of currency board linking the kroon to the Deutsche mark (DEM 1 = EEK 8), therefore restricted lender of last resort function – Privatization of most former specialized state-owned banks – September: bankruptcy law (also valid for banks) adopted – October: prudential requirements strengthened – Fall: first Baltic transition-era banking crisis breaks out in Estonia – November: Eesti Pank suspends operations of the country's three largest banks; Tartu Commercial Bank is closed and liquidated, the other two institutions are merged and recapitalized (North Estonia Bank)	– May: interim currency, the Latvian ruble, introduced alongside Soviet (Russian) ruble – May: central bank and commercial banking laws adopted, providing legal foundation for market-oriented banking – July: Latvian ruble sole legal tender; government takes over Savings Bank	– May: temporary currency, the Lithuanian talonas (coupon), introduced alongside the Soviet (Russian) ruble – July: commercial banking law adopted – September: ruble withdrawn from circulation – September: bankruptcy law enacted – Lietuvos Bankas divests most of its commercial banking operations, remaining commercial activities are separated from central bank and organized into State Commercial Bank
1993	– May: new central bank law confirms independence of Eesti Pank – June: privatization/sale of a third of Savings Bank to Hansapank; later, EBRD acquires another 30%	– March: permanent currency, the Latvian lats, introduced – Mid-year: Latvijas Banka separates itself from the commercial branches it had acquired two years earlier; some are privatized, some liquidated, some consolidated into state-owned Universal Bank – October: Latvian lats sole legal tender	– June: permanent currency, Lithuanian litas, introduced – August: litas sole legal tender
1994	– Spring: state treasury withdraws deposits from Social Bank (former Zhilsotsbank, largest credit institution at the time), bank suffers serious liquidity and solvency problems – Fall: after strong liquidity support Eesti Pank acquires majority stake in Social Bank	– February: launch of de facto fixed peg of lats to SDR (SDR 1 = LVL 0.8), Latvijas Banka applies currency board-like monetary regime	– April: adoption of currency board regime, peg of litas to U.S. dollar at rate of USD 1 = LTL 4; lender of last resort function restrained – December: new laws on Lietuvos Bankas and on commercial banking enacted – December: Lithuanian Development Bank founded; purpose: support economic development by financing private investment; shareholders: government, EBRD

Table 3

The Baltic Banking Sectors – Chronology of Some Important Events (1988 to 1997) – cont.

	Estonia	Latvia	Lithuania
1995	– January: new credit institutions law becomes effective, International Accounting Standards (IAS) obligatory for banks – May: Social Bank's license withdrawn, transfer of its deposits and part of its assets to North Estonia Bank (fourth-largest bank), remainder of institution turned into asset recovery agency	– First half year: banking crisis unfolds, involving Banka Baltija (largest commercial bank of the country); authorities engage in restructuring negotiations, while managers reportedly strip bank of USD 260 million of assets – May: Banka Baltija declared insolvent, chairman and president arrested – Mid-year: after strengthening of supervision and release of IAS-based financial statements, the activities of about a dozen banks (35% to 40% of banking sector assets) are suspended; bankruptcy procedures ensue – December: Banka Baltija declared bankrupt	– December: central bank suspends activities of Lithuanian Innovation Bank (largest private credit institution) and of Litimpeks Bank, directors arrested; this triggers banking crisis
1996	–	– January: new banking law effective – Capital adequacy requirements adjusted to 10% – A number of credit institutions create extensive information and business networks in Russia, exploit interest rate differentials with Russian markets (GKOs) – Latvijas Banka establishes rigorous bank inspection regime (six on-site inspections per year) – Unibanka (largest remaining state-owned bank) privatized through sales of majority stakes to foreign investors, including the EBRD – June: Hansapank (Estonia) acquires Deutsch-Lettische Bank (third-largest bank), now Hansabanka (Latvia) – December: comprehensive bankruptcy law comes into force	– January: emergency partial deposit insurance law enacted – Restoration of operations of Lithuanian Innovation Bank and of Litimpeks Bank – August: recapitalization of three large majority state-owned banks launched (Agricultural Bank, Savings Bank, State Commercial Bank) – August: establishment of Turto Bankas (Property Bank), an asset recovery agency – Second half year: revocation of licenses of a number of (smaller private) banks that did not fulfill strengthened prudential requirements
1997	– January: Eesti Ühispank (Union Bank of Estonia) takes over North Estonia Bank – Commercial banks substantially increase stakes in leasing firms, investment funds and insurance companies, many of them listed on Tallinn Stock Exchange – October: Eesti Pank moves minimum capital adequacy ratio from 8% to 10% (of risk-weighted assets) – Fall 1997: following Asian crisis, partial contagion, collapse of Tallinn stock market, some banks' balance sheets weaken	– Privatization of Latvijas Krajbanka (Savings Bank) launched – Eesti Hoiupank (Savings Bank, Estonia) purchases controlling stake in Latvijas Zemes Banka (Latvian Land Bank)	– January: IAS introduced for banks – Spring: liquidation of Lithuanian Innovation Bank – June: amendments to deposit insurance law passed, providing for equal partial protection of depositors at state-owned and at private banks – Parliament exempts all three large state-owned credit institutions (Agricultural Bank, Savings Bank, State Commercial Bank) from meeting capital adequacy requirements, pending their planned privatization – Consolidated supervision introduced – Minimum capital adequacy ratio raised to 10%

4 New Exchange Rate Regimes, Tightening of Banking Supervision, Banking Crises

4.1 Estonia (until the End of 1994)

As mentioned above, the establishment of the currency board strongly changed the environment for banking business in Estonia. In the fall of 1992, a number of banks became illiquid. After granting some initial liquidity assistance without visible impact, Eesti Pank in November 1992 took a decision to suspend the operations of the country's three largest commercial banks.[1]) The actual factors which led to the failures varied from bank to bank. Tartu Commercial Bank was saddled with unprofessional management and had engaged in insider and connected lending practices (inherited from Soviet banking culture) which ended in insolvency. Northern Estonian Bank and Union Baltic Bank suffered from the freeze of their assets deposited at the Vneshekonombank in Moscow. Tartu Commercial Bank was closed and liquidated under the newly adopted bankruptcy law. Depositors received only modest reimbursement. The other two credit institutions were merged and recapitalized by government. The new entity was called North Estonia Bank.

After these first major restructuring measures, the banking sector remained unstable in 1993, but serious problems only showed up in smaller banks that year. In October 1992 minimum capital requirements had been raised (from EEK 500,000 or formerly RUB 5 million) to EEK 6 million and were later raised further. Eight small credit institutions could not meet the requirement and were liquidated in early 1993. In March 1993 ten other small rural banks were merged into a new bank, Union Bank of Estonia (Eesti Ühispank). Two further credit institutions that had engaged in extensive insider lending to companies holding shares in them went bankrupt and were shut down without any compensation payments in 1993. Thus the total number of Estonian credit institutions was almost halved in the course of one year and fell from a maximum of 42 at end-1992 to 21 at the end of 1993 (see table 1). Another element of bank restructuring in 1993 was the privatization/sale of a third of the Savings Bank to Hansapank by competitive tender. Later on, another 30% of the Savings Bank was sold to the EBRD. Hansapank had been created from the Tallinn branch of the former Tartu Commercial Bank after a management buyout in early 1992.

The new central bank law of May 1993 confirmed the status of Eesti Pank as an authority independent of government. Although prudential regulations were tightened in 1993, these steps were not enough to prevent a new crisis. Toward the end of 1993, an Estonian interbank market started to develop. In spring 1994 the state treasury decided to withdraw deposits from the Social Bank, the descendant of the former Estonian branch of Zhilsotsbank. The authorities cited the need to diversify risks and moved some funds to other banks. The Social Bank had acted as the government's main fiscal agent and was also engaged in trade financing and connected lending.[2]) The withdrawal of resources triggered serious liquidity and solvency problems. The Social Bank quickly

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1   These institutions are reported to have accounted for almost a third of the combined balance sheet of the Estonian banking sector. See table 5.

2   At end-1993 the Social Bank represented about 20% of the country's total commercial bank assets.

became the largest borrower on the interbank market, which, in turn, became overburdened.

But in this crisis situation Eesti Pank reacted differently from the way it had reacted in the past. In August and September 1994 strong liquidity support was granted (6% of the base money of that period).[1]) But financial problems continued to plague the Social Bank, and in the fall of 1994 Eesti Pank decided to acquire a majority share in the institution. In May 1995, the Social Bank's license was withdrawn and creditors – but not shareholders – were fully compensated by the government. The bulk of the Social Bank's deposits and an equivalent amount of its assets were transferred to North Estonia Bank. The remainder of the institution was turned into an asset recovery agency, which finally wound up its activities in August 1996.

In mid-1994 Hansapank and Eesti Ühispank became the largest credit institutions of the country. As regards commercial banks' favored sources of earnings, after the decline of currency speculation and foreign trade financing, banks increasingly turned to short-term lending to the real economy. After some time, loans shifted to slightly longer terms. Notwithstanding the banking crises, the overall macroeconomic situation stabilized from 1992 to 1994, although GDP still contracted considerably in 1993. Inflation amounted to 42% in 1994. In the same year current account deficits started to emerge, but they were more than fully covered by FDI. Privatization of large enterprises has favored strategic investors.

4.2 Latvia (until the End of 1995)

Since February 1994, the Latvian monetary authorities have applied a fixed exchange rate regime, although this has been done informally. The lats was pegged to the Special Drawing Right (SDR) in a ratio of SDR 1 = LVL 0.8 (which has remained unchanged to date). Latvijas Banka has followed a currency board-like monetary stance of holding enough foreign exchange reserves to "cover" the domestic currency in circulation. Over the years, it has strictly adhered to its anti-inflationary stance, as witnessed by the fact that Latvia has boasted the lowest inflation rate in the Baltics during most of the 1990s.

Until end-1994 overt problems in the Latvian banking sector were confined to insolvencies of some smaller banks. The major crisis evolved in the first half of 1995 and concerned Banka Baltija, the biggest credit institution of the country at the time. Banka Baltija held over a quarter of all assets and about 30% of all bank deposits in Latvia, including around 200,000 deposits belonging to households. In March 1995 Banka Baltija, which had followed an aggressive and risky expansion strategy, took over two medium-sized banks, Latvijas Depozitu Banka and Centra Banka. Both institutions were in financial trouble and already had ownership and interbank links with Banka Baltija. Despite attempts of the new owner to rescue the two banks, both went bankrupt two months later.

This weakened the situation of Banka Baltija, which started to exhibit growing liquidity problems. The central bank initially responded with liquidity injec-

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1   This high liquidity support was possible because the Estonian monetary authority had already built up a sizeable amount of excess reserves by 1994.

tions, but when the insolvency of Banka Baltija became evident, the support was terminated. Yet, rather than moving to close Banka Baltija, the authorities began negotiating with the institution's management and owners to work out a restructuring plan. While these negotiations proceeded, managers were reportedly able to strip the bank of some USD 260 million of assets and transfer part of them to a Russian financial institution.[1]) Banka Baltija was finally declared insolvent in May 1995; its chairman and president were arrested on charges of fraud and other criminal activities and Latvijas Banka took over the management of the bank, which was renationalized.

Another blow came from the release of, or failure to release, International Accounting Standards-based financial statements for 1994 by April 1, 1995. The monetary authorities, pursuing a far-reaching initiative to strengthen prudential norms and adjust accounting rules, had required that all commercial banks' financial statements be brought into line with international accounting standards and be audited by international accounting firms. Two thirds of reporting banks signaled losses for 1994, and Banka Baltija and some others failed to observe the deadline. In the end, the activities of about a dozen banks were suspended. They accounted for about 35% to 40% of the assets of the sector and for more than half of all household deposits (table 5).

With national elections approaching, the authorities initially opted for a plan to resolve the crisis which combined closure of the failed banks with partial compensation payments for all depositors. But the chosen strategy eventually turned out to be too costly for the central bank as well as the state budget. Banka Baltija was declared bankrupt in December 1995, and the new government decided to discontinue the program. The majority of depositors were left to collect their share of recoverable assets via bankruptcy procedures.[2]) Thus, this severe banking crisis was finally resolved in a quite harsh way. As shown in table 2, the total number of Latvian commercial banks fell from 56 at end-1994 to 42 at end-1995.

After slightly expanding in 1994 (for the first time since independence), GDP contracted again in 1995, no doubt influenced by the banking crisis. But GDP contracted by less than 1%, despite the severity of the crisis. This can be taken as a sign of the still limited importance of the banking sector for the real economy in Latvia in the mid-1990s. Enterprise privatization, hitherto dominated by MEBOs and voucher schemes, started to feature international tenders in 1995.

4.3 Lithuania (until the End of 1996)

In April 1994 Lithuania introduced a currency board regime. The litas was pegged to the U.S. dollar at a rate of USD 1 = LTL 4. Inflation subsequently fell from 45% in 1994 (year-end) to about 13% in 1996. Given the nature of the new regime, like in Estonia, the resources of the central bank to assist commercial banks in difficulty were considerably restrained. A new law on Lietuvos Bankas and a new commercial banking law enacted in December 1994 gave

1   Fleming and Talley (1996).

2   Hansson and Tombak (1996, p. 4–5). As regards Banka Baltija, in the end nearly 12,000 depositors received some very modest compensation, equivalent to 1% of household claims on the bank (IMF, 1996, p. 24).

Table 4

Banking Sector-Related Indicators for Lithuania (1992 to 1997)

Year	Number of banks (of which foreign-owned, year-end)	Asset share of state-owned banks	Consumer price inflation (year-end)	Deposit rate (average rate on demand deposits, year-end)	Lending rate (average rate on loans, year-end)	Domestic credit (year-end)	Domestic credit to the private sector	Nonperforming loans	EBRD index of banking sector reform (1 to 4+)[1]
	number	%		% p.a.		% change	% of GDP	% of total loans	
1991	..	..	345	..	..	..	..	..	1.0
1992	..	..	1,161	..	..	..	..	..	1.0
1993	26 (0)	53.6	189	19.7	88.2	109.4	13.8	..	2.0
1994	22 (0)	48.0	45.0	7.6	29.8	78.1	17.6	27.0	2.0
1995	15 (0)	61.8	35.7	7.4	23.9	10.7	12.6	17.3	3.0
1996	12 (3)	54.0	13.1	4.3	16.0	1.8	9.4	32.2	3.0
1997	12 (4)	48.8	8.4	1.9	11.9	37.6	9.3	28.3	3.0

Source: EBRD.

[1] 1 means little progress beyond establishment of a two-tier system; 4+ corresponds to standards and performance norms of advanced industrial economies, provision of full set of competitive banking services.

the central bank the power to better enforce prudential regulations. In accordance with the new legislation, prudential requirements were tightened and banking supervision was more strictly applied. Minimum capital requirements were raised to LTL 10 million (about USD 2.5 million) in mid-1995.

Monetary tightening and the fading of speculative sources of earnings contributed to increasingly frequent liquidity problems in the course of 1994 and 1995. Whereas previously mostly smaller credit institutions had been affected, in the summer of 1995 two medium-sized private banks experienced serious liquidity bottlenecks. After receiving some liquidity assistance, one was closed and the other nationalized at end-1995. In this fragile atmosphere, a banking crisis finally broke out in December 1995, when it was reported that Lietuvos Bankas had suspended its activities and the authorities had arrested the directors of the largest private bank, the Lithuanian Innovation Bank, and of another large private bank, Litimpeks Bank. The portfolios of these two credit institutions, which had attempted to merge, featured substantial loans for fuel purchases by financially weak energy companies frequently lacking collateral. Activities allegedly also involved fraud. Both banks together accounted for about a fifth of total Lithuanian commercial banking assets.

Mounting insecurity triggered runs on these as well as on some other banks in the first two months of 1996. These runs apparently induced the government and the president of Lithuania to take some hasty moves to protect depositors. Immediately after the crisis broke, the president promised that all deposits in the troubled banks would be guaranteed. At the beginning of 1996, parliament enacted an emergency partial deposit insurance law covering all credit institutions (table 6). Other legislative acts established state guarantees for all creditors of the Lithuanian Innovation Bank and of Litimpeks Bank and mandated the restoration of their operations.[1] But after some hesitation and considerable delays, the authorities eventually decided to liquidate the Lithuanian Innovation Bank in early 1997; Litimpeks Bank continued to operate.

In a separate, but related move, the government in August 1996 decided to recapitalize the country's three large majority state-owned banks – the Savings Bank, the State Commercial Bank and the Agricultural Bank. Given that these

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1   Hansson and Tombak (1996, p. 7).

three credit institutions accounted for nearly half of all assets and deposits, this new rescue operation underlines the dimension of the Lithuanian banking crisis of 1995–96.[1]) In August 1996 parliament also passed a law that provided for the establishment of the Property Bank (Turto Bankas), to which bad loans from state-owned banks' as well as other problem banks' portfolios would be transferred. In September 1997, finally, the government issued recapitalization bonds for the three state-owned banks.

On the other hand, in line with the strengthening of prudential regulations, the remaining credit institutions that did not fulfill the minimum capital and similar requirements had their licenses revoked. Thus, as table 4 shows, the total number of banks declined from 22 at end-1994 to 12 at end-1996. This evidently reflects the different treatment of the above-mentioned large troubled banks compared to other banks. The different treatment can at least partly be explained by the systemic importance that the authorities attached to the large banks ("too big to fail"). Contrary to most comparable measures in the other Baltic states, as a rule creditors as well as shareholders were bailed out in

Table 5

Overview: Banking Crises in the Baltics (1992 to 1996)

	Estonia	Latvia	Lithuania
Time of crisis (year)	**First crisis: 1992−93; Second crisis: 1994−95**	**1995**	**1995−96**
Economic importance of banks affected	**First crisis:** three largest commercial banks, accounting for almost a third of the combined balance sheet of the banking sector at the time of crisis, plus a number of smaller banks **Second crisis:** Social Bank (Estonia's largest bank at the time of crisis)	**Bank Baltija:** largest commercial bank, holding 30% of all bank deposits; about a dozen **other loss-making banks,** comprising 20% of deposits of the sector	Affected **larger banks** accounted for two thirds of all commercial banking assets
Causes of crisis	Lack of professional banking know-how, insider lending practices, initially weak supervision, fading of earnings from currency speculation and financing of trade deals between Russia and the West		
	First crisis: strong initial transition recession, increase of minimum capital requirements, external factors **Second crisis:** connected lending practices, withdrawal of state accounts from Social Bank	**Bank Baltija:** aggressive and risky commercial bank expansion strategies; **Other loss-making banks:** requirement to release IAS-based financial statements	**Larger banks** (state as well as privately owned): high-risk lending operations, unrestructured economic activities **Smaller banks:** tightening of prudential regulations
Ways of solution	**First crisis:** a number of bank liquidations with no or only modest reimbursement for depositors and creditors, some banks recapitalized **Second crisis:** initial generous liquidity support, later withdrawal of license and full compensation of depositors and creditors	**Bank Baltija:** initial liquidity injections, then negotiations on restructuring plan, then arrest of chairman for fraud, then renationalization of bank, finally declaration of bankruptcy **Other loss-making banks:** after some hesitation bankruptcy proceedings without compensation	**Larger banks:** initial liquidity assistance, then arrest of directors for fraudulent activities, passage of emergency partial deposit insurance law, state guarantees for creditors, recapitalizations (except for one major liquidation) **Smaller banks:** revocation of licenses, closures
Estimated fiscal and quasi-fiscal costs of crisis in % of GDP[1])	**1.9**	**2.7**	**3.1**

[1]) Tang, Zoli and Klytchnikova (2000, p. 34−36). The authors refer to fiscal costs borne by the government in terms of bonds issued, interest payments on bonds, purchases of bad loans, recapitalizations, cash and property transfers and to costs borne by the central bank, including losses on credits extended to banks, transfers of assets to banks. These costs are predominantly incurred for restructuring banks and (partially) compensating depositors and creditors.

Lithuania. The bank restructuring measures were supported by the IMF. As a

1   Pautola and Backé (1998, p. 85–86).

result of the restructuring, the state reinforced its dominating position in the commercial banking sector and controlled institutions accounting for about two thirds of all deposits. All in all, the slow resolution of the crisis by the authorities delayed the recovery of public confidence in the Lithuanian banking system, while the bailouts of large credit institutions raised questions of moral hazard.[1])

The rather severe banking crisis appears to have had even less impact on overall economic development than the crisis in Latvia. After a sizeable contraction in 1994, GDP growth was positive in 1995 and even accelerated in 1996. But recapitalization moves may have substantially contributed to the high Lithuanian (general government) budget deficits (of about 4% to 5% of GDP) that occurred during these years. Given weak FDI, rising current account deficits and growing foreign exchange reserves were reflected in swiftly expanding indebtedness (although from a low level of departure). Up to end-1996, foreign participation in enterprise privatization was minimal. Most large privatized companies continued to be owned by worker collectives; cash privatization was only slow to gain momentum.

5 Recovery and Temporary Stability (until Late 1997)

5.1 Estonia

In the years following Estonia's banking crises of 1992–94, but preceding the impact of the Asian and Russian financial crises on the Baltics (1998–99), the country's banking sector witnessed an impressive expansion of activity, reflecting considerable progress in financial deepening. Domestic credit grew from 16% of GDP in 1995 to 29% in 1997. In the same period, total banking sector assets almost doubled to 60% of GDP. Deposits increased from 14% to 24% of GDP. This remarkable development, signaling a first breakthrough in financial intermediation in Estonia, can largely be explained by growing confidence in the national economy.

This confidence is reflected in the confluence of a number of factors: The transition recession was finally over and strong economic growth started in 1995. Annual GDP growth accelerated to over 10% in 1997. Monetary policy was kept tight, and inflation fell from 29% in 1995 (year-end) to 13% in 1997. This encouraged a decline of lending rates (see table 1). Estonia had weathered its initial banking crises (and was the first Baltic country and one of the first transition countries to do so). A new Credit Institutions Act became effective in January 1995 and reinforced prudential regulations and banking supervision. The Act made financial statements based on international accounting standards obligatory for banks in Estonia (table 6). Bankruptcy procedures were implemented more rigorously than in most other transition economies, which strengthened creditor rights. Large-scale enterprise privatization to strategic investors was successfully wrapped up in mid-1996. And the overall very liberal economic policies of the government, including its foreign trade regime and its full liberalization of current as well as capital account transactions in 1994, attracted investors and capital inflows.

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1   Psalida (1998, p. 50).

Buoyed by the general emerging markets euphoria of the time, these capital inflows gathered momentum in 1996 and 1997 and were largely intermediated by Estonian commercial banks. Bank-intermediated capital flows are reported to have grown from 1% of GDP in 1995 to about 10% of GDP in 1997.[1]) The growth of credits to enterprises was surpassed by the expansion of loans to households and nonbank financial institutions (in particular leasing companies), as banks aggressively sought new business.

As a result of increased confidence, the maturity of banks' balance sheet liabilities as well as of their loans grew. As of mid-1997, about four fifths of all credits reached maturities exceeding one year. While this dynamic expansion of activity was welcome in an economy with a huge catching-up potential like Estonia, Eesti Pank was concerned about the prudence of lending operations. Also, in the course of 1997, international economic uncertainty increased, particularly vis-à-vis emerging markets, culminating in the Asian crisis in the fall of that year. Therefore, Eesti Pank took measures to rein in credit growth. In July and in November 1997 it raised and tightened reserve requirements. In October 1997 Eesti Pank moved the minimum capital adequacy ratio from 8% to 10% of risk-weighted assets, thus (formally) going beyond Basel Committee recommendations.

Contractionary measures were also merited by the mounting external disequilibrium, which partly reflected the capital inflow-supported credit boom. Pushed by strong import growth, the current account deficit reached 9% of GDP in 1996 and 12% in 1997. Since FDI was insufficient to cover this gap, most of the shortfall was financed by expanding debt. In the two years to end-1997, Estonia's foreign liabilities drastically increased, rising from 18% to 56% of GDP. However, it appears that a predominant part of the new debt went to financing investments, not into a consumption binge. In an effort to counter the external deterioration, fiscal policy was substantially tightened in 1997.

Influenced by successive increases of minimum capital requirements, the concentration process in the Estonian banking sector went on: the total number of banks fell from 22 at end-1994 to 12 at end-1997. Despite aggressive competition, real deposit rates remained negative through 1997. Spreads shrank somewhat.[2]) In 1997 Estonian banks increased the stakes they already held in nonbank financial institutions, in particular in leasing firms, investment funds and insurance companies. Shares of Estonian credit institutions accounted for the lion's share of Tallinn Stock Exchange capitalization, which had jumped to about a quarter of GDP by mid-1997.[3]) The securities and asset management arms of the banks came to dominate the market.

In early 1997, Eesti Ühispank agreed to take over North Estonia Bank, which had run into difficulties associated with the quality of the loans originally transferred to it from the Social Bank in 1995. In order not to undermine the viability of Eesti Ühispank following the takeover, the authorities completely wrote off their capital participation in North Estonia Bank and injected addi-

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1   OECD (2000, p. 198).

2   Spreads for three to six month maturities shrank to 6% in December 1997. (IMF 1998b, p. 23.)

3   The Tallinn Stock Exchange was opened in May 1996.

tional resources into the entity.[1]) Some leading Estonian banks started to extend their operations to neighboring Latvia, Lithuania and Russia by opening subsidiaries or acquiring stakes in financial institutions in those countries. As of end-1997, about 40% of the Estonian banking sector (measured by capital) was foreign-owned. At the same time, the state had fully dispensed with its majority ownership shares in Estonian banks. But some banks remained vulnerable because of a high proportion of bad credits or because they were too small to compete effectively.

5.2 Latvia

Latvia's banking sector experienced a slower recovery from crisis than Estonia's banking sector did. Although progress in financial deepening was achieved, it was less pronounced. Domestic credit grew only slightly to 15% of GDP in 1997, which corresponds to about half of the level attained in Estonia that year. Domestic credit to the private sector grew somewhat more quickly, namely from 7% to 11% of GDP, as shown in table 2. Deposits stagnated at a level of about 16% of GDP. Total banking assets expanded vigorously and exceeded 50% of GDP in 1997. The reasons why financial intermediation developed less dynamically in Latvia than in its northern neighbor despite an almost equally strong economic expansion (GDP in 1997: +9%), appear to be mostly structural. Fiscal policy was tightened and persistently restrictive monetary policy brought annual inflation down to single digits for the first time in the 1990s in Latvia.

Enterprise privatization proceeded more hesitantly, and strategic investors were only welcomed at a later stage, so that serious enterprise restructuring took place later than in Estonia. Bankruptcy proceedings, including access to collateral, were insufficiently implemented until a new, more comprehensive bankruptcy law came into force at end-1996. Therefore, contract enforcement and creditor rights were only in the process of strengthening in the Latvian enterprise sector, whereas they had already developed to some degree in Estonia. A "cyclical" argument contributing to explaining the slower banking recovery in Latvia is of course the fact that Latvia's banking crisis (of 1995) came to an end around a year later than Estonia's.

On the other hand, one of the factors driving the Latvian banking recovery was the considerable, if temporary, attractiveness of placing funds in risky destinations abroad, including Russia, Ukraine and other CIS countries. The expansion of Latvian banking activities was also favored by capital inflows, though to a lesser degree than in Estonia.[2]) A number of Latvian banks had established extensive information and business networks in Russia and were exploiting interest rate differentials between the domestic and Russian markets. Russian federal and local government bonds offered high returns. According to central bank estimates, about 8% of total assets of the commercial banking sector as of end-1997 were invested in Russia, and GKO treasury bills accounted for about half of this share. Moreover, some Russian and CIS companies seem to have used

1 *The combined cost of this operation to the government and to Eesti Pank is estimated at around 0.3% of GDP (Zavoico, 1999, p. 28).*

2 *In Latvia, current and capital account transactions were also fully liberalized in 1994.*

the Latvian banking sector as a perceived safe financial conduit for their core activities.[1])

The banking recovery was supported by an improved legal and regulatory framework for credit institutions. A new Banking Law became effective in January 1996, and prudential regulations and banking supervision were strengthened. In 1997, capital adequacy requirements reached 10% of risk-weighted assets (table 6). Latvijas Banka established a rigorous bank auditing and inspection regime. Credit institutions were made subject to several audits a year, including at least one complete on-site inspection, and questionable banks are watched even more closely.[2]) In 1996 and 1997 the second-largest remaining state-owned bank (as measured by capital), Unibanka, was privatized through sales of majority stakes to a number of foreign investors, including the EBRD. The privatization of Latvijas Kraibanka (the Savings Bank) started through a public offering in 1997.

The total number of Latvian credit institutions fell from 42 at end-1995 to 32 at end-1997, 15 of which were foreign-owned. The share of foreign-owned banks in total bank assets grew to over 50% in 1997, the share of state-owned banks declined to 7%. The rapid disinflation process and increasing competition brought about a decline of lending rates and spreads.[3]) The average maturity of bank loans went up in 1996 and 1997. Latvian banks also played an important role in the development of nonbank financial intermediaries, especially of leasing firms and the stock market, which had started to operate in 1995. But the Riga Stock Exchange remained of modest importance, compared to its Tallinn counterpart. Despite the progress mentioned above, many Latvian credit institutions continued to be poorly capitalized and saddled with significant amounts

Table 6

Prudential Regulations and Deposit Protection in the Baltics as of End-1997

Type	Requirement		
	Estonia	**Latvia**	**Lithuania**
Minimum capital requirement	EEK 75 million (ECU 5 million)	LVL 1 million (ECU 1.4 million)	LTL 24.2 million (ECU 5 million)
Minimum capital adequacy ratio	10% of risk-weighted assets	10% of risk-weighted assets	10% of risk-weighted assets
Maximum lending to a single borrower	25% of bank's capital	25% of bank's capital	25% of bank's capital
Maximum foreign exchange exposure (overall open position)	from 1996, there are no special limits	20% of bank's capital	30% of bank's capital
Deposit protection (guarantee)	–	–	up to LTL 25,000 (ECU 5,165)
IAS: year of introduction	1995	1995	1997

Source: Psalida (1998, p. 51); various IMF country staff publications.

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1   OECD (2000, p. 111).

2   IMF (1998c, p. 12).

3   Spreads for three to six month maturities shrank to 7% (slightly above the equivalent Estonian spread) at end-1997 (IMF 1998b, p. 23).

of nonperforming loans. Some, in particular small, banks actually were more of the nature of finance companies attached to certain enterprises than institutions interested in mobilizing household deposits.

5.3 Lithuania

Lithuania had little time to recover from its banking crisis of 1995–96 before the Asian and Russian financial crises started to affect the Baltics. Public confidence was slow to return to the Lithuanian banking sector in 1997. After contracting during the crisis, domestic credit as a share of GDP stagnated in 1997 (11%) and showed clear signs of recovery only in the following year. Total banking sector assets rose modestly to 24% of GDP in 1997. Likewise, average capital adequacy only slightly recovered that year.[1]) Thus Lithuania lagged somewhat behind Latvia in the degree of financial intermediation reached by 1997. The relative weakness of the banking sector did not appreciably impact overall economic growth, which accelerated in 1997 (to +7%). Fiscal policy was tightened and monetary policy remained tight in 1997, reducing inflation to single digits (year-end inflation: 8%). Pushed by rising imports, the current account deficit kept growing, and although FDI started expanding vigorously, it could not prevent the further increase of external debt.

Lithuania introduced International Accounting Standards at the beginning of 1997 and raised minimum capital requirements to EUR 5 million that year. The Lithuanian banking sector suffered to an even greater degree than its Latvian counterpart from the sluggish privatization of the real sector, a lack of real enterprise owners and weak corporate governance. A new, more effective bankruptcy law finally came into force in October 1997. The total number of banks remained at 12 in 1997, four of which were in foreign ownership. Banking concentration increased. The top five banks controlled about 85% of total assets and deposits of the sector at end-1997.

Unlike in Estonia and Latvia, the sector continued to be influenced by three large state-owned banks (Savings Bank, Agricultural Bank and State Commercial Bank), which accounted for almost half of total assets and deposits. Structural weaknesses remained focused in the state-owned banks. The State Commercial Bank, which had traditionally been the source of commercial credit to state-owned enterprises, experienced severe liquidity problems and losses during the crisis of 1995–96. After delays, several attempts to privatize the credit institution failed in 1997. The Agricultural Bank was heavily involved in special lending programs to benefit farms. The Savings Bank, the largest retail credit institution in Lithuania, was also the largest holder of treasury bills. All three big state-owned banks were exempted from meeting capital adequacy requirements by parliament in 1997, pending their planned privatization.[2]) Notwithstanding difficulties of comparison, the share of nonperforming loans in total loans remained much higher in the mid-1990s in Lithuania than in the other two Baltic states (table 4).

On the other hand, the aggregate statistics appear to hide the improved performance of a number of private banks. As table 7 shows, the two biggest

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1   OECD (2000, p. 105).

2   IMF (1998d, p. 22, 28).

Table 7

Top Baltic Banks as of End-1997 (Measured by Capital)

Rank	Estonia				Latvia				Lithuania			
	Credit institution	USD billion		Capital adequacy (in %)	Credit institution	USD billion		Capital adequacy (in %)	Credit institution	USD billion		Capital adequacy (in %)
		Tier 1 capital	Assets			Tier 1 capital	Assets			Tier 1 capital	Assets	
1.	Hansapank	79	1,007	11.9	Parekks-Banka	55	501	22.3	Vilniaus Bankas	41	459	14.0
2.	Eesti Hoiupank (Savings Bank)	71	643	20.9	Latvijas Unibanka	52	420	18.1	Bankas Hermis	31	288	23.0
3.	Eesti Ühispank (Union Bank)	40	722	10.5	Rietumu Banka	30	312	28.0	Lietuvos Zemes Ukio Bankas (Agricultural Bank)	18	363	. .
4.	Tallinna Pank	31	336	11.8	Rigas Komercbanka	25	245	26.0	Lietuvos Taupomasis Bankas (Savings Bank)	17	460	12.3
5.	Eesti Forekspank	14	177	14.0	Baltijas Tranzitu Banka	21	114	. .	Siauliu Bankas	8	32	43.8

Source: The Banker (October 1998, p. 50-52); Eesti Pank (1998, p. 45).

Lithuanian credit institutions in 1997 in terms of capital were privately owned: Vilnius Bank and Hermis Bank. Strategic investors acquired majority stakes in both banks, and both banks stepped up competition for individual and private enterprise customers. In 1996 and 1997, Vilnius Bank and Hermis Bank doubled their respective shares of total deposits. Most of the other remaining credit institutions were small and tended to serve specific niches. As of end-1997, foreign investors accounted for about one third of the share capital of the banking sector. Unlike in the other two Baltic countries, most commercial banking assets in Lithuania remained concentrated in short-term maturities.

In June 1997, amendments to the deposit insurance law were passed to provide for equal partial protection of depositors at state-owned banks as well as at private banks. Thus, the (implicit) full deposit guarantee for accounts held in state-owned credit institutions was abolished, and all banks were put on a level playing field with respect to depositor protection.

6 Summary and Conclusions

This article deals with the development of banking in the Baltics from the collapse of the USSR up to the point in the second half of the 1990s when, after having weathered their first profound crises, market-oriented banking sectors with some degree of stability appear to have emerged. Although Estonia, Latvia and Lithuania arguably set out from much the same point of departure as other countries that formerly belonged to the Soviet Union, the Baltic countries have witnessed impressive progress and today are among the most advanced transition countries with respect to banking reform.

Perestroika and the weakening of Soviet power were quickly seized upon by the authorities of the Baltic republics to reestablish their autonomy. Central banks were recreated in 1989–90. Increasing macroeconomic instability and lax or nonexistent banking regulations and supervision were accompanied by the multiplication of newly founded private banks, which often engaged in foreign currency speculation and short-term foreign trade arbitrage transactions

between the former USSR and the West. In many cases credit institutions were also established to arrange cheap financing for their owners, thus practicing connected lending. On the other hand, state-owned commercial banks continued to allocate credits to their traditional clients – with scant regard for profitability.

After independence had been achieved in 1991, the collapse of remnants of the centrally-planned economy and the foundering of ties with the former Soviet Union contributed to some of the most precipitous economic declines experienced by transition countries. Estonia was the first Baltic country to break with the ruble and to install its new currrency, the kroon, in the framework of a currency board in 1992, linking the kroon to the Deutsche mark. For the banking sector, this meant that the lender of last resort function was strongly restrained. Flanked by strict fiscal policies, the currency board was successful in combating inflation and in macroeconomic stabilization. Privatization and hard budget constraints were quickly introduced. In Latvia, the lats became the sole legal tender in 1993, and the authorities were successful in implementing macrostabilization. In the same year, Lithuania introduced the litas. But disinflation and fiscal tightening came somewhat later than in the other two countries, and privatization lagged behind.

Given the lack of experience in market-oriented banking, the quality of human capital was relatively modest in all three Baltic states at the beginning of the 1990s. In Estonia, the successful currency reform and the introduction of hard budget constraints decreased the opportunities for quick profits from speculative activities. In the fall of 1992 Estonia experienced its first banking crisis, which was also one of the first such events in any transition country. In response, Eesti Pank, the Estonian central bank, moved quickly to close one of the country's three largest commercial banks. Depositors received only modest reimbursement. Prudential regulations were subsequently tightened, triggering further bank closures. In 1994, a second – smaller – crisis followed, triggered by the decision of the state treasury to withdraw deposits from a former state-owned credit institution. But this time, Eesti Pank reacted differently. It attempted to recapitalize the bank in question, but later changed its mind and repealed the bank's license. Creditors were fully compensated by the government. Commercial banks started to focus on short-term lending to the real economy.

Since 1994, Latvijas Banka (the Latvian central bank) has applied a fixed exchange rate regime, linking the lats to the SDR. The major Latvian banking crisis broke out in 1995 and focused on the country's biggest bank at the time, as well as on a number of smaller institutions, which had engaged in overly risky behavior. The authorities responded relatively slowly and were not able to prevent some asset stripping. In the end, depositors hardly received any compensation. In 1994 Lietuvos Bankas (the Lithuanian central bank) instituted a currency board regime, pegging the litas to the U.S. dollar. Monetary tightening and the stepping up of prudential regulations set the stage for a banking crisis in 1996, involving privately-owned as well as state-owned banks. Two large private credit institutions failed, one of which was liquidated. In 1996, an emergency partial deposit insurance law was enacted. The government decided to recapitalize the country's three large majority state-owned banks.

In the years immediately following its crisis of 1992–94, Estonia's banking sector witnessed an impressive expansion of activity, reflecting progress in financial deepening. Commercial bankers gathered experience and know-how. Growing confidence in the national economy contributed to a first breakthrough in financial intermediation in Estonia. Strong economic growth started in 1995. Prudential supervision was strengthened, International Accounting Standards became obligatory for banks in Estonia. Bankruptcy procedures were implemented more rigorously, and strategic investors took over many large-scale enterprises. Fueled by capital inflows, banks aggressively sought new business, expanded lending to households and took stakes in leasing firms and insurance companies. Deposit and loan maturities increased.

Latvia's banking sector experienced a slower recovery than Estonia's did. Progress in financial deepening was less pronounced. Enterprise privatization proceeded more hesitantly, and strategic investors were only welcomed at a later stage. The same goes for the strengthening of creditor rights. On the other hand, the Latvian banking recovery was stimulated by the considerable, if temporary, attractiveness of placing funds in risky destinations abroad, including Russia and other CIS countries. The authorities improved the legal and regulatory framework and established one of the most rigorous bank inspection regimes. Lithuanian banking suffered even more than its Latvian counterpart from sluggish restructuring of the real sector and weak corporate governance. However, supported by strengthened supervision, private banks improved their performance after the crisis; structural weaknesses focused on the relatively large state-owned banks. Most commercial banking assets remained concentrated in short-term maturities.

The Baltic countries' experiences in creating market-oriented banking systems may yield some of the following conclusions:

— Compared to Central European transition countries, the Baltic states were confronted with more adverse initial conditions. They overcame these by determined commitment and sustained economic reforms.

— Given that Estonia opted for the earliest and most radical reform efforts, including privatization to strategic investors and effective bankruptcy rules, it took the lead among the Baltic reformers. Lithuania was the latest of the three countries to initiate serious restructuring efforts.

— Although a currency board regime all but eliminates monetary policy instruments and constrains the lender of last resort capacity of the central bank, the Baltic experience shows that it need not be prejudicial to the banking sector. By creating a clear and simple environment for financial actors, a currency board may contribute to improving incentives and combating moral hazard.

— Successive banking crises in all three countries (Estonia: 1992–93, 1994–95, Latvia: 1995, Lithuania: 1995–96) turned the Baltic banks into much more prudent lenders. After the crises, the granting of credits slowly recovered and steadily expanded, but on a sounder basis than before.

— With economic stabilization and falling inflation, deposit and lending rates have contracted in all three countries, whereas spreads have declined to a greater degree in Estonia and Latvia.

- Comparing enterprise and banking reforms, the latter often proceed more quickly, given that the banking sector is smaller, its structure differs, and therefore restructuring efforts, albeit painful, are less complex.
- However, banking reform measures can only give rise to an increase in sound lending activities to the real sector once enterprise reforms, including the strengthening of creditor rights, catch up.
- Recapitalizing banks and (temporarily) dispensing them from fulfilling prudential requirements should be carried out with caution, since it may create a moral hazard situation and put off pressure for restructuring.
- Swift divestiture of state ownership may stimulate a more dynamic development than a situation where state ownership lasts for several more years.
- Baltic countries – particularly Estonia – were among the first transition countries to witness a breakthrough to successful mobilization of domestic and foreign savings for productive purposes.

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Banking in the Baltics – The Development of the Banking Systems of Estonia, Latvia and Lithuania since Independence

The Internationalization of Baltic Banking (1998-2002)[1])

1 Introduction

Martin Ådahl[2])

The banking systems in the three Baltic states – Estonia, Latvia and Lithuania – have witnessed major progress in recent years. From the depths of the 1998 Russian crisis the Baltic banks have recovered quickly and continued to expand at a rapid pace. Banks in Estonia and Latvia in particular are catching up with some Central European transition countries, which at the outset of the reform period had more developed financial sectors, and may be on a trajectory to eventually attain the role of financial intermediation the banks in the present Member States of the European Union play. Despite the rapid growth, the Baltic banks have maintained and even improved asset quality while retaining high capital adequacy ratios. This study will try to recapitulate the latest history of the Baltic banks and to identify a few characteristics and factors behind their relative success. While currency boards and their support for a disinflation process have played a crucial role for the banking sector, this study focuses on the microeconomic level. The role of foreign capital, consolidation and regulation will be emphasized. The Baltic banking system is very strongly penetrated by foreign ownership and influenced by trends in neighboring Nordic countries. This study will also attempt to shed a light on some of the risks ahead.

There are important differences between the banking systems of the three Baltic nations. For example in Latvia, deposits from, and assets in, CIS countries play a very important role. In Lithuania the persistence of inefficient state-owned banks has hampered the development of the sector, while Estonia is already influenced by Nordic trends such as Internet banking. Nevertheless, most trends have become so similar in the three Baltic states, and ownership structures have converged to such an extent after 1998, that all three will be treated simultaneously. The analysis is presented in eight main sections. Section 2 deals with the impact on the financial system of the Asian and Russian crises and section 3 with the strong inflow of foreign direct investment (FDI) into the sector. Section 4 describes ensuing macroeconomic developments up to the present. Section 5 focuses on the evolution of banking regulation and supervision. The market structure and development is analyzed in detail in section 6, and section 7 projects the possible future evolution. Section 8 summarizes the study and gives some conclusions.

2 Under Trial: The Asian and Russian Crises 1997–1998

The Asian crisis of 1997–98 and the Russian crisis of 1998–99 were a severe test for the reform strategy of the Baltic states, their currency board (or quasi-currency board in the case of Latvia) arrangements and their high degree of openness. Overall, the Baltic economies withstood the test well, and in some areas, such as the financial sector, the result was arguably even beneficial, given that some inefficient structures were overhauled more rapidly.

Initially, the Asian crisis (which started in July 1997 with the devaluation of the Thai baht) left the Baltic economies and financial systems fairly unaffected, but already in the autumn of that year, short-term capital, weary of risk in emerging markets, started to leave the Baltics states. In the second half of 1997 the Baltic equity markets lost more than half of their value.

Estonia was most affected by this process, with the Estonian TALSE index losing almost two thirds of its value in the year following its peak in August 1997. The inflow of portfolio investment to Estonia had sustained the boom both in terms of real estate prices, banks' assets and investment, and it contributed to a current account deficit of 12% of GDP in 1997. Concerns about the banking sectors' large holdings in domestic equities, more than 20% of banks' total assets, hastened the pace of consolidation of the banks in early 1998. As portfolio investments left Estonia, there was also a first wave of speculation against the Estonian currency board in October 1997, which, however, subsided when liquidity dried up as the automatic mechanism of the currency board operated. Nevertheless, this development led to higher short-term interest rates that affected financial institutions and households until interest rates fell again at the beginning of 1998. The strong asset growth in Estonian banks up to 1997 stagnated in 1998 (6% nominal growth), and profitability in the sector was reduced sharply.

However, the major real economic shock for the Baltic economies occurred with the Russian crisis of August 1998, when the ruble was devalued and the Russian state defaulted on its Soviet-era debt. This dealt a double blow – a collapse in trade, and losses in the Baltic financial system.

On the real side, Baltic exporters, who were dependent on Russian markets, were confronted with a very sharp deterioration in terms of trade as the ruble lost more than 70% of its value against both the U.S. dollar and the Deutsche mark from August 1998 to March 1999 (while imported Russian commodities were linked to the U.S. dollar). Trade could not be redirected in the short term, as exports to Russia and other CIS countries collapsed. Although Russia's share of the Baltic states' external trade had declined even before the crisis, it remained at 21%, 19% and 35% of exports respectively for Estonia, Latvia and Lithuania – enough to stifle growth even as the Russian crisis unfolded in 1998.[1]) The full effect of the crisis followed in 1999, when growth plummeted in Latvia and turned negative in Estonia and Lithuania, with unemployment rising rapidly. In Estonia and Latvia the budget surpluses also turned into sizeable deficits in 1999.

In parallel with the trade crisis, the financial sector suffered the consequences of the rapid increase in lending to enterprises depending on the Russian market or directly to Russian enterprises in the late 1990s.

In 1998–99 the Russian crisis hit the Estonian banks' customers, who were dependent on the Russian market. This sudden weakness also affected the share price of banks. Flaws in the management and risk controls of some of the larger banks were also revealed, but they had less of an impact as these banks were acquired or merged into better-managed banks during the year. However, the main Estonian banks were sufficiently capitalized to survive the 1997–99 down-

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1   OECD (2000), p. 54.

turn, and during the latter half of 1998 the banking sector was actually strengthened as the crisis forced the pace of mergers.

In the end only four smaller, already rather weak, banks were seriously affected by the collapse in Estonian equity prices and the anemic Russian market. Three of the banks (Maapank, which had used deposits to buy heavily in the stock market, EVEA bank and ERA bank, both dependent on Russian eurobonds) were declared bankrupt by Eesti Pank, and the fourth (Forekspank, with about 6% of total banking assets) was taken over by Eesti Pank and merged with another medium-sized credit institution (Estonian Investment Bank) to create a new bank, Optiva.[1]

The situation was worse in Latvia, where banks for a long period of time had very strong ties to the Russian and CIS markets and exploited interest rate differentials between the Russian and Latvian markets. By 1998 more than 10% of Latvian banks' total assets were exposed to the Russian market, and more than one third of this exposure was to Russian high-yielding GKO bonds, as these assets had presented a tempting alternative to paltry returns on domestic assets.[2] These Russian bonds, as well as many Russian corporate bonds, lost most of their value as the crisis unfolded. Consequently, Latvian banks' liquid assets were severely reduced. Uncertainty caused the interbank market to dry up. There was a large outflow of nonresident deposits (as Russian cash-strapped depositors scrambled for assets when the Russian banking system collapsed), and there were runs on some banks suspected of being overexposed to the Russian market. Latvijas Banka then injected liquidity into the market and closed three smaller banks (with the deposit guarantee system operational). Rigas Komercbanka, the country's fifth-largest bank, was subject to a bank run. It held 14% of its assets in Russia, and about 20% of its capital was owned by Russians. In 1998 Latvijas Banka installed administrators at Rigas Komercbanka, aided it with liquidity support and prohibited the withdrawal of term deposits ahead of maturity. Nevertheless, in 1999 the central bank was forced to declare Rigas Komercbanka insolvent and took over the bank with the ambition of rapid reprivatization. During the course of 1998, Latvian banks went from profitability to lossmaking, and capital adequacy ratios dropped, although nonperforming loans continued to fall, as many bad loans were related to earlier problems in the mid-1990s.

Lithuania's banks, despite a crisis in the real sector due to the collapse of the Russian market, suffered less directly from the Russian crisis, both because lending in the less dynamic state banks was less developed and because the more robust private banks were hardly involved in Russian assets – only 1.5% of total bank assets were directly in Russia. Nevertheless, asset growth and profitability was poor in 1998–99. Partly this was due to the final resolution of the earlier crisis in the state-owned banks, which in 1998 led to the definitive liquidation of the State Commercial Bank (an important provider of credit to large state-owned enterprises) and the transfer of some of its assets to Turto Bankas, the recovery bank. Some of the assets of the ailing Agricultural Bank (Lietuvos žemės ūkio bankas) were also transferred to Turto Bankas. In 1999 Litimpeks

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1   Eesti Pank (1998, 1999).
2   OECD (2000, p. 114–115), Latvijas Banka (1998).

The Baltic Banking Sectors: Chronology of Some Important Events (1998 to 2002)

	Estonia	Latvia	Lithuania
1998	– July: merger agreements signed between Hansapank and Eesti Hoiupank (largest and second-largest credit institutions) and between Eesti Ühispank and Tallinna Pank (third and fourth largest) – Central bank withdraws licenses or takes controlling stakes in some medium-sized and small banks – September: Föreningssparbanken (Swedbank, Sweden) acquires controlling stake (59%) in Hansapank for EEK 3.5 billion (USD 250 million). Supervision of consolidated banks' accounts enacted – October: deposit insurance law takes effect, deposit guarantee fund comes into operation – December: Skandinavska Enskilda Banken purchases significant minority stake in Ühispank (32%) for EEK 830 million (USD 60 million) – late 1998: central bank recapitalizes Forekspank (sixth-largest bank) and merges it with other credit institution, merged bank is renamed Optiva Pank	– October: deposit insurance scheme effective, deposit guarantee fund established – Fall 1998: following the Russian crisis, situation of a number of credit institutions overexposed to CIS countries, in particular of Rigas Komercbanka (fourth-largest bank), deteriorates – Late 1998: Skandinavska Enskilda Banken (Sweden) takes a 32% stake (subsequently raised to 44%) in Unibanka	– January: minimum capital requirement raised to EUR 5 million (corresponding to EU standards) – March: State Commercial Bank liquidated, transfer of bank's performing assets to the Savings Bank; transfer of Agricultural Bank's bad loans to Turto Bankas – Late 1998: Skandinavska Enskilda Banken purchases 42% of Vilniaus Bankas (second-biggest credit institution)
1999	– February: Eesti Ühispank is first CEE bank since Russian crisis to tap euro-denominated bond market – July: credit institutions law amended, strengthening Eesti Pank's authority in exercising supervisory functions	– Early 1999: supervision of banking groups on consolidated basis established – Early 1999: central bank suspends operations of Rigas Komercbanka, bank declared insolvent; subsequently, major creditors and Latvijas Banka work out rehabilitation plan – March: Latvijas Investiciju Banka (medium-sized bank) purchased by Merita Nordbanken (Nordea, Sweden) – March: government sells its controlling stake in Latvijas Krajbanka – October: Rigas Komercbanka reopens after successful recapitalization – End-year: minimum capital requirements raised to EUR 5 million (EU standards), triggering some mergers and exits	– August: Lietuvos Bankas again suspends most banking operations of Litimpeks Bank due to its illiquidity – September: central bank approves agreement of Vilniaus Bankas and Bankas Hermis (the two largest private banks) regarding a possible merger
2000	– June: central bank sells its 58% stake in Optiva Pank (third-largest bank) to Sampo Finance (Finland) for EEK 214 million (EUR 14 million); following this sale, authorities no longer retain any participations in banking sector	– May: 90% of Rigas Komercbanka sold to Norddeutsche Landesbank Girozentrale (Germany) – August: Skandinavska Enskilda Banken raises its stake in Unibanka (second-largest credit institution) to almost 100%, SEB acquires ownership of Unibanka's subsidiaries in Estonia and Lithuania, thereby creating the region's biggest financial group	– February: Vilniaus Bankas and Bankas Hermis merge; new institution named Vilniaus Bankas – December: government sells majority stake in Lithuanian Development Bank to Sampo Finance (Finland) for LTL 40 million (USD 10 million)
2001	– May: law on the establishment of unified Estonian Financial Supervision Agency for banking, insurance and securities enacted – June: amendments to bankruptcy law passed to bring legislation into line with EU norms	– July: Financial and Capital Markets Commission takes over unified supervision of brokerages, insurers, investment funds, private pension funds, credit institutions and other financial market actors	– May: 90% state shareholding in Lithuanian Savings Bank (LTB, second-largest credit institution) sold to Hansapank (Estonia) for USD 37.5 million – July: new, more effective bankruptcy and enterprise restructuring laws come into force
2002	– January: Estonian Financial Supervision Agency starts operations – February: integration of Helsinki and Tallinn stock exchanges accomplished	– April: amendment to law on credit institutions should increase compliance with Basel Core Principals	– February: litas repegged from U.S. dollar to euro (EUR 1 = LTL 3.4528) – March: authorities sell 76% stake in Agricultural Bank (third-largest credit institution) to Norddeutsche Landesbank Girozentrale for LTL 71 million (EUR 20.5 million)

Bank was also forced into bankruptcy. The weak overall performance of banks was also attributable to the consequences of a domestic fiscal crisis, as the budget deficit was spiraling to 8.5% of GDP in 1999. This led to a forced rapid consolidation of the state budget, with the government compelled to rely on a stand-by arrangement with the IMF. The austerity measures contributed to a severe recession in 1999 that in turn affected the banks' customers. Furthermore, uncertainty about Lithuania's commitment to the currency board led to a short period of speculation against the litas' link to the U.S. dollar. However, throughout the 1998–99 crisis, the two well-capitalized dynamic private banks Vilniaus Bankas and Hermis Bankas continued to expand assets, a process which was reinforced by foreign FDI.

3 Consolidation of the Banking Sector and Strong FDI

In the midst of the 1998 crisis the Baltic banking sector experienced an intensive regional consolidation phase which continued up until 2002 and created the present-day modern banking structures. Several factors facilitated and reinforced the acquisitions and mergers: failures and reduced bank share prices during the crises, privatization by the Estonian, Latvian and Lithuanian authorities of the last state-owned banks and finally strengthened regulation (which will be detailed in a subsequent section). This consolidation together with a parallel regional recovery has led to increasingly similar developments in all three Baltic markets. In general, developments appeared first in Estonia, where the reforms had advanced furthest, began in Latvia with a delay of one to two years, and then cropped up in Lithuania some two to three years later.

The consolidation was driven very early on by foreign, mainly Swedish, participation. Foreign ownership had been important in the banking sector even prior to 1998, but then in the form of portfolio investment with a dispersed ownership structure. After 1998 strategic investments dominated, creating two rivaling regional banking groups: on the one hand the Hansapank group, majority-owned by Föreningssparbanken (Swedbank), on the other hand a pan-Baltic alliance of banks created by Swedish Skandinavska Enskilda Banken (SEB). In 2001 these two groups represented more than two thirds of the banking sector in the Baltic region in terms of assets.[1]

The regional consolidation in Estonia was initiated by Hansapank. At the end of the 1990s Hansapank had established a strong private client and corporate business in Estonia and set out to acquire branch networks in the neighboring countries. In 1996 Hansapank had already acquired Latvia's sixth-largest bank, Deutsche Lettische Bank, and renamed it Hansabanka. The next step followed in July 1998, when Hansapank, then already Estonia's largest bank, merged with the third-biggest bank, the Estonian Savings Bank (Eesti Hoiupank), in the wake of the Asian crisis and the stock market crash in Tallinn (the Savings Bank had earlier acquired the Latvian Tavijas Zemes Banka). A few months later Föreningssparbanken (Swedbank), in competition with its Swedish rival SEB, acquired through the stock market a strategic share of 59% in the new, larger Hansapank, which then already represented about half of the Estonian banking sector.

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1 Hansabank (2002), Vilniaus Bankas/SEB (2002).

After losing the "battle" over Hansapank, the SEB group instead took minority stakes in runners-up in all three Baltic countries at the end of 1998: in the second-largest Lithuanian Bank, Vilniaus Bankas, the second-largest Latvian bank, Unibanka, and the second-largest Estonian bank, Union Bank of Estonia (Eesti Ühispank).[1]) These three banks – Vilniaus Bankas, Unibanka and Ühispank – already had a trilateral regional cooperation agreement.

After this period of mergers and acquisitions, the Baltic states had, in the space of a single year, ended up with two dominating rival Baltic banking groups, both backed by strong Swedish owners.

The Hansapank group started a Lithuanian subsidiary, Hansabankas, and expanded its Latvian Hansabanka rapidly, which in April 2000 also acquired Ventspils UBB, a smaller Latvian bank. In May 2001 Hansapank then made up for its relatively smaller size on the Lithuanian market by acquiring 99% of the privatized Lithuanian Savings Bank (LTB), the country's second-largest bank after Vilniaus, and merged it with its local subsidiary into Hansa-LTB. In the process, the former LTB was radically streamlined, with more than half the retail outlets closed and staff reduced by more than 25%. With LTB, Hansapank had gained a strong presence in all three countries. In 2001 Hansapank controlled about a fourth of the entire Baltic banking sector in terms of assets (table 1).

Meanwhile, SEB expanded its stakes in the three banks it had purchased to nearly 100% and became directly involved in the management of its Baltic operations. Vilniaus Bankas in 2000 merged with the third-largest Lithuanian bank, Hermis Bankas (which had previously bought the smaller Industry Bank), thus creating the largest group in the country. In 2001 SEB's Baltic holdings together controlled about a third of the Baltic banking sector in terms of assets (table 1).

Together, the two banking groups in March 2002 controlled 84% of the Estonian loan market, 46% of the respective Latvian market and 63% of the Lithuanian market (charts 1 through 4).[2]) This dual domination could have ended when SEB and Swedbank discussed a merger during 2001 that could have forced either of them to divest their Baltic holdings, but the deal was subsequently called off after the European Commission voiced concerns relating to competition in the Nordic market.

Furthermore, the Finnish Sampo group acquired Optiva Bank in Estonia (the result of the merger of the Estonian Investment Bank and Forekspank) and also the Lithuanian Development Bank. The Nordic group Nordea established operations in all three Baltic countries. The German Norddeutsche Landesbank Girozentrale (Nord/LB) meanwhile acquired 76% of Lithuania's third-largest bank, the Agricultural Bank (Lietuvos žemės ūkio bankas) and 90% of Rigas Komercbanka, then in the process of being restructured after the crisis but still one of Latvia's larger banks (now called Pirma Banka). Sampo, Nordea and Nord/LB are thus at present the main Baltic rivals of Swedbank and SEB.

In total, foreign capital in the middle of 2002 thus controlled over 80% of the aggregated Baltic banking sector in terms of assets, and foreign ownership exceeded 90% in Estonia, 85% in Lithuania and 70% in Latvia.

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1   Ühispank had just before acquired another large Estonian bank, Tallinna Pank (which in turn had bought the Latvian Saules Bank).

2   Hansabank (2002), Vilniaus Bankas/SEB (2002).

In November 2002, this left only one major Baltic bank which still is locally owned, Latvia's Parex banka, itself the result of a merger of several Latvian banks. Parex banka has signaled that it, too, is prepared to find a strategic European partner. Latvia remains the least consolidated of the banking markets. In 2002 it had 22 licensed banks and one branch of a foreign bank, more banks than the two other Baltic countries together. Half of these, however, are small niche banks dealing essentially with nonresident transactions.

Up until 2001 Lithuania was the only Baltic country where the state remained an important player in the banking market. As mentioned earlier, the two dominant state-owned banks, LTB and the Agricultural Bank, were privatized as late as 2001–02 (after several earlier attempts had failed or had been delayed), and both were then considered overstaffed and more inefficient than Vilniaus Bankas, the privately owned competitor. In Estonia only one small bank (Optiva Bank) remained in state hands before being divested in July 2000. In Latvia state ownership amounted to only 3.7% of the sector in 2001.[1])

The combination of consolidation and foreign ownership had at least four major effects on the Baltic banking system:
— The acquisition by the foreign, in particular Swedish, banking groups gave the Baltic banks a sizeable capital injection at an important juncture – although this capital would later be superseded in most banks by a rapid growth of deposits.
— The trust among customers, which had already been increasing in the most dynamic and transparent banks, improved further when foreign capital was perceived as backing and guaranteeing the banks.
— Know-how was transferred from foreign banks, mainly in risk management, which had been improved in particular in Sweden after 1992 as a consequence of the major banking crisis in the early 1990s. Most notably the Swedish owners set up risk assessment committees and screening procedures modeled on those in Sweden.
— There was a shift from investment banking to more conventional banking, and an increased focus on medium and small enterprises and private clients, notably on mortgage loans, an evolution which will be detailed in section 6.

Table 2

Major Baltic Banks in June 2001

	Equity	Market share of total Baltic states			Net profit
		Assets	Deposits	Customer loans	
		%			
Hansapank (Estonia)	284	18	16	14	22.9
Vilniaus Bankas (Lithuania)	153	10	12	12	9.1
Parex banka (Latvia)	82	8	10	8	8.6
Ühispank (Estonia)	110	8	8	11	4.7
Lithuanian Savings Bank (LTB)	59	7	10	4	3.4
Unibanka (Latvia)	79	7	6	12	8.4
Hansabanka (Latvia)	62	6	7	6	4.2
Lithuanian Agricultural Bank	35	4	4	5	3.0
Total	1,188				85.3
Vilniaus Bankas, Ühispank, Unibanka	342.3	25	25	34	22.1
Hansapank, Hansabanka, Hansabankas, LTB	415.1	32	33	25	30.5

Source: SEB, Vilniaus Bankas, Lietuvos Bankas, Eesti Pank, Association of Commercial Banks of Latvia, banks' financial statements.

1 The ownership was in Latvijas Hipotēku un zemes banka (Mortage and Land Bank), and a 32% stake in Latvijas Krajbanka. IMF (2002c), Lepik and Törs (2002), Zubkova et al. (2002).

Chart 1

Market Share: Loans Estonia,

Baltic Banking Groups, March 2002

Others
16%

SEB/Ühispank
31%

Hansabank group
53%
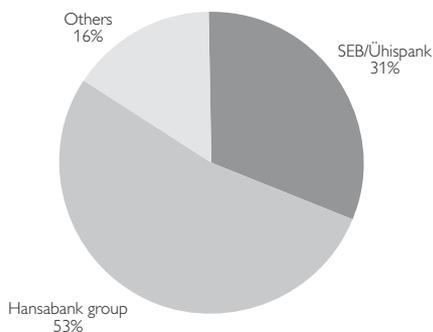
Source: Henszpank group.

Chart 2

Market Share: Loans Latvia,

Baltic Banking Groups, March 2002

SEB/Unibanka
26%

Others
54%

Hansabank group
20%
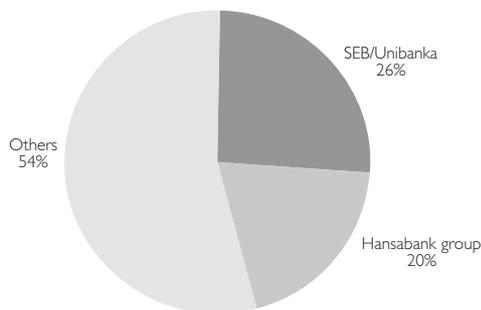
Source: Henszpank group.

Chart 3

Market Share: Loans Lithuania,

Baltic Banking Groups, March 2002

Others
37%

SEB/Vilniaus Bankas
37%

Hansabank group
26%
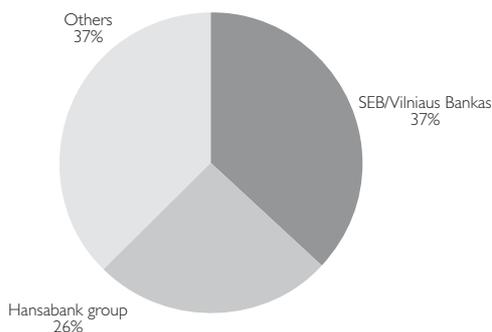
Source: Henszpank group.

Chart 4

Market Share: Deposits,

Baltic Banking Groups, March 2002

SEB Group
24%

Others
43%

Hansabank group
33%
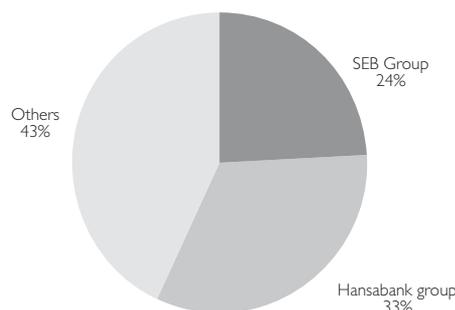
Source: Henszpank group.

4   Recovery in the Banking Sector Supported by a Macroeconomic Rebound

The 1998–99 crises were followed by a strong macroeconomic recovery in all three Baltic states, which was supported by buoyant international demand. This created a favorable environment for the development of the consolidated banking sectors. Economic growth even continued through the international downturn of 2001–02. In part this was due to the continued relocation of production facilities to the Baltics by European companies which wanted to take advantage of the low labor costs, improvements in productivity and a more stable institutional environment ahead of an increasingly certain EU accession. The extreme openness of the Baltic economies, which had worked against them during the Russian crisis, helped them recover through a reorientation of trade to the EU, which in 2002 was the main trading partner of all three countries. But in part the recovery was also the result of the revival of old ties to Russia and CIS countries as Russia and the entire CIS region recovered strongly from the 1998 crisis on the back of rising oil prices and an industrial rebound. In 2001 Latvia registered Europe's highest GDP growth rate (7.6%), followed

by Lithuania (5.9%) and Estonia (5.0%). Unemployment remained high throughout the Baltics, and only in Latvia was it reduced marginally. The budgetary situation improved rapidly in all three states, and public sector debt accumulation never became a threat to the currency board arrangements. In February 2002 the Lithuanian currency board repegged from the dollar to the euro at the then prevailing exchange rate, without serious concerns from the public despite large dollar deposits. Latvia also announced in 2001 that the lats would be repegged to the euro following accession to the EU.

FDI inflows remained strong throughout the Asian and Russian crises and continued afterwards. But as portfolio investment fell and was increasingly replaced by internal savings intermediated by the banking systems, and as export earnings increased rapidly, the current account deficits narrowed in the Baltics in 1998–2001, in particular in Lithuania. Current account deficit levels remained high, however (in 2001 9.7%, 2.2% and 6.1% respectively for Latvia, Lithuania and Estonia), even for small emerging market economies, although they were still largely covered by FDI inflows.[1])

An important factor supporting the banking sector was the disinflation process after 1998, with inflation falling in 1997–2001 from 10.6% to 5.7% in Estonia, 8.4% to 2.5% in Latvia and 8.9% to 1.2% in Lithuania. Given that monetary policy is governed by currency boards in Estonia and Lithuania, this was not due to a tightening of monetary policy, but to the workings of the currency boards themselves and price deregulation. Inflation rates decreased as the Baltic currencies became less undervalued, with less need for real appreciation.

Nominal interest rates diminished in line with inflation and fell even further as real interest rates decreased and worries related to the Asian and Russian crises receded. The prospect of EU accession and even euro introduction further narrowed interest spreads towards the euro area. It is now considered possible that all three Baltic states may join the euro area just three years after EU accession in 2004.

5 The Role of Regulation and Supervision from 1998

Another factor supporting the consolidation and expansion of the Baltic banking sectors has been the reinforcement of regulations through a continued tightening of the framework and improved competence of the regulatory authorities. This narrowed the scope for banks with a deliberately high risk profile and induced weaker banks, which were less likely to fulfill requirements during the 1998–99 crises, to merge with more stable banks.

As mentioned earlier, the direct aftermath of the Russian crisis was marked by closures of a number of smaller banks in the Baltic states, sending an implicit signal to other banks to consolidate. While in Estonia the banks that lost their licenses and were liquidated were fairly small, in Latvia and Lithuania there were, as noted earlier, large forced reconstructions of banks by the authorities. Some of the smallest and least viable banks were also closed when authorities increased minimum capital requirements in 1998 from EUR 2 million to EUR 5 million in Latvia and from EEK 15 million to EEK 35 million (this

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1   *European Commission (2002).*

corresponds to EUR 1 million to EUR 2.2 million; later this threshold was raised to EUR 5 million, see table 2.) in Estonia.[1])

The closures of banks were facilitated by the introduction of deposit guarantee schemes in Estonia and Latvia in 1998 and in Lithuania already in 1997 (with an expansion in 2001). These schemes are particularly important in the context of currency boards, where no proper lender of last resort exists. The guarantees were set fairly high at 90% of deposits up to EEK 40,000 (EUR 2,556) and LVL 3,000 (about EUR 5,025) in Estonia and Latvia respectively, and up to 70% of LTL 45,000 (EUR 13,032) in Lithuania, with the aim of reaching the EU minimum level of EUR 20,000 by 2007 for Estonia and Latvia and 2008 for Lithuania.[1]) The Estonian scheme proved effective, as depositors in failed banks were compensated in 1999 with borrowed money (backed by a state guarantee) which then was repaid as the guarantee scheme accumulated funds (earlier compensations directly out of the state budget had come at a cost of more than 0.5% of GDP). However, as the minimum guarantee is being raised to the EU level of EUR 20,000 (more than three average yearly salaries in all three countries), complaints have been voiced that contributions to the schemes will pose too heavy a burden on bank profitability. In Lithuania the deposit scheme in 2001 represented an annual cost of a full 0.45% of deposits.[1])

Minimum capital adequacy requirements have generally remained high in the Baltic states, 10% in all three countries at end-2002, and above or at that level throughout the period 1998–2002 (table 2). Partly this is an extra precaution, given that the Estonian and Lithuanian currency boards lack a lender-of-last-resort function (with similar conditions for Latvia) and thus need to ensure sufficient liquidity. The Baltic banks have in any case remained very well capitalized with a substantial margin to the requirements. In Estonia, for example, banks are estimated to have liquid assets covering 80% of liabilities.

Moreover, the foreign ownership of the major banks by much larger Nordic groups is often referred to as an implicit guarantee of capital supply to the Baltic banks, and even to a certain degree as a substitute for a lender of last resort, as long as the Baltic holdings represent a very small part of the Nordic groups' consolidated balance sheets.

Actual supervision in the Baltic states, both off-site and on-site, has reached international standards during the period 1998–2000. According to the Report on the Observance of Standards and Codes for Estonia (IMF, 2002e) and the Financial System Stability Assessment for Lithuania and Latvia in 2001 (IMF, 2002b, 2002c), the quality of supervision is on a par with that of the most developed markets. According to Latvijas Banka, on-site bank inspections in Latvia are more frequent than in EU countries. Noncompliance with capital adequacy requirements gives the central bank extensive power to intervene in the banks' operations in all three Baltic states, with the right of appointing administrators. The application of IAS (International Accounting Standards) is compulsory in all three Baltic states. All major credit institutions are audited by internationally recognized auditing firms. Most have very transparent investor relations policies, with extensive information available on Internet sites.

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1   Lepik and Törs (2002), Zubkova et al. (2002), Gabaravicius and Kuodis (2002).

To ensure that the source of foreign deposits is not money laundering, particular legislation has been passed in Estonia, Lithuania and Latvia; in the latter, it has involved the creation of a special anti-money laundering board.

The German model of a single, unified financial supervision authority was adopted by Latvia in 2001 and Estonia in 2002, both agencies being independent but affiliated with the respective central bank. This model is expected to facilitate making an overall assessment of diversified financial groups, an apparent problem during the 1998 crisis. Lithuania, on the other hand, has kept supervision divided between the Bank of Lithuania, the Securities Commission and the State Insurance Supervisory Authority.

A major concern ahead is the rapid growth of leasing companies (which will be detailed in section 6). Here the requirements for disclosure and the powers of supervision of the authorities are more modest by law. Leasing firms have been venturing into more risky assets.

In all three Baltic states there has also been a general improvement in the microeconomic framework, with commercial codes, bankruptcy procedures, rules for collateralization, accounting and auditing rules being fully implemented. Privatization of the last major remaining state-owned enterprises was also completed during the 1998–2001 period.[1]) Nevertheless, much remains to be done, particularly in the field of legal infrastructure, where the timely enforcement of contracts, the prevention of corruption and improved audits of firms, which often are dubious, are imperative. In this development Estonia appears to be somewhat ahead and Lithuania somewhat lagging.

Table 3

Prudential Regulations and Deposit Protection in the Baltics as of Mid-2002

Type	Requirement		
	Estonia	Latvia	Lithuania
Minimum capital requirement	EUR 5 million	EUR 5 million	EUR 5 million
Minimum capital adequacy	10% of risk-weighted assets	10% of risk-weighted assets	10% of risk-weighted assets
Maximum lending to a single borrower	25% of bank's capital	25% of bank's capital	25% of bank's capital
Maximum foreign exchange exposure (overall open position)	30% of bank's capital	20% of bank's capital	25% of bank's capital
Deposit protection (guarantee)	EEK 40,000 (EUR 2,556), will be increased to match ECB requirements of EUR 20,000 (EEK 313,000) by 2007	LVL 3,000 (about EUR 5,025), will be increased to match ECB requirements of EUR 20,000 (LVL 13,000) by 2007	LTL 45,000 (EUR 13,032) (100% at LTL 10,000) ECB requirements of EUR 20,000 to be reached by 2008
IAS: year of introduction	1995	1995	1997

Source: Eesti Pank, Latvijas Banka and Lietuvos Bankas, November 2002.

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1   For further details see the 2000 and 2001 preaccession economic programs of Estonia, Latvia and Lithuania.

6 Evolution of the Baltic Banking Markets

6.1 Market Structure

Overall, the banks have remained the major suppliers of capital to the Baltic financial system, with a marginal role for the stock markets, despite a recovery since the lows of 1998 and some development in the corporate bond market. All three Baltic countries appear to be following a continental European model of universal banking, given the absence of a compulsory separation between the banking and securities businesses. Since the mid-1990s, the banks have remained major players in the leasing, pension fund, insurance and securities businesses. However, an increasing number of Baltic enterprises, in particular the larger ones, are being funded directly on major European financial markets. In all three Baltic states the main means of financing the real economy remains retained earnings, FDI or capital raised from European financial markets. One reason for this might be the large asymmetries in information in an emerging market environment, which makes this form of intrafirm capital less costly for Baltic enterprises than raising the capital directly from the banking sector.

Although banks dominate the financial landscape, the region still remains underbanked. According to IMF statistics, the ratio of domestic credit to GDP was only about 50% in Estonia, 38% in Latvia and 18% in Lithuania in early 2002, as compared to the euro area average of about 160% (chart 6). Total assets to GDP were 72% in Estonia, 73% in Latvia and 32% in Lithuania in 2001 as compared to 256% in the euro area. These levels are also below those of countries like Greece and Spain before their accession to the EU, or even of some large central European accession countries.[1] However, as the ratio of assets to GDP is increasing more rapidly in Estonia and Latvia than in the central European accession countries (where the overall quality of assets appears to be worse than in Estonia and Latvia), these two Baltic states could well catch up with the leading central European countries in the field of banking in the next few years.[2] Monetization (the ratio of M2 to GDP) is also increasing rapidly from low levels.

The market in each country has been very forcibly driven by the two main banks linked up with the Swedish investors. The tendency in the leading consolidated groups has been to move from a more narrow investment banking perspective to reach out to the growing medium-sized companies, often subcontractors to Western markets.

Unlike in many other emerging markets, lending to the public sector has comprised a very modest part of assets due to the nature of the currency board arrangements and budget consolidation in all three Baltic states.

6.2 Sources of Earnings

The most marked feature is the very rapid general growth in lending from 1999 to 2002 with 10% to 30% annual increases (chart 7) in Estonia and Latvia, albeit from a low base. In Lithuania asset growth stagnated from 1999 to 2000 during the ownership changes in the banking sector and recovered only mildly later

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1   Thimann (2002).

2   In the Czech Republic assets as a share of GDP are even decreasing. Chart 6 clearly shows the contrast to Estonia and Latvia.

(about 10% growth). In part this can be attributed to differences in corporate culture, Lithuanian enterprises strongly preferring to finance activities on retained earnings, but in part it may also be due to a less developed banking system, with former state-owned banks hesitant to extend credit during an intensive restructuring phase. While the leading privately owned banks in Lithuania have expanded, the credit institutions which until recently were state owned have stagnated.

The overall impetus behind the strong growth of credit in Estonia and Latvia, and signs of a similar takeoff in Lithuania, correspond to the combination of a structurally underbanked market, strong growth with emerging investment opportunities and a rapid decrease in real interest rates in all three countries, which are now among the lowest in the accession countries.

In all three Baltic states new lending is almost exclusively directed towards the private sector. In Estonia the exposure of banks and their leasing subsidiaries to the real sector has increased from 25% to 40% of GDP from 1998 to late 2001.[1])

Lending to businesses remains more short-term than in developed European markets, the enterprises preferring to borrow for two- to three-year periods and rolling over the loan thereafter. A sizeable part of the lending is still directed towards supporting customer liquidity. Average maturities have increased, however, in particular in Latvia and Estonia.

A majority of the lending (and of the deposits of the business sector) is held in foreign currency or indexed against the euro or the U.S. dollar. The share of borrowing in foreign currency has actually increased somewhat, in line with the internationalization of Baltic businesses. The currency boards have remained in place for a decade in Estonia, and almost as long in Lithuania, while the Latvian lats has remained stable for a decade. Many enterprises have therefore preferred not to use the national currency, given that a large number of loans is used for trading transactions denominated in foreign currency and, most importantly, given that interest rates in euro and dollars are still somewhat below those in Estonian kroon, Latvian lats and Lithuanian litas. Part of this difference in interest rates can be attributed to the greater depth and efficiency of the euro and dollar markets, but in addition, many enterprises appear to consider the actual exchange rate risk (i.e. the risk of dissolution of the currency boards and the discontinuation of the Latvian peg to the SDR) less than what is actually priced into the market. In Estonia most of the foreign currency-denominated assets are in euro – given that the currency board, as mentioned, was denominated in Deutsche mark and subsequently in euro (loans were previously in Deutsche mark). But in Lithuania most foreign currency-denominated loans are in dollars (80% in 2001), partly due to the fact that Lithuania's currency board was dollar-denominated until February 2002, when it was repegged to the euro, partly due to the fact that a large part of the country's trade is dollar-denominated – in particular the remaining trade and transit trade with Russia.[2]) Since the repegging of the litas, the share of euro-denominated loans in total loans has increased in Lithuania.

1   Lepik and Törs (2002).
2   IMF (2001b).

There has been a further reorientation from the Russian market towards domestic customers. Only in Latvia did assets from Russia and the CIS still represent a portion equal to that of domestic loans in 2001. This reflects stronger economic links with Russia, notably through the large Russian-speaking minority in Latvia which has maintained contacts with, and knowledge about, the Russian commodities business. Most of these assets are concentrated within the locally owned Parex banka and a few smaller banks. In Estonia and Lithuania, the share of Russian and CIS assets still represented about 15% of the total in 2002.

There is also a reorientation from loans for trading purposes, which were important in the 1990s, towards credits to industrial companies, as commercial needs are increasingly catered to within Baltic enterprises that have become owned by foreign groups.

Credit assessments of firms are often different from those in more developed markets. Audits are often doubtful, and only a minority of customers follow IAS (as opposed to banks themselves, where IAS is compulsory). Nevertheless, both leading banking groups (Swedbank and SEB) have implemented strict risk management procedures modeled on those applied in Nordic countries.

The most rapidly growing field of lending of the banks in all three Baltic states is that of the leasing subsidiaries of the banks, which are particularly successful in business with smaller and medium-sized companies. This appears to reflect remaining concerns about being able to seize collateral within reasonable time periods, despite improved rules and legislation on the collateralization of loans and bankruptcy laws compatible with EU standards. Although the appropriate laws are in place, court procedures remain cumbersome and time-consuming, with risks of asset-stripping and depreciation of collateral. It can also be a consequence of the banking system reaching out to new and smaller clients where the banks have less information and leasing in effect is akin to a sort of screening. With its clear-cut ownership rules, leasing furthermore allows for assertive marketing even to riskier and smaller clients. This evolution, with aggressive and high-risk leasing companies taking up a greater part of the banks' balance sheets while these companies themselves are not subject to the same detailed regulation and supervision, is cause for some concern to the supervisory authorities. Real estate is a common leasing property (unlike in the Nordic and other European markets), as are company cars. In Estonia, where leasing is furthest developed, it comprised about a third of banking assets in 2001.

In general, total lending to finance commercial real estate projects grew strongly up to 2001, but has been somewhat more muted since then in Estonia and Latvia. This is both the consequence of the cooling of the property market, with the demand for office space falling off, and the result of a change of attitude on the part of banks, which tried to reduce their exposure to the commercial real estate market against the background of the unpleasant experience of their Swedish bank owners, who were severely hit by the real estate bubble in the early 1990s.

But the expansion of mortgage lending has accelerated after a slow start and expanded at a rate of about 100% in Estonia and Latvia in 2001–02. It now represents more than 30% of total domestic assets in Estonia and more than 15% in Latvia. Lower interest rates have been the driving force, and in Lithuania also

government subsidization of mortgage loans. Nevertheless, retail lending remains limited, in particular in Latvia and Lithuania. Only some 5% to 10% of households take out mortgages in the Baltic states as opposed to more than 80% of households in Scandinavian countries. Growth in the retail sector, and in particular mortgage lending, is expected to continue and to be reinforced in the next few years.

The quality of loan portfolios has improved markedly since 1998, in particular in Estonia and Latvia. Nonperforming loans (NPLs) have reportedly fallen from 1997 to 2001 from 3% of total loans (almost 5% in the months following the Russian crisis) to below 2% in Estonia, from 10% to 4% in Latvia and from 22% to 9% in Lithuania.[1]) Although the figure for Lithuania is high, the distribution of NPLs remains very uneven, with some banks bearing most NPLs, while the leading bank groups have reduced their NPLs very substantially.

6.3 Deposit Growth

The growth in assets has been strongly supported by rapid deposit growth, which, after dropping sharply in the months before and after the Russian crisis in the fall of 1998 and the beginning of 1999, has outpaced loan growth, with growth rates coming to around and above 30%.[2]) But although more than two thirds of Estonians, Latvians and Lithuanians hold bank accounts, the levels of deposits are still relatively low. Deposits amounted to about 40% of GDP in Estonia, about 30% in Latvia and to 25% in Lithuania at the beginning of 2002 (chart 8). This compares to about 85% of GDP in the EU.

The Baltic countries, and most noticeably Latvia, have profited from an influx of foreign deposits. The profile of the foreign funds indicates that they mainly serve as a means of cross-border transfers. International corporations operating in the Baltic states represent a large and growing part of nonresident depositors. In Latvia in particular nonresident deposits are also the result of Russian and other CIS depositors wishing to take advantage of reliable financial institutions and regulations. In fact, nonresident deposits have kept pace with the rapid growth of domestic deposits.

The IMF, in its 2001 Financial Stability Assessment Report on Latvia, raised the issue whether nonresident deposits could be linked to the laundering of money from CIS countries, with the risk of a loss of confidence in Latvia's financial system even if these assets (mostly concentrated within smaller niche banks) appear to be adequately matched in the books by liquid Western assets. Latvia has created an anti-money laundering board to which banks are required to report suspicious transactions, but the country in 2001 was still subject to some criticism by the FATF (the Financial Action Task Force, the OECD money laundering watchdog) and the European Committee on Crime Problems.[3])

The special character of Latvian deposits is also reflected in the large portion of savings and foreign currency accounts. In Estonia and Lithuania demand deposits remain much more important than time or savings deposits, while both

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1   IMF (2002b, 2002c), Eesti Pank (1999, 2000, 2001), Latvijas Banka (1999, 2000, 2001), Lietuvos Bankas (1999, 2000, 2001).

2   The excess went into domestic bonds (for Estonia in 2002), foreign liquid assets and liquidity.

3   IMF (2002c).

are equally important in Latvia. Foreign currency deposits are important in both Latvia and Lithuania, but less so in Estonia.

Most foreign currency-denominated deposits are kept in euro or U.S. dollars, the dollar being particularly important in Latvia, where nonresident (CIS) customers have preferred to keep deposits in foreign currency despite the lower interest rates than on deposits in lats. Savings in Lithuania have also to a surprisingly large extent remained in U.S. dollars, despite the repegging of the litas from the dollar to the euro.

Foreign institutional borrowing by Baltic banks also played an important role from 1997 to 1999, but as domestic deposits have increased, and for many banks have outpaced the growth in lending, the reliance on foreign borrowing and capital injections has diminished. In the process, interest rates on liabilities have become more favorable whereas most deposits remain remunerated at very low rates.[1] There have been no runs on banks or rapid swings in deposit demand since 1998, an element of stability reinforced by the introduction of the deposit guarantees.

Thus the banking system has apparently been increasingly successful in the mobilization of domestic savings and in reducing cash holdings in favor of deposits. An important factor in the reduction of cash holdings has been the implementation of IT technology throughout the network of the SEB affiliates and the Hansapank group, increasing the convenience for customers. Together, both bank groups had more than 800 ATMs in the Baltics in 2001. In Estonia over 90% of cash withdrawals were conducted through ATMs and over 90% of bank transactions were carried out electronically in 2001.[2] In Estonia and Latvia the Swedish and Finnish telephone and Internet banking trend has also had a clear influence. Altogether at the end of 2001 there were over 700,000 Internet banking customers in the Baltics, mostly in Estonia. This marks a higher density of Internet banking than in many EU countries, although transactions remain small.[3] The necessary investments have been facilitated by the support of the Swedish owners, who had already implemented similar systems for Swedish customers. A third of Estonian households use Internet banking, according to a 2001 survey by Eesti Pank.[4] Nevertheless, according to the same survey, cash remained the preferred method of payment even in Estonia, considered the most advanced of the three Baltic markets.

6.4 Capitalization and Profitability

The Baltic banks have become well capitalized, in excess of the high capital adequacy ratios imposed by the authorities. In 2001 all the major Baltic banks had capital adequacy ratios as defined by the BIS far in excess of 10%, most of them around 15% (table 3). This was in fact a decline from even higher levels in earlier years.

Profits and returns on capital of the Baltic banks nosedived during the Russian crisis but have recovered since the end of 1999, albeit to more modest

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1   *Zubkova et al. (2002).*

2   *Kaasik (2001), Eesti Pank (2000b).*

3   *Hansabank (2002), Vilniaus Bankas / SEB (2002).*

4   *Kaasik (2001).*

levels than before the crisis (table 3). Profitability remained better in Estonia and Latvia than in Lithuania until the beginning of 2002. Competition has intensified, apparently despite the dominating role of just two main banking groups. After a rebound in 2000, following the recovery from the Russian crisis, interest rate margins have declined in all three Baltic markets, although they remain high (in particular in Lithuania) compared to those in EU countries and higher than in certain other accession countries, e.g. Hungary.

Profits have been further hit by the global downturn in 2001 and 2002. On the other hand, the economies of scale achieved through the consolidation of the banks, the reduction of staff (despite the rapidly growing customer base) and improved efficiency through information technologies have adjusted costs and increased profitability. Operating expenses to assets are now on a par with the EU average for the best-performing Baltic banks, albeit below that of Nordic banks (somewhat lower, though, for Lithuanian banks compared to Estonian and Latvian banks). This has contributed to keeping up profitability despite reduced margins (table 3). Profitability has even increased markedly for several of the major banks. However, net interest revenue still represents some 65% to 70% of operating profits, with a very small contribution from fees. As margins are bound to come down towards European levels, fee incomes will have to improve to maintain profitability.

Asset management is considered an important future source of income for the Baltic banks. All three Baltic nations have introduced new multi-pillar pension schemes with an important privately managed fully funded pillar. This has contributed to a rapid development of pension funds and life insurance companies, supported by favorable tax rules.

Chart 5

Domestic Credit in Estonia, Latvia and Lithuania

Compared to the Czech Republic and the Euro Area 1997–2002

Domestic credit as a percentage of GDP
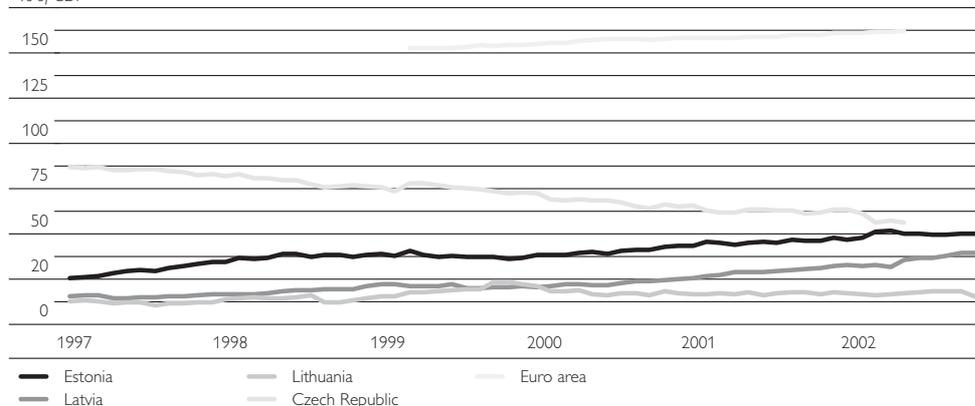
Source: IMF, IFS 1997–2002.

Chart 6

Domestic Credit Growth in Estonia, Latvia and Lithuania 1997–2002

annual increase, %

Estonia
Latvia
Lithuania
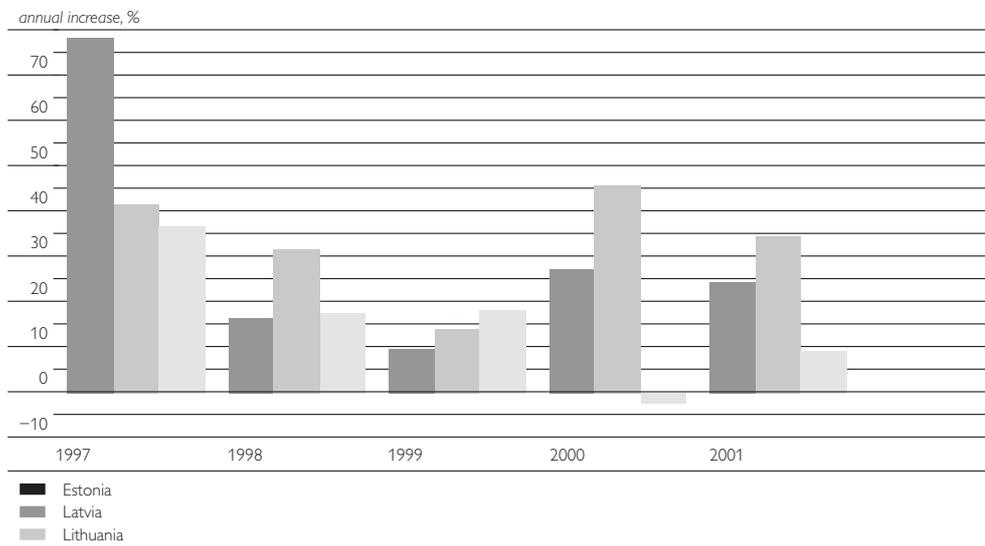
Source: IMF, IFS 1997–2002.

Chart 7

Deposits in Estonia, Latvia and Lithuania 1997–2002

% of GDP

Estonia
Latvia
Lithuania
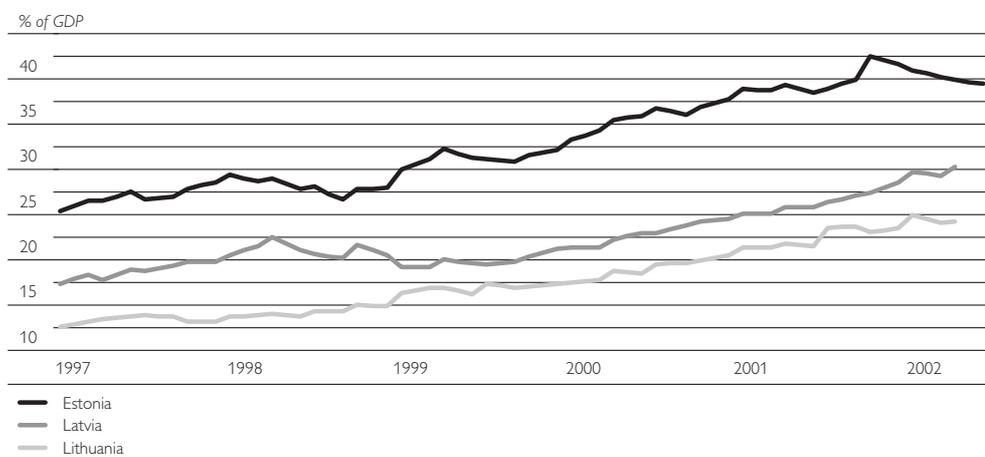
Source: IMF, IFS 1997–2002.

Table 4

Key Indicators/Ratios of Major Baltic Banks Mid-2001

	Net profit	Capital adequacy	ROAA	ROAE	Cost/ income	Interest margin
	USD million				%	
Hansapank[1])	97.30	14.40	3.18	27.53	51.6	4.57
Vilniaus Bankas	16.73	16.23	1.65	14.42	69.0	4.87
Ühispank	9.70	11.83	1.39	11.25	68.6	3.75
Unibanka	14.14	11.70	2.4	24.3	57.6	4.0

Source: Vilniaus Bankas, Lietuvos Bankas, Eesti Pank, Association of Commercial Banks of Latvia, banks' financial statements.
[1]) Group figures.

7 Prospects Ahead of EU and Euro Area Accession: Opportunities and Risks

In the coming years increased direct competition from the larger European banks is expected – in particular given that the Baltic states could enter the Eurosystem as soon as 2007–08. As mentioned earlier, both Swedish-Finnish Nordea and the Finnish Sampo group as well as German banks are already challenging Swedish Swedbank and SEB groups in all three Baltic states, and the market shares of both assets and deposits of these branches of EU banks are growing rapidly. Although still very much larger than their Baltic counterparts, SEB and Swedbank remain small banks in a European perspective. As competition intensifies, the high profit margins of the two leading bank groups in the Baltics are bound to erode.

However, if the Baltic markets are going to follow a pattern somewhat similar to that in smaller European markets, such as the neighboring Nordic markets, it is unlikely that the two groups dominating the market today will eventually yield a large market share to new entrants. Larger local corporations, which are already tapping the European financial markets and soliciting large European banks, are likely to be targeted by new entrants. However, these new entrants will probably face problems competing with already established universal banks with extensive branch networks, such as the Hansapank group and the SEB constellation of banks. The competition will rather reinforce the segmentation between several banks catering to the small number of large Baltic corporations (given the already small size of the market) and a few universal banks oriented towards the large number of small and medium-sized companies.

Nevertheless, as competition continues to intensify, interest margins are bound to decline, thus forcing the two dominating groups to increasingly rely on fees and finding other sources of income, developing new services, notably asset management (pension funds). In any case, the Baltic banking sector is likely to continue to grow very much faster than GDP for many years to come – given the still low level of banking relative to the economy. In particular this is the case for Lithuania, which is still very underbanked and where a long period of bank restructuring and privatization could well bear fruit in the next few years in the form of rapid growth and some catching-up with its Baltic neighbors.

But the rapid expansion is probably not risk-free, despite the supervision both from Nordic parent banks and from increasingly experienced national supervisory authorities. This goes for the somewhat unchecked development of leasing, in particular real estate leasing, with the leasing subsidiaries becoming an increasingly important part of the banks' balance sheets. It is also worth noting that most of the leasing up to now has not concerned machinery and equipment, but company cars and real estate.

Another issue is the rapid growth of mortgage lending. Although the development of retail and mortgage lending is part of a sound convergence with the normal European banking pattern, and Baltic households are still net savers, it may be that the routines and experience in risk management for this type of lending are not yet fully developed.

On the deposit side there are some signs that the Baltic banks may be able to skip some stages of market development – never developing a branch network

as extensive as that in Western European countries and instead relying more on cards, and telephone and Internet banking.

In Latvia the section of the banking sector catering to the Russian and CIS market, which represents some 18 or 19 banks, is expected to go through a phase of consolidation. Whereas neither local nor international experts have many doubts about the reliability of capital adequacy figures and IAS compliance for the leading banking groups (with the exception perhaps of the recently integrated Lithuanian banks in these groups), there are still some question marks as to the smaller niche banks, in particular in Latvia. The nonresident deposits of these niche banks appear to be matched by liquid assets in OECD countries, that is the banks use deposits to invest in liquid OECD assets. It is an open question what will happen to nonresident deposits, as they will be increasingly exposed to scrutiny upon the countries' accession to the EU. As Latvia repegs from the SDR to the euro upon accession to the EU, presumably in mid-2004, it will be faced with a mismatch between dollar deposits and loans and the euro-pegged currency, like Lithuania was. However, in Lithuania this appears not to have posed any major problems so far.

In terms of regulation, the sector will face restrictions for lending and deposits, as the Baltic states envisage EU entry in 2004 and then EMU membership, possibly as soon as 2007. Reserve requirements are bound to be lowered to conform to ECB standards, thus relaxing some demands for safety margins, but also risking creating a short-term monetary stimulus. At the same time the ECB requirements for setting deposit insurance at EUR 20,000 will present additional costs.

Supervisory authorities both in the Baltic states and in the Nordic countries are increasingly going to be faced with a "too small to fail" issue. With the foreign ownership of these banks very large, their parent banks (mainly in Sweden) are considered to have an implicit responsibility for the Baltic banking system. However, the Baltic banks are so small compared to the parent banks' consolidated balance sheets that they do not pose any threat to financial stability in the country of the parent banks, in this case mainly Sweden. Thus the supervisory authorities in the country of the parent banks have no particular (national) incentive to assume responsibility for supervising the systemic risks in the Baltic countries, despite the fact that the parent banks are expected to shoulder responsibility for an eventual systemic crisis. This emphasizes the important responsibility of the still rather young supervisory authorities in the Baltic states to scrutinize systemic risks despite the responsibility of the foreign owners and, in particular, to keep track of the financial strength of parent banks. At the present levels of growth, the Baltic banks might also represent a much more significant part of parent banks' assets within a decade. Coordination of supervision with the Swedish authorities has also been reinforced, in particular in Latvia and Estonia.

8 Summary and Conclusions

The impact of the Asian and Russian crises and the inflow of FDI to the banking sector in 1998 marked a turning point for the Baltic financial systems, forcing a restructuring of the banking sector that would produce rapid growth and an improved quality of asset portfolios in the following years. The role of stock markets declined, as reflected by the collapse of the Tallinn exchange in the wake of the Asian crisis, while that of universal banks increased to the point at which they dominate financial intermediation.

The Russian crisis led to short recessions in all three states, some minor bank failures and above all mergers between banks. From 1998 foreign investors shifted from holding passive portfolio stakes in the Baltic banks to taking strategic positions. This led to the creation of two major banking groups, both owned by Swedish banks, which gradually increased their stakes in the purchased banks' capital. Both of these groups acquired smaller banks in all three Baltic states from 1998 to 2002 until they dominated the market with about two thirds of assets and more than half of deposits. As Lithuania and Estonia have privatized their last remaining large state-owned banks into foreign hands, Swedish, Finnish and German banks now own most of the Baltic banking sector. While the Estonian and Lithuanian banking sectors became truly consolidated, Latvia remained the exception, with a number of smaller niche banks oriented towards the Russian and CIS market, attracting in particular non-resident deposits. Except for the initial capital injection, the foreign participation also reinforced trust in the banking system and improved risk management practices.

As a consequence of both the purging effect of the banking crises and foreign know-how, the Baltic banking sector has increasingly played the typical role of a financial intermediator. Already in the aftermath of the Russian crisis, Estonia and Latvia experienced very rapid asset and deposit growth, while Lithuania has lagged somewhat behind. In particular, there has been a reorientation from investment banking and large corporate clients towards small and medium-sized companies, with particularly strong growth in leasing, as well as wealthy private clients, with rapid growth in mortgage lending. Increased competition has brought down interest rate margins, but lower operating costs and extensive IT implementation have contributed to high levels of profitability. Nonperforming loans have been reduced by half since the Russian crisis, and capital adequacy ratios have improved. Rapid deposit growth has given the leading banking groups ample funds for loans, but considering that loans have not expanded at the same pace as deposits, financial intermediation is perhaps still not as efficient as it could be.

Supervisory and regulatory authorities proved their mettle in forcing the pace of mergers during the crises and thereafter rapidly improved supervision. Estonia and Latvia opted for unifying supervision agencies for their respective financial markets.

Despite these numerous positive trends, the Baltic states remain clearly underbanked, with ratios of assets and deposits to GDP not only a fraction of those in the EU, but also still much lower than in some Central European accession countries. Baltic corporations still receive the bulk of their financing through foreign investment, intracompany loans and retained earnings.

With EU entry expected in 2004, and euro area entry envisaged already in 2007–08, there is therefore still scope for new entrants to Baltic markets to increase competition, in particular for the small number of larger customers.

The internationalization and market orientation of the Baltic countries' banking systems may yield the following conclusions:

– The restrictions of the currency board regimes (and Latvia's quasi-currency board), with the absence of a lender-of-last-resort function (and in practice no use of excess reserves for bank bailouts), high liquidity demands and high reserve requirements have actually contributed to the resilience of the Baltic banks. These restrictions have been instrumental in allowing lending in foreign currency at favorable rates, with confidence in the disinflation process increasing.

– Continued rapid privatizations of state-owned companies and improvements in the legal infrastructure have proved important for the development of the banking sector.

– Increasingly tight regulation and supervision, but also improving transparency and the building of trust by the banks themselves, have contributed to the rapid asset and deposit growth.

– The openness to foreign ownership facilitated the consolidation of the sector and transfers of know-how and technology.

– In Estonia and Latvia, where state ownership was rapidly divested, the banking sector developed more rapidly than in Lithuania, where state ownership lasted several years longer and where many banks survived the crises.

– Despite the rapid asset growth, the main sources of financing for Baltic corporations are still foreign investment, intracompany loans and retained earnings. It could be the case that in small open emerging economies with strong inflows of FDI, more of the asymmetries in information between the supplier and the receiver of capital can be internalized through investment or intracompany finance in a subsidiary than by outside supply of financial capital from the financial markets. This may eventually limit asset growth in Baltic banks to mainly mortgage and retail finance.

– The importance of leasing as opposed to regular loans reflects some inertia in the practice (as opposed to the legal right) of seizing collateral, which is probably typical for many emerging markets. This is likely to have hampered asset growth.

– Although the Baltic states are an example of successful mobilization of domestic savings for productive purposes in the real sector, they are still so underbanked that rapid growth in both assets and deposits is likely to continue – in particular in Lithuania, where the banking sector might be preparing for a takeoff after years of restructuring. However, many large Baltic corporations are likely to find financing elsewhere, from foreign investors or directly on the European financial markets.

– Until now the small number of large actors in the market has not contributed to a lack of competition, as interest rate margins are higher than in the euro area, but similar to those in the most developed accession countries.

– Early entry of foreign investors into the Baltic financial markets with a favorable investment climate created a very strong market position for the first entrants. The two groups of universal banks in the region already appear

to be quite entrenched, with large retail banking networks and a firm grip on small and medium-sized customers.

— "Too small to fail," the perception that the Western European parent banks of much smaller Baltic banks have the overall responsibility for systemic stability in the financial system, might turn out to be an increasingly important factor in supervision and regulation. It enhances the need for cross-border cooperation in supervision and the attentiveness of Baltic supervisory authorities to the state of parent banks.

Annex

Table A1

Banking Sector-Related Indicators for Estonia (1997–2001)

Year	Number of banks (of which foreign-owned, year-end)	Asset share of state-owned banks	Deposit rate (6 to 12 months, end-year)	Lending rate (6 to 12 months, end-year)	Domestic credit (end-year)	Domestic credit to the private sector	Nonperform-ing loans (share of total loans)	EBRD index of banking sector reform
	number	%	% p.a.		% change	% of GDP	%	
1997	12 (3)	0.0	12.4	15.0	78.3	26.4	2.1	3.3
1998	6 (2)	7.8	12.9	17.1	16.5	25.2	4.0	3.3
1999	7 (2)	7.9	6.1	10.2	9.6	25.9	2.9	3.7
2000	7 (4)	0.0	5.3	8.4	27.2	25.9	1.6	3.7
2001	7 (4)	0.0	4.0	9.7	24.4	27.8	1.5	3.7

Source: EBRD.

Table A2

Banking Sector-Related Indicators for Latvia (1997–2001)

Year	Number of banks (of which foreign-owned, year-end)	Asset share of state-owned banks	Deposit rate (short-term, under 1 year, end-year)	Lending rate (short-term, under 1 year, end-year)	Domestic credit (end-year)	Domestic credit to the private sector	Nonperform-ing loans (share of total loans)	EBRD index of banking sector reform
	number	%	% p.a.		% change	% of GDP	%	
1997	32 (15)	6.8	5.3	12.1	39.3	10.5	10.0	3.0
1998	27 (15)	8.5	6.5	16.4	30.6	15.2	6.8	2.7
1999	23 (12)	2.6	4.2	12.5	15.2	16.0	6.8	3.0
2000	21 (12)	2.9	4.2	11.8	43.6	19.5	5.0	3.0
2001	23 (10)	3.2	5.7	9.9	35.6	31.8	3.1	3.3

Source: EBRD.

Table A3

Banking Sector-Related Indicators for Lithuania (1997–2001)

Year	Number of banks (of which foreign-owned, year-end)	Asset share of state-owned banks	Deposit rate (average rate on demand deposits, end-year)	Lending rate (average rate on loans, end-year)	Domestic credit (end-year)	Domestic credit to the private sector	Nonperform-ing loans (share of total loans)	EBRD index of banking sector reform
	number	%	% p.a.		% change	% of GDP	%	
1997	12 (4)	48.8	1.9	11.9	37.6	9.3	28.3	3.0
1998	12 (5)	44.4	2.4	12.6	16.8	9.6	12.5	3.0
1999	13 (4)	41.9	1.6	13.0	24.5	11.1	11.9	3.0
2000	13 (6)	38.9	1.0	11.0	1.7	10.1	10.8	3.0
2001	14 (4)	12.2	0.7	8.1	13.7	11.5	7.4	3.0

Source: EBRD.

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Political Institutions and Pricing of Bonds on International Markets

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I Introduction

Recently economists have started to pay more attention to the effects of political institutions on economic policy decision-making. Early pioneers were Roubini and Sachs (1989), who looked at the impact of divided governments on fiscal policy, and Grilli, Masciandaro and Tabellini (1991), who investigated the relationship between public finance and political regimes. More recently, Rodrik (1999a) related the propensity of a society to react constructively to economic crises to the institutions of conflict management, and Persson and Tabellini (2001) investigated whether the government's size and ability to react quickly to income shocks depend on the political regime. The renewal of interest in political economics even led to two recent textbook treatments – Drazen (2000) and Persson and Tabellini (2000) – which summarize an impressive amount of political economics literature generated since the late 1980s.

Separately, the field of international finance saw several recent empirical contributions to the understanding of the working of the international bond markets. Motivated by the vivid debate about how to fix the flaws of the international financial system, Eichengreen and Mody (1998, 2000a,b) focused their attention on empirically gauging the impact of the inclusion of collective action clauses in bond contracts on the interest spread and thus on the costs at which emerging market countries can tap the markets. Importantly, in their research program, Eichengreen and Mody (1998, 2000a,b) suggested an empirical specification which avoids econometric problems that plagued previous empirical work.

This paper attempts to marry the two above-mentioned strands of literature – that strand of political economics which focuses on the effects of political institutions on economic policy decision-making and that strand of international finance which attempts to understand the working of the international bond markets. Given the fact that a lot of ink has been spilled on describing the existing international financial system, analyzing the causes of its occasional failures and prescribing remedies, it is surprising that to date (and to the best of the author's knowledge), there have been very few attempts to systematically study the role that political institutions play in investors' investment decisions. Since politics play a crucial role in shaping a country's economic policies, which, in turn, are critical for the value of a country's financial instruments and hence for investors' decisions, our understanding of the working of the existing international financial system is incomplete without knowledge of the structure of the relationship between politics and investment decisions. It is this inadequacy of the current literature on the subject matter that this study purports to help redress.

It does so by estimating how investors perceive political institutions when they price bonds at the time these bonds are first introduced on the market. Political reality is complex and multidimensional; there are many political institutions that shape the political and economic environments. This study looks closely at four dimensions of the political system: the political regime,

the coalition nature of the executive branch, the location of the executive on the left-right political spectrum, and formal checks and balances.

The picture that emerges from this paper's empirical investigation can be summarized in the following way. During the period of 1991 to 1997, for both low- and high-credit countries,[1]) investors required lower spreads if presidential rather than parliamentary regimes were in place. Investors preferred unified government in low-credit and divided government in high-credit countries. In high-credit countries, bonds command lower spreads if right-of-center chief executives are in control, while in the low-credit countries left-of-center chief executives are associated with lower costs of capital raised on the bond markets. In neither asset class do bond spreads vary systematically along the checks and balances axis.

The rest of the paper is organized as follows. The next section reviews the literature on the effect of the four dimensions of the political system on economic policy and derives implications for bond prices. Section 3 reviews the empirical literature on international bond markets, while section 4 explains data and methodology. Results of the empirical investigation are summarized in section 5. Section 6 concludes.

2 Political Institutions: Implications for Economic Policy and Bond Prices

2.1 Political Regime

Politics is a game where the interests of various constituencies are played out, and what results is a certain allocation of power (and the economic and ego rents that come with it). Not all political regimes are alike in how they allocate power among various branches of the government. Although there are also intermediate cases, the existing regimes can be classified into two main groups: presidential and parliamentary.[2]) Two defining aspects of the regimes are how the powers are separated and how they are maintained. In the presidential system, there is usually a strict separation of powers among the executive, legislative and judiciary branches of government. Both the legislature and the chief executive are elected by popular vote. The chief executive forms the cabinet without much interference from parliament and does not need its support to remain in office. On the other hand, in a typical parliamentary regime, only the legislature is elected by popular vote. The prime minister and the cabinet must be approved by the legislature, and the executive needs the continuous confidence of the legislature to remain in power.

Grilli, Masciandaro and Tabellini (1991) were the first to look at the relationship between public finance and political regimes. They classify political regimes into three types: presidential, majoritarian parliamentary and representational parliamentary.[3]) Using data on 18 OECD countries spanning 1950 to

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1   As will be described later in the text, low-credit countries are those whose Institutional Investor credit rating value is less than 50. The countries referred to as high-credit have a credit rating higher than 50. The higher the credit rating, the more creditworthy the country is.

2   For a detailed analysis of variants of the two main types of regimes, see Shugart and Carey (1992).

3   Following Bingham Powel, they classify the system as majoritarian if there are less than five representatives in a district and as representational if there are more than five.

1989, they find that the degree of fiscal profligacy varies along the axis denoting a proportionality of the political regime; fiscal discipline is much laxer in a representational system than in a majoritarian one. Countries with a presidential regime tend to have the lowest budget deficits and debt levels. Grilli et al. (1991) further show evidence for the claim that "one feature of representational democracies that seems responsible for the lack of fiscal discipline is short government durability." The obvious caveat is that their study uses data only on the most developed democracies and hence its results may not necessarily hold for the less developed democracies, on which this paper focuses.

The effect of the political regime on economic policy outcomes has recently been investigated by Persson and Tabellini (2001a,b). Using a panel on 61 democracies from 1960 onwards, they find that the size of the government is smaller in presidential systems than in parliamentary ones. Rather surprisingly, they also find that governments in presidential systems are less responsive to income shocks compared to governments in parliamentary regimes. Also, only presidential regimes delay fiscal adjustment until after elections. The latter two findings are unexpected and have no backing in the theory of policy as yet. They also go against the conventional wisdom that in presidential regimes the executive branch is relatively strong and is thus capable of making swift decisions when the need arises.

Several effects of the nature of the political regime on policymaking seem to be taking place. In a presidential regime there is no need for the executive to maintain the confidence of the legislature, which frees its hands both to act swiftly and to adopt unpopular measures without fear that the government would be forced to resign by a vote of nonconfidence. Obviously, the previous statement needs to be qualified, since even though the executive can take any unpopular measure, all decisions will be calibrated against its effects on the prospects of being reelected. This notwithstanding, investors should welcome this aspect of the presidential system if they are concerned that there is a significant risk that a country will be exposed to a crisis which demands quick and unpopular executive measures to maintain or win the confidence of investors.

On a less positive note, one of the most significant features of presidential systems is that they entail a rather strict separation of powers. At least three unfavorable effects of presidential systems are important for our analysis. First, because presidential systems feature separate popular elections for the chief executive and for parliament, it often happens that the resulting allocation of power is such that the executive and parliament are controlled by different political groups. To the extent that the two branches need to cooperate in forming policy, this hinders effective policymaking. Second, the possibility of the so-called "Linzian nightmare," as Ackerman (2000) calls it, cannot be excluded, especially if the presidential system is combined with a proportional electoral rule which gives rise to a fractionalized legislature.[1]) In such a situation it might be particularly difficult for the president to find a common ground with legislators. The Linzian nightmare then refers to the scenario in which a president,

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[1] For the related criticism of the presidential regimes from which Ackerman derives the concept of the Linzian nightmare, see Linz (1994). Further good references to works that compare the merits of presidential and parliamentary regimes are Stepan and Skach (1993), Mainwaring (1993), Lijphart (1994) and Sartori (1994).

frustrated by his inability to work with the intransigent parliament, installs himself as a supreme ruler and violently cracks down on any opposition discontent. Such a scenario has serious negative implications not only for the maintenance of basic democratic freedoms, but also, perhaps more importantly from the investors' viewpoint, for the predictability of the legal and economic frameworks.

Third, Moe and Caldwell (1994) and Ackerman (2000) argue that a U.S.-style separation of powers breeds a politicized bureaucracy overly encumbered by formal externally imposed rules and regulations that hinder its effective performance and undermine democratic accountability. Thus, compared to the bureaucracy in a parliamentary regime, the bureaucracy in a presidential system is likely to be less efficient in implementing policies and legal frameworks decided by high-level executives or enacted by the legislature. To the extent that this has implications for the quality of the resulting economic policy and of the prevailing legal rules of the game, investors will discount it into bond prices.

All in all, a strong and independent chief executive in a presidential regime can prove to be a definite asset for a country which needs to gain the confidence of investors by showing its ability to deal decisively with economic crises. On the other hand, a presidential regime has features which are not conducive to the formation of policies that require the cooperation of the executive and the legislature, increase the risk of unpredictability of the rules of the game, and are detrimental to the quality of implemented policies and legal rules. How investors perceive the importance of these aspects is ultimately an empirical matter; section 5 of this paper will shed light on the issue.

2.2 Coalition Governments

Only in some cases will the allocation of political power resulting from elections be such that the executive branch of government is controlled by one party only. This is more likely to happen when a country has a majoritarian electoral rule – a rule according to which only one legislator is elected in a district and which thus penalizes small parties – than in the case in which the mapping of votes to seats in a legislature is governed by proportional rule. In fact, only rarely do we see a single-party government in countries with proportional electoral rules.

Given the high incidence of political systems with proportional representation in the contemporary world, it is not surprising that coalition governments have been a focus of political scientists for some time. As Drazen (2000, chapter 3) in his succinct summary of coalition theories and Laver and Schofield (1990, chapter 1) in their book on multiparty governments argue, two traditions of analyzing coalitions developed: the game-theoretic and the European politics approaches. The seminal book of the former tradition is Riker's "The Theory of Political Coalitions" (1962). This school uses the tools of game theory to illuminate the process of coalition formation. On the other hand, the European politics school tries to build an inductive theory of coalition formation from the rich empirical evidence that the universe of European politics offers. Although this approach occasionally suffers from methodological deficiencies, it provides researchers with many insights into how coalitions form in the real world. Finally, Laver and Schofield (1991) attempt to bridge the gap between the two schools.

Although political scientists have concerned themselves with the coalition business for a long time, the literature on how the nature of the coalition government affects economic outcomes is much scanter. The first to scratch the surface of this very important topic were Roubini and Sachs (1989), who, in their search for the origins of the high fiscal deficit in industrialized countries, analyzed the relationship between institutional arrangements in OECD countries and budgetary outcomes. They drew attention to the role of political conflict in economic policymaking, putting forth, and testing, a hypothesis that divided governments – one of its manifestations being the existence of coalition-based rather than single-party governments – are associated with higher budget deficits. Their suggested rationalization is that with power being dispersed across parties which have distinctive interests, multiparty governments are less likely to reduce budget deficits due to the coordination problem. Roubini and Sachs (1989) operationalize the concept of divided government by constructing an index of political cohesion designed to capture the extent of dispersion of power across parties or branches of government. The augmented version of their index is used also in this paper (CHECKS).

Relatedly, Alesina and Drazen (1991) analyze the causes of delays in stabilization when countries follow unsustainable and, in the final count, very costly fiscal trajectories. They argue that the reason for seemingly irrational behavior of governments that keep delaying stabilization is a political stalemate when socioeconomic groups with conflicting interests represented in government play a "war of attrition." Only after some groups concede can the stabilization be enacted. Their model implies that the more conflicting the objectives represented in government, the longer the government stays inactive. Given that the heterogeneity of interests is much more likely if many parties are represented in a government than within a single party composing the government, it follows that stabilization should take longer if a coalition rather than single-party government rules. Consequently, fractionalized coalition governments result in large budget deficits and increasing debt.

In a recent paper Goodheart (2001) investigates the relationship between coalition governments and rational partisan cycles. The tested hypothesis is that a more polarized government (relative to the country's centrist platform) enacts policies which result in larger swings in economic growth and unemployment. Since coalition governments tend to be, on average, less polarized, i.e. more centrist, they should exert a stabilizing influence on macroeconomic policy. This is indeed what the author finds using data on 17 developed countries covering the 1973 to 1992 time period.

Summing up the implications of the above arguments, there are at least two reasons why investors will have a dislike for coalition governments. First, naturally, a decision-making process in a coalition government is much more complex than it is in a single-party government. Hence, when there is a sudden need to decide on a policy – for example in case there is an economic crisis and quick and tough measures need to be taken – the likelihood that the policy will be adopted quickly is arguably lower in case a coalition government is in power. Theoretical backing of this argument is best found in Alesina and Drazen's (1991) model. As several cases of erupted financial crises and the ensuing contagion effects which occurred in the 1990s demonstrate, the probability that a

country may face sudden crises is nontrivial in the case of emerging market countries. Hence, if investors follow and take seriously the politics of borrowing countries, they will take this "inaction effect" into account when pricing bonds issued by emerging market countries.

Second, with many actors of differing political colors trying to slice the pie of economic rents and to extract ego rents, there are bound to be more intra-governmental conflicts in the case of a coalition government than in the case of a single-party government. Hence, it seems reasonable to conclude that coalition governments are likely to be more unstable than single-party ones. Although Laver and Schofield (1991) disagree with the simplistic statement that "coalitions are unstable," they quote evidence that suggests that there is a substantial element of truth to the notion that a more fractionalized coalition is more unstable than a unified one. Since ongoing conflicts and the high probability of a government breakdown are not conducive to sound economic management, investors will discount this "uncertainty effect" into bond prices.[1])

On a positive note, arguably, exercising control over each other is a necessary part of coalition actors' continual attempt to shift the center of power gravity and the allocation of rents to their favor. This disciplines the cabinet members, often compels indolent members into action, and smoothes the edges of potentially unreasonably radical plans any single party may want to adopt. Relatedly (with reference to the last point), Drazen (2000, chapter 7, page 295) mentions that "… coalition governments are more moderate than the single party governments which characterize a majoritarian electoral system, so that sharp policy changes are far less likely. This implies less of a partisan cycle." As mentioned above, this claim has empirical backing in Goodheart's (2001) paper. This effect should have a positive impact on economic, and other, policy-making and should thus be welcomed by investors making lending decisions. Bond prices should reflect this. Whether net investors look positively on the fractionalized government or not will thus depend on which effects – inaction and uncertainty on the one hand or moderation and discipline on the other – dominate.

2.3 Location on the Political Spectrum

Political scientists, commentators as well as the general public have traditionally simplified the analysis of political competition by locating parties along one dimension in the policy space. Most often, political competition was organized along the left-right axis. Typically, the left was associated with the working class, the right with the middle and upper classes. Also, the left was deemed to prefer more interventional government while the right was thought to be more hands-off oriented.

On the surface, establishing the link between the political color of the ruling party and the adopted economic policy is relatively straightforward. We would expect right-of-center governments to adopt tighter monetary and fiscal policies and push for a low level of regulation in the economy. This is because the right-of-center parties tend to pursue the interests of capital owners,

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1   Grilli, Masciandaro and Tabellini (1991) find that the higher the frequency of government changes are, the higher budget deficits are. Naturally, investors dislike high budget deficits and their macro-disequilibrating consequences and will discount this into bond prices.

who, by and large, benefit from the stable economy unencumbered by excessive regulation. To the extent that investors fancy these policies, as they largely do, they should prefer right-of-center to left-of-center governments. However, when a country is hit hard by an economic crisis it is quite possible that the interests of capital owners are not best served by orthodox economic policies. Rather, capitalists might lobby for trade protection or an increase in subsidies, i.e. policies which are detrimental to economic efficiency and which investors are hardly enthusiastic about. Hence, in the data, one should expect right-of-center executives to be associated with lower spreads only in normal times; in a crisis situation, things may be more complicated.

2.4 Institutions of Checks and Balances

The crucial importance of property rights for the sound functioning of the markets, and for economic development more generally, is well recognized (North, 1981). Property rights need to be not only clearly defined but also predictably enforced. In the contemporary world it is the sovereign who has a monopoly on coercion and thus on the enforcement of property rights. However, what prevents the state from altering the rights to extract economic rents and to benefit its constituents? The incentive to build the reputation of a fair ruler – this reputation is necessary to promote economic growth, so that the pie the ruler also takes a slice of is bigger – is generally not sufficient to prevent the ruler from occasionally reneging on existing property rights, as North and Weingast (1989) argue. Rather, North and Weingast theorize, and use the example of 17th century England to illustrate their theory that political institutions emerge to constrain the ruler. They are to fill the gap that the inadequacy of reputation mechanisms leaves open. With an incentive to keep up his reputation and political institutions filling the gap, the commitment of the sovereign to uphold property rights can be credible. What structure these institutions – or checks and balances – take on in a particular country will influence the degree of security of property rights, and hence the level of economic development and consequently asset prices.

In general, we would expect that political systems with more developed formal checks and balances more effectively enable a government to commit to uphold property rights and to conduct an economic policy conducive to wealth creation and consequently asset appreciation. To the extent that investors scrutinize countries' checks and balances, bond prices should incorporate this information.

3 Bond Research: A Review of the Literature

As Eichengreen and Mody (1998) argue, until recently the international finance literature has not paid much attention to the pricing of developing country bonds. Given the predominance of bank lending in the 1980s, the literature has largely focused on trying to identify determinants of risk for bank loans. However, the institutional characteristics of bond and bank loan markets and the legal status of the two instruments differ, and there is thus no reason to expect that the determinants of the risk premium will be the same.

The first systematic study analyzing bond spreads (known to the author) was performed by Edwards (1986), who uses data on the primary spreads of bonds

issued by 13 less developed countries floated between 1976 and 1980. His study finds that bond spreads depend positively on the debt-to-GNP ratio, a finding in line with the theory. Second, and as expected, the level of investment is negatively related to spreads; investors require a lower premium if the issuer is from the country that spends a high fraction of its national product on investment than from a country which invests little. Third, a coefficient on maturity has a negative sign, implying a negatively sloped yield curve, a somewhat puzzling result. Importantly, he finds that differences exist between the pricing of bank loans and bonds – an expected result given that the institutional characteristics of the two markets and the legal status of the two instruments differ.[1])

A study by Eichengreen and Mody (1998) reviews the scant empirical literature on bond markets that arose in the first half of the 1990s, pointing out many of its methodological deficiencies. Importantly, unlike other authors, Eichengreen and Mody (1998) specify a sample selection model à la Heckman (1979); they model both the determination of bond spreads and the decision to come to the market, thus tackling the problem of selection bias that plagued previous empirical work. Because the empirical approach of this study and of subsequent papers by the authors to a large extent motivates, and is employed in, this paper, the results of the study are summarized here in more detail.

Using data on primary spreads for about a thousand bonds issued by 37 emerging market countries during the 1991 to 1996 period, Eichengreen and Mody (1998) find that most coefficients in their regressions have intuitive signs. The large-volume issues command lower spreads; this is because of the economies of scale in marketing and distribution and because of the higher liquidity of large issues. The private placement dummy is positive, indicating that, due to less stringent information requirements on "the private placement market," investors ask for a premium if issues are privately placed. The dummy for Israel, whose bonds are guaranteed by the U.S. government, is negative while the dummy for Latin America is positive, suggesting that, all else being equal, investors consider bonds from that region riskier than those from other regions. A coefficient on maturity is also positive – the yield curve is thus estimated to be well behaved. The debt-to-GNP and debt service-to-exports ratios are positively related to bond spreads; naturally, investors are wary of bonds issued by borrowers from countries which are highly indebted and whose export performance is low relative to debt service. A dummy taking 1 if the country had to reschedule its debt in the past quarter is also included, and its coefficient is positive. Last but not least, Eichengreen and Mody (1998) construct a measure of political risk, albeit a rather crude one. They strip the effect of economic variables used in the regression from the credit rating from the Institutional Investor and employ this residual in the model; the coefficient is highly significant and has the expected sign. *It is this measure of political risk that this study tries to supplant by introducing political institutions.* Coefficients on other variables included in the authors' spread regression – GDP growth, the U.S. treasury rate and dummies for the type of issue – are not significant.

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1   *Bond spreads are moderately more sensitive to changes in the debt-output ratio than to loan spreads. More importantly, the pricing of bonds is markedly less sensitive to changes in the investment ratio than the pricing of loans is.*

4 Data and Methodology

This paper attempts to marry two strands of literature – those of political economy and international finance – and thus also employs major data bases from both fields. For the data on bond spreads and issue and issuer characteristics, a data base employed in a series of papers by Eichengreen and Mody (1998, 2000a,b) is used. Data on political variables come from the newly assembled Database of Political Institutions (DPI) compiled by the World Bank researchers Beck, Clarke, Groff, Keefer and Walsh (2001).

The bond data base draws data from *Capital Bondware* and is augmented for the early 1990s by the data from the International Monetary Fund's Emerging Markets Group. It covers 2,913 bonds issued by issuers from 55 emerging market countries during the 1991 to 2000 period. However, the database has economic data on 78 emerging market countries; as explained below, the fact that a country did not issue a bond does not mean it has not contemplated such an issue. Hence the data on countries which eventually did not borrow on the markets are used in the analysis.

This paper follows the methodology used in the series of papers by Eichengreen and Mody (1998, 2000a,b). Unlike authors of previous studies, these authors model explicitly both the decision of investors to enter the market and the resulting spread. The spread equation takes the following linear form:

$$Log(spread) = bX + u_1$$

where X is a matrix of explanatory variables. It can be partitioned into four submatrices $\lfloor X_1, X_2, X_3, X_4 \rfloor$, where X_1 contains bond characteristics (maturity, amount, type of placement, currency of denomination, whether the coupon is fixed or floating, the governing law), X_2 contains global economic conditions (U.S. treasury rate, yield curve), X_3 contains issuer characteristics (type of borrower, sector or region of the issuer), and X_4 country characteristics (credit rating residual, external debt to GNP, growth rate of GDP, standard deviation of export growth, reserves to short-term debt, short-term to total debt, domestic credit to GDP and whether the country concluded a debt restructuring agreement in the previous quarter). The spread used in this equation is a launch bond yield minus the risk-free rate in the respective currency.

Spreads are observed only when the issuer decides to tap the market. The decision to enter the market is made when a latent variable β exceeds some cut-off value $\bar{\beta}$ defined by:

$$\bar{\beta} = gX' + u_2$$

where X' is a matrix of variables which bear on investors' decision to come to the market. If the assumption is made that u_1 and u_2 are bivariate normal and have standard deviations s_1 and s_2 and covariance is $s_{12}^2/s_1 s_2$, this is Heckman's sample selection model. It can be estimated either by maximum likelihood or by Heckman's two-step procedure.

Naturally, the original *Capital Bondware* data base contains information only on issuers that made a decision to come to the market. To estimate the decision-to-enter-market part of the model, we need observations of when the decision was made not to enter the market. In order to generate these observations, a decision dummy was coded 0 for each quarter, a country, and a type of

borrower when each of the three types of borrowers – sovereign, public and private – did not tap the market, and 1 otherwise. A vector of global economic and country characteristics for the relevant quarter was assigned to each observation.

This paper extends the work of Eichengreen and Mody (1998, 2000a,b) by replacing the credit rating residual – the authors' suggested proxy for political risk – with variables capturing four dimensions of the political system: the political regime, the coalition nature of the executive, the location of the executive on the political spectrum, and formal checks and balances. Formally,

$$Log(spread) = bX + cP + u_1$$

where P stands for political variables. The tested null hypothesis is:

$$H_0 : c = 0$$

Six political variables relevant for this paper come from the DPI. First, we code countries as having presidential or parliamentary regimes. For countries in which the single chief executive is elected by popular vote, the variable PRESID takes a value of 1. If both the prime minister and the president are elected by popular vote, PRESID still takes a value of 1 under one of the following two conditions. Either the president can veto legislation and his veto can be overridden only by the legislature's supermajority, or the president lacks veto power but can appoint and dismiss cabinet members and dissolve the assembly. In all other cases PRESID takes a value of 0, i.e. the system is classified as parliamentary.

Second, to gauge the degree to which the allocation of political power resulting from the most recent elections leads to divided government, three variables are used. In order to measure the fractionalization of the executive branch – the most interesting variable from the viewpoint of the reviewed theory – we use the variable GOVFRAC. This variable is bounded between 0 and 1; it measures the probability that a random draw of two cabinet members will result in a situation in which the two are from different parties. When GOVFRAC takes 0, we are dealing with a one-party executive; the higher the number, the more fractionalized the executive is. Since there is some mapping between legislative and executive fractionalization, we also use TOTFRAC, which measures the fractionalization of the legislature. It is defined analogously to GOVFRAC. Finally, and relatedly (to the issue of divided government), we ask the question whether the party of the chief executive also controls the legislature. If this is indeed the case, EXECTR takes a value of 1, otherwise it is coded 0.

Third, in order to evaluate whether bond spreads vary systematically along the left-right political axis, we used a proxy for the location of the party of the chief executive. Invoking spatial mapping of the left-right cleavage, COLOR was coded in the following way. It takes a value of 0 if the party of the chief executive is left of center, 1 if it is centrist, and 2 if it is right of center.

Finally, to measure the extensiveness of the checks and balances, we use CHECKS. This is a variable that Beck et al. (2001) designed to refine the empirical measure of political cohesion employed by Roubini and Sachs (1989). Beck et al. (2001) construct this variable such that it counts a number of veto players

in a political system. It adjusts this number for whether the players are independent of each other, for their party affiliations, and for electoral rules. Unfortunately, this measure is not a pure proxy for the existence of formal checks and balances in the political system. It combines both the allocation of power resulting from the most recent elections with the formal structure of the political system in place. This needs to be kept in mind when interpreting the regression results. Also, one ought to note that there is some overlap in the concepts of divided or coalition government on the one hand and institutions of checks and balances on the other. Divided government strengthens the institutions of checks and balances. Political systems with strong formal institutions of checks and balances will likely tend to produce divided governments. To disentangle the two concepts, this paper refers to coalition or divided government when it talks about the division of power following the most recent elections. It refers to checks and balances when it talks about formal arrangements in a political system that constrain political decision-making. As mentioned above, it appears that CHECKS is a noisy signal of these formal institutions of checks and balances.

The intersection of the bond data base used by Eichengreen and Mody (1998, 2000a,b) and the Database of Political Institutions limits our empirical investigation to 78 countries and the time period of 1991 to 1997. Besides issue and issuer characteristics for each launched issue, we have quarterly observations on global economic conditions and country characteristics. To augment the latter category, we include in them six political variables from the DPI on which annual data are available. The total sample thus contains 8,148 observations, 2,363 of which are uncensored and 5,785 of which are censored.

Table 1 shows a correlation matrix of the six political variables this study is concerned with. The inspection of the table reveals, not surprisingly given that there is supposed to exist some mapping between the fractionalization of the executive and the legislature, that GOVFRAC and TOTFRAC have a relatively high correlation coefficient of 0.62. The correlation between EXCTR and GOVFRAC is –0.56 and between the former and TOTFRAC is –0.47. That these three variables are correlated is not unexpected, as all three are supposed to measure the extent of division of political power resulting from the most recent elections. The cross-correlations among other variables are no larger than 0.24 in absolute value. To the first approximation, it appears that calculated correlations do not contradict the assumption that our six empirical proxies capture the four dimensions of the political system and that there is a value added in looking at all six of them.

Table 1

Cross-Correlations of Political Variables

	PRESID	GOVFRAC	TOTFRAC	EXCTR	COLOR	CHECKS
PRESID	1.00					
GOVFRAC	−0.07	1.00				
TOTFRAC	0.11	0.62	1.00			
EXCTR	0.13	−0.56	−0.47	1.00		
COLOR	0.23	0.21	0.54	−0.24	1.00	
CHECKS	−0.06	−0.05	−0.01	0.17	0.03	1.00

5 Empirical Results

5.1 The Credit Rating Residual as a Measure of Political Risk

The starting point of the empirical section of the paper is the estimation of the sample selection model à la Eichengreen and Mody (2000a,b) but for the time period this study is concerned with, 1991 to 1997. Following the authors' specification, the credit rating residual is included in the regression to proxy for political risk. To obtain the credit rating residual, credit ratings are regressed on external debt to GNP, the growth rate of GDP, the restructuring dummy, reserves to short-term debt, the standard deviation of export growth, and on each of these variables is interacted with a dummy for Latin America. Fitted values are obtained. The credit rating residuals are the differences between the actual and predicted credit rating values.

The work of Eichengreen and Mody (2000a,b) suggests that investors discriminate among bonds according to the law that governs the respective bond contracts. The main reason, as Eichengreen and Mody argue, is that bonds registered under UK law contain collective action clauses while bonds registered under other jurisdictions typically do not. Hence, they make a strong case for including a proxy for the governing law in spread regressions. However, endogeneity of the governing laws cannot be ruled out; it is plausible that factors that influence bond spreads have an effect on the choice of governing law. To avoid the endogeneity bias, the modified instrumental variables method is used, as in Eichengreen and Mody (2000a,b). Trinomial logit is used to determine the choice of governing law, and fitted probability rather than an indicator variable for the law choice is then used in the regression.[1])

Having done the groundwork, we estimate the basic specification, with the credit rating residual proxying political risk. Most estimated coefficients, which are significant at conventional significance levels, have intuitively plausible signs. The coefficient on the volume of the issue is significant at the 10% level. A high volume reduces the required spread – this suggests the presence of economies of scale in marketing and in distribution of the issue and the preference of investors for a larger issuer due to the enhanced liquidity. The coefficients on the U.S. interest rate and yield curve are positive and significant. An increase in the U.S. interest rates raises the yield on the emerging country bond more than one-to-one. The credit rating residual is highly significant and has the expected sign. Issuers from countries which carried out debt restructuring in the previous quarter saw their spread increase. The external debt-to-GNP ratio is also highly significant; a rise in the ratio increases the spread. Issuers from countries that grow fast and whose exports fluctuate little are able to tap the market at a lower cost than issuers from countries with sluggish economic growth or highly variable export growth. A high ratio of short-term to total debt also is associated with high spreads; naturally, investors require compensation for holding bonds issued by borrowers from countries where the composition of external debt is tilted towards unstable short-term debt. High domestic credit relative to GDP is also associated with lower spreads. Latin American issuers are penalized – they have to offer investors higher spreads than issuers from other regions. Investors who buy fixed rate bonds are compensated by being offered

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1   *Fundamental variables that are later used in the sample selection model are used as regressors.*

a higher spread than the one they would be offered if they bought floating-rate issues. Issuers belonging to the infrastructure sector are able to raise money at a lower cost than issuers from all other sectors. Finally, in this regression specification, bonds governed by laws other than U.S. laws carry lower spreads, but the coefficient on neither of the two law dummies is significant.

Regarding the decision-to-float part of the model, all variables included in the regression were significant at the 5% level. A tightening of U.S. credit conditions reduced the probability of floating. A higher credit rating residual makes it more likely for an issuer to come to the market. Issuers from countries with high external debt or with a high share of short-term debt in total debt are less likely to tap the market. So are issuers from countries with low economic growth and highly variable exports. Countries with a high ratio of reserves to short-term debt are less likely to borrow. Given that these borrowers pay

Table 2

Regression Results with the Credit Rating Residual (Whole Sample)

	Maximum likelihood		Two-step Heckman	
	Coefficient	z-value	Coefficient	z-value
Spread equation				
Log amount	− 0.04	− 1.69	−0.06	− 1.98
Maturity	0.00	0.37	0.00	0.53
Private placement	0.02	0.53	0.04	1.11
Log of 10-year treasury rate	0.87	4.52	0.26	0.93
Log (10-year − 1-year) treasury rate	0.13	3.90	0.03	0.60
Credit rating residual	− 0.05	−22.91	−0.04	−13.52
Restructuring dummy	0.16	4.16	0.18	3.77
External debt/GNP	1.89	15.12	1.34	7.97
Growth rate of GDP	−11.06	− 5.37	−7.15	− 2.66
Standard deviation of export growth	2.36	11.67	1.67	5.60
Short-term debt/total debt	1.16	5.63	0.14	0.51
Reserves/short-term debt	0.02	1.14	−0.06	− 2.39
Domestic credit/GDP	− 0.04	− 2.22	0.00	0.06
Public borrower	0.12	1.08	0.19	1.44
Private borrower	0.12	1.05	0.38	2.55
Latin America	0.10	2.15	0.28	3.76
Yen issue	− 0.13	− 1.21	−0.08	− 0.46
Deutsche mark issue	− 0.03	− 0.17	0.08	0.32
Other currency issue	− 0.04	− 0.50	−0.02	− 0.19
Fixed rate issue	0.33	4.77	0.39	4.36
Manufacturing sector	0.17	3.01	0.14	2.07
Financial service sector	0.01	0.13	−0.05	− 0.86
Other services	0.30	4.29	0.27	3.25
Government entities	0.31	2.81	0.38	2.77
UK governing law	− 0.14	− 0.97	−0.03	− 0.17
Other governing law	− 0.17	− 0.77	−0.34	− 1.01
Constant	2.39	5.13	3.84	6.17
Selection equation				
Log of 10-year treasury rate	− 1.59	− 7.83	−1.82	− 8.71
Log (10-year − 1-year) treasury rate	− 0.39	−11.40	−0.40	−11.08
Credit rating residual	0.03	15.69	0.03	14.64
External debt/GNP	− 1.48	−12.33	−1.67	−13.34
Growth rate of GDP	9.04	5.25	8.99	5.13
Standard deviation of export growth	− 2.55	−13.55	−2.58	−13.27
Short-term debt/total debt	− 2.15	−12.93	−2.44	−14.21
Reserves/short-term debt	− 0.22	−13.13	−0.27	−14.91
Domestic credit/GDP	0.04	1.88	0.03	1.36
Public borrower	0.13	2.44	0.10	1.80
Private borrower	0.62	12.46	0.65	12.74
Latin America	0.31	8.79	0.23	3.87
Reserves/imports	0.19	8.87	0.29	11.73
Constant	4.52	11.04	5.14	12.18
Number of censored observations	4062.00		4062.00	
Number of uncensored observations	1925.00		1925.00	

lower spreads than those with a low ratio of reserves to short-term debt, one can interpret this as the supply effect; these issuers are in a strong liquidity position and thus have a weaker tendency to offer bonds to investors. Similarly, but in the opposite direction, the fact that Latin American issuers are more likely to enter the market than others while paying higher spreads indicates a higher tendency of Latin American borrowers to supply bonds. A higher supply, ceteris paribus, reduces the price of bonds, driving up spreads. A similar reasoning applies to nonsovereign issuers with the caveat that dummies for the type of borrower are not significant in the spread equation. Table 2 contains the regression results.

Eichengreen and Mody (2000a,b) point out the possible heterogeneity of the sample that contains so many emerging market countries. There are clearly huge differences in the level of economic and institutional development in such a wide range of countries. It seems entirely plausible that investors may apply different criteria when pricing bonds issued by borrowers from, say, Ethiopia than when pricing bonds from the Czech Republic. Therefore, Eichengreen and Mody (2000a,b) suggest to split the sample according to the credit rating and estimate the model for subsamples. This paper follows this suggestion; countries were split into two groups. In the first are bonds issued by borrowers from countries with a credit rating in the range of 0 to 50, in the second, bonds issued by borrowers with a credit rating in the range of 50 to 100. Most, but not all, of the results hold qualitatively, though there are often substantial differences in the sensitivity of the bond spreads to changes in characteristics in the two credit classes. Perhaps the most interesting qualitative difference is in the impact of world credit conditions on spreads. While the rise in U.S. interest rates and in the yield curve increases spreads, i.e. rates at which emerging market borrowers raise money, more than one-for-one in the low-credit group, it reduces spreads at which high-credit issuers borrow. Moreover, it is also interesting that high-credit Latin American issuers pay lower spreads than other issuers from the same credit class; it appears that issuers from this region tend to be of the top credit quality in that class.

5.2 Measures of Political Institutions as Proxies for Political Risk

The main objective of this study is to find out whether data covering the 1991 to 1997 period suggest that investors have been taking into account political institutions in their pricing decisions. The six political variables in turn supplant the credit rating residual. Table 3 lists the coefficients, z-value and level of signifi-

Table 3

Coefficients on Political Variables in the Spread Equation

Whole sample	PRESID	GOVFRAC	TOTFRAC	EXCTR	COLOR	CHECKS1
Log likelihood						
Coefficient	− 0.62	0.04	−0.77	−0.10	−0.12	−0.02
z-value	−11.99	0.61	−7.50	−2.60	−5.05	−1.32
Significance	1%	non-significant	1%	1%	1%	non-significant
Heckman two-step						
Coefficient	− 0.63	0.05	−0.73	−0.10	−0.13	−0.02
z-value	−11.11	0.70	−5.58	−2.01	−3.55	−1.10
Significance	1%	non-significant	1%	5%	1%	non-significant

cance of the six political variables in the spread equation when the model is fitted to the whole sample.

First, results obtained by the method of maximum likelihood and by the Heckman two-step procedure do not differ too much. They suggest that investors prefer presidential to parliamentary political regimes. It appears that investors value the ability of the executive to act swiftly without worrying too much about the loss of confidence in the legislature, discounting the drawbacks of the separation of powers, the risk of the emergence of autocracy, and negative effects of the politically impaired bureaucracy that are typical of presidential regimes. Second, when the model is fitted to the whole sample, the variable measuring the fractionalization of the government enters the spread equation with a positive sign (suggesting that higher fractionalization is associated with higher spreads), but it is insignificant. The situation is different when we include the measure of legislative fractionalization. TOTFRAC is highly significant and its coefficient has a negative sign; it appears that, on average in the whole sample of countries, investors require a lower risk premium when the legislature is fractionalized. On the other hand, markets appreciate when the chief executive and the legislature are controlled by the same party; a coefficient on EXCTR is negative and highly significant. Third, investors feel more comfortable when the party of the chief executive is right of center rather than left of center. Finally, our, possibly noisy, measure of institutions of checks and balances has a negative sign, suggesting that more checks and balances are associated with lower spreads, but the measure is insignificant.

As was suggested above, the sample of 78 emerging market countries raises the issue of its heterogeneity. It seems very plausible that interactions of politics and economics depend on where countries find themselves on the institutional (and economic) development continuum. To the extent that the latter is closely related to the credit quality of issuers, the way politics and economics intermingle will vary along the credit coordinate. To rectify the heterogeneity problem and to gain a deeper insight into pricing decisions of investors, the whole sample was split in the same way as before into the groups according to credit quality.

Tables 4 and 5 list the coefficients, z-value and level of significance on the six political variables in the spread equations. The previous result that investors prefer presidential to parliamentary systems holds in both samples. However, these regressions significantly augment the story on how the coalition nature of the government influences pricing decisions of investors. In the low-credit

Table 4

Coefficients on Political Variables in the Spread Equation

	PRESID	GOVFRAC	TOTFRAC	EXCTR	COLOR	CHECKS1
Maximum likelihood						
Coefficient	−0.22	0.05	0.39	−0.15	0.05	0.02
z-value	−3.23	0.78	2.93	−4.47	2.04	0.91
Significance	1%	non-significant	1%	1%	1%	non-significant
Heckman two-step						
Coefficient	−0.24	0.1	0.54	−0.16	0.1	0.01
z-value	−2.97	1.4	3.33	−4.09	3.19	0.53
Significance	1%	non-significant	1%	1%	1%	nonsignificant

Table 5

Coefficients on Political Variables in the Spread Equation

	PRESID	GOVFRAC	TOTFRAC	EXCTR	COLOR	CHECKS1
Maximum likelihood						
Coefficient	−1.13	0.6	−1.11	0.53	−0.33	0
z-value	−7.91	−3.84	−7.02	4.63	−4.32	−0.07
Significance	1%	1%	1%	1%	1%	non-significant
Heckman two-step						
Coefficient	−0.78	−0.92	−1.06	0.61	−0.35	−0.01
z-value	−2.59	−3.22	−4.94	3.69	−3.96	−0.22
Significance	1%	1%	1%	1%	1%	non-significant

group, GOVFRAC has a positive sign but is insignificant. However, TOTFRAC is highly significant and has a positive sign, suggesting that higher fractionalization of the legislature leads to higher spreads. In a similar vein, a highly significant and negative coefficient on EXCTR suggests that investors require a higher risk premium in case the chief executive and the legislature are not controlled by the same party. It thus appears that in the case of low-credit countries, investors are willing to pay a premium for bonds issued by borrowers from countries where the government is not divided. In terms of our theory described above, the inaction and uncertainty effects dominate the moderation and discipline effects. This is quite intuitive – low-credit countries are much more likely to find themselves in economic crises which require swift action, and swift action is something a unified government is much more likely to deliver than a divided one.

The picture painted by the regressions on the data from high-credit countries is quite the opposite of the one above. Coefficients on all three measures of the divided government are significant and their signs are opposite those obtained in the regression on low-credit country data. This suggests that in this asset class, on all three counts, the moderation and discipline effects dominate the inaction and uncertainty effects. As already implied, high-credit countries are less likely to face crises that require quick measures. Investors thus rather pay a premium for bonds issued by borrowers from countries where potential government excesses are moderated by the fact that the government is divided.

The results of the calculation on the effect of the location of the chief executive's political party on the political spectrum are also interesting. Investors prefer right-of-center chief executives in the high-credit countries and left-of-center ones in the low-credit countries. The latter, only seemingly paradoxical result is in fact consistent with the view that in crisis situations, the interests of capital owners are not best served by orthodox economic policies. Rather, right-of-center parties representing the interests of capital owners might push for trade protection and increased subsidies – policies on which investors do not look favorably.

Last, in a similar fashion as for the whole sample, the coefficients on checks and balances are not significant. One explanation is that our measure of checks and balances might be a noisy signal for the formal institutions of checks and balances. The second is simply that formal institutions of checks and balances in emerging markets are underdeveloped and that investors largely ignore them.

To summarize, when we control for heterogeneity of the sample, the following picture emerges. During the period of 1991 to 1997, for both low- and high-credit countries investors required lower spreads if presidential rather than parliamentary regimes were in place. Investors preferred unified governments in low-credit and divided governments in high-credit countries. In the latter countries, bonds command lower spreads if right-of-center chief executives are in control, while in the former, left-of-center chief executives are associated with lower costs of capital raised on the bond markets. In neither asset class do bond spreads vary systematically along the checks and balances axis.

6 Conclusion

This paper estimates how investors perceive political institutions when they price bonds at the time they are first introduced on the market. Political reality is complex and multidimensional; there are many political institutions that shape the political and economic environments. This study looked closely at four dimensions of the political system: the political regime, the coalition nature of the executive branch, the location of the executive on the political spectrum, and formal checks and balances.

The picture that emerges can be summarized as follows. During the 1991 to 1997 period for both low- and high-credit countries, investors required lower spreads if presidential rather than parliamentary regimes were in place. It appears that investors value the ability of the executive to act swiftly without worrying too much about the loss of confidence in the legislature, discounting the drawbacks of the separation of powers, the risk of emergence of autocracy and negatives of the politically impaired bureaucracy that are typical of presidential regimes.

Investors preferred unified governments in low-credit and divided governments in high-credit countries. This can be explained by the fact that the low-credit countries are more likely to experience an economic crisis during which a government that delivers swift action is particularly valuable. A divided government is unlikely to do so.

In high-credit countries, bonds command lower spreads if right-of-center chief executives are in control, while in low-credit countries left-of-center chief executives are associated with lower costs of capital raised on the bond markets. This is consistent with the view that constituencies of right-of-center parties push for orthodox policies only in good times.

Last, in neither asset class do bond spreads vary systematically along the checks and balances axis. Either our measure of checks and balances is a noisy signal for the formal institutions of checks and balances, or formal institutions of checks and balances in emerging markets are simply underdeveloped, and investors largely ignore them.

These results should not be read without recognizing important caveats. Due to the data limitations, this study covers only the period of 1991 to 1997; hence, it neglects some important events that took place after 1997. In particular, it would be interesting to see how investors reacted to various political environments during the Russian and Brazilian crises. Second, the international bond market is a quickly evolving one where structural relationships are unlikely to be time-invariant for too long. In today's fast-moving world

there is a tremendous amount of technological innovation both in the financial industry and in the whole economy, which is likely to influence the structure of securities' risk and cash-flow profiles (and hence their fundamental values). Investors' comprehension of how the international financial system – which itself is evolving rapidly – works and their acting upon this knowledge is likely to render many relationships between bond prices and bond issue and issuer characteristics time-varying. For at least these reasons, the results of this paper should be taken with qualifications until extensions across time find the reported results robust. These limitations notwithstanding, this paper provides systematic evidence that political institutions have been important in determining bond prices on the international markets during most of the 1990s.

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Fiscal Effects of EU Membership for Central European and Baltic EU Accession Countries

1 Introduction

Peter Backé[1]

This short study explores the fiscal effects of EU membership for Central European and Baltic EU accession countries (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia). The motivation for investigating this issue is straightforward: Upon EU accession, new Member States will participate in the European Union's economic and fiscal policy coordination and surveillance framework (EU Treaty provisions, Stability and Growth Pact). In essence, this implies that, as EU members, today's accession countries avoid excessive public sector deficits which, according to the EU rules, are defined as deficits of more than 3% of GDP). Subsequently, during the first few years of membership in the European Union, further progress will have to be made to ensure that actual deficits remain below the 3% threshold also in times of "normal" economic downturns, i.e. that the cyclically adjusted budget balances are compatible with the 3% threshold for actual deficits also during below-potential growth periods. (For outright recessions, EU rules include escape clauses.)

At the same time, a number of Central European accession countries is currently recording high fiscal deficits, and substantial consolidation is being required in these countries in order to avoid excessive deficits upon EU accession.[2]

Against this backdrop, it is of utmost importance to examine whether EU accession will add to the fiscal strains of accession countries, in particular of high-deficit countries, or whether joining the European Union will alleviate fiscal pressures in the newly acceding countries.

At the outset, it should be noted that all quantitative findings presented in this study should be understood as rough estimates. The paper does not attempt to provide an exact fiscal cost-benefit analysis of EU membership for Central European and Baltic accession countries. Rather, it seeks to point toward possible fiscal risks that may emerge in the context or as a consequence of EU accession. Moreover, at the time of writing, EU accession negotiations on financial and budgetary matters were still ongoing. This adds to the tentative nature of the conclusions reached in the following investigation.

2 Analytical Framework

The subsequent analysis is largely based on the most useful conceptual framework, which was devised by Kopits and Székely (2002) and which is applied with some adaptations. Most of the estimates of the fiscal effects of EU membership for accession countries presented below are based on own analysis, while some of the numerical quantifications are taken from Kopits and Székely (2002).

The concept applied differentiates between direct and indirect effects of EU membership on the fiscal positions of Central European and Baltic accession

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countries. Moreover, a distinction is made between short-term and medium-term effects.

The following direct effects are considered:
– contributions to the EU budget,
– EU structural operations,
– infrastructural expenditure,
– public administration reform and *acquis* implementation,
– realignment of customs duties,
– tax harmonization,
– phase-out of production subsidies.

The following indirect effects are analyzed:
– positive growth effects,
– structural reforms,
– tax competition,
– reduced risk premia.

Clearly, the framework applied in this paper is a pragmatic one which concentrates on quantifying the presumably most important effects and on assessing these factors individually. A more formal approach involving a major modeling exercise designed to estimate all relevant effects jointly within a unified framework would clearly go beyond the scope of this study; in fact, it is questionable whether such an undertaking would, at this stage, yield better results than the hands-on approach which is followed in this paper.

3 Direct Effects
This section discusses individual direct effects of accession on fiscal balances in turn.

3.1 Contributions to the EU Budget
Membership in the European Union will imply contributions to the EU budget in the order of somewhat more than 1% of GDP.[1]) Although accession negotiations were still under way on financial and budgetary issues while this analysis was undertaken, it seems very probable that there will be no phasing-in of membership contributions, given the ambivalent experience with the UK rebate on membership contributions. It should be noted that these additional expenditures will, in all likelihood, be offset to a limited extent in the first years of EU membership by compensation payments which are to ensure that net recipient positions (cash flow balances of individual countries with the EU budget) will not worsen from 2004 to 2006 as compared to 2003. (And clearly, in 2004, such payments will only amount to two thirds of the annual amount, given that accession will presumably take place on May 1 of that year.) Deter-

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1   *The revenue side of the EU budget rests on a system of own resources which accrue to the EU budget automatically (without any subsequent decision by national authorities) and comprise customs duties and agricultural levies, a VAT-based resource, a GNP-based revenue component (which complements the yield of other resources), and other revenue. The overall own resources ceiling is 1.27% of the GNP of EU Member States. The actual budget of the EU is somewhat smaller and will presumably amount to around 1.1% of GNP in 2004 to 2006. The subsequent analysis will treat contributions to the EU budget conceptually like plain expenditures of national budgets and thus abstract from their underlying sources. This simplification does not make any difference in economic terms but allows for an analysis of contributions to the EU budget separately from other fiscal effects of EU accession (in particular effects on customs duties and value-added taxes).*

mining the precise amounts of these compensation payments is still an issue in EU accession negotiations.

3.2 EU Structural Operations

The need for national cofinancing of EU structural fund transfers is another often cited factor that will have direct effects on the budgets of accession countries upon entry into the European Union. It is useful to discuss this issue within a broader perspective, focusing on all structural operations (structural funds and the cohesion fund). In doing so, the focus in this subsection is on direct fiscal effects of structural operations. Positive indirect effects on the accession countries' budgets resulting from the growth stimulus of EU structural operations will be touched upon in subsection 4.1.

The accession countries will receive one third of total structural assistance from the EU, which is capped at 4% of GDP, in the form of cohesion fund money. Most of these cohesion fund means will directly go into the budgets of accession countries, implying a transfer to the accession countries' budgets from the EU budget in the order of 1% of GDP or somewhat more. These transfers will contribute to financing public investment in the fields of environment and of transport infrastructure. Structural fund money will also contribute, to some extent, to financing infrastructural investments, along with spending on education and training and with financial support to the enterprise sector.

On the other hand, the accession countries will have to cofinance EU structural operations from their national budgets. The size of these cofinancing needs is, to some extent, open to debate. First, there are somewhat different views on the average national cofinancing share that accession countries' public sources will have to provide (see Kopits and Székely, 2002; Quaisser and Woodward, 2002; European Commission, 2002b). Most plausibly, the average national cofinancing share will be around 25% of structural support from the EU or slightly lower, as most of the structural funds transfers will have to be cofinanced with 25% (a minor part with 50%), while cohesion fund means typically imply a cofinancing need of 15%. On this basis, cofinancing requirements would be around 1% of GDP or slightly lower, comprising cofinancing needs of 0.7% to 0.8% of GDP for structural fund money and of close to 0.2% of GDP for cohesion fund transfers.

A key question for assessing fiscal effects is to what extent structural operations will lead to additional expenditures and to what extent they will just bring about a change in the financing of already existing expenditures. There are no limits for using cohesion funds to finance existing programs, while for structural funds means, the additionality principle prescribes that the level of public investment (including spending on human capital) of a Member State compared to a reference period in the past must at least be maintained. This means that national structural spending must not be cut but may be reprioritized to cover cofinancing needs (which would thus replace already existing structural spending).[1]) Thus, it is possible that cofinancing expenditures after EU accession will effectively substitute some of the present structural spend-

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1   For more information on the additionality principle, see European Union (1999, Article 11).

ing.[1]) In the words of the European Commission (2002b), "Given the principle of additionality in the Structural Funds regulation, […] national public cofinancing of EU projects is not necessarily additional expenditure. However, it requires a restructuring of national budgets which – in particular in more decentralised fiscal systems – may indeed involve some political and technical difficulties which can give rise to some additional expenditure." Apart from the degree of fiscal decentralization, the extent to which additional spending will be triggered will depend on several factors. In general, it will be determined by the size, focus and features of existing domestic structural spending programs. As for the cohesion funds, it will also be affected by prospective spending needs in the area of the environment and social preferences in the area of transport infrastructure spending. Subsections 3.3 and 3.4 will discuss future expenditure levels in these latter two areas in more detail.

Furthermore, the need for cofinancing is also a function of the absorptive capacity of the individual accession countries. Quaisser and Woodward (2002) provide a thorough discussion of all the aspects involved in this latter issue. They find that serious absorption problems currently still exist in some accession countries with regard to taking in preaccession assistance from the EU, despite evident progress in setting up regional administrative structures. Quaisser and Woodward (2002) call for further action in several areas to increase absorptive capacities, namely to define the role of regions more clearly, to further strengthen human capital formation and the adjustment to the EU's planning and management requirements, to improve the quality of political decision-making processes and to make further progress in fighting corruption. Hallet (2002b), in turn, stresses that absorption problems can arise due to macroeconomic, administrative and budgetary problems.

Moreover, it should be noted that the need for cofinancing is also determined by the phasing-in in this area until 2006 which derives from absorption concerns on the one hand and EU budgetary constraints on the other. Finally, preaccession assistance which is currently flowing into the accession countries' budgets and will mostly be terminated by accession (with some Phare assistance continuing degressively until 2006) has to be brought into the picture. Preaccession aid, amounting to 0.7% of accession countries' GDP in terms of commitments and to 0.45% in terms of payments in 2001 (see European Commission 2002b, Mueller et al., 2002), anticipates some of the effects of EU structural assistance. Two effects are particularly noteworthy from a fiscal viewpoint: Those preassistance funds which are precursors of future cohesion fund assistance can be expected to mitigate a positive direct fiscal impact of these cohesion fund transfers, since the respective investment projects will most likely be financed by cohesion fund means upon accession. Furthermore, national cofinancing means that have to be mustered to complement preaccession assistance will lessen cofinancing needs upon accession. The following table summarizes the effects of EU structural operations on accession countries' fiscal balances.

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1   *Austria is a case in point: Upon accession, cofinancing replaced earlier national subsidy schemes, so that Austria did not incur additional spending in this area as a consequence of EU membership.*

Table 1

Structural Operations: Direct Fiscal Effects

	% of GDP
Cohesion fund transfers	±0.0 to +1.3
Cohesion fund transfers: moderating item	
Preaccession aid (preceding cohesion fund support)	−0.1 to −0.4
Cofinancing of structural operations	−0.9 to −1.0
Cofinancing: offsetting items	
Reallocation of expenditures	+0.1 to +1.0
Thereof: existing cofinancing of preaccession funds	+0.1 to +0.3
Overall effect	−0.9 to +1.3

Source: OeNB.

Note: A tradeoff between direct fiscal effects of structural operations on accession and indirect fiscal effects through additional growth (see subsection 4.1) can be expected.

3.3 Infrastructural Expenditure

Assessments of the possible impact of EU accession on infrastructural invest-ment spending diverge substantially among experts. This, in turn, is due to dif-ferent judgments about the size and the state of the capital stock in the area of physical infrastructure in general and of transport infrastructure in particular.[1] The discussion on these issues has evolved against the backdrop of a more gen-eral debate on the link between public investment and growth.[2]

It should also be noted that it is not fully obvious to what extent there is indeed a direct link between EU accession and public infrastructural investment spending, since membership in the European Union does not involve hard obli-gations in this area. While one could also discuss this issue from a growth per-spective (and thus in the section on indirect fiscal effects), this paper follows the framework proposed by Kopits and Székely (2002), thereby stressing the quite thorough interlinkages between EU accession and public infrastructural invest-ment spending.

In essence, there appear to be three main views on the accession countries' infrastructural capital stock. One is that Central and Eastern European coun-tries have in place a more extensive infrastructure than other countries with similar income-per-capita levels. The second is that the infrastructural capital stock is largely appropriate in terms of quantity, but that there are major prob-lems in terms of quality. The third perception is that the stock of infrastructural capital is not only of mostly poor quality, but that it also has substantial deficien-cies in quantity terms. To illustrate this diversity of views, it is instructive to look at Gros and Suhrcke (2000), who tend to share the first view, at European Commission (2002b), which holds the second perception, and at Kopits and Székely (2002), who appear to lean towards the third view. Funck (2002), in

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1   In the ensuing analysis, the focus is on public investment in general and public transport infrastructure investment in par-ticular. Spending on environmental protection, which also entails an investment component and is sometimes subsumed under the notion of infrastructure when used in a broad sense, will be analyzed in a later subsection of the paper.

2   It is fair to say that the empirical evidence for industrial countries as to the long-run growth effects of public investment in general is somewhat mixed (see Lamo and Strauch, 2002; Pelkmans et al., 2000). The evidence on positive long-run growth effects with respect to public infrastructure investment in communication and transportation is more robust, but the size of the effects appears to be rather uncertain and there are indications that the relationship may be nonlinear (see Lamo and Strauch, 2002, for a fine literature survey; see also Easterly and Rebelo, 1993, for one of the seminal papers on this issue).

turn, takes an intermediate position featuring elements of the first and the second view.

What is the empirical support for these alternative views? A closer inspection shows that relatively little "hard" evidence is available. For one thing, Gros and Suhrcke (2000) provide econometric evidence which focuses on the size of railway networks to underscore their point of view, but they do not explicitly address potential quality problems. Funck (2002), in turn, gives evidence of the poor state of the railroad networks in accession countries (apart from some main lines), which is due to inadequate maintenance. However, he questions whether there is a universal need to rehabilitate railway facilities (and thus to engage in heavy additional investment spending in this area), given the substantial shift in demand regarding different modes of transportation as a consequence of the transformation process in the accession countries. Rather, rehabilitation should be selective and should focus on actual and prospective traffic flows, and costs should increasingly be borne by the railway network operators themselves. Furthermore, Funck (2002) points toward overinvestment in the area of highway construction in several accession countries.[1] At the same time, maintenance expenditure for roads (in particular local and urban roads) has been subdued in most accession countries, and additional spending in this area would tend to yield very high returns.

The EBRD Transition Report 2002 provides further evidence on the matter. In particular, the EBRD's 1999 and 2002 Business Environment and Enterprise

Chart 1

Enterprise Assessment of the State of Infrastructure

in Central European and Baltic EU Accession Countries
according to the EBRD's 1999 and 2002 Business Environment
and Enterprise Performance Surveys, perceptions adjusted for growth

1 = no obstacle
4 = major obstacle
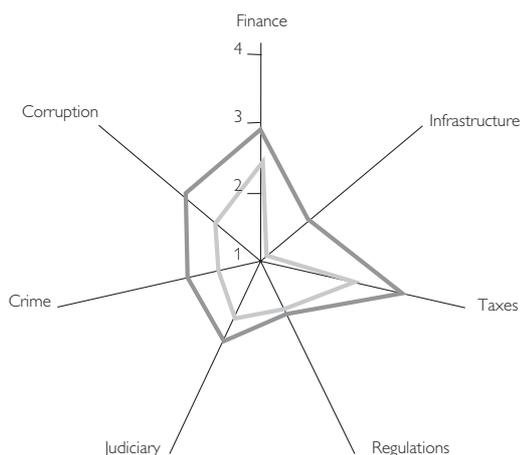
——— 1999
——— 2000

Source: EBRD (2002).

1 Funck (2002) finds that public investment in highway construction in the accession countries has been high and that it has run ahead of demand in a number of cases: "At present, few motorway sections have sufficient level of traffic to justify the investments."

Performance Surveys show that – according to business perceptions – infrastructure does not constitute an obstacle to business activity in these countries in 2002 and that the state of affairs in this area has considerably improved since 1999 (see chart 1).

The diversity of views about the infrastructural capital stock in accession countries translates into different perceptions of the appropriate public investment spending of accession countries and, consequently, into divergent assessments on whether present public sector investment spending is sufficient or not to spur growth and convergence. Even though there is no agreed benchmark against which to measure the adequacy of public capital and investment spending of Central European and Baltic accession countries, it still makes sense to compare the expenditures in these spending categories measured in percent of GDP with those of the EU in general and with those of the catching-up economies in the EU (the southern European EU Member States and Ireland) in particular. Such a comparison shows that the public capital and investment expenditures of Central European and Baltic accession countries relative to GDP are on average higher than those of EU countries as a whole, but somewhat lower than in the southern European EU Member States and Ireland.[1]) Moreover, a country-by-country analysis of public investment spending, based on the Pre-Accession Economic Programmes, the PEPs (2002), shows that public investment spending in 2002 ranges from 2.3% to 5.0% of GDP in the Central European and Baltic countries, with Lithuania, Slovakia and Slovenia at the lower end of the range (below 3% of GDP) and Hungary and the Czech Republic at the higher end (at or close to 5% of GDP).

From the evidence of capital and investment spending levels, Funck (2002) concludes that the accession countries, as a group, "do not appear to be affected by an under-investment in public infrastructure" and that, for most accession countries, the key issue is not raising capital expenditure relative to GDP, but rather improving efficiency in using the funds already available. The European Commission (2002b), in turn, stresses the "need for continuously high public investment in order to speed up the process of catching-up" (compare also European Commission, 2000, for Poland), and Kopits and Székely (2002) argue that public spending on infrastructural investment will have to be increased in a number of accession countries, given the legacies in this area inherited from the socialist central planning period.

In sum, it is not obvious that EU accession will lead to massive additional strains on the budgets of newly acceding countries in the field of infrastructural investment, in particular if one considers that additional EU transfers will be available in this area upon accession, as discussed in subsection 3.2. At the same time, some uncertainty remains in this area, and the eventual outcome may display some variation among individual accession countries.

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1   *In the period 1997 to 2000, capital expenditures in the three country groups amounted to 4.5%, 4.0% and 5.2% of GDP, respectively (see Backé et al., 2002). Funck (2002) displays very similar capital expenditure figures for the 1995 to 2000 period and, in addition, figures on public investment expenditure where deviations are even smaller (3.1%, 2.3% and 3.4% of GDP, respectively, for the three country groupings).*

3.4 Public Administration Reform and *Acquis* Implementation

Reforms of public administration that are related to EU accession, in particular to *acquis* implementation, should be far advanced by the time of EU accession. A sophisticated and comprehensive monitoring system operated by the European Commission is designed to ensure this. Most of the post-accession costs in this area relate to the adoption of the environmental *acquis,* a gradual process scheduled to extend to 2015, in line with medium- and longer-term transition periods granted in the accession negotiations.[1])

The key question here is whether the expenditures related to the successive implementation of further parts of the environmental *acquis* in line with the agreed transition periods can be offset by reductions in spending on the implementation of other parts of the *acquis,* spending which should decline from present levels in the post-accession phase.

In this context, it should be noted that EU environmental standards are of a regulatory nature and can be achieved in different ways, with considerably different cost implications (see Funck, 2002, who points out a range of possible savings in this area). This is one of the reasons why recent estimates on the costs of environmental *acquis* compliance are considerably lower than initial estimates (see DANCEE, 2001; Funck, 2002; EBRD, 2002, for more details on the different estimates).[2])

Spending on environmental protection in accession countries is, on average, about 2% of GDP, with quite some variation among individual countries. This figure includes both public and private sector environmental spending and is twice as high, in terms of GDP, as in current EU Member States (Johansson, 2001). Moreover, public sector spending on the environment has been on the rise relative to GDP in recent years in a number of accession countries (see PEPs, 2002), a fact that is not yet fully reflected in Johansson (2001), who relies on 1998–99 figures.[3]) Furthermore, it is important to note that most of the environmental spending in accession countries relates to measures that are taken in order to proceed towards meeting the environmental standards of the European Union (DANCEE, 2001).

How do these spending levels relate to environmental *acquis* compliance costs? If the estimated total environmental compliance costs of Central European and Baltic accession countries were spread out evenly over 15 years,[4]) spending over this period would amount to slightly more than 1% of GDP annually on average for this group of countries (based on EBRD, 2002). Moreover, annual compliance costs measured in percent of GDP are relatively similar for most Central European and Baltic accession countries, falling into a fairly nar-

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1   *It goes without saying that in a comprehensive analysis, these costs should be compared to the benefits* acquis *implementation entails. This crucial aspect is not developed further here due to the narrow scope of this paper on short- to medium-term fiscal issues.*

2   *A second reason is that the new estimates take into account measures that have already been undertaken in recent years.*

3   *It should be noted that this rise has gone hand in hand with further progress in privatization in accession countries, which (ceteris paribus) reduces the needs for public sector expenditure on environmental protection (see Johansson, 2001).*

4   *A cost-spreading period of 15 years corresponds to the timespan 2001 to 2015, reflecting the fact that calculations are made on the basis of total cost estimates undertaken in 1999–2000 and that the timetable for implementation derives from the transition periods agreed with the European Union in the accession negotiations.*

row range of 0.5% to 1.9% of GDP. Only Estonia is an outlier, with annual compliance costs on the order of 4.8%.[1])

Thus, for the Central European and Baltic region as a whole, EU accession will not necessarily lead to higher expenditure in the area of environmental protection, provided that present environmental spending is indeed mostly related to *acquis* compliance and that it can be easily (re)directed over time to those environmental projects which need financing for the countries to comply with the schedule of environmental *acquis* implementation. Moreover, private sector spending will have to remain substantial, although its share in overall spending will not have to rise further to cover total future cost.

Given the variation of present environmental protection spending among accession countries (and also, in view of Estonia's outlier position, the variation of prospective compliance costs), this region-wide analysis has to be augmented by a country-by-country examination. Based on present spending (according to Johansson, 2001) and spending needs (according to EBRD, 2002), such an investigation shows the following picture: The conclusions reached for the Central European and Baltic region as a whole also hold for the individual Central European EU accession countries, in particular for the Czech Republic, Hungary and Poland: Current environmental spending is considerably higher than prospective *acquis* compliance costs. The Baltic countries, in turn, in particular Estonia, will have to raise environmental spending to fully comply with the EU *acquis* in time: In Estonia, environmental spending is somewhat below the region-wide average, while compliance costs are very high, as discussed above. In the case of the two other Baltic countries, environmental spending is below the average for the region as a whole, while compliance costs are close to (Lithuania) or above (Latvia) average region-wide figures.[2])

Finally, it should be noted that, apart from the "ordinary" uncertainties which surround any estimate on *acquis* compliance costs, a key lesson from the experience of Spain, Portugal, Ireland and Greece with environmental *acquis* implementation is that "the nature of environmental problems may well change dramatically after EU accession" (Funck, 2002). In particular, transport as well as industrial and household waste generation may soar upon accession, with potentially substantial implications for environmental policies and the costs such developments would seem to imply (see also DANCEE, 2001, for a similar argument).

3.5 Realignment of Customs Duties

As EU Member States, Central European and Baltic countries will retain only one quarter of customs tariffs (to cover collection costs) while three quarters will be transferred to the EU budget. Moreover, the removal of any remaining customs duties on imports from current and newly acceding EU countries and the adoption of the European Union's common external customs tariff will become effective for accession countries from day one of their EU membership.

1   *This appears to be due to the high cost of the environmental rehabilitation of Estonia's oil shale sector.*

2   *A more detailed analysis of the issues involved will be possible after conclusion of the accession negotiations, based on specific environmental* acquis *implementation and financing plans which, according to DANCEE (2001), will become part of the Accession Treaty.*

Most accession countries have higher customs duties vis-à-vis third countries than the EU has. Thus, alignment in this area implies revenue losses. Estonia is an exception, due to its presently very liberal foreign trade regime. While the transfer of 75% of prospective customs duty revenues was already captured in subsection 3.1 as part of contributions to the EU budget,[1]) the removal of customs duties vis-à-vis other EU members in an enlarged Union and the realignment with the common external tariff will also impact on the accession countries' budgets. Calculations, based on present and prospective customs duties revenues, suggest that these latter effects may amount to a revenue loss of about 0.5% of GDP for Hungary and to around 0.2% to 0.3% of GDP for the other Central European accession countries, while they are presumably negligible for Latvia and Lithuania and positive, in the order of 0.2% of GDP, for Estonia. Kopits and Székely (2002) arrive at the same estimates for Hungary and Estonia, while they compute somewhat higher negative effects of around 0.5% of GDP for the other Central European countries.

3.6 Tax Harmonization

This effect results from the alignment of excise taxes to EU minimum levels and from the elimination of existing exceptions of certain goods and services from value-added tax. In the area of excise taxes, harmonization will imply upward adjustments of tax rates on energy and fuel in several countries and on cigarettes in all countries. Transition periods will apply in several instances, so that the effects will kick in fully only towards the end of this decade. On average, the tax harmonization effect may amount to approximately +0.5% of GDP or somewhat more.[2])

3.7 Phase-Out of Production Subsidies

The phase-out of production subsidies in the context of EU accession will reduce medium-term expenditures in this area. Kopits and Székely (2002) estimate this effect to amount to 0.2% to 2% of GDP, with Estonia at the lower end and Poland at the upper end of this range. It should be noted that the effects will kick in fully only in 2007–08, due to transition periods for some sectors in several accession countries related to the completion of restructuring plans for these sectors. Still, some benefits in this area can be reaped at an early stage of EU membership, e.g. reduced subsidies to the energy sector, as the increase of energy prices for households to cost-recovery levels is advanced further, but also the reduction or phasing-out of several national agricultural subsidy schemes with the advent of EU payments in the area of the Common Agricultural Policy.[3]) Reductions or phase-outs of agricultural subsidies, though, are not likely to take place until a few years after EU accession – and may start from

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1   See footnote 2, p. 151.

2   This estimate is somewhat higher than that of Kopits and Székely (2002), mostly due to expected higher revenue increases in the area of excise taxes on cigarettes. This, in turn, appears to be the consequence of a recent change in the EU acquis which has raised the minimum excise tax on cigarettes substantially.

3   Generally, it deserves mentioning that most of the EU transfers in the area of the Common Agricultural Policy will go to the private sector, so that there will be no tangible effects on the budget, at least not in accrual terms. However, there will most likely be cash flow effects, as some payments – in particular direct payments to farmers – will have to be prefinanced by national budgets and transferred from Brussels only at the end of the respective year.

a level which could be higher than it is today, as governments may decide to give farmers added subsidies (within the leeway of remaining national discretion) in order to get their support in the run-up to the EU accession referendums. This may particularly be so if some accession countries' agricultural sectors perceive the final deal on agricultural issues to be reached in the accession negotiations as unsatisfactory.

4 Indirect Effects

This section discusses individual indirect effects of accession on fiscal balances in turn.

4.1 Positive Growth Effects

Increased revenues as a consequence of higher growth due to EU accession are difficult to anticipate. Estimates on the medium- and long-term effect of EU memberships on growth in accession countries differ considerably (see Fidrmuc, 2002, for a short survey). Based on the general picture that existing estimates show, a fairly cautious assumption would be to expect an additional cumulative growth effect in the medium run of 2 to 3 percentage points of GDP, unless EU accession, in particular full participation in the Single Market, causes any major adjustment processes which would offset or even outweigh positive growth effects for some time. In as much as they trigger additional spending, EU structural operations can be expected to play a role in spurring growth in accession countries through demand-side effects and in the medium and longer term also through supply-side effects (see Hallet, 2002a, for model simulations on the growth effects of EU structural funds transfers in today's cohesion countries and eastern Germany). A medium-term growth bonus in the range indicated above, combined with the assumption that an additional growth of 1 percentage point of GDP may lead to an improvement of the budget balances in accession countries on the order of 0.4 percentage point of GDP,[1] one may suspect that – in this scenario – the overall effect on the budget balance may be somewhere on the order of 1 percentage point of GDP. It should be stressed again that a positive medium-term effect hinges on the smooth integration into the Single Market of the EU. If there were major adjustment needs, growth would slow in the first phase after accession and would pick up only later. In this case, fiscal balances would suffer temporarily and benefit only subsequently, after the adjustments had worked themselves through the economic system.

4.2 Structural Reforms

It should be noted that much of this (potential) additional growth may be the result of further structural reforms. Against this backdrop, it is not obvious whether structural reforms triggered by membership in the European Union

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1 *Fiscal sensitivity analyses contained in the accession countries' 2002 Pre-Accession Economic Programmes put the respective elasticity at around 0.3 for several accession countries. Evidence from present EU Member States shows that elasticity in the European Union countries is, on average, 0.6. This gap is due to differences in the structure of revenues and expenditures. As these structural differences may become smaller over time, an elasticity of 0.4 seems to be a plausible value for calculating the effects of additional growth due to EU membership on accession countries' fiscal balances.*

would have a tangible additional positive effect on newly acceding countries' fiscal balances in the medium term, as Kopits and Székely (2002) intimate. A minor additional positive impact resulting from structural reforms – on top of overall growth effects – may, however, be expected.

4.3 Tax Competition

A further point is whether tax competition will exert a negative effect on fiscal balances in accession countries. At first sight, there is no strong indication in this direction, as effective tax rates of newly acceding EU countries are lower in most areas than they are in incumbent Member States. This is especially the case for taxes on corporate and capital income and to a lesser extent for taxes on labor income, while effective tax rates on consumption are – on average – at a similar level in both country groupings (see Leibrecht and Römisch, 2002; compare also Dobrinsky, 2002). Consequently, it does not appear obvious that there will be major downward pressure on EU accession countries' tax rates due to membership in the European Union. Whether some accession countries may feel a need, due to tax competition, to lower VAT rates where they are comparatively high remains to be seen. Experience in the EU, but also among U.S. states, shows that there is some room for differences in indirect tax rates, as transaction costs are nonnegligible in most cases. Finally, to make a more general point on the preceding analysis: It has to be noted that available information on effective tax rates is somewhat outdated, which calls for a cautious interpretation of the evidence at hand.[1]

4.4 Reduced Risk Premia

The effects on interest payments resulting from reduced risk premia will be positive. Clearly, this effect will be relatively more pronounced for countries with higher public debt-to-GDP ratios (like Poland and Hungary). It is difficult to come up with a quantitative estimate for individual accession countries, for two reasons. First, it is not clear to what extent the related benefits have already been anticipated (and to what extent the recent reduction of risk premia will be fully sustained). Second, it is not obvious to what extent risk premia will be reduced as a consequence of EU accession and to what extent such a reduction will only follow from subsequent euro area accession.[2]

5 The Overall Picture

Table 2 summarizes the estimated fiscal effects of EU membership for Central European and Baltic accession countries. Figures in italics refer to effects which will kick in fully or almost fully from the first day of EU accession; the other effects, displayed in normal fonts, will materialize gradually and will come to bear fully only in the medium run.

Most estimates are based on OeNB analysis, while the remaining ones are taken from Kopits and Székely (2002).

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1   *For a somewhat different view on the issue of tax competition effects, see Kopits and Székely (2002).*

2   *See Csajbók and Csermely (2002) for a detailed discussion of this issue with respect to Hungary.*

Table 2

Fiscal Effects of EU Membership

annual effects on the fiscal balance over the medium term following EU accession

	% of GDP
Direct effects	
Contribution to EU budget	−1.0 to −1.2
EU structural operations	−0.9 to +1.3
Infrastructure expenditure	?
Public administration reform and *acquis* implementation	±0?
Realignment of customs duties	+0.2 to −0.5
Tax harmonization	+0.5
Phase-out of production subsidies	+0.2 to +2
Indirect effects	
Positive growth effects	+ (±0 to +1?)
Structural reforms	+ (minor?)
Tax competition	− (minor?)
Reduced risk premia	+ (anticipated?)

Source: OeNB.
Note: This table is largely based on an analytical framework proposed by Kopits and Székely (2002).

6 Conclusions

The preceding analysis leads to the following tentative conclusions (which will have to be double-checked with the final results of the accession talks once negotiations have been completed).

In the short run, membership in the European Union will add to the fiscal strains on accession countries. In the medium run, overall effects can be expected to be broadly neutral or slightly positive, while some uncertainty prevails on the magnitude of several individual effects, in particular on future public investment needs.

The fiscal policy strategies of accession countries will have to take into account the additional pressures stemming from EU membership effects in the short run. This is particularly true for countries which are currently recording high deficits, given that they will have to avoid excessive deficits from EU accession onwards. Moreover, the short-term fiscal effects of EU accession are of paramount relevance for those accession countries which consider proceeding relatively quickly towards participation in the euro area after EU accession, as the fiscal convergence criteria have to be fulfilled continuously from the calendar year that precedes the convergence examination.

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OeNB Activities

Structural Challenges
and the Search for an Adequate Policy Mix
in the EU and in Central and Eastern Europe –
The OeNB's East-West Conference 2002

This year's East-West Conference took place from November 3 to 5 at the Inter-Continental Hotel in Vienna and covered the topic "Structural Challenges and the Search for an Adequate Policy Mix in the EU and in Central and Eastern Europe."

As in previous years, a sizeable number of key experts, renowned academics and high-level civil servants addressed the conference. The speakers engaged in very productive and stimulating discussions, and many participants from the general audience joined the debate when the floor was opened at the end of each session. The conference thus provided a forum for communication and for a lively exchange of views.

The conference was opened by OeNB Governor *Klaus Liebscher*. In his welcome remarks he stressed the momentous, one could say historic, changes Europe has experienced in recent years. With the bold strategy of further deepening and widening the European Union, this momentum will be continuing, probably even accelerating in the years to come. The introduction of the common European currency in 1999, the cash changeover in 2002 and the likely entry of ten new member countries into the Union in 2004 are contributing to the unification of the continent, the OeNB Governor pointed out. Thus, Austria will regain its place at the heart of a united Europe. After outlining the conference program, Klaus Liebscher went on to stress the importance for EMU members of credibly observing the provisions of the Stability and Growth Pact and of the Maastricht Treaty. The same goes for new members joining the euro area. Finally, Governor Liebscher expressed his conviction that EMU is a harbinger of political union within Europe.

Session I: Structural Reforms and Competitiveness: Where Does Europe Stand Today?

OeNB Vice Governor *Gertrude Tumpel-Gugerell* chaired the first session of the conference and pointed out some key features of the European Union as compared to the United States and their implications for structural policies. In particular, she stressed the geographic and cultural heterogeneity which enriches the Union, but at the same time renders the political decision-making process among 15 (in a few years probably up to 25) Member States more cumbersome than in the U.S.A. with its homogeneous economic and political structures. In this context, she lauded the major EU compromise reached at the Brussels European Council a few days before the conference, which had marked a breakthrough on agricultural issues and structural and cohesion funds, thus paving the way for EU Eastern enlargement. Vice Governor Tumpel-Gugerell emphasized that this decision confirmed the capacity of the EU Member States to resolve important issues pragmatically and expediently. Moreover, she stressed the importance of the Lisbon process for structural change in the EU.

The introductory keynote speech was held by *Maria João Rodrigues,* Professor at the University of Lisbon and former advisor to the Portuguese government during the negotiations of the Lisbon Strategy. Ms. Rodrigues briefly sketched the motivations of the European Union for defining the Lisbon Strategy at the European Council in March 2002 and presented the main goals of this strategy. These consist of preparing Europe's transition to a knowledge-based economy, modernizing the European social model and sustaining favorable growth pros-

Structural Challenges and the Search
for an Adequate Policy Mix in the EU
and in Central and Eastern Europe

pects by applying an adequate macroeconomic policy mix. In her assessment of
the progress achieved so far, Ms. Rodrigues found that the development of the
information society as well as improvements in research policies were among
the most successful areas of structural reform. Ms. Rodrigues also found rele-
vant progress in the social field, the open method of coordination now being
applied to social inclusion policy by all EU Member States via national action
plans aimed at combatting social exclusion. Ms. Rodrigues concluded by point-
ing out some key issues to be addressed in the future development of the Lisbon
Strategy. First of all, she commented on implications of the Lisbon process for
EU enlargement and stressed that the applicant countries should view it as an
opportunity for catching up rather than as an additional obstacle. Furthermore,
she underlined that macroeconomic policies, namely budgetary policies in the
framework of the Stability and Growth Pact, should be more sophisticated in
order to foster structural adjustment.

The next keynote speaker was *Jørgen Elmeskov,* Deputy Director of the Policy
Study Branch at the OECD. Mr. Elmeskov gave his assessment of Europe's
position in the global economy as compared to that of the United States and
found that Europe had made major progress in freeing up competition in prod-
uct markets. Mr. Elmeskov said that financial market reform and integration
within Europe was still very much a challenge for the future and that the labor
market was probably the area where progress was least visible. Moving the focus
from the European average to the performance of individual European coun-
tries, Mr. Elmeskov found that some countries managed to outperform the
average considerably, both in terms of reforms and of outcomes. Indeed, he
found a striking heterogeneity within Europe and concluded that in trying to
move forward on those structural reforms which meet with the most resistance,
more use could be made of the experience of those countries that have already
implemented reforms.

According to Mr. Elmeskov, all too often suggestions for pro-market reform
are met with the counterargument that Europeans do not want the American
model. By instead pointing to successful European role models, that argument
could at least be deflected. More generally, Mr. Elmeskov found that a common
problem of implementing structural reform is that negative effects often occur
early and are felt by well-organized groups of society, whereas positive effects
are typically of a long-term nature and are often spread out thinly across the
whole populace, and may therefore be more difficult to understand and accept.
Presuming that political willingness to carry out reform is present, recourse to
role models may be helpful in overcoming resistance.

The last keynote speech in session I was held by *Jan Svejnar,* Professor at the
University of Michigan. Mr. Svejnar stated that Western Europe's relative posi-
tion in the world economy did not weaken with respect to the U.S.A. until the
second half of the 1990s. Until this period, it had been characterized by a proc-
ess of catching up with the U.S.A. in terms of productivity since the end of
WW II. Investigating possible reasons for this development, Professor Svejnar
found that a different approach to entrepreneurship seems to have played a role
and that Europe's relatively high labor costs and rather rigid labor markets may
have eroded its competitive position. Moreover, on average less research done
by European firms as compared to firms in the U.S.A. as well as a certain brain

drain to the U.S.A. may have contributed to the overall outcome. Assessing the future prospects of the European economy, Mr. Svejnar maintained that the U.S. economy was near its potential and that it may therefore have a hard time advancing further. He concluded by stressing that while Europe faces certain problems, it has tremendous unexploited possibilities and that the key issue of the next decade will be whether Europe will succeed in tapping this potential.

Session II: Financial Sector Development

Session II focused on the development of the financial sector in Central and Eastern Europe and was chaired by OeNB Vice Governor *Gertrude Tumpel-Gugerell.* The session started with a presentation by *Zdenek Tuma,* Governor of the Česká Národní Banka, who gave an overview of the development of the Czech financial sector in the course of transition. The size of banking sectors of individual countries differed significantly at the beginning of transition; these discrepancies have been reduced over recent years. Thus the CEECs have become more homogeneous in this area, but differences still exist.

In most countries, banking reform was associated with substantial costs, which amounted to 20% of GDP in the case of the Czech Republic. Banking sector privatization resulted in a foreign-dominated banking sector with more than 90% of banking sector assets held by majority-foreign owned banks. The strong international integration of the Czech banking sector represents a challenge for regulation and supervision. Prudential indicators of the Czech banking sector have shown a strong improvement in recent years. In particular, the pressure to improve operational efficiency has been clearly discernible since 1999 and has resulted in a marked increase in banking sector profitability. According to Governor Tuma, all CEECs have managed to complete the banking consolidation and privatization process by now, which he considers the most important step in the transition process.

In the next presentation, *Herbert Stepic,* Deputy Chairman of the Managing Board of Raiffeisen Zentralbank (RZB), focused on the role of foreign banks in the transition process in Central and Eastern Europe. Mr. Stepic started out by expressing his personal enthusiasm about the opening up of Central and Eastern Europe. According to Mr. Stepic, there are strong links between the development of financial intermediation and structural change in the CEECs. Starting from the position of a very poorly developed banking culture in the late 1980s, early restructuring and privatization with strong participation by foreign banks in the Hungarian banking sector paved the way for strong subsequent FDI inflows to Hungary.

The delays in the bank restructuring and privatization process in Bulgaria and Romania were responsible for initially low foreign direct investment in these two countries. The much stronger improvement in productivity in the Hungarian manufacturing sector (14% a year between 1993 and 1999) than in Bulgaria and Romania is evidence of the beneficial impact of FDI. Herbert Stepic concluded his presentation by explaining the links by which the presence of foreign banks exerts a positive impact on the economy of the host country: they serve as a catalyst for other FDI, and they provide the necessary start-up financing, tax and legal services. Moreover, they create trust and collect previ-

Structural Challenges and the Search
for an Adequate Policy Mix in the EU
and in Central and Eastern Europe

ously hidden deposits. Finally, they are involved in shaping the host country's new legal system, and they contribute to the creation of a competitive environment.

In the final presentation of this session, *Marianne Kager,* Chief Economist of Bank Austria Creditanstalt, presented her views of the current situation of the banking sector in the accession countries. Currently, the CEECs may be characterized as "underbanked" and dominated by foreign-owned banks. High earning ratios contrast with low productivity, but high future potential. In general, the macroeconomic impact of enlargement on "old" EU members will be limited due to the small size of the economies of the accession countries relative to the current EU economies and to the progress the CEECs have made with macroeconomic stabilization. For CEE banking sectors, EU enlargement will have a number of effects: First, stable inflation expectations will bring down interest rates. An increase in GDP per capita will augment the demand for banking products. Finally, stabilization and increasing wealth effects will increase the degree of intermediation. At the same time, the influence of liberalization and globalization and the impact of the development of new technologies will be felt. Ms. Kager expects the scope of CEE banking activities to grow at an above-average rate, but margins to narrow. Because of the greater growth potential, the rewards will be greater, too, but only banks with a local presence and experience in retail banking will be able to benefit from this potential.

Luncheon Speech by Tommaso Padoa-Schioppa

Tommaso Padoa-Schioppa, Member of the Executive Board of the European Central Bank, focused his speech on the challenges faced by the area he dubbed "Accessionland" in the run-up to the adoption of the euro. As most accession countries have expressed their intention to adopt the euro as soon as possible, they have embarked on policies aimed at further advancing nominal and real convergence.

While a significant degree of nominal convergence has already been achieved, progress in real convergence appears to be much more limited. The assessment of income convergence alone, however, is likely to underestimate real convergence. Mr. Padoa-Schioppa emphasized the importance of assessing real structural and institutional convergence. In this respect the accession countries have made remarkable progress, which will support the further process of convergence in real incomes.

Turning to nominal convergence, Mr. Padoa-Schioppa emphasized that a distinction between catching up-related "physiological" inflation and "pathological" inflation should be made. The latter is a result of inappropriate macroeconomic and wage policies combined with structural weaknesses in the economy. Nominal convergence should focus on removing this "pathological" inflation, giving a major role to strengthening central bank independence and progress in structural reforms. Therefore, further real convergence through institutional and legislative reforms and structural adjustments is crucial to advance nominal convergence.

Mr. Padoa-Schioppa concluded that nominal and real convergence are two sides of the same coin and need to be pursued in parallel. ERM II should be seen

Structural Challenges and the Search
for an Adequate Policy Mix in the EU
and in Central and Eastern Europe

as a powerful framework to foster the combination of real and nominal convergence. It provides stability and flexibility by guiding the market while leaving sufficient margin for unavoidable market developments. In this sense ERM II should not be regarded as a mere "waiting room" prior to the adoption of the euro, but as a meaningful and flexible framework for tackling the challenges faced by the accession countries in the run-up to the euro.

Session III: Financing of Enlargement and Catching Up

The third session was chaired by *Peter Mooslechner,* Director of the Economic Research Section of the OeNB. At the beginning of his speech, *Ewald Nowotny,* Vice President of the European Investment Bank (EIB), stressed the fact that the accession countries are experiencing real convergence and a catching-up process: Average incomes have risen quite substantially in recent years. Enhancing real economic growth should always be a top priority for policymakers. In his speech Mr. Nowotny focused mainly on the public sector – where some of the accession countries experienced a widening of fiscal deficits in 2001 – and the current account. Both have to bear the brunt of the adjustment process. He also mentioned that countries with currency boards usually have fairly high external current account deficits.

In the second part of his presentation Mr. Nowotny analyzed the banking sector in the accession countries. The most striking change in the balance sheet structure of CEE banks was the relative decline in interbank liabilities and the simultaneous rise of interbank assets. In his analysis, the rising share of nonbank deposits in liabilities, together with the constant, if not falling, loan-to-asset ratio, indicates that CEE banks are mobilizing savings in excess of what they are willing to lend to domestic borrowers. The surplus is invested abroad, surprisingly implying that the CEE banking sector is a net exporter of capital in a group of capital-importing countries. In the last part of his speech Mr. Nowotny mentioned the huge demand for infrastructure investments especially in the fields of transportation and environment in the accession countries. Disbursements of EIB loans are lagging behind, indicating problems of administrative and financial absorption capacities. After accession, cofinancing with the Structural Funds and ensuring a rational utilization of grants and loans in order to accelerate the catching-up process of attaining EU standards will become more important.

The next speaker was *Mariella Nenova,* Head of the Macroeconomic Research Division of the Bulgarian National Bank. She started her presentation by showing that the applicant countries faced a multitude of hurdles in the catching-up process. If the macroeconomic developments of the 1997 to 2001 period were extrapolated into the future, real convergence would seem to be a far-fetched target. Transition has so far been a painful process. However, in the speaker's view it should be interpreted as a preparation for an acceleration of the catching-up process.

Ms. Nenova focused mainly on developments in Bulgaria. She emphasized the importance of macroeconomic stability for growth and provided facts on the acceleration of the investment rate and the modernization of fixed assets since 1997. A brief evaluation of the human capital resources and the negative demographic trends as well as the problem of emigration and unemployment –

especially youth unemployment – followed. Growing labor productivity in Bulgaria was shown as a measure of the combined effect of a high investment rate and human capital developments in the period from 1998 to 2001. The structural changes in exports were named as another measure of the growth potential. Ms. Nenova concluded by stating that the EU preaccession funds should play a more important role for human capital building and should be used more effectively as a financial resource for public investments.

The last speaker, *Jarko Fidrmuc,* economist with the Foreign Research Division of the OeNB, presented a paper on twin deficits and the possible implications of current account and fiscal imbalances in the accession countries. He focused on the questions of whether twin deficits are inherent to the catching-up process and of what could be learned from the experience gained so far. Twin deficits were defined as a positive long-run relationship between the current account and the fiscal balance, which is predicted by the intertemporal approach to the balance of payments. Mr. Fidrmuc provided evidence of twin deficits in several OECD countries between 1970 and 2001 (stronger evidence in the 1980s, weaker evidence in the 1990s). Furthermore, higher investment was found to worsen the current account. Regarding the transition economies, Mr. Fidrmuc showed that the CEECs have been facing current account deficits of a historically unprecedented size, which were accompanied by high fiscal deficits. The Slovak current account deficit has been determined largely by investment, while Estonia and the Czech Republic show no hysteresis of the analyzed variables.

Session IV: Social Security Reform

The fourth session, chaired by *Peter Mooslechner,* Director of the OeNB Economic Research Section, focused on social security reform. In his introductory statement, Mr. Mooslechner emphasized the necessity of reforming the old age provision system in both the European Union's current Member States and in the prospective entrants. *Willi Leibfritz,* Head of the Structural Policy Division of the OECD's Economics Department, presented a paper entitled "Adjusting Welfare Systems to Ageing Populations – Challenges and Experiences in OECD Countries." Mr. Leibfritz expressed serious concern about a lack of sustainability of OECD pension systems, which might be due to high pension costs for an ever-growing share of old persons in the population on the one hand and to a decreasing economic growth rate caused by a declining work force on the other. In addition, early retirement – often used to ease pressures on the labor market – increases the problem, as it gives the elderly workforce the wrong incentives.

This scenario can create a vicious circle. Mr. Leibfritz pointed out that appropriate policy reform steps, however, can prevent this vicious circle; although all Member States face a similar demographic trend, their future pension payment developments look very different. These differences stem from the dissimilar nature of the policy options chosen to tackle the problem. Some members, such as Italy, Sweden and Poland, have taken steps into the right direction, others are still to follow. Although Willi Leibfritz made clear that there is no one-size-fits-all solution, he identified four types of measures to make old age provisioning sustainable: pension reform, fiscal consolidation,

Structural Challenges and the Search
for an Adequate Policy Mix in the EU
and in Central and Eastern Europe

health care reform and labor market reform. In particular, a more flexible labor market regime in most OECD countries could be very helpful.

In his presentation, *Daniele Franco,* Director of the Public Finance Division, Research Department of the Banca d'Italia, asked what lessons Italy had learned on the topic of pension reform. Italian pension reform departed from the need to ensure long-term fiscal sustainability, as Italy still faces the highest share of pension expenditure (about 15% of GDP) in the European Union. This share burgeoned from 1960, when pension spending had accounted for only 5% of GDP. This development – in combination with labor market problems and the strong impression that the system was unjust – made the case for reform, which started in 1992. The necessary steps to reduce the distortions in the labor market (mainly due to early retirement) and to make the system fairer were taken in 1995. While the Italian system still is a pay-as-you-go (PAYG) system, it is first of all accompanied by a second, funded pillar; moreover, it is now based on defined contributions instead of defined benefits. The main problem of this principally successful reform effort is the long time span devoted to the reform process, which gave rise to uncertainty among Italian citizens and provided particular incentives to retire early, as people feared severe pension cuts. According to Daniele Franco, the reform process needs to be more transparent. In addition, fiscal sustainability has not been reached yet, and the danger of steadily decreasing pensions has not been averted. Mr. Franco drew the lesson that economic policy in general and pension reform in particular should be characterized by long-term orientations and transparent procedures.

Professor *Marek Góra* of the Warsaw School of Economics shared this view in his presentation "Pension in Transition." He first analyzed theoretical problems of old age provision systems in Europe before he described the main aspects of the Polish pension reform to the participants. Like the Italian system, the Polish pension system is based on defined contributions. These are transformed into a lifetime pension annuity once the employee retires. The reform thus reduces or even eliminates the strong incentive to take early retirement that was built into the old system. Contributions have the character of individual savings instead of taxes. Moreover, the fiscal problems related to the old – not actuarially balanced – system combined with increasing unemployment (the Polish situation of the 1990s) can be avoided with the new system. Marek Góra concluded that the new Polish pension system is likely to work appropriately in the long run.

Finally, *Herbert Brücker,* Senior Economist at the German Institute for Economic Research (DIW) in Berlin, discussed "The Impact of East-West Migration on Welfare and the Welfare State in an Integrated Europe." After presenting some facts about current East-West migration behavior within Europe, Mr. Brücker introduced a simulation model assuming clearing labor markets and a closed economy, i.e. with no foreign trade, but allowing for factor migration. Migration from CEE to EU members in this model is welfare enhancing, as it closes the wage gap between the EU Member States and CEECs. As a general result, the migrants will take most of the welfare gains, the host country will also win, and the source country will lose. Relative wages will change. These effects cannot be proved by empirical evidence. According to Mr. Brücker, this contradiction can be explained by using an open economy framework and dis-

Structural Challenges and the Search
for an Adequate Policy Mix in the EU
and in Central and Eastern Europe

torted labor markets. His conclusion was straightforward: rather than reducing overall welfare and increasing unemployment in the host countries, East-West migration will enhance welfare and improve fiscal balances there. The higher the human capital of the migrants, the higher this result will probably be. Thus, the East-West migration-related problems in the current EU member countries are negligible as compared to those caused by North-South migration in the past. Herbert Brücker finished his presentation with the policy conclusion that – although the source countries may lose – it makes sense to allow for free migration and to compensate these losses out of the huge gains accrued in the host countries.

Gala Dinner Speech by Michaele Schreyer

Michaele Schreyer, Member of the European Commission, gave the gala dinner speech at the East-West conference. Ms. Schreyer focused her speech on the budgetary implications of the EU's Eastern enlargement both for the applicant and for current EU Member States. Ms. Schreyer briefly sketched the most important elements of the financial framework the EU proposed to the accession countries and touched upon the decision of the Brussels Council to gradually phase in direct payments to farmers until 2013. She pointed to the fact that the contributions to the EU budget will have to be paid from the first month of accession, but e.g. support for farmers is paid according to ex-post rules, which creates a risk to the net budgetary position of new Member States, especially in the first year of accession. Therefore, in order to avoid a situation in which the new Member States would in net budgetary terms be worse off in year one of their membership than in the preceding year, the European Council agreed to establish a temporary lump sum compensation mechanism, the amount of which will have to be decided at the Copenhagen Council in December. Furthermore, Ms. Schreyer quantified the net costs of EU enlargement for the present 15 Member States at 0.06% of each country's GDP and emphasized that enlargement clearly is a very good investment for the European Union.

Ms. Schreyer pointed out that although the new members will be net receivers, the first years of their membership can cause strains on their budgets, as they will be confronted with quite substantial accession-related costs. While the new members will be obliged to pay their contributions to the EU budget, some funds from the EU will only be disbursed with a time lag. Furthermore, the new member countries will have to cofinance the funds they receive and will have to pay "entrance fees" to a number of EU bodies (EIB, Research Fund for Coal and Steel). Ms. Schreyer concluded that, while she believes that the overall economic benefits of enlargement will be sizeable in the medium- and long-term perspective, the main "benefit" of enlargement lies in the historical opportunity to reunite the continent and in the elimination of the economic and political cost related to the accidental and artificial division of Europe.

Session V: Taxes and Benefits/Fiscal Structures

Session V was chaired by *Edith Kitzmantel,* Director-General and Financial Controller at the European Commission. *István Szekely,* Deputy Division Chief of the European I Department at the IMF, gave the first presentation, in which he focused on the major fiscal policy challenges the accession countries will face

after entering the EU. As examples of such challenges, he mentioned convergence to EMU fiscal reference values, compliance with standards and regulations and access to net transfers from the EU budget. Mr. Szekely's basic conclusions were as follows: On the one hand, accession countries will incur considerable costs in complying with the Single Market requirements and in completing transition-related structural reforms, accompanied by downward pressure on tax rates. On the other hand, they should benefit from a decline in interest rates and a growth-driven revenue windfall from the prospects of accession, as well as from some EU budgetary transfers. In addition to generating estimates of the medium-term fiscal costs and benefits associated with accession for applicant countries, István Szekely's paper explored several options for applying the Stability and Growth Pact to new Member States.

The next speaker, *Rumen Dobrinsky,* Chief of the Transition Economies Section at the UN/ECE, focused his statement on tax structures in transition economies and compared them to those in EU Member States. Mr. Dobrinsky presented the system of taxation in transition economies. He argued that the enormous changes of the past 15 years have mainly been a process of withdrawal of the government from the economy. In his paper, Mr. Dobrinsky investigated the changes in the system of taxation by comparing the tax structures in the transition economies with those in Western economies. The focus is on three main aspects of the system of taxation: the level of the overall tax burden in the economy, the structure of tax revenue and the efficiency of tax collection. The evidence presented implies that despite the profound changes, there are still some important differences between the composition of tax revenue in the transition countries and that in the EU which reflect both the existing gaps in the development level and the various degrees of progress individual countries have made in market reforms. The paper also looks at the degree of tax compliance which, according to the evidence presented, varies considerably across countries but on average is considerably lower in the transition economies than in EU Member States. Mr. Dobrinsky suggested that this is one of the important factors that impact on the capacity of governments to provide public services.

The next speech was held by *Roger Guesnerie,* Professor at DELTA-ENS (Département et Laboratoire d'Economie Théorique et Appliquée, Ecole normale supérieure) in Paris. The presentation dealt with taxation rules in European countries which differ either in terms of the tax burden, tax rates or the global structure of tax income. The average level of the tax burden in Western Europe is high by international standards and reflects the comprehensiveness of the public welfare system and the level of social security spending in the wealthier countries. Mr. Guesnerie concluded that harmonization towards an equalization of the cost of capital across EU countries is a legitimate concern and that labor and personal income taxes may remain rather different. The case for a harmonization of consumption taxation is less clear. Here, the question is whether VAT rates, and excise taxes, should be the same across the Union. The favorable effects, such as the elimination of undesirable cross-border commerce based on arbitrage, have to be compared to the unfavorable ones, such as the elimination of possibly legitimate differences on allo-

Structural Challenges and the Search
for an Adequate Policy Mix in the EU
and in Central and Eastern Europe

cation or redistribution issues. Taxation of savings is not a clear-cut case either, but for other reasons.

Finally, *Maria Antoinette Silgoner,* economist at the Foreign Research Division of the OeNB, presented a study which investigates the effect of automatic stabilizers (proxied by the adjusted government expenditure share) on cyclical volatility for a panel of EU Member States in the last three decades. Evidence from the linear model on the effectiveness of automatic stabilizers is mixed. While the basic results confirm the finding of previous empirical studies that automatic stabilizers have reduced business cycle fluctuations, the coefficient for government expenditures is not significant when doing instrumental variable estimation. However, the model setting indicates that there is a smoothing effect for lower levels of government size. For countries with a high government expenditure ratio, however, the smoothing effect vanishes and cyclical volatility may thus even rise. The conclusion of the paper is that policy recommendations by international institutions to let automatic stabilizers play fully should be supplemented by taking into account the absolute level of fiscal stabilizers. One should be aware of the fact that government size plays a crucial role in determining the smoothing property of fiscal stabilizers. Therefore, although the full operation of automatic stabilizers could be desirable, their overall extent might have to be reconsidered.

Session VI: Panel Discussion: Enterprise Sector Reform/ Network Industries

The session was chaired by *Heinrich Otruba,* professor at the Vienna University of Economics and until recently head of the Austrian telecommunications regulation authority. The panel consisted of Maria Vagliasindi, who works as Principal Economist at the European Bank for Reconstruction and Development (EBRD), Gábor Hunya, a senior economist at the Vienna Institute for International Economic Studies, and Danuta Jáblonska, Head of Division at the Department of Economic Strategy of the Polish Ministry of the Economy.

Gábor Hunya started with a comparison of the development of FDI inflows into the CEECs starting in 1990. Whereas Hungary was the major attractor of FDI in the first half of the 1990s, Poland and the Czech Republic surpassed Hungary in the second half, mainly because these economies were larger and because of the onset of the privatization process, which led to massive share sales to foreigners. In general, while GDP growth in these countries was temporarily negative, FDI inflows increased over the whole period. In the early 1990s mostly enterprises in the manufacturing sector were privatized; sales of telecommunications industries and network utilities started later. The motivation for the privatization of network industries was mainly the improvement of the efficiency and the quality of these utilities, the introduction of competition in previously sheltered sectors and the financing of large investments. In the long run, the FDI inflows should foster growth and exports.

In her statement, *Danuta Jáblonska* mentioned that in 2001 FDI inflows to Poland had decreased for the first time since 1990 due to the slowdown in world economic activity. Currently, FDI accounts for about 5% of Polish GDP. Foreign firms invest in Poland mainly because of its growth prospects, low labor costs, the labor supply and market size, all of which (save the last fac-

Structural Challenges and the Search
for an Adequate Policy Mix in the EU
and in Central and Eastern Europe

tor) could change within the near future. Ms. Jáblonska also stressed the fact that FDI strengthened the competitive position of the Polish economy by improving both the access of Polish firms to new technologies and the qualification of the Polish work force. On the other hand, the innovative capacity of Poland is not affected, because foreign-owned firms hardly engage in cooperation with domestic R&D institutions.

In her presentation, *Maria Vagliasindi* stressed that some industries that used to be considered natural monopolies have now become competitive markets due to technological progress. One example of this development is the telecommunications sector. The privatization of such industries usually serves different aims, namely the maximization of revenues, universal access for all customers and the improvement of service quality. In many cases the IPO of a former public monopoly was used to kickstart a country's stock market. Contrary to belief, privatization does not automatically lead to competition; also, privatized monopolies tend to abuse their market power. Therefore, the choice of the adequate regulatory structure is crucial for success.

In the following lively discussion, Ms. Vagliasindi underlined that some CEECs have already shown more intense privatization efforts than some EU Member States. The panelists also agreed on the importance of the proper design of the regulations and called the regulation of the Californian utility market a negative example of regulation design.

Luncheon Speech by Randall S. Kroszner

Randall S. Kroszner, Member of the U.S. President's Council of Economic Advisers, gave an overview of growth-oriented policies for the EU and the applicant countries. The key to sustainable high growth and increased GDP per capita is lasting strong productivity growth. Consequently, Mr. Kroszner recommended the following policy agenda:

Openness to international trade and investment. The sectors which are most exposed to international competition are the most productive ones in an economy. To remain competitive, flexible labor markets are needed, since excessive employment protection hampers efficient labor allocation and hence productivity. In this respect, Mr. Kroszner highlighted that the U.S. labor market appears to have reacted more flexibly to the shocks of the year 2001 than its counterparts in Europe.

Human capital. Mr. Kroszner emphasized that investing in people was the key to long-run growth. He also mentioned the need to put in place efficient and smart benefit systems in order to give people the right incentives.

New company entries. Efficient venture capital markets and lower barriers for firm entries are major factors to increase productivity and growth. Mr. Kroszner pointed out enormous differences between Europe and North America in terms of costs and time consumption in the establishment of new companies.

Competition policy. Mr. Kroszner alluded to the Austrian school of economics when he underlined the importance of well-established competition and small governments which adhere to sound public finance policies. In this area, he recommended further market liberalization and privatizations of state-owned companies.

Financial and legal systems. Especially Central and Eastern Europe needs efficient financial and legal systems, such as well-functioning financial intermediaries and risk capital markets, as well as soundly established property rights, bankruptcy laws and corporate governance.

Session VII: The Adequate Policy Mix

Session VII was chaired by *Hanna Gronkiewicz-Waltz,* Vice President of the EBRD. In his presentation "An Adequate Macroeconomic Policy Mix in EMU?" Professor *Torben M. Andersen* from the Department of Economics at the University of Aarhus analyzed the effects of the special assignment of fiscal and monetary policy in the euro area. The system is characterized by a clear-cut policy assignment, namely a centralized monetary policy and decentralized fiscal policies in EMU. In a theoretical model, Torben Andersen showed that without policy coordination, this policy assignment leads to suboptimal responses to shocks, depending on the nature of the shock. An aggregate shock causes the aggregate countercyclical response to be too strong. This effect also increases with the number of EMU member countries. On the other hand, a country-specific shock leads to a too procyclical response by the country affected. Hence, aggregate shocks without policy coordination are a fundamental problem within EMU. In addition, the Stability and Growth Pact is also unlikely to solve the underlying coordination problem. Subsequently, Mr. Andersen discussed whether or not an output goal for monetary policy would mitigate this effect and comes to the conclusion that this is not the case. Given the model Torben Andersen applied, a better coordination of fiscal policies in EMU seems necessary to guarantee an appropriate response to aggregate shocks.

In the second presentation, *Christian Popa,* Vice Governor of Banca Natională României, Romania's central bank, discussed the case of "Romania: Monetary and Fiscal Policy Challenges and the Appropriate Policy Mix." His presentation sketched recent achievements, challenges and conclusions. Christian Popa related how Romania recently experienced dynamic economic growth, improved macroeconomic stability, progress with disinflation and declining interest rates. Other achievements are that fiscal consolidation is starting to become effective and that current account adjustment is taking place. The rather high net capital inflows are being countered by rapid official reserve accumulation, explained Mr. Popa. Nevertheless, the country still needs further sustainable disinflation, as nominal convergence has not been achieved yet. The problem is that capital inflows lead to excess liquidity. Simultaneously, the efforts to stabilize fiscal policies have to be strengthened, and the financial sector has to be further developed. Finally, ongoing progress in structural reforms and privatization are a *sine qua non* for the sustainable development of the country.

The third presentation was given by *Franz Schardax,* economist at the Foreign Research Division of the OeNB. His presentation was based on a paper entitled "Exchange Rates and Long-Term Interest Rates in Central Europe: How Do Monetary and Fiscal Policy Affect Them?" Franz Schardax focused on three transition countries, namely the Czech Republic, Hungary and Poland, and used monthly data from the period between 1995 and 2002 to state his case. While

Structural Challenges and the Search
for an Adequate Policy Mix in the EU
and in Central and Eastern Europe

Hungary had a crawling peg, the other two countries had floating exchange rates. Using country-specific VAR models, Mr. Schardax estimated the effect of fiscal and monetary policy on exchange rates and long-term interest rates. Mr. Schardax explained that the interest rate was not affected by budget deficits in any of the countries, and influenced by monetary policy in the Czech Republic and Hungary. The exchange rate is only affected by fiscal policy in the Czech Republic, and not by monetary policy measures in any of the three countries, said Mr. Schardax. Finally, he concluded that the exchange rate channel of the monetary transmission mechanism in these countries was not predictable. In the discussion on the paper, it was argued that the lack of fiscal shocks contributed to the poor correlation between fiscal policies on the one hand and the exchange rate as well as interest rates on the other hand.

Session VIII: Panel Discussion: Looking into the Future: Europe's Position in the World Economy in 2020

In Session VIII, the final session, speakers were asked to look into the future of Europe, and to give their views of what they thought Europe might look like in 2020. Vice Governor *Gertrude Tumpel-Gugerell,* who chaired the session, briefly outlined her insights, reflecting on structural developments that are already underway or that will hopefully materialize and contribute to the shape Europe will take. To provoke a discussion, she presented an optimistic vision of a European Union of 30 Member States in which investment activity will be higher and unemployment lower than today. All Member States will have become EMU members, and an Englishman will be at the helm of the ECB. In Ms. Tumpel-Gugerell's scenario, an elected European President will cooperate with the European Parliament. National borders will be even less important than today, and sociocultural regions will develop in a more natural way.

Elena Kohutikova, Vice Governor of Národná Banka Slovenska, the central bank of Slovakia, outlined uncertainties that necessarily have to be taken into account in Europe's quest for further integration, widening and deepening. While almost all current accession candidates will probably have entered the EU by 2010, it is not clear how far the EU will have expanded by 2020. Given the probable growth boost coming from enlargement, regional disparities may not necessarily narrow. The catching-up process is likely to be long. Nevertheless, Ms. Kohutikova shared the view that the enlargement process will have an overall positive influence on old and new EU members and will force adjustments; in particular, it will enhance labor market flexibility.

Gert Jan Hogeweg, Director General at the European Central Bank, concentrated on some down-to-earth conclusions from recent experience in constructing EMU for future enlargements of the euro area. The Maastricht Treaty has proved to be a credible and successful framework for European monetary policy, and its high standards should be maintained. The institutional principles of price stability and of central bank independence remain pertinent. Currently, there is a heightened danger of some countries running excessive budget deficits. In such a case, it is important that decisive action be taken and credible adjustment paths be chosen. If necessary, full use should be made of the excessive deficit procedure in accordance with the Stability and Growth Pact, stressed Mr. Hogeweg.

Structural Challenges and the Search
for an Adequate Policy Mix in the EU
and in Central and Eastern Europe

The last 20 years have brought a great deal of breathtaking change in Europe, including the collapse of communism, the U.S.-led IT revolution, the introduction of the euro. *Susan Schadler,* Deputy Director of the European I Department of the IMF, pointed out that in her view and in the opinion of some of her colleagues at the IMF, Europe is now again at a crossroads. A number of important challenges have to be faced. There is the challenge of coping with the aging European population and of reforming pension systems. Another urgent task relates to labor market reforms, which are, however, extremely difficult politically. Unemployment would need to be reduced and the work effort increased in order for Europe to catch up with U.S. levels. For all the difficulty of the political choice, Ms. Schadler stressed that the potential rewards for Europe would be extraordinary.

Brigita Schmögnerova, Executive Secretary of the UN/ECE, focused on future relations of the EU with countries that in all likelihood will not be members in the next 20 years, e.g. Russia, Ukraine, Moldova and Belarus. She pointed out that existing partnership and cooperation agreements with these countries should be modified to create something like a common European economic space which could eventually provide for free trade in products and services. In any case, according to Ms. Schmögnerova, Europe still has much catching up to do with the United States. This goes for growth, R&D expenditure, Internet access and spending on higher education, to name just a few areas.

In the past, Europe was only a geographic notion; today, it is a living social structure and one of the most important actors on the global economic scene, according to the President of the Banco Central de Reserva del Perú, *Richard Webb Duarte.* Mr. Webb Duarte presented a Latin American perspective of Europe's future from the standpoint of a relatively poor emerging market. For him, the "new Europe" represents a role model of peaceful productive interaction, trade integration, social reform and voluntary solidarity. On the other hand, in his view, the U.S. economic model is not fully adequate for Latin America; conditions are simply too different. Mr. Webb Duarte further expects Europe to provide the world with a good alternative money to the U.S. dollar.

Vice Governor Tumpel-Gugerell then wrapped up the session and announced that the Oesterreichische Nationalbank will organize the next East-West Conference (2003) together with the Joint Vienna Institute. The event will focus on key issues for Europe's future development, in particular human capital and education.

Structural Challenges and the Search
for an Adequate Policy Mix in the EU
and in Central and Eastern Europe

Presentation of the Olga Radzyner Award 2002

This award was established in order to commemorate Olga Radzyner, who headed the OeNB's Foreign Research Division until her tragic death in August 1999 and who was the driving force behind building up and expanding the OeNB's array of transition- and accession-related activities. The Award is bestowed on young economists for excellent research focused on monetary and finance issues in economics. This year's winners were:

- *Vladimír Zlacký (Slovak Republic), from the National Bank of Slovakia;*
- *Balázs Égert (Hungary) from MODEM, University of Paris X;*
- *Mirsada Burić (Bosnia and Herzegovina) from the Ministry of European Integration in Sarajevo.*

Vladimír Zlacký receives this award for his master's thesis at the Kennedy School of Government, Harvard University, entitled: "Political Institutions and Pricing of Bonds on the International Markets." The paper investigates the relationship between political institutions and bond prices for a sample of 78 emerging countries between 1991 and 1997. It is shown that the type of political system in this broad set of countries, the orientation of the government and the potential stability of the government have been an important factor in determining bond prices on the international capital markets. A shorter version of this contribution is published in this volume of Focus on Transition.

Balázs Égert is awarded this prize for his research paper entitled "Reconsidering the Balassa-Samuelson Model as a Yardstick for Real Exchange Rate Determination in Transition Economies. A Tale from Central and Eastern Europe." The contribution represents part of his research and PhD studies at the University of Paris X and of his two recent fellowships at the European Commission and at the Bank of Estonia.

Finally, Mirsada Burić is awarded this prize for her master's thesis on "FDI and Its Impact on National Economy: A Cross-Country Comparative Analysis of CEECs, Bosnia and Herzegovina, Croatia" prepared for the Giordano Dell'Amore Foundation in Milan, Italy. This work provides a sound and extensive analysis of foreign direct investment in the region, which shows the author's familiarity with recent developments. The paper stresses the importance of foreign direct investment in transition economies. The analysis of FDI in the Balkans provides an interesting extension of the paper.

Workshop on "Fiscal Policy Monitoring in the ESCB — Perspectives for the Accession Countries" for ESCB and Accession Country Central Bank Experts

On November 6, 2002, the Oesterreichische Nationalbank organized a workshop on "Fiscal Policy Monitoring in the ESCB — Perspectives for the Accession Countries," which was attended by fiscal experts from the European System of Central Banks (ESCB) and their counterparts from the accession countries' central banks. The objective of the workshop was to bring specialists on fiscal policy from current and prospective ESCB central banks together for a first substantial exchange of views on issues of common interest. The intention was to enable fiscal experts from the accession countries to gain insights into the intricacies of the EU fiscal framework and, more specifically, the principles governing the fiscal policies of EU and euro area countries. In addition, ESCB fiscal experts had the opportunity to receive first-hand information about basic fiscal policy developments in the accession countries.

The morning session of the meeting centered on a discussion of the economic and political rationale of a rules-based fiscal policy and of the implications of the Treaty on European Union and the Stability and Growth Pact (SGP). Here, the focus was on the question of why the EU needs the SGP and what implications the SGP has for the conduct of national fiscal policies. This part of the meeting was based on a presentation by Daniele Franco (Banca d'Italia) and comments by Renáta Konecná and Jana Jirsáková (Národná Banka Slovenska).

Subsequently, the discussion revolved around the main elements and the functioning of the SGP, in particular the medium-term target of achieving fiscal positions close to balance or in surplus. This topic was presented by Hedwig Ongena (European Central Bank), who focused her statement on procedural issues of the European fiscal framework and dealt with the multilateral surveillance mechanism, the role of the stability and convergence programs, the early warning system and the excessive deficit procedure. Both the preventive and dissuasive functions of the SGP were highlighted. Ms. Ongena's statement was discussed by Andres Saarniit (Eesti Pank) and Zoja Medvedevskiha (Latvijas Banka).

The morning session was concluded by an overview presentation on fiscal developments in Central and Eastern European EU accession countries by Peter Backé, Walpurga Köhler-Töglhofer and Franz Schardax (Oesterreichische Nationalbank). This contribution spotlighted past developments as well as current and future challenges, with a particular focus on the effects and implications of EU accession on fiscal positions. This talk was complemented by two discussant statements that dealt with the public finance situation in the Mediterranean accession countries, held by George Kyriacou (Central Bank of Cyprus) and Anton Caruana Galizia (Central Bank of Malta).

The afternoon session of the workshop was devoted to country-specific presentations by experts from Central and Eastern European accession countries. This part of the meeting was designed to deepen the ESCB experts' understanding of the fiscal policy developments, challenges and problems that the newly acceding countries are facing. Due to time constraints, during this first workshop, the fiscal policy situation of only four Central and Eastern European accession countries could be dealt with in depth: Ivan Matalik (Česka Národní Banka), Gabor P. Kiss (Magyar Nemzeti Bank), Malgorzata Golik and Tomasz Jedrzejowicz (Narodowy Bank Polski) and Mojca Roter (Banka Slovenije) gave

overviews on public finance issues and developments in their respective countries. These presentations were discussed by Jeroen Hessel (De Nederlandsche Bank), Wolfgang Föttinger (Deutsche Bundesbank), Mikko Spolander (Suomen Pankki) and Basil Manessiotis (Bank of Greece).

The OeNB intends to publish the proceedings of this workshop during the first half of 2003. Suomen Pankki has announced its intention to host a second public finance workshop for experts from the ESCB and from the accession countries' central banks in 2003.

Lectures
Organized by the Oesterreichische Nationalbank

In the second half of 2002, the OeNB hosted two lectures by renowned economists and experts within its series dedicated to topics crucial to transition economies. Readers may benefit from the main insights drawn from the lectures, which are presented below.

Balázs Égert, PhD candidate at the University of Paris X and trainee with the European Commission, delivered a lecture on the Balassa-Samuelson effect in Central and Eastern European transition economies. Following a theoretical explanation of the Balassa-Samuelson model, he presented the detailed results of a practical econometric analysis of five selected transition economies and successfully examined the role of the Balassa-Samuelson effect in the countries' efforts to meet the Maastricht inflation criterion.

The second lecture served as a platform for presenting the Transition Report of the European Bank for Reconstruction and Development (EBRD). The report was presented jointly by Alexander Auböck, Director of the EBRD's offices in the Czech and Slovak Republics, and Martin Raiser, Director of the EBRD's Country Analysis and Strategy Department. The key topic of the current Transition Report being agriculture and rural transition, Mr. Auböck focused on EBRD investment in the agribusiness in the transition economies while Mr. Raiser, inter alia, provided a detailed comparison of the economic dynamics and potential risks in Southeastern Europe (SEE), Central Europe and the Baltic states (CEB) and the Commonwealth of Independent States (CIS).

The presentations are routinely rounded off by statements by invited discussants and a general discussion which gives the participants – representatives of the academic community, government bodies and reporters, all of whom have a professional interest in the topics presented – ample opportunity to debate with the speakers. Constraints on the length of the Focus on Transition do not allow a detailed account of the discussions in the brief overviews of each lecture the reader will find below.

Lecture by Balázs Égert

The Balassa-Samuelson Effect in CEE Economies

On June 3, 2002, Balázs Égert, PhD candidate at the University of Paris X and trainee with the European Commission, delivered a lecture entitled "Investigating the Balassa-Samuelson Hypothesis in Transition: Do We Understand What We See? A Panel Study."

Balázs Égert began his lecture by presenting the Balassa-Samuelson model and showed that it can be used both to model structural inflation and to describe long-run real exchange rate movements. In a next step, he discussed how to test for the Balassa-Samuelson effect in practice. Subsequently, Mr. Égert presented results obtained using time series and panel cointegration techniques that estimated the size of inflation and the real appreciation of the exchange rate in CEECs stemming from the Balassa-Samuelson effect. Finally, he discussed some policy-related questions these results might raise.

Since the early 1990s, Central and Eastern Europe's transition economies have witnessed high inflation in services and a substantial appreciation of their real exchange rate. These developments are often explained by the working of

the Balassa-Samuelson effect, which is driven by different productivity developments across sectors and countries.

A more in-depth analysis may, however, cast doubt on the empirical validity of the stylized fact that productivity growth can be at the root of persisting higher inflation and appreciating real exchange rates in transition economies.

The econometric analysis carried out for five selected transition economies, namely the Czech Republic, Hungary, Poland, Slovakia and Slovenia, consists in identifying the long-run relationships between productivity growth, the change in the relative price of nontradable goods and the CPI-deflated real exchange rate. Employing time series and panel cointegration techniques for the period from 1991 to 2001, productivity growth and changes in the relative price of nontradables turn out to be connected in the long term in all five economies. Furthermore, with Germany on the one hand and a basket based on German and U.S. data on the other hand representing the foreign country, the time series and panel analysis provides evidence in favor of the fact that changes in the real exchange rate are related to productivity growth. This latter finding is, however, challenged by several facts. To begin with, part of the basic hypothesis crucial to the Balassa-Samuelson model cannot be verified in practice, e.g. wage equalization. In addition, purchasing power parity does not seem to hold in the open sector, since the real exchange rate computed with the aid of the PPI also trend appreciates over the period studied. This may suggest that inflation is dominated not by services, but rather by other items. All this is confirmed by the fact that the share of services in the CPI basket is very low, accounting for 35% on average in the five CEECs. What is more, some services are still regulated. Hence, market-based service prices, which are supposed to provide the pass-through from productivity growth to overall inflation and then to real appreciation, is very limited indeed. Even if market-based service prices are driven by productivity growth in the tradable sector, this service inflation just partly translates into overall inflation and real appreciation.

All this means that the Maastricht criterion on price stability can be met more easily than suggested by previous research, since the estimated inflation differential against Germany (a good benchmark for the inflation criterion) attributable to the Balassa-Samuelson effect is close to or under the 1.5% tolerance margin for the five transition countries. In other words, the Balassa-Samuelson effect will not be the cause of not fulfilling the inflation criterion. Related to this question is the fact that price level convergence can occur without higher inflation, as services account for roughly 70% of the price level against 30% to 35% of the CPI basket. This relaxes the conflict between real and nominal convergence. A second implication of the weak pass-through of productivity growth to inflation is that the Balassa-Samuelson effect only partly explains the real appreciation of the CEECs' currencies. Put differently, this appreciation can be considered excessive in terms of the Balassa-Samuelson effect. For this reason, Mr. Égert emphasizes that a more comprehensive real exchange rate determination model is needed to assess the sustainability of real exchange rate movements.

Lectures by Alexander Auböck and Martin Raiser

Presentation of the EBRD's Transition Report 2002

On November 29, 2002, Alexander Auböck, Director of the European Bank for Reconstruction and Development's offices in the Czech and Slovak Republics, and Martin Raiser, Director of the Department for Country Analysis and Strategy at the EBRD, presented the EBRD's latest Transition Report during a lecture at the Oesterreichische Nationalbank in Vienna. The public event was chaired by Peter Backé, Special Adviser for Central and East European Issues and EU Enlargement Matters at the OeNB's Foreign Research Division.

Drawing on the EBRD's experience as an investor in 27 transition countries, the Transition Report offers a comprehensive analysis of each country's progress in its transition toward becoming a market economy, while providing general in-depth overviews of important structural developments. The current issue of the Transition Report focused in particular on agriculture and rural transition. Mr. Auböck gave an overview of the EBRD's activities and then concentrated on the bank's investments in the agribusiness. Today the EBRD is the largest single investor in the private sector in the region under review. It has made cumulative commitments of EUR 19.6 billion for 850 projects in three geographical zones: Central Europe (42%), Southern and Eastern Europe and the Caucasus (29%) as well as Russia and Central Asia (29%). Based on a multiplier at the average of 2.3, according to Mr. Auböck, these investments succeeded in raising a total project volume of around EUR 45 billion. Mr. Auböck stressed that the EBRD plans to continue its active involvement in the EU accession countries even after their actual accession, as long as certain areas are not adequately covered by other financial institutions, in particular with regard to infrastructure development and lending to small and medium-sized enterprises. The agribusiness accounts for 13% of the EBRD's portfolio. It comprises financing at all stages of food production (agricultural inputs, agricultural production, primary processing, food processing, packaging, foodservice distribution) and with a wide range of instruments (loans and guarantees, equity investment, sector-specific programs like grain warehouse receipts and multi-project facilities).

Mr. Raiser initially pointed out that the EBRD saw further improvements in its reform indicators for both "reforms of the first phase" (liberalization and privatization) and "reforms of the second phase" (institutional reforms) in the region as a whole, with countries considered as reform laggards showing above-average advances. He added some words of caution about further reform progress in Russia during the next year, given the upcoming presidential elections. In 2002, the EBRD and the World Bank took their Business Environment and Enterprise Performance Survey (BEEPS) to stage two, covering close to 6,000 firms across 26 countries of the region. The 2002 BEEPS shows that enterprises' perception of the business environment, adjusted for growth effects, has improved significantly across the region since 1999, when the first stage of BEEPS was conducted. Improvements have been greater in Southeastern Europe (SEE) and the Commonwealth of Independent States (CIS) than in Central Eastern Europe and the Baltic states (CEB), a development which is consistent with the gradual catching-up process of these two regions. Interestingly, in all three regions, the surveyed enterprises quoted access to financing

and taxes as the biggest obstacles to business growth and operation among seven possible categories (access to financing, the quality of infrastructure, taxes, regulations, the quality of the judiciary, crime, corruption), while the quality of the judiciary and corruption were considered as relatively bigger obstacles in SEE and the CIS than in CEB. Still, the ratio of bribe payments in total revenues has declined also in SEE and the CIS, in particular for new small private enterprises.

According to Mr. Raiser, the current economic dynamics within the region is quite remarkable, in particular against the backdrop of the global economic landscape. Growth, for instance, is more stable than in East and Southeast Asian countries, as these are more dependent on developments in Japan and in the U.S.A. For 2002, the EBRD forecasts growth in CEB at 2.2%, in SEE at 3.6% and in the CIS at 4.4%. For 2003, the comparable growth forecasts are 3.7% in CEB, 4.1% in SEE and 4.0% for the CIS, based on data available until early October 2002. Yet Mr. Raiser indicated a probable downward revision, amounting to about 0.5 percentage points in the case of CEB, due to increasingly strong indications of a delay in global recovery. The EBRD expects the annual average level of inflation in the year 2002 to come to 3.2% in CEB, to 10.4% in SEE and to 11.0% in the CIS.

Regarding the challenges ahead, Mr. Raiser pointed out the risk of speculative bubbles and stressed the importance of a balanced macroeconomic policy mix. For CEB, he recommended deeper institutional reforms and further FDI inflows to enhance competitiveness, and a careful handling of the accession-related fiscal and monetary policy issues. For SEE, the strengthening of regional cooperation and the reduction of the dependence on private and public transfer payments are the most important medium-term challenges. For the CIS, developing sources of growth other than energy and mineral resources as well as strengthening public sector institutions will be crucial. For the highly indebted poor CIS countries, both institution building and international support via the recent IMF-World Bank initiative, with participation of the EBRD, are of particular importance.

During the transition process, agriculture and the rural area in general tended to be neglected. Agricultural production fell markedly in all three regions (CEB, SEE and the CIS) from 1990 to 1999, which is partly attributable to the excessively high share of agriculture under the central planning system. However, there is a striking difference between CEB on the one hand and SEE and the CIS on the other hand, as labor productivity in agriculture rose significantly in CEB, while it declined even faster than production in SEE and the CIS during that period. Obviously, in SEE and the CIS, agriculture formed a buffer for employment by offering survival opportunities through subsistence. The structure of foreign trade in agricultural and food products has changed, in particular owing to increasing imports from OECD countries. This change is partly attributable to the trade policy of OECD countries (e.g. export subsidies) and partly to weaknesses in agricultural and food production in transition countries (e.g. low productivity, lack of marketing, quality controls and logistics). Direct investment in the corresponding technologies will be necessary to activate the comparative advantages that basically do exist. As a result of the problems in the agricultural sector and of the difficult business environment for the rural non-

agricultural sectors, social indicators and unemployment rates in rural areas are far worse than in urban areas today, unlike in many EU countries.

The lively discussion following the presentation dealt with a number of topics, such as the competitiveness of accession countries. According to Mr. Raiser's assessment, the degree of competitiveness is quite heterogeneous, both within the agricultural sector (e.g. relatively high productivity levels in meat production, but low levels in milk production) as well as within the economy as a whole. Even the economies of advanced transition countries show a dual structure in which private enterprises without foreign capital are relatively worse off. In general, foreign direct investment, in particular greenfield investment, has had a positive impact on the level of the local economy. In macroeconomic policy, fiscal imbalances to the tune of 8% to 10% of GDP are considered likely for Hungary and the Czech Republic for the current year; Mr. Raiser sees these prospects with some concern, above all when taking into account that the growth performance of these countries was not particularly weak. Moreover, when pointing to the fiscal costs related to accession and the relatively low public debt-to-GDP ratios in many accession countries, Mr. Raiser sees a certain justification for increased deficit levels. Incurring public debt may constitute some form of burden sharing between the present and the future generation and it will be precisely the future generation that will be the main beneficiary of EU accession.

The "East Jour Fixe"
of the Oesterreichische Nationalbank –
A Forum for Discussion

The East Jour Fixe of the Oesterreichische Nationalbank, a series of meetings initiated in 1991 as a forum in which economists, members of academia, government officials and other experts on Eastern Europe meet to discuss specific transition issues, looks back on a long tradition. The meetings are always opened with speeches held by experts about key topical issues related to transition economies. High-profile discussants are invited to comment on the contributions, and finally policymakers, analysts and researchers engage in an exchange of views during the general discussion, which is given ample room on the agenda.

In the period under review, the East Jour Fixe series was continued with three meetings.

The 45th East Jour Fixe took place on July 8, 2002, and served as a forum for presenting the results of a joint research project on EU enlargement to the East compiled in a special edition of the OeNB's quarterly publication Berichte und Studien. The meeting was chaired by Peter Mooslechner, Director of the OeNB's Economic Analysis and Research Section. Following an introduction by project coordinator Doris Ritzberger-Grünwald, Head of the OeNB's Foreign Research Division, Karin Olechowski-Hrdlicka from the OeNB's European Affairs and International Financial Organizations Division, Helmut Hofer from the Institute for Advanced Studies (IHS) in Vienna, Marianne Kager, chief economist of Bank Austria Creditanstalt, Edward Ludwig and Peter Schlagbauer from Raiffeisen Zentralbank, and Gabriel Moser from the OeNB's Foreign Research Division presented their contributions.

The research results met with the vivid interest of all participants, and each of the presentations entailed a lively discussion between, and among, the authors and the audience. Fritz Breuss of the Vienna University of Economics and Business Administration and the Austrian Institute of Economic Research (WIFO), one of the project's three research advisers, provided a summary of the results and gave a very optimistic outlook for the future.

At the 46th East Jour Fixe meeting on September 6, 2002, Aleksander Welfe, Professor at the University of Łódź, Poland, delivered a lecture on modeling inflation in the transition economy Poland. His paper focused on the application of the Structural Vector Equilibrium Correction Model (SVEqCM). Doris Ritzberger-Grünwald, Head of the OeNB's Foreign Research Division, chaired the meeting, and Gerhard Rünstler, economist at the European Central Bank (ECB), and Jesús Crespo-Cuaresma, Assistant Professor at the University of Vienna, were invited as discussants.

The 47th East Jour Fixe meeting took place on November 22, 2002. The main speaker was Boris Vujčić, Deputy Governor of Hrvatska narodna banka, the Croatian central bank, who discussed the role of euroization in monetary policy in Croatia. The meeting was chaired by Doris Ritzberger-Grünwald, Head of the OeNB's Foreign Research Division. The discussants were Helmut Stix of the OeNB's Economic Studies Division and Johann Schulz of the Joint Vienna Institute (JVI).

Contributions by Peter Mooslechner,

Doris Ritzberger-Grünwald, Karin Olechowski-Hrdlicka, Helmut Hofer, Marianne Kager, Edward Ludwig, Peter Schlagbauer and Gabriel Moser

EU Enlargement to the East: Effects on the EU-15 in General and Austria in Particular

In the run-up to EU accession, the Oesterreichische Nationalbank dedicated an edition of its quarterly publication, Berichte und Studien, to the very topical issue of EU Enlargement to the East. Various contributors highlighted important general macroeconomic aspects and also dealt with specific monetary policy and financial market topics of special interest to central banks. Several experts from other, mainly Austrian institutions in fact joined OeNB economists on this project.

The 45th East Jour Fixe, a special meeting in the East Jour Fixe series, was held in the OeNB on July 8, 2002. It served as a forum for the presentation of the research results and at the same time provided an opportunity for discussion for both authors and participants. Obviously, this possibility was highly appreciated, as a near-record number of participants attended this special East Jour Fixe. Unfortunately, not all of the authors were able to join the event because of the summer break, but the 45th East Jour Fixe was an even bigger success considering that so many people attended despite the season.

The event was chaired by OeNB Director Peter Mooslechner, who pointed out that the topic was chosen at just the right moment, as the conclusion of the enlargement negotiations between the European Union and most of the accession countries appeared to have come within reach. Therefore the OeNB's project represents a valuable contribution to the ongoing debate about the potential economic benefits and risks of EU enlargement. Mr. Mooslechner pointed out the special role the OeNB has played in this debate, based on the fact that the institution has devoted considerable analysis efforts to the CEECs and has thus acquired comprehensive expertise in this field. He also explained that this project involved a joint venture between regular publications of the OeNB's Economic Analysis and Research Section. With an eye to the interests of the different readership of the OeNB's English-language publications, the contents of the German special issue, Berichte und Studien 2/2002, were published partly in Focus on Austria 2/2002 and partly in Focus on Transition 1/2002. All three publications may be accessed on the OeNB's website at http://www2.oenb.at/pubs_p.htm.

Doris Ritzberger-Grünwald, Head of the OeNB's Foreign Research Division, who had acted as the coordinator of the project, told participants about the project's concept, its general ideas, the aims reached and the challenges which had to be tackled in the twelve months up to publication of the special edition of Berichte und Studien. Subsequently, Ms. Ritzberger-Grünwald presented an overview of the literature, which she had compiled with several other authors from the OeNB. This overview was designed mainly to arouse readers' interest, but it also represented an effort to cover all relevant issues, including those which were not analyzed more deeply in the other contribu-

tions, such as the effects of EU Eastern enlargement on trade relations or regional effects.

Karin Olechowski-Hrdlicka from the OeNB's European Affairs and International Financial Organizations Division presented a study covering the institutional impact of enlargement on economic and monetary policies and highlighting possible implications for the structure of the EU and its individual institutions, bodies and forums. In addition, she analyzed the deliberations behind reorganizing various decision-making processes.

Helmut Hofer from the Institute for Advanced Studies (IHS) in Vienna presented the main results of his ongoing research on labor market issues in the light of EU enlargement. Quite obviously, emphasized Mr. Hofer, this opening up has various impacts on EU labor markets, above all as a result of changes in foreign trade and in migration flows. Like many others, Helmut Hofer came to the conclusion that the effect of enlargement on EU labor markets will be rather limited and will concentrate on particular segments, affecting mainly less-qualified labor.

Marianne Kager, chief economist of Bank Austria Creditanstalt, made a highly informative statement about the challenges Austrian commercial banks face when going eastward. She presented the most recent figures evidencing the degree of involvement of Austrian and other commercial banks in the CEECs. These figures signal how huge the potential benefits are that could be reaped upon pursuing the right strategy. Ms. Kager noted that CEE banks are quite small both in absolute and in relative terms, and that an above-average share of these banks is owned by foreign investors. Surprisingly, the degree of intermediation is still quite low in the CEECs compared to that in fully industrialized countries. What this means is that for a number of reasons, such as low household income or funding through foreign parent companies, many potential bank customers have not yet acquired standard bank products such as salary accounts, passbook savings accounts or loans. Not just the banks, but even more so the economies themselves would strongly benefit from a higher degree of intermediation, which would improve and raise the efficiency of financing conditions.

Edward Ludwig and Peter Schlagbauer from Raiffeisen Zentralbank presented their main findings about the possible effects of EU enlargement on the EU's banking sector and the European stock and bond markets. The effects on both areas are to be considered low. However, Austria has a special position because it has invested heavily in the CEECs. Altogether, Eastern enlargement will reduce the risks for Austrian banks in these countries and will drive up the growth potential. Upon EU entry, the Eastern European bond markets will lose their emerging market status and will be integrated into general European bond benchmarks. As market capitalization is low in the CEECs, the impact on Western European bond markets will be negligible. Much the same applies to stock markets, where CEE capitalization is also too low to produce any significant liquidity effects on Western European markets. Only Austria's stock market could receive an impulse in the wake of EU enlargement.

Gabriel Moser from the OeNB's Foreign Research Division presented different exchange rate strategies of accession countries on their way to Economic and Monetary Union (EMU) and highlighted possible implications for the euro

area. As is generally known, all accession countries strive to join EMU in the medium term. The participation in EMU is in fact laid down in the Maastricht Treaty, which does not accord new Member States any freedom of choice in this matter. The current debate centers principally on the question of identifying the best entry date. In practice, the CEECs are currently pursuing widely different exchange rate regimes. Mr. Moser raised the question which exchange rate strategy would be best for the CEECs on their way to EMU and highlighted the challenges monetary policymakers may face in this context.

Each of the presentations was followed by a lively question and answer session, reflecting the keen interest of the audience in the topics as well as the research results. Several authors, who had met only once before to fix the grid of their contributions at the beginning of the project, joined the debate and acted as informal discussants. Finally, Fritz Breuss of the Vienna University of Economics and Business Administration and the Austrian Institute of Economic Research (WIFO), one of the project's three research advisers, wrapped up the results and gave a very optimistic outlook for the future. He stressed that most of the growth effects were definitely positive, but difficult to measure, alluding to his own research results. After all, emphasized Mr. Breuss, the Austrian economy is in a very special situation, which puts Austrian researchers, and therefore also the Oesterreichische Nationalbank, in a position of great responsibility when dealing with this highly practical and compelling research topic.

Contribution by Aleksander Welfe

Inflation in the Transition Economy of Poland: An Application of SVEqCM

The 46th East Jour Fixe took place on September 6, 2002, and focused on the econometric modeling of inflation in transition economies. The meeting was chaired by Doris Ritzberger-Grünwald, Head of the OeNB's Foreign Research Division.

The main speaker at the meeting was Aleksander Welfe, Professor at the University of Łódź, Poland. He delivered a lecture entitled "Inflation in the Transition Economy of Poland: An Application of SVEqCM."

Professor Welfe started his lecture by explaining the title, as the abbreviation "SVEqCM" seemed to confuse several participants. Following the approach of Professor David F. Hendry, Fellow of Nuffield College, University of Oxford, and Professor Grayham E. Mizon from the University of Southampton, Professor Welfe uses the term "Structural Vector Equilibrium Correction Model" (SVEqCM) instead of the commonly used "Structural Vector Error Correction Model." By using this terminology, he stresses the fact that the model focuses on the adjustment of macroeconomic variables to their equilibrium level in the long run. Thus, the approach provides a common framework for modeling both short- and long-term economic dynamics.

After the introductory explanation, Professor Welfe outlined the motivation behind his paper, mentioning the efforts of his team at the University of Łódź to model the Polish economy as part of the United Nations' LINK project on the world economy.

In general, two problems must be considered when creating econometric models: First, the majority of macroeconomic time series is nonstationary, that is, most time series possess a stochastic trend. Actually, this feature applies not only to the Polish economy, but is a general problem of applied economic analysis. Nevertheless, cointegration analysis (i.e. the application of VEqM) allows for dealing adequately with nonstationary time series. Second, macro-economic data series available for the Polish economy are relatively short by international standards. This means that only a few variables can be included in econometric models, which therefore cannot possibly provide an accurate picture of the national economy.

Professor Welfe suggests a structural approach to the Vector Equilibrium Correction Model as a possible solution to this problem. The modeling starts with a general picture of the economy including (almost) all possible channels. In brief, the model of Polish inflation is based on cost-push arguments. Unit labor costs, unit import costs and other unit costs are assumed to determine inflation. In turn, inflation has an effect on the exchange rate and on wages. Together with some other variables, these determinants influence factor costs and thus inflation. Via wages, it will be possible to implement a labor market block into a future version of the model.

In an iterative, computing-intensive statistical procedure both the model's long-term and short-term structures are parameterized. On this basis, a parsimonious model of the Polish economy is estimated, aimed at covering all important macroeconomic relations. The model structure gives important insights into Poland's transition economy. Thus, for instance, the model finds a surprisingly high long-run elasticity of wages to inflation, which is close to unity. This result documents the strong position of trade unions in Poland. By contrast, the elasticity of prices to wage pressure comes to about 0.6, which corresponds to the share of labor costs in output. Labor productivity growth lowers inflation. Both results are generally accepted; import costs are found to have a strong effect on prices, while the real exchange rate appreciates through inflation. The latter result confirms the existence of a significant Balassa-Samuelson effect in Poland.

Gerhard Rünstler, economist at the European Central Bank, and Jesús Crespo-Cuaresma, Assistant Professor at the University of Vienna, acted as discussants.

They both addressed the question of whether the chosen methodology (cointegration) was appropriate for a transition country. Gerhard Rünstler pointed out that the data sample used for Poland was very short and thus forced the author to use monthly and quarterly data. Mr. Rünstler highlighted that increasing the frequency of data collection does not necessarily improve the estimate of long-run relationships. He also questioned the robustness of the results.

Jesús Crespo-Cuaresma also commented on the difficulties involved in modeling long-run economic relationships based on transition data. Using data from several Central and Eastern European economies, Mr. Crespo-Cuaresma demonstrated that unlike simpler, ad hoc models, models which assume a priori cointegration relationships need not possess good forecasting abilities. He advocated the use of more general, nonlinear alternatives to modeling economic equilibria.

The ensuing general discussion focused on interpreting the results of applying the SVEqCM to the Polish economy. By and large, the model was found to describe the behavior of the Polish economy relatively well. Nevertheless, the question of robustness was raised again. A particular point of concern was that the estimated model can easily be influenced by structural breaks that are likely to occur in a reform economy. In his answer, Professor Welfe pointed to robustness analyses which he had not described in his paper. He also addressed the difficulty of including structural breaks into the cointegration framework.

Contribution by Boris Vujčić

Monetary Policy in Croatia
under a High Level of de facto Euroization

The 47th East Jour Fixe, which took place on November 22, 2002, focused on monetary policy in Croatia and was chaired by Doris Ritzberger-Grünwald, Head of the Foreign Research Division of the OeNB. The main speaker at the meeting was Boris Vujčić, Deputy Governor of Hrvatska narodna banka, the Croatian central bank. Helmut Stix of the OeNB's Economic Studies Division and Johann Schulz of the Joint Vienna Institute were the discussants.

Deputy Governor Vujčić started his talk by giving an overview on the main economic developments in Croatia, which are characterized by a pickup of growth in 2000–01, low inflation, a fairly stable exchange rate, and a rather modest current account deficit. The general government deficit has been reduced somewhat in recent years but remains relatively high (around 6% of GDP). The banking system has been privatized, mostly through sales to foreign strategic owners, who control 90% of total assets.

The share of foreign exchange (mostly euro) in broad money is very high in Croatia (around 70%). In this setting, Croatia follows what Deputy Governor Vujčić labeled a quasi-currency board monetary policy. This policy aims at a rather high degree of nominal exchange rate stability, but does not involve an explicit exchange rate commitment from the central bank. Thereby, Croatia tries to get the best of both worlds, namely
— credibility associated with exchange rate stability and low inflation, and
— the maintenance of a two-way risk aimed at discouraging speculative capital and at making speculation more difficult.

Moreover, this strategy allows the exchange rate to reflect changes in fundamentals, at least to some extent.

Deputy Governor Vujčić conceded that this was a difficult monetary policy game to play and that stabilizing exchange rate expectations was the key precondition for such an arrangement to function successfully. He stressed that nominal depreciation could not be used to improve competitiveness under this regime, nor was it possible for monetary policy to reverse the degree of de facto euroization. Most likely, Croatia will stick to the current policy framework until the eventual introduction of the euro upon EU accession, although the alternative option of unilateral euroization cannot be ruled out either.

Mr. Vujčić's lecture was subsequently discussed. The first discussant, Helmut Stix, presented the key results of a recent survey commissioned by the Oesterreichische Nationalbank on the use of the euro in five selected

Central and Eastern European countries, including Croatia. He pointed out that inter alia, inflation expectations were found to be low in Croatia, while exchange rate expectations display some limited depreciation bias. Also, according to the survey, confidence in the banking system was not yet fully established in Croatia, but this may be due to the fact that the poll was conducted shortly after the crisis one Croatian bank experienced and the subsequent retreat of the foreign owner of that bank.

Mr. Schulz highlighted the recent shift in the components of GDP growth, raising the question whether the recent negative contribution of net exports to growth showed some competitiveness problems. He also drew attention to the fiscal imbalances which may make it difficult for Croatia to react to idiosyncratic shocks, given the central bank's focus on a fairly high degree of nominal exchange rate stability. Furthermore, Mr. Schulz pointed out the increasing public indebtedness that has been resulting from high (primary) budget deficits.

The ensuing discussion focused on a range of pertinent issues. Mr. Vujčić attributed the causes for slow export growth to two main factors: One was the exclusion of Croatia from trade integration with the EU and CEFTA countries until recently, and the second was that relatively little export-oriented FDI was coming into Croatia, which was mostly because Croatia was excluded from trade integration in Europe (therefore, it made no sense to locate export production in Croatia). However, things have recently changed in both respects, emphasized Deputy Governor Vujčić, so that Croatia can expect better (albeit not spectacular) merchandise export growth, particularly once the EU, Croatia's main trading partner, bounces back. Mr. Vujčić also drew attention to the recovery of tourism, which has contributed substantially to lowering the current account deficit. Moreover, he stressed the need for further fiscal consolidation and argued that Croatia's high expenditure-to-GDP ratio is, to a considerable extent, due to overspending in the area of social security and health care. With respect to monetary policy, some participants questioned whether the current strategy would remain fully viable in a future setting of a complete dismantling of capital controls. Another monetary policy issue raised in the discussion was the recent buoyancy of credit growth. According to Mr. Vujčić, dynamic credit growth is not yet a reason for concern, given recent GDP developments. Also, at this stage, there are no signs of a real estate bubble in Croatia. Still, for precautionary reasons, the central bank is considering prudential measures to ensure that credit growth is restrained to somewhat more moderate rates in the future. A further interesting point is related to the impact of EU enlargement in 2004 and the potential adoption of the euro some years thereafter in some Central European countries on Croatia's foreign trade and the country's degree of de facto euroization. Some participants aired the notion that the next round of enlargement could lead to some trade diversion for Croatia, while an increased future use of the euro in Central Europe could further raise the share of foreign exchange in broad money in Croatia.

Technical Cooperation
of the Oesterreichische Nationalbank
with Countries in Transition

In 2002, the OeNB continued its cooperation activities with transition countries in Central and Eastern Europe, the western Balkans and the CIS republics both at a bilateral and at a multilateral level.

As in previous years, the OeNB held four one-week seminars exclusively designed for central bankers at the Joint Vienna Institute (JVI) in 2002, covering the topics "EMU after the Cash Changeover" (March 18 to 22), "Human Resource Management" (June 17 to 21), "Payment Systems – Future Challenges" (October 7 to 11) and "Banking Supervision Today and Tomorrow – Recent Experiences and Future Capital Regulation" (November 4 to 8). In view of the continued strong demand for these seminars as well as the highly positive reaction of the participants, the OeNB has increased the number of seminars for central bankers to five in 2003, covering the following topics: "EU Accession Countries on Their Way to EMU – What Remains to Be Done?" (February 12 to 14), "EMU – Basic Principles" (February 26 to 28), "Cards, Coins and Banknotes – Presented by the Money and Cards Group of the Oesterreichische Nationalbank" (May 26 to 28), "Modern Management of a Central Bank" (September 22 to 26) and "Banking Supervision Today and Tomorrow" (December 1 to 4).

In addition to these seminars, the OeNB continued its bilateral technical cooperation activities with central banks in transition countries by organizing consultations, lectures and various study and information visits to the OeNB. Within this framework, the OeNB held a three-day workshop on "The Central Bank's Role in Payment and Settlement Systems" at the training center of the National Bank of Belarus in Minsk in October 2002. Moreover, the OeNB hosted a study visit for experts from Latvijas Banka on the topic of "Internal Audit and Control" in October 2002. Apart from these short-term cooperation activities, the OeNB further enhanced the close cooperation with its counterparts in accession countries. In this framework, an OeNB staff member from the Foreign Research Division spent six weeks at Česká Národní Banka in August and September 2002 to work on a research project.

At the multilateral level, the OeNB has successfully completed its participation in the EU-financed Twinning Program on "Strengthening the Capacity of the Romanian Institutions for the Prevention and Control of Money Laundering" in cooperation with Italy as of October 2002.

The year 2003 will bring about major changes for the Joint Vienna Institute: As of May 2003, the new arrangement will come into effect, according to which the JVI will have two Primary Members, namely the IMF and the Austrian authorities, i.e. the Austrian Ministry of Finance and the OeNB. As a consequence, the Austrian authorities will substantially step up their financial contribution, providing – first and foremost – entirely new facilities for the JVI. Furthermore, it was possible to keep the majority of the present sponsoring organizations "on board" the JVI by offering them the status of Contributing Members of the new JVI. In this fashion, they will continue to provide their very specific knowledge in various fields, thus ensuring the broad variety of topics covered by the JVI's program. The official opening ceremony of the JVI is planned for early November 2003.

Looking at the JVI's course schedule for next year, the new facilities will be working virtually at full capacity. As stated above, the OeNB will increase its

contribution to the JVI's academic program to five seminars for central bankers. Moreover, the Austrian authorities will continue to jointly organize two one-week seminars on "Foreign Direct Investment Policy" and the "Challenge for Structural Reforms: Design, Implementation, Experience" in 2003. As in the past, the JVI's main course in Applied Economic Policy (AEP) with a duration of 14 weeks will be held twice a year. The AEP includes a one-week "Austrian segment" financed jointly by the Austrian authorities. In the first part of this segment, experts from a variety of academic and organizational backgrounds spend three days presenting lectures devoted to specific features of Austria's market economy, such as the political and economic structure, social partnership, issues of fiscal federalism, incomes policies, Austria's experience with EU accession and the introduction of the euro. In the second part, the so-called study tour, participants spend three days visiting companies, state and local government authorities, banks, media centers and the like to gain an insight into the structures of Austria's economy and administration. The program for each study tour is organized by the OeNB, typically in cooperation with the OeNB's branch offices in various Austrian provincial capitals. The first study tour in 2002 took the participants to Graz (March 6 to 8), the second study tour to Linz (October 23 to 25).

STATISTICAL ANNEX

Gross Domestic Product

	Bulgaria	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Russia	Slovak Republic	Slovenia
	Annual change in %										
1992	−7.3	−0.5	−21.6	−3.1	×	×	+2.6	−8.8	−14.5	−6.5	−5.5
1993	−1.5	+0.1	− 8.2	−0.6	−14.9	−16.2	+3.8	+1.5	− 8.7	−3.7	+2.8
1994	+1.8	+2.2	− 2.0	+2.9	+ 0.6	− 9.8	+5.2	+3.9	−12.7	+5.2	+5.3
1995	+2.9	+5.9	+ 4.3	+1.5	− 0.8	+ 3.3	+7.0	+7.1	− 4.1	+6.5	+4.1
1996	−9.4	+4.3	+ 3.9	+1.3	+ 3.7	+ 4.7	+6.0	+3.9	− 3.4	+5.8	+3.5
1997	−5.6	−0.8	+10.6	+4.6	+ 8.4	+ 7.3	+6.8	−6.1	+ 0.9	+5.6	+4.6
1998	+4.0	−1.0	+ 4.0	+4.9	+ 4.8	+ 5.1	+4.8	−4.8	− 4.9	+4.0	+3.8
1999	+2.3	+0.5	− 0.5	+4.2	+ 2.8	− 3.9	+4.1	−1.2	+ 5.4	+1.3	+5.2
2000	+5.4	+3.3	+ 7.1	+5.2	+ 6.8	+ 3.8	+4.0	+1.8	+ 9.0	+2.2	+4.6
2001	+4.0	+3.3	+ 5.0	+3.8	+ 7.7	+ 5.9	+1.0	+5.3	+ 5.0	+3.3	+3.0
2000											
1st quarter	+5.1	+3.3	+ 6.4	+6.5	+ 6.2	+ 5.5	+5.9	+0.9	+ 9.0	+3.9	+6.2
2nd quarter	+5.8	+3.1	+ 8.6	+5.6	+ 4.9	+ 0.0	+5.0	+3.3	+ 8.6	+4.7	+3.4
3rd quarter	+5.6	+2.8	+ 7.9	+4.5	+ 6.6	+ 5.9	+3.1	+1.8	+ 8.8	+5.4	+5.5
4th quarter	+5.0	+3.9	+ 5.7	+4.2	+ 8.4	+ 3.9	+2.4	+0.4	+ 6.8	+5.2	+3.5
2001											
1st quarter	+4.1	+3.6	+ 5.7	+4.4	+ 8.3	+ 3.5	+2.3	+4.8	+ 4.8	+3.0	+3.2
2nd quarter	+4.1	+3.5	+ 5.5	+4.0	+ 9.3	+ 6.6	+0.9	+5.0	+ 5.3	+2.8	+2.8
3rd quarter	+3.9	+3.3	+ 3.9	+3.7	+ 6.4	+ 5.3	+0.8	+6.8	+ 5.8	+3.5	+3.3
4th quarter	+4.2	+2.7	+ 5.1	+3.3	+ 6.8	+ 7.9	+0.2	+4.5	+ 4.3	+3.9	+2.6
2002											
1st quarter	+3.2	+2.8	+ 3.2	+2.9	+ 3.8	+ 4.5	+0.5	+3.1	+ 3.7	+3.9	+2.2
2nd quarter	+5.3	+2.5	+ 7.0	+3.1	+ 4.9	+ 6.9	+0.8	+5.7	+ 4.1	+4.0	+3.2

Source: WIIW (The Vienna Institute for International Economic Studies); Estonia, Latvia, Lithuania: IMF; Russia: national sources from 1999. Quarterly data: Eurostat, national sources.
Due to revisions quarterly data may not match annual data.

Industrial Production

	Bulgaria	Czech Republic	Estonia[1]	Hungary	Latvia	Lithuania[2]	Poland	Romania	Russia	Slovak Republic	Slovenia
	Annual change in %										
1992	−18.4	− 7.9	×	− 9.7	−34.6	−51.6	+ 2.8	−21.9	−18.0	− 9.3	−13.2
1993	− 9.8	− 5.3	×	+ 4.0	−38.1	−34.7	+ 6.4	+ 1.3	−14.1	− 3.8	− 2.8
1994	+10.6	+ 2.1	− 2.1	+ 9.6	− 9.5	−29.8	+12.1	+ 3.3	−20.9	+ 4.8	+ 6.4
1995	+ 4.5	+ 8.7	+ 2.0	+ 4.6	− 6.3	+ 0.9	+ 9.7	+ 9.4	− 3.3	+ 8.3	+ 2.0
1996	+ 5.1	+ 2.0	+ 3.5	+ 3.4	+ 1.4	+ 3.5	+ 8.3	+ 6.3	− 4.0	+ 2.5	+ 1.0
1997	− 5.4	+ 4.5	+15.2	+11.1	+ 6.1	+ 8.0	+11.5	− 7.2	+ 1.9	+ 2.7	+ 1.0
1998	− 7.9	+ 1.6	+ 3.2	+12.5	+ 2.0	+ 9.3	+ 3.5	−13.8	− 5.2	+ 5.0	+ 3.7
1999	− 9.3	− 3.1	− 1.7	+10.4	− 8.8	− 9.6	+ 3.6	− 2.4	+11.0	− 2.7	− 0.5
2000	+10.3	+ 5.4	+14.6	+18.6	+ 3.2	+ 5.4	+ 6.7	+ 7.1	+11.9	+ 8.6	+ 6.2
2001	− 2.4	+ 6.5	+ 7.9	+ 4.1	+ 6.9	+17.2	− 0.1	+ 8.2	+ 4.9	+ 6.9	+ 2.9
	+ 2.6	+ 4.6	+ 8.8	− 0.3	+ 7.3	+18.5	− 0.9	+ 6.0	+ 4.3	+ 6.1	+ 2.6
2001											
July	+ 6.8	+ 9.3	+16.4	+ 2.1	+13.4	+17.6	+ 1.5	+ 5.7	+ 4.5	+ 9.4	+ 6.4
August	+10.3	+ 3.0	+ 6.2	+ 1.0	+ 8.9	+ 9.7	+ 0.9	+ 4.6	+ 5.1	+ 5.8	+ 2.9
September	+ 2.7	+ 1.1	+ 2.0	− 6.9	+ 5.0	+ 4.2	− 3.7	+ 2.5	+ 3.8	+ 6.8	− 1.1
October	− 0.7	+ 4.1	+12.2	+ 5.5	+ 7.1	+37.5	+ 1.8	+ 9.5	+ 5.1	+ 8.4	+ 7.2
November	+ 1.3	+ 6.6	+ 9.5	− 1.2	+ 6.8	+23.6	− 1.1	+ 8.4	+ 4.7	+ 3.9	+ 0.1
December	− 5.0	+ 3.7	+ 6.5	− 2.3	+ 2.8	+18.1	− 4.8	+ 5.3	+ 2.6	+ 2.1	+ 0.2
2002											
January	− 2.9	+ 2.6	+ 2.3	− 2.7	+ 2.8	− 4.3	− 1.4	+ 5.0	+ 2.2	+ 0.3	+ 3.9
February	+ 0.1	+ 5.8	+ 1.6	+ 1.9	+ 0.1	− 3.5	+ 0.3	+ 5.0	+ 2.0	+ 4.8	+ 3.2
March	− 2.5	+ 4.1	− 7.3	+ 2.7	− 2.5	+12.9	− 3.2	− 0.1	+ 3.7	− 1.5	− 1.5
April	+15.5	+ 8.2	+17.4	+ 4.7	+ 6.6	+13.4	+ 0.3	+ 5.6	+ 4.3	+ 8.9	+ 9.6
May	+ 5.3	+ 5.1	+ 5.0	− 2.7	+ 4.6	+ 6.1	− 4.2	+ 0.1	+ 2.8	+ 3.8	+ 0.1
June	+ 3.0	+ 1.3	+ 0.5	+ 3.1	+ 6.6	+ 5.5	+ 2.1	+ 6.6	+ 4.4	+ 3.8	− 1.9
July	+ 8.5	+10.8	+ 7.9	+ 8.5	+ 8.1	+ 1.5	+ 5.7	+ 7.9	+ 7.8	+12.6	+ 4.6
August	+ 6.0	− 2.8	+ 5.9	− 2.7	+ 4.3	+ 4.3	− 1.2	+ 5.8	+ 3.4	+ 6.5	+ 0.1
September	..	..	+11.0	..	+ 9.6	+ 7.8	+ 6.7	..	+ 5.5	..	..

Source: Annual data: WIIW; Estonia, Latvia, Lithuania: national sources. Monthly data: national sources.
[1] Industrial sales up to 1999.
[2] Industrial sales.

Unemployment Rate

	Bulgaria	Czech Republic	Estonia	Hungary[1]	Latvia	Lithuania	Poland	Romania	Russia	Slovak Republic	Slovenia
End of period (%)											
1992	15.2	2.6	x	9.8	2.3	x	13.6	8.2	5.2	10.4	13.4
1993	16.4	3.5	1.8	11.9	5.8	4.4	16.4	10.4	6.0	14.4	15.4
1994	12.8	3.2	1.5	10.7	6.5	3.8	16.0	10.9	7.7	14.6	14.2
1995	11.1	2.9	2.1	10.2	6.5	6.2	14.9	9.5	9.0	13.1	14.5
1996	12.5	3.5	2.6	9.9	7.2	7.0	13.2	6.6	9.9	12.8	14.4
1997	13.7	5.2	2.7	8.7	7.0	5.9	10.3	8.9	11.2	12.5	14.8
1998	12.2	7.5	2.7	7.8	9.2	6.9	10.4	10.4	13.3	15.6	14.6
1999	16.0	9.4	4.0	7.0	9.1	10.0	13.1	11.8	12.2	19.2	13.0
2000	17.9	8.8	5.9	6.4	7.8	12.6	15.1	10.5	9.9	17.9	12.0
2001	17.3	8.9	6.1	5.7	7.7	12.9	17.5	8.6	8.7	18.6	11.8
2001											
July	16.8	8.5	6.2	5.7	7.7	12.1	16.0	8.3	8.6	18.0	11.3
August	16.7	8.5	6.1	5.8	7.7	12.1	16.2	8.0	8.6	17.8	11.1
September	16.5	8.5	6.2	5.3	7.6	12.0	16.3	7.8	8.7	17.4	11.3
October	16.7	8.4	6.3	5.6	7.6	12.2	16.4	7.7	8.8	17.3	11.5
November	17.2	8.5	6.3	5.8	7.6	12.5	16.8	8.0	8.9	17.7	11.6
December	17.3	8.9	6.1	5.4	7.7	12.9	17.5	8.6	8.7	18.6	11.8
2002											
December	17.3	8.9	6.1	5.4	7.7	12.9	17.5	8.6	8.7	18.6	11.8
January	18.0	9.4	6.6	5.6	7.9	13.1	18.1	12.4	8.6	19.7	12.0
February	17.9	9.3	6.5	5.7	8.2	12.9	18.2	13.2	8.4	19.6	11.8
March	17.5	9.1	6.4	5.8	8.2	12.6	18.2	13.0	8.2	19.1	11.7
April	17.8	8.8	6.4	5.7	8.1	11.8	17.9	11.1	8.0	18.1	11.6
May	17.6	8.6	6.0	5.6	8.0	11.1	17.3	10.2	7.7	17.7	11.4
June	17.2	8.7	5.5	5.6	7.9	10.7	17.4	9.6	7.7	17.6	11.3
July	17.6	9.2	5.5	5.9	8.0	10.7	17.5	9.0	7.6	17.6	11.5
August	17.6	9.4	5.4	5.9	7.9	10.7	17.5	8.5	7.5	17.2	11.6
September	17.4	9.4	..	..	7.8	10.5	17.6	..	7.6	16.6	..

Source: WIIW; Estonia, Latvia, Lithuania: national sources.
[1] *Period average.*

Consumer Price Index

	Bulgaria	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Russia	Slovak Republic	Slovenia
Period average (annual change in %)											
1992	+ 91.2	+11.1	x	+23.0	+243.3	x	+43.0	+210.4	+1,526.5	+10.0	+207.3
1993	+ 72.8	+20.8	+89.8	+22.5	+108.8	+410.2	+35.3	+256.1	+ 873.5	+23.2	+ 32.3
1994	+ 96.0	+10.0	+47.7	+18.8	+ 35.9	+ 72.2	+32.2	+136.8	+ 307.0	+13.4	+ 19.8
1995	+ 62.1	+ 9.1	+28.8	+28.2	+ 25.0	+ 39.7	+27.8	+ 32.3	+ 197.5	+ 9.9	+ 12.6
1996	+ 121.6	+ 8.8	+23.1	+23.6	+ 17.6	+ 24.6	+19.9	+ 38.8	+ 47.8	+ 5.8	+ 9.7
1997	+1,058.4	+ 8.5	+10.6	+18.3	+ 8.4	+ 8.9	+14.9	+154.8	+ 14.8	+ 6.1	+ 8.3
1998	+ 18.7	+10.7	+ 8.2	+14.3	+ 4.7	+ 5.1	+11.8	+ 59.1	+ 27.6	+ 6.7	+ 7.9
1999	+ 2.6	+ 2.1	+ 3.3	+10.0	+ 2.4	+ 0.8	+ 7.3	+ 45.8	+ 85.7	+10.6	+ 6.1
2000	+ 10.3	+ 3.9	+ 4.0	+ 9.8	+ 2.7	+ 1.0	+10.1	+ 45.7	+ 20.8	+12.0	+ 8.9
2001	+ 7.4	+ 4.7	+ 5.7	+ 9.2	+ 2.5	+ 1.2	+ 5.5	+ 34.5	+ 21.6	+ 7.3	+ 8.4
2001											
July	+ 8.5	+ 5.9	+ 6.4	+ 9.4	+ 3.1	+ 1.1	+ 5.2	+ 31.8	+ 22.2	+ 8.0	+ 8.8
August	+ 5.7	+ 5.5	+ 6.1	+ 8.7	+ 3.0	+ 2.3	+ 5.1	+ 32.3	+ 20.9	+ 7.8	+ 8.5
September	+ 4.7	+ 4.7	+ 5.7	+ 8.0	+ 3.7	+ 2.0	+ 4.3	+ 31.2	+ 20.1	+ 7.3	+ 7.9
October	+ 5.2	+ 4.4	+ 4.7	+ 7.6	+ 3.4	+ 2.3	+ 4.0	+ 30.8	+ 18.9	+ 6.9	+ 7.8
November	+ 4.6	+ 4.2	+ 4.1	+ 7.1	+ 3.1	+ 2.0	+ 3.6	+ 30.7	+ 18.8	+ 6.4	+ 7.0
December	+ 4.8	+ 4.1	+ 4.2	+ 6.8	+ 3.2	+ 1.9	+ 3.6	+ 30.3	+ 18.8	+ 6.4	+ 7.0
2002											
January	+ 7.0	+ 3.7	+ 4.2	+ 6.6	+ 3.5	+ 3.2	+ 3.4	+ 28.6	+ 19.2	+ 6.2	+ 8.4
February	+ 8.4	+ 3.9	+ 4.4	+ 6.2	+ 3.3	+ 2.7	+ 3.5	+ 27.2	+ 17.9	+ 4.3	+ 8.1
March	+ 9.2	+ 3.7	+ 4.3	+ 5.9	+ 3.2	+ 1.6	+ 3.3	+ 25.1	+ 17.0	+ 3.6	+ 7.6
April	+ 9.2	+ 3.2	+ 4.6	+ 6.1	+ 2.9	+ 1.3	+ 3.0	+ 24.4	+ 16.3	+ 3.6	+ 8.4
May	+ 6.9	+ 2.5	+ 4.1	+ 5.6	+ 2.0	+ 0.6	+ 1.9	+ 24.5	+ 16.2	+ 3.2	+ 7.5
June	+ 5.2	+ 1.2	+ 3.8	+ 4.8	+ 1.0	− 0.5	+ 1.6	+ 24.0	+ 14.9	+ 2.6	+ 6.8
July	+ 5.5	+ 0.6	+ 3.1	+ 4.6	+ 1.0	− 0.1	+ 1.3	+ 23.0	+ 15.1	+ 2.0	+ 7.2
August	+ 4.5	+ 0.6	+ 2.6	+ 4.5	+ 0.9	− 1.0	+ 1.2	+ 21.3	+ 15.2	+ 2.7	+ 7.3
September	+ 4.0	+ 0.8	+ 2.7	+ 4.6	+ 1.0	− 1.5	+ 1.3	+ 19.7	+ 15.0	+ 2.8	+ 7.2

Source: WIIW; Estonia, Latvia, Lithuania: IMF.

Trade Balance

USD million

	Bulgaria	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Russia	Slovak Republic	Slovenia
1992	− 212.4	×	− 90.1	− 48.0	×	×	×	−1,420.0	×	×	791.1
1993	− 885.4	− 525.3	− 144.8	−3,247.0	18.6	− 154.8	− 2,482.0	−1,128.0	15,590.0	− 932.0	− 154.2
1994	− 16.9	−1,381.2	− 356.9	−3,635.0	− 301.1	− 204.9	− 895.0	− 411.0	17,374.0	58.5	− 336.5
1995	37.0	−3,677.9	− 732.5	−2,442.0	− 514.0	− 698.0	− 1,912.0	−1,577.0	20,310.0	− 227.5	− 953.9
1996	121.7	−5,706.3	−1,190.8	−1,206.9	− 877.1	− 896.2	− 8,179.0	−2,470.0	22,471.0	−2,292.6	− 826.1
1997	321.0	−4,892.9	−1,687.2	−1,567.1	−1,051.3	−1,147.5	−11,320.0	−1,980.0	17,025.0	−2,057.9	− 774.8
1998	− 380.7	−2,603.3	−1,743.4	−1,904.9	−1,377.4	−1,518.4	−13,720.0	−2,625.0	16,869.0	−2,353.1	− 792.0
1999	−1,081.0	−1,902.6	− 820.6	−2,190.5	−1,223.2	−1,404.6	−14,379.0	−1,257.0	36,129.0	−1,092.4	−1,235.1
2000	−1,175.5	−3,131.0	− 766.3	−2,902.7	−1,322.2	−1,103.8	−13,168.0	−1,684.0	60,703.0	− 916.8	−1,138.9
2001	−1,580.5	−3,128.1	− 790.9	−3,127.9	−1,505.1	−1,108.0	−11,675.0	−2,969.0	47,839.0	−2,314.7	− 619.4
2001											
July	− 204.3	− 469.0	− 70.2	− 390.0	− 138.5	×	− 828.0	− 169.6	3,688.0	− 169.0	− 27.2
August	− 102.7	− 358.0	− 94.0	− 176.2	− 131.4	×	− 1,018.0	− 108.1	4,402.0	− 166.8	− 40.9
September	− 82.5	79.0	− 51.2	− 90.7	− 129.7	− 193.5	− 889.0	− 59.0	4,227.0	− 144.9	− 10.9
October	− 177.9	− 296.0	− 80.4	− 294.1	− 165.1	×	− 1,174.0	− 397.5	3,191.0	− 194.0	− 22.3
November	− 163.6	− 160.0	− 65.6	− 129.2	− 156.8	×	− 953.0	− 306.2	3,392.0	− 263.3	− 71.9
December	− 173.6	− 599.0	− 80.1	− 364.3	− 156.7	− 456.7	− 890.0	− 481.6	2,451.0	− 330.0	− 9.9
2002											
January	− 82.0	− 161.0	− 78.5	− 348.5	− 99.4	×	− 1,108.0	− 173.0	3,119.0	− 119.6	− 20.5
February	− 73.3	74.0	− 57.5	− 184.7	− 99.4	×	− 810.0	− 148.8	2,688.0	− 130.6	− 28.1
March	− 92.0	− 165.0	− 85.6	− 32.9	− 122.5	− 201.6	− 701.0	− 151.5	3,730.0	− 153.0	− 32.4
April	− 148.7	− 9.0	− 110.9	− 178.8	− 144.7	×	− 742.0	− 231.8	4,260.0	116.0	− 38.4
May	− 189.2	− 343.0	− 100.8	− 312.5	− 137.2	×	− 804.0	− 240.1	3,839.0	− 232.0	− 30.8
June	− 72.1	− 100.0	− 82.1	− 127.8	− 148.9	− 397.6	− 680.0	− 196.5	3,218.0	− 125.1	− 30.6
July	− 84.5	..	− 143.3	− 346.7	− 158.7	×	− 606.0	− 294.2	3,694.0	− 153.6	− 35.3
August	− 118.5	..	− 71.3	− 251.2	− 144.0	×	− 887.0	− 65.4	4,549.0	− 89.1	− 18.7
September	..	..	− 97.3	− 380.5	− 152.6	..	− 898.0	− 348.0	4,720.0	− 188.1	..

Source: National sources.

Current Account

USD million

	Bulgaria	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Russia	Slovak Republic[1]	Slovenia
1992	×	×	24.4	235.4	191.4	×	− 269.0	−1,564.0	×	×	926.2
1993	×	455.8	15.8	−2,958.7	428.0	− 85.7	− 2,868.0	−1,174.0	12,792.0	− 601.2	191.9
1994	×	− 786.8	−121.6	−3,300.4	200.8	− 94.0	677.0	− 428.0	8,291.0	664.9	574.8
1995	×	−1,369.1	−102.6	−1,915.1	− 17.9	− 614.4	5,310.0	−1,774.0	7,457.0	391.4	− 74.7
1996	×	−4,121.2	−272.3	−1,339.5	−280.0	− 722.7	− 1,371.0	−2,571.0	11,725.0	−2,098.1	55.5
1997	1,046.3	−3,563.5	−442.5	− 847.8	−346.2	− 981.5	− 4,309.0	−2,137.0	2,032.0	−1,803.9	50.5
1998	− 61.4	−1,385.5	−383.0	−2,020.3	−707.8	−1,298.1	− 6,841.0	−2,968.0	659.0	−2,124.0	−118.0
1999	−651.7	−1,567.1	−245.1	−1,974.9	−635.9	−1,194.1	−11,553.0	−1,469.0	24,731.0	− 979.7	−698.4
2000	−701.6	−2,843.6	−292.1	−1,434.3	−487.7	− 674.8	− 9,952.0	−1,363.0	47,294.0	− 713.0	−547.6
2001	−842.2	−2,654.0	−342.0	−1,247.8	−734.6	− 573.7	− 7,166.0	−2,317.0	34,620.0	−1,755.9	30.9
2001											
July	− 74.8	×	− 16.5	80.7	− 69.5	×	− 305.0	− 45.0	×	− 71.1	17.2
August	84.0	×	− 44.6	181.1	− 63.2	×	− 360.0	− 5.0	×	− 100.5	21.5
September	− 46.0	− 735.4	− 14.2	10.4	− 60.6	− 1.8	− 308.0	9.0	7,250.0	− 174.7	46.3
October	−114.1	×	− 61.5	− 65.6	−122.9	×	− 836.0	− 248.0	×	− 120.3	50.0
November	−155.6	×	− 44.3	− 112.0	−156.3	×	− 418.0	− 277.0	×	− 241.4	18.2
December	−145.5	− 628.8	− 45.1	− 291.5	− 69.0	− 313.9	− 499.0	− 414.0	6,529.0	− 263.2	− 86.7
2002											
January	−130.0	×	− 65.7	− 348.3	− 12.1	×	− 868.0	− 59.0	×	− 84.2	56.0
February	− 49.6	×	− 50.6	− 174.6	− 19.0	×	− 816.0	− 121.0	×	− 83.5	24.7
March	− 52.9	− 430.4	− 78.0	24.4	− 38.8	− 102.4	− 652.0	− 106.0	7,051.0	− 144.7	− 17.4
April	−137.4	×	− 77.7	− 353.7	− 58.6	×	− 634.0	− 257.0	×	− 133.4	− 1.6
May	−100.7	×	− 61.3	− 405.7	− 56.8	×	− 557.0	− 122.0	×	− 316.0	7.7
June	− 5.0	− 554.9	− 38.1	− 379.1	− 71.3	− 289.5	− 429.0	− 244.0	7,828.0	− 105.7	74.3
July	149.1	×	− 88.0	− 213.8	− 70.9	×	− 110.0	− 141.0	×	− 120.1	50.4
August	97.8	×	− 37.5	88.1	− 45.8	×	− 265.0	113.0	×	..	34.7
September	..	..	− 71.2	− 359.2	− 64.0	..	− 538.0	..	6,200.0	..	..

Source: National central banks.
[1]) From 1997: BOP Manual, 5th edition; monthly data: calculated on the basis of cumulative data.

Total Reserves Minus Gold

	Bulgaria	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Russia	Slovak Republic	Slovenia
	End of period (USD million)										
1992	902.2	×	170.2	4,424.7	×	45.3	4,099.1	825.9	×	×	715.5
1993	655.2	3,789.4	386.1	6,700.0	431.5	350.3	4,092.0	995.5	5,835.0	415.6	787.8
1994	1,001.8	6,144.5	443.4	6,735.5	545.2	525.5	5,841.8	2,086.2	3,980.4	1,691.2	1,499.0
1995	1,236.5	13,842.9	579.9	11,974.3	505.7	757.0	14,774.1	1,579.0	14,382.8	3,363.9	1,820.8
1996	483.6	12,351.8	636.8	9,720.2	654.1	772.2	17,844.0	2,102.8	11,276.4	3,418.9	2,297.4
1997	2,111.5	9,733.7	757.7	8,407.9	704.0	1,010.0	20,407.2	3,803.3	12,894.7	3,230.3	3,314.7
1998	2,684.7	12,542.1	810.6	9,318.7	728.2	1,409.1	27,325.2	2,867.4	7,801.4	2,868.8	3,638.5
1999	2,892.1	12,806.1	853.5	10,954.0	840.2	1,195.0	26,354.7	2,687.0	8,457.2	3,370.7	3,168.0
2000	3,154.9	13,019.2	920.6	11,189.6	850.9	1,311.6	26,562.0	3,922.2	24,264.3	4,022.3	3,196.0
2001	3,290.8	14,342.0	820.2	10,727.2	1,148.7	1,617.7	25,648.4	5,441.9	32,542.4	4,141.0	4,330.0
2001											
July	2,757.5	12,941.8	680.8	11,816.5	916.1	1,507.2	26,965.4	4,951.7	32,694.6	3,714.1	3,737.5
August	2,830.6	13,351.1	729.7	12,003.1	912.5	1,491.5	27,523.4	5,227.4	33,685.8	3,818.9	3,634.7
September	2,820.2	13,583.6	766.3	11,980.3	914.1	1,551.3	27,332.5	5,350.3	34,044.0	3,798.4	3,809.3
October	2,932.8	14,649.5	754.2	11,715.3	948.5	1,688.0	27,978.5	5,132.4	34,016.4	3,777.6	3,942.3
November	3,212.3	14,310.6	777.3	11,238.1	1,112.5	1,716.9	25,216.4	5,262.8	33,276.9	4,060.2	4,014.4
December	3,290.8	14,342.0	820.2	10,727.2	1,148.7	1,617.7	25,648.4	5,441.9	32,542.4	4,141.0	4,330.0
2002											
January	2,972.1	14,498.4	800.6	10,104.2	1,139.3	1,638.5	25,400.4	5,316.3	32,316.7	4,371.7	4,272.7
February	2,977.4	14,518.7	788.7	9,657.9	1,121.2	1,758.1	25,454.1	5,349.7	32,768.3	4,316.9	4,511.2
March	2,923.7	14,626.5	858.6	9,588.7	1,129.9	1,683.3	26,053.9	5,425.7	33,179.2	4,399.5	4,521.1
April	3,125.5	16,070.9	839.1	10,035.7	1,130.9	1,745.1	26,196.0	5,437.7	35,024.5	4,496.8	4,780.9
May	3,314.1	20,240.8	859.2	9,765.6	1,133.2	2,104.2	26,435.7	6,352.0	38,495.9	4,537.0	4,941.9
June	3,706.5	21,298.6	914.3	10,149.1	1,145.1	2,289.5	27,099.4	6,256.8	39,848.0	4,420.8	5,384.9
July	3,698.1	21,394.7	892.2	10,048.0	1,129.5	2,043.7	28,285.7	6,520.1	39,563.5	7,200.0	5,314.3
August	3,816.3	22,637.8	979.8	10,122.5	1,203.4	2,080.5	28,332.4	6,709.9	40,596.2	7,192.4	5,378.5
September	3,960.1	22,312.3	924.1	10,099.0	1,229.0	2,094.8	28,183.9	. .	41,887.3	7,544.2	. .

Source: IMF.

Central Government Surplus / Deficit

	Bulgaria	Czech Republic	Estonia[1]	Hungary	Latvia	Lithuania	Poland[2]	Romania	Russia	Slovak Republic	Slovenia[3]
	% of GDP										
1992	− 5.8	−0.2	×	−6.7	−3.0	×	−6.0	−4.4	− 3.4	−2.8	+ 1.2
1993	−11.0	+0.1	−0.4	−5.6	−0.2	×	−2.8	−1.7	− 4.6	−6.2	+ 0.9
1994	− 6.5	+0.9	−0.6	−8.1	−1.9	−1.9	−2.7	−4.2	−10.3	−4.7	+ 0.0
1995	− 6.6	+0.5	+0.3	−5.5	−3.8	−1.8	−2.4	−4.1	− 3.2	−1.5	+ 0.0
1996	−10.8	−0.1	−1.6	−1.9	−0.8	−2.5	−2.4	−4.9	− 4.4	−4.1	+ 0.3
1997	− 3.8	−0.9	+2.2	−4.0	+1.2	−1.0	−1.2	−3.6	− 5.2	−5.2	− 1.2
1998	+ 1.4	−1.6	−1.8	−5.5	+0.2	−1.3	−2.4	−2.8	− 4.2	−2.5	− 0.8
1999	+ 1.7	−1.6	−4.8	−3.0	−3.0	−0.3	−2.0	−2.5	− 1.2	−1.8	− 0.6
2000	− 0.9	−2.3	−0.7	−2.8	−2.8	−1.6	−2.2	−3.6	+ 2.5	−3.0	− 1.4
2001	− 2.0	−3.1	+0.6	−2.8	−1.5	−1.2	−4.5	−3.1	+ 2.9	−4.5	− 1.4
2000											
1st quarter	+ 0.1	+1.9	−0.9	−4.3	−0.9	−2.6	−4.6	−6.5	+ 2.1	−0.4	− 4.1
2nd quarter	+ 7.0	−2.7	−2.2	−1.1	−4.8	−2.0	−2.2	−5.7	+ 4.9	+0.1	− 2.4
3rd quarter	− 3.2	−2.5	+1.9	−0.4	−2.0	−0.6	−2.0	−1.9	+ 2.0	−3.1	− 3.0
4th quarter	− 5.6	−5.5	−1.5	−5.5	−3.3	−1.6	−0.7	−2.5	+ 1.2	−8.7	+ 5.2
2001											
1st quarter	− 1.9	+0.6	+0.2	−1.1	−1.7	+0.3	−9.1	−4.4	+ 2.6	−2.6	− 5.0
2nd quarter	+ 4.2	−6.0	+1.0	−1.3	−0.9	−3.4	−2.2	−5.4	+ 4.0	−3.2	− 5.5
3rd quarter	− 3.7	+1.3	+3.0	−2.3	−0.9	−0.2	−1.7	−2.4	+ 1.8	−3.8	− 0.8
4th quarter	− 1.4	−8.1	−2.7	−5.9	−2.4	−1.5	−5.3	−1.4	+ 3.5	−8.7	+ 6.5
2002											
1st quarter	− 1.0	−2.7	+1.5	−5.0	−0.9	−0.9	−9.6	−4.3	+ 4.7	−6.0	−10.3
2nd quarter	+11.3	+3.0	+2.3	−4.1	+0.3	+0.9	−4.6	+0.0	+ 2.1	−3.8	− 2.9

Source: WIIW; Latvia, Lithuania: national sources; Estonia: national sources from 1996; Russia: IMF; Tacis from 1996. Quarterly data: national sources.
[1] *Including social budget in 1993 and 1994.*
[2] *Since 1998: privatization receipts treated as financing items.*
[3] *General government balance; revised methodology since 1999.*

	Bulgaria[1]	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania[2]	Russia	Slovak Republic[3]	Slovenia
	USD million										
1992	13,805.7	7,762.3	×	21,644.0	×	×	47,044.0	3,240.0	80,200.0	2,981.0	1,741.0
1993	13,836.4	9,604.9	228.0	24,566.0	×	×	47,246.0	4,249.0	112,784.0	3,626.0	1,873.0
1994	11,338.4	12,209.7	381.0	28,526.0	×	529.0	42,174.0	5,563.0	121,600.0	4,310.0	2,258.0
1995	10,148.0	17,190.3	626.0	31,660.0	1,538.0	1,374.0	43,957.0	6,482.1	120,500.0	5,827.0	2,970.0
1996	9,601.6	21,180.5	1,534.0	27,956.0	2,091.0	2,401.0	47,541.0	8,344.9	125,000.0	7,810.0	3,981.0
1997	9,760.2	21,616.5	2,562.0	24,395.0	2,756.0	3,299.0	49,647.0	9,502.7	130,800.0	10,700.0	4,123.0
1998	10,274.0	24,348.4	2,924.0	27,280.0	3,098.0	3,795.0	59,135.0	9,898.6	145,000.0	11,900.0	4,915.0
1999	10,204.0	22,860.6	2,879.0	29,336.0	3,821.0	4,540.0	65,365.0	9,156.0	158,800.0	10,518.0	5,400.0
2000	10,364.0	21,608.3	3,011.0	30,742.0	4,713.0	4,884.0	69,465.0	10,649.4	161,400.0	10,804.2	6,217.0
2001	9,894.0	21,696.0	3,279.0	33,386.0	5,578.0	5,262.0	71,048.0	12,134.8	151,100.0	11,042.5	6,717.0

Source: WIIW; Bulgaria, Estonia, Latvia, Lithuania: EBRD (European Bank for Reconstruction and Development).

[1]) *Gross external debt in convertible currencies.*

[2]) *Medium- and long-term gross debt.*

[3]) *The official level of foreign debt in 1997 was USD 9.9 billion; however, this figure was distorted by an accounting operation.*

	Bulgaria	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Russia	Slovak Republic	Slovenia
	Period average (ATS per 100 units of national currency)[1]										
1992	0.39	×	×	0.12	12.36	5.13	6.68	0.03	×	×	0.11
1993	311.48	0.29	0.65	0.09	12.73	1.98	4.75	0.01	8.59	0.28	0.08
1994	161.83	0.30	0.67	0.08	15.64	2.20	3.85	0.01	3.96	0.27	0.07
1995	147.61	0.37	0.87	0.08	18.80	2.48	4.09	0.005	2.16	0.33	0.08
1996	53.10	0.35	0.78	0.06	17.15	2.36	3.50	0.003	1.83	0.31	0.07
1997	4.87	0.26	0.59	0.04	14.11	2.05	2.50	0.001	1.40	0.24	0.05
1998	4.59	0.25	0.57	0.04	13.70	2.02	2.32	0.001	0.83	0.23	0.05
1999	51.11	2.72	6.39	0.40	160.39	23.47	23.66	0.0061	3.81	2.27	0.52
2000	51.12	2.81	6.40	0.38	178.96	27.14	24.97	0.0050	3.86	2.36	0.49
2001	51.15	2.94	6.36	0.39	177.99	27.94	27.30	0.0038	3.83	2.31	0.46
2001											
July	51.13	2.95	6.57	0.40	181.88	29.06	27.76	0.0040	3.98	2.35	0.46
August	51.13	2.93	6.39	0.40	176.88	27.77	26.16	0.0037	3.79	2.31	0.46
September	51.27	2.92	6.39	0.39	176.50	27.45	26.02	0.0036	3.73	2.30	0.46
October	51.13	2.98	6.39	0.39	176.66	27.60	26.71	0.0036	3.74	2.30	0.45
November	51.13	3.00	6.39	0.40	178.70	28.15	27.50	0.0036	3.78	2.32	0.45
December	51.14	3.07	6.40	0.40	177.05	28.02	27.92	0.0036	3.72	2.32	0.45
2002											
January	51.13	3.12	6.40	0.41	177.49	28.31	27.86	0.0035	3.72	2.36	0.45
February	51.13	3.15	6.39	0.41	178.76	28.94	27.45	0.0036	3.73	2.37	0.45
March	51.12	3.19	6.39	0.41	178.41	28.98	27.56	0.0035	3.68	2.38	0.45
April	51.10	3.29	6.39	0.41	177.24	28.92	27.81	0.0034	3.62	2.40	0.44
May	51.17	3.27	6.39	0.41	173.94	28.85	26.96	0.0033	3.49	2.33	0.44
June	51.13	3.30	6.38	0.41	169.97	28.84	26.01	0.0031	3.33	2.25	0.44
July	51.13	3.36	6.39	0.41	167.72	28.97	24.48	0.0031	3.20	2.25	0.44
August	51.12	3.25	6.39	0.41	169.04	28.97	24.47	0.0031	3.24	2.27	0.44
September	51.10	3.31	6.39	0.41	168.53	28.97	24.57	0.0031	3.33	2.33	0.44
October[2]	51.38	3.26	6.39	0.41	168.01	28.97	24.73	0.0031	3.22	2.39	0.44

Source: IMF.

[1]) *In Austrian schillings up to December 31, 1998; in euro as of January 1, 1999.*

[2]) *Source: OeNB; Russia: OeNB, end of period.*

Official Lending Rate[1]

	Bulgaria[2]	Czech Republic[3]	Estonia	Hungary[2]	Latvia[2]	Lithuania[2]	Poland[4]	Romania[4]	Russia[2]	Slovak Republic[4]	Slovenia[4]
	End of period										
1992	41.00	×	×	21.00	120.00	×	32.00	70.00	80.00	9.50	25.00
1993	52.00	×	×	22.00	27.00	×	29.00	70.00	210.00	12.00	18.00
1994	72.00	×	×	25.00	25.00	×	28.00	58.00	180.00	12.00	16.00
1995	34.00	11.30	×	28.00	24.00	×	25.00	35.00	160.00	9.75	10.00
1996	180.00	12.40	×	23.00	9.50	×	22.00	35.00	48.00	8.80	10.00
1997	6.70	14.75	×	20.50	4.00	13.00	24.50	40.00	28.00	8.80	10.00
1998	5.10	9.50	×	17.00	4.00	13.00	18.25	35.00	60.00	8.80	10.00
1999	4.50	5.25	×	14.50	4.00	13.00	19.00	35.00	55.00	8.80	8.00
2000	4.60	5.25	×	11.00	3.50	9.60	21.50	35.00	25.00	8.80	10.00
2001	4.70	4.75	×	9.75	3.50	7.80	14.00	35.00	25.00	8.80	11.00
2001											
July	4.63	5.25	×	11.30	3.50	7.00	18.00	35.00	25.00	8.80	11.00
August	4.84	5.25	×	11.30	3.50	7.70	17.00	35.00	25.00	8.80	11.00
September	4.85	5.25	×	11.00	3.50	7.00	17.00	35.00	25.00	8.80	11.00
October	4.71	5.25	×	10.80	3.50	6.90	15.50	35.00	25.00	8.80	11.00
November	4.88	4.75	×	10.30	3.50	7.60	14.00	35.00	25.00	8.80	11.00
December	4.73	4.75	×	9.80	3.50	7.80	14.00	35.00	25.00	8.80	11.00
2002											
January	4.87	4.50	×	9.00	3.50	6.90	12.00	35.00	25.00	7.75	9.00
February	4.62	4.25	×	8.50	3.50	7.30	12.00	34.60	25.00	7.75	9.00
March	4.50	4.25	×	8.50	3.50	6.70	12.00	34.20	25.00	7.75	9.00
April	3.98	3.75	×	8.50	3.50	4.90	11.00	34.10	23.00	8.25	10.00
May	3.98	3.75	×	9.00	3.50	5.40	10.50	32.20	23.00	8.25	10.00
June	3.76	3.75	×	9.00	3.50	7.40	10.00	30.60	23.00	8.25	10.00
July	3.72	3.00	×	9.50	3.50	5.70	10.00	28.30	23.00	8.25	10.00
August	3.84	3.00	×	9.50	3.50	7.30	9.00	27.20	21.00	8.25	10.00
September	3.80	3.00	×	9.50	3.00	6.50	8.50	25.60	21.00	8.25	10.00
October	..	3.00	×	9.50	3.00	7.10	7.75	23.80	21.00	8.00	10.00

Source: WIIW; Latvia, Lithuania: national sources.

[1] *Due to currency board arrangements, the Bank of Estonia and the Bank of Lithuania do not lend to the government or to enterprises. Therefore these two countries do not define or publish discount rates. On October 9, 1997, the Bank of Lithuania introduced an "official lending rate": a weighted average rate on domestic currency lending to residents.*
[2] *Refinancing rate.*
[3] *Discount rate.*
[4] *Repo rate.*

Legend

. . = not available
x = not applicable
_ = new series

Discrepancies may arise from rounding.

Abbreviations

BOFIT   Bank of Finland Institute for Economies in Transition
CEB   Central Eastern Europe and the Baltic states
CEE   Central and Eastern Europe
CEECs   Central and Eastern European countries
CEFTA   Central European Free Trade Agreement
CIS   Community of Independent States
CPI   consumer price index
EBRD   European Bank for Reconstruction and Development
ECB   European Central Bank
EIB   European Investment Bank
EMU   Economic and Monetary Union
ERM II   Exchange Rate Mechanism II (EU)
ESA   European System of National Accounts
ESCB   European System of Central Banks
EU   European Union
EUR   euro
Eurostat   Statistical Office of the European Communities
ECB   European Central Bank
FDI   foreign direct investment
GDP   gross domestic product
GKO   Gosudarstvennye kratkosrochnye obyazatelsva;
    Russian short-term treasury bills
IHS   Institute for Advanced Studies
IMF   International Monetary Fund
IPO   initial public offering
JVI   Joint Vienna Institute
MFI   monetary financial institution
NCB   national central bank
OECD   Organisation for Economic Co-operation and Development
OeNB   Oesterreichische Nationalbank
PPI   producer price index
PPP   purchasing power parity
SEE   Southeastern Europe
SGP   Stability and Growth Pact
SME   small and medium-sized enterprise
SDR   Special Drawing Right (IMF)
UNECE   United Nations Economic Commission for Europe
VAR   Vector Autoregressive model
WIFO   Österreichisches Institut für Wirtschaftsforschung –
    Austrian Institute of Economic Research
WIIW   Wiener Institut für internationale Wirtschaftsvergleiche –
    The Vienna Institute for International Economic Studies