PREPARITY

**Strukturpolitik und Raumplanung
in den Regionen an der mitteleuro-
päischen EU-Außengrenze zur Vor-
bereitung auf die EU-Osterweiterung**

Peter Mayerhofer, Gerhard Palme
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Macroeconomic Developments in the Candidate Countries with Respect to the Accession Process

Summary study of a IIASA-ETI research project subcontracted for WIFO's assignment in the PREPARITY project

Subproject 2

Edited by János Gács (IIASA)

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1. Introduction

Political and economic transformation since 1989-1990 in the former communist countries of Central and Eastern Europe has had a complex impact, not only on those countries' economies and societies, but also on other countries in the European region and beyond. As ten transition countries prepare for membership in the European Union (EU), it is evident that incumbent members, particularly the most affected border states, are concerned with the likely impacts of the accession process on themselves. Precisely this interest has given rise to a comprehensive international research project known as PREPARITY, which is sponsored by the European Commission's INTERREG II C initiative.

PREPARITY stands for Structural Policy and Spatial Planning in the Regions along the Borders of Central and East European Countries in Preparation for the Eastern Enlargement of the EU. It is a collaborative research project between German, Italian, and Austrian research institutes. Out of the 16 sub-projects of PREPARITY, the second in line deals with macroeconomic developments in the candidate Central and East European countries (CEECs), with a view to laying down a foundation for the later sub-projects. The present study is the outcome of this second sub-project. The work was commissioned by the Austrian Institute of Economic Research (WIFO), and prepared by an international research team at the International Institute for Applied Systems Analysis (IIASA) in Laxenburg, Austria.

The aim of the study is to investigate likely macroeconomic developments in the ten East European candidate countries through 2010, based on two distinct scenarios: one that assumes accession for the relevant country to the EU in 2005, and another that assumes that it will not accede to the EU before 2010 (the status quo scenario). Of the ten candidate countries, five were selected for detailed analysis: Poland, the Czech Republic, Slovakia, Hungary and Slovenia, the countries that are adjacent to the core of the EU. The other five candidate countries (Romania, Bulgaria, Estonia, Latvia, and Lithuania) are also covered, but only briefly and much less profoundly.

In order to assess the prospects for economic performance in the candidate countries, section 2 of this study analyzes the main patterns of macroeconomic development since the start of the transition. In section 3, the country-specific aspects of the transformation are described. The fourth section is devoted to an attempt to estimate transition countries' long-range growth paths, taking into account both factors that play pivotal roles during the transition period, and the more general ones that will characterize the growth process once transition is over. In order to provide a basis for the development of future growth scenarios, section 5 begins with the general evaluation of the likely impact of accession on the CEECs as new EU members and goes on to provide country forecasts under various scenarios. Finally, section 6 summarizes the study's results and overall lessons.

Since this research project was elaborated under very strong time pressure (preparation of the country studies and summarizing their results took place from May to October 1999), the study was carried out in a decentralized manner. Country specialists who are also experts in international trade and integration issues were requested to prepare their respective country studies based on relatively loose central guidelines. The result is a study based on strong country-specific expertise and

familiarity with transition and integration issues, employing a variety of methodologies to assess the rather elusive impacts of accession and non-accession for the development of the candidate countries up to 2010. Although the heterogeneity of the methodologies used by the various authors may make the country studies less comparable than they would otherwise be, it also highlights the fact that there is as yet no single accepted way of assessing the impact of accession on new members. Following the presentation of the present report, the country studies – each of which is 30-60 pages long – will be published as IIASA Interim Reports.

2. General Patterns of Transition in 1989-1999

2.1 Developments

At the beginning of the political and economic transition, the relevant macroeconomic issues and the patterns of major economic developments were basically similar across the candidate CEECs[1]. This was due to the similarity of the economies' starting positions (a centrally planned economy, in its orthodox or reformed form), similar external effects in the first period of transition (the demise of the Council for Mutual Economic Assistance or CMEA, as well as the collapse of the Soviet Union and Yugoslavia; improving relations with the EU and with the Western world in general), and the similarity of their reform agendas. The latter, a body of ideas which in most cases has become self evident for local policy makers, has diffused fast in the region due to the efforts of the international financial institutions (IFIs) and of numerous advisers and researchers. The agenda included stabilization, liberalization, marketization (including privatization and institution building) and the ensuing microeconomic restructuring.

Early departures from the general patterns could be seen in new countries, especially in those where the start of the transition and the birth of the new country coincided (i.e., in Estonia, Latvia, Lithuania, and Slovenia), or the latter soon followed the former (the successor states of Czechoslovakia, particularly Slovakia). Here the general agenda of political reforms had to be complemented with the building of national institutions, including systems of democratic representation, justice, security, and international relations, while economic reforms had to be complemented with the establishment of such economic institutions as the central bank, a new currency, customs bureaus, and so on.

Ex post, however, the main dividing lines among the CEECs seem to lay between the CEEC 5 (the Czech Republic, Hungary, Poland, Slovakia and Slovenia), the three Baltic states, and the South 2 countries (Bulgaria and Romania).

As indicated above, the key first steps of transformation and the first external impacts were similar: liberalization (including both price and external liberalization) and stabilization, on the on hand, and tackling the breakdown of CMEA relations, the Soviet Union, and Yugoslavia (where applicable), with its depressive impact on output, on the other.

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[1] Here and in the whole study we will use the abbreviation CEECs for the ten East European candidate countries of the EU, i.e., Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia.

After price liberalization, the economies had to endure the one-time inflationary effects of the monetary overhang inherited from the time of repressed inflation. If the authorities had pursued economic policies that aimed at cushioning the effects of this inflationary shock, the inflationary pressures could have become more or less permanent. Trade liberalization was in almost all cases (here the exception is Hungary) associated with a substantial devaluation of the exchange rate (whatever the exchange rate meant in the old system), a move that, if taken without properly predicting its effects and devising appropriate accompanying fiscal, monetary, and incomes policies, was bound to further fuel inflation. While inflation has become enemy number one of macroeconomic management in recent years, one has to acknowledge that the secular realignment of relative prices in the first period of transition would not have been possible without the inflationary experience of the early 1990s.

As Table 2.1 and Figure 2.1 indicate, the emergence of inflationary pressures and the moderation of price increases were more or less smooth and continuous in the CEEC 5; inflation started off wildly but moderated fast in the Baltic 3; while the disinflationary phase turned out to be long, and burdened by setbacks in the South 2. (Here and in the next table, shaded numbers indicate a switch-back in the processes of disinflation and output recovery, respectively. The frame at the beginning of the time-series indicate the approximate starting year of the transition process in the individual countries.)

The countries have applied a great variety of exchange rate regimes in the transition period (some of them have changed these regimes several times), partly in support of the disinflationary process. The most rigid exchange rate and monetary system has been the currency board arrangement applied in Estonia and Lithuania (since 1992 and 1994, respectively) and in Bulgaria (since 1997), while the least rigid was the managed floating system adopted first by Slovenia. Wyplosz (1999) argues that the role of these regimes has probably been overemphasized in policy discussions: exchange rate regimes were only part of an integrated macroeconomic strategy, and the exchange rate regime, if taken in isolation, has proved irrelevant. In an inflationary environment, some sort of monetary targeting was needed, and it was more crucial that the policy adhered to the target, but less crucial which target was selected for this purpose.

Various factors contributed to the unexpectedly severe output decline: the most important were the breakup of CMEA and intra-USSR relations, the austerity impacts of stabilization policies, the breakup of old inter-enterprise relations, and the slow adjustment of supply to new demand (see Bruno, 1992, Holzmann, Gács, and Winckler, 1995 and Rosati, 1994). Subsequently, government policies in the region were preoccupied with the tasks of mitigating the detrimental effects of the declines in output and employment and developing policies to revive economic activity.

As Table 2.2 shows, after an average of three years of output decline, all countries achieved positive growth rates; this was true for a sustained period for all countries except the South 2. In recent years, the Czech Republic has fallen into recession due to structural factors, and all countries have experienced substantially lower rates of growth as a consequence of the direct and indirect effects of the Asian and the

Russian crises and the Balkan war. Two Baltic countries will probably show negative growth in 1999. Figure 2.2 shows marked differences among the three groups of countries in terms of the cumulative decline in output. By 1998-1999, the CEEC 5 have already reached their pre-transition level of development; the Baltic 3, while showing a more or less continued recovery, could not make up for the huge output decline that they, like all other former Soviet republics, suffered at the beginning of the transition. (On the other hand, the initial level of GDP may have been inappropriately measured in the Baltic states and, accordingly, the drop in output in the early 1990s shown on the figure may be exaggerated). The South 2 suffered a mildly stronger drop of output than the CEEC 5, but their recovery has been severely impeded in the most recent years.

One of the factors pulling countries out of recession was exports: while disinflationary policies were pursued in order to keep domestic demand under control, producers in many transition economies made every effort to increase the utilization of their capacities by expanding their exports, mostly toward more liquid, although more demanding, Western markets. As Figure 2.3 shows, exports from the CEEC 10 doubled in eight years in current USD terms. This is a seemingly spectacular result, particularly at a time when GDP declined by more than 10 percent on the average for the ten countries. However, one has to deduct (qualitatively, a detailed quantitative calculation being impossible) the impact of the creation of new countries, which resulted in the transformation of former intra-country deliveries to international trade. Partly due to this distorting factor, one does not see clear tendencies on Figure 2.4 (growth of exports in the three country groups), other than the following two: (i) the South 2 suffered an unusually strong drop in exports at the beginning of the transition period (due to unsustainable export levels inherited from the past, although for different reasons in Bulgaria and Romania); (ii) there was a relatively strong negative impact of the Russian crisis and the Balkan wars on the Baltic 3 and the South 2 at the end of the period.

The fiscal system has also gone through major transformations. Following the commercialization and privatization of state-owned enterprises, fiscal policies could no longer rely on the direct and discretionary collection of revenues from such enterprises (mostly in the form of turnover taxes). Instead, the new fiscal system began to apply a transparent system of taxes to firms and individuals, as well as to the sale of products and services, with the main emphasis on individual income taxes and value-added taxes (VAT). On the expenditure side, the task was to establish a system whereby, contrary to the ways of the centrally planned system, direct financing of enterprises and individuals, as well as of the prices of products and services through subsidies, became the exception rather than the rule.

The structural rearrangement of the budget was related not only to the need of transition to the market, but also to dampen inflationary pressures. One of the basic sources of high inflation in transition economies, the rapid increase of money supply, was due to fiscal imbalances. In order to consolidate the fiscal situation, governments in transition economies had to cut government expenditures on investment, and on goods and services (health care, education, and public administration), as well as social transfers, except for a newly emerging significant item, unemployment compensation. An additional channel for consolidating the fiscal situation was the reduction of quasi-fiscal deficits, mainly cheap credits to enterprises from state banks.

The agenda for restructuring the budget was much more complex, depending on old commitments, demography, and political developments, than the task of, say, inflation moderation. This is why the results in this field are very diverse across the CEECs. To mention only one example: the introduction of the value-added tax was one of the first items on the reform agenda in Hungary in 1987, while Slovenia, a country also preeminent in early reforms, waited to take this step until 1999. Due to different definitions and measurement techniques, budgetary developments are extremely difficult to compare across countries. Accordingly, we provide only one table (Table 2.3) for illustration of the diversity of developments among the CEECs.

Table 2.3 shows that there has been a certain tendency to reduce the ratio of government expenditures to GDP, particularly in the South 2, and less so in CEEC 5, while the Baltic countries show an ambiguous picture in this respect.

Similarly diverse developments can be read from the figures on unemployment (Table 2.4), partly due to differences in measurement, and partly due to the diversity of the structure of labor markets and social systems, and the importance of the hidden economy. There does not seem to be much difference between the CEEC 5 and the South 2, while the Baltic countries show significantly lower levels of unemployment The picture is particularly inconclusive with respect to the relationship between unemployment and other macroeconomic variables. For instance, if one compares Poland, the best performer in terms of growth (it had achieved 121 percent of its 1989 GDP level in 1999) and Romania, one of the worst (at 72 percent of its 1989 GDP level in 1999), one cannot detect any difference in terms in levels of unemployment. Double-digit unemployment in well performing economies shows that there is a high risk of hysteresis in the transition process.

2.2 Policies

In the early years, literature about the lessons of transition in the 25-27 transition economies focused on the merits of early and bold stabilization for making progress in the reform process (see for instance Åslund, Boone, and Johnson, 1996, and Fischer, Sahay, and Vegh, 1996). In subsequent years, the progress of structural policies (as proxied by the so-called index of liberalization and privatization calculated by the World Bank and the EBRD) has been found to be an important factor in the variation in performance of transition economies (see, e.g., de Melo, Denizer, and Gelb, 1996). In the most recent years, partly as a response to critiques by representatives of the evolutionary approach to the transition process, econometric analyses have attempted to systematically take into account the initial conditions, on the basis of which the former centrally planned economies embarked on the venture of transition to the market (see for instance de Melo, Denizer, and Gelb, 1997, and Berg *et al*., 1999).

It is not surprising that the latest and most comprehensive analyses (such as Wyplosz, 1999, and Berg *et al*., 1999) have found that macropolicies were crucial in the early years of transition for inflation stabilization and for establishing the fiscal balance. In this sense, such policies were prerequisites for the recovery of growth. However, the

main force behind the variation in the decline of output was favorable or unfavorable initial conditions.

In table 2.5 we summarize the initial conditions which are usually taken into account in comparative analyses (see, e.g., de Melo, Denizer, and Gelb, 1997). In general, it is assumed that the more developed was a country (conditions 1 and 2), or the better results it managed in the last years of central planning (condition 4), the better initial position it achieved for the transition process. Over-industrialization (condition 3), however, was a disadvantage, because it indicated an excessive unusable industrial capacity and the underdevelopment of services. Bad location (a country in a landlocked position and/or lacking a thriving market economy as a neighbor) was a disadvantage, as were distortions such as high repressed inflation and a high black market premium on the exchange rate before transition started (conditions 5, 6, and 7). The additional efforts needed to establish a new state are represented by condition 8, while condition 9 represents the extent of reliance on CMEA trade or on deliveries to/from those parts of the original federal state which after the dissolution thereof became foreign trading partners for the country. Condition 10 represents market memory (or the lack of it), while condition 11 shows which countries embarked on transition with excessive external indebtedness, which limited their choices of macroeconomic policies in the crucial initial phase of transition.

While in sophisticated econometric models (such as de Melo, Denizer, and Gelb, 1997, and Berg *et al*., 1999), the impact of initial conditions along with those of other factors is investigated for a large set of countries, here we only illustrate the strength of these conditions, and for the ten candidate countries only. The shaded areas in each column indicate particularly unfavorable positions. In the last column we also made a simple addition of these bad positions ("bads") to illustrate the cumulative strength/weakness of the starting positions. This simple exercise shows that both the South 2 and the Baltic 3 were particularly unfavorably positioned compared to the countries of CEEC 5. All the more interesting is the exceptionally good performance of Estonia, Latvia and Lithuania, an achievement already referred to in the literature as the "Baltic puzzle."

In large sample analyses (again de Melo, Denizer, and Gelb, 1997, and Berg *et al*., 1999 are good examples) the initial conditions were, as a rule, found responsible for the variation in the decline of output in the early years of transition (particularly for explaining the severe drop of output in the former Soviet Union; FSU); they were found, however, unimportant in explaining the variation of output in the recovery phase. At that stage, structural policies become of pivotal importance.

Structural policies or microeconomic policies are a complexity of changes with a high demand for institution building and the necessity to face policy conflicts. They include establishing property rights, hardening the budget constraints of the firms, establishing a healthy banking system, and creating and maintaining true competition on the domestic markets. The importance of these policies was frequently overlooked in the early phases of the transition. This is why, for instance, the progress of the Czech Republic was evaluated very positively until 1997, on the basis of its monetary and fiscal rigor, while at the same time Hungary was criticized solely on the basis of seemingly poor macroeconomic management. Few analysts noticed that Hungary, through its model of privatization emphasizing strategic investors, its radical

bankruptcy regulation, as well as debtor and bank consolidation programs, started its microeconomic reforms early, while the Czech approach was characterized by complacency and time-wasting. These differences in pursuing structural policies are probably responsible for the change in the fortunes of the two countries in 1997-1999 (c.f., Wyplosz, 1999).

3. Country Experiences

In this section brief accounts are provided on macroeconomic developments in the individual countries, with the emphasis on the specific features of developments and policies in the given economies.

3.1 Poland

Since the beginning of market transformation in 1989, the Polish economy has gone through the same pattern of transition as the more advanced transition economies: from a deep recession combined with large macroeconomic imbalances, to macroeconomic stabilization, and eventually to recovery and growth. Compared with other economies in the region, the "transformational recession" (Kornai, 1993) in Poland was relatively mild and short, and the subsequent recovery has been strong and broadly based. After two years of recession, output started to grow already in 1992, and by 1998 the level of GDP was 17 percent higher than in 1989, by far the best performance of all transition countries. Table 3.1 shows macroeconomic indicators for Poland for the period 1989-1998.

Since 1992, economic growth has been consistent and without reversals, contrary to what has happened in certain other transition economies. Only in the last quarter of 1998 and the first quarter of 1999 was a significant slowdown observed; this was caused mainly by a fall in exports due to the combined impacts of the East Asian and Russian crises.[2] But preliminary data for the second and third quarters of 1999 show a renewed acceleration of output.[3]

Economic growth in Poland has been generally broadly based, with the service sector and most of manufacturing industries developing at a particularly rapid pace. The sources of growth have evolved over time: a revival of domestic demand connected chiefly with the rapid development of the private sector in 1992-1993 was the main impulse for the initial recovery, reinforced later by strong export expansion in 1994-1997. Since mid-1998, export growth has fizzled out and domestic demand, including

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[2] The Russian financial crisis hit Polish exports directly, as export sales to Russia dropped by 75 percent between August and September 1998, and have remained broadly flat since then. With the share of Russia in Polish exports about 8 percent, and with other CIS states also affected by the crisis (chiefly Ukraine and Belarus) accounting for another 5-6 percent of Polish exports, the combined loss in terms of unrealized gross export earnings is estimated at about $1 billion in 1998 alone. The impact of the East Asian crisis, by contrast, worked indirectly through its adverse effects on demand growth in the EU. Given the considerable slowdown in the growth of import demand in the EU from 8.5 percent in 1998 to some 4 percent in 1999, and the dominant share of the EU in Polish exports (65 percent in 1998), the strong negative implications of the East Asian crisis for the Polish economy are indisputable.

[3] The rate of GDP growth increased from 1.5 percent in the first quarter of 1999 to 3.2 percent in the second quarter. Statistics on industrial output suggest a further acceleration of growth to some 4 percent in the third quarter.

consumer expenditures and the rebuilding of stocks, has become the main source of output growth.

There are several important characteristics of economic growth in Poland after 1992. The first has been the strong reliance on imports and the resulting (growing) gap between the rate of growth of demand and the rate of growth of output. The difference (absorption – output) increased from 0.3 percent of GDP in 1995 to 3.5 percent in 1996, prompting the authorities to take restrictive policy measures aimed at cooling domestic demand and bringing it more in line with the growth of output. The gap was reflected in a huge (registered) trade deficit that increased from $4.6 billion in 1994 and $6.2 billion in 1995 to $12.8 billion in 1996 and $16.6 billion in 1997. The high structural import-intensity of the Polish economy can partly be explained by the specific structure of FDI, oriented mainly towards supplying the domestic market rather than exports, but heavily relying on imported inputs (e.g., car manufacturing or financial services). The tendency for domestic demand to grow at a faster rate than output weakened somewhat after 1996, responding to higher interest rates and a tightened budget (the gap between absorption and output declined in 1998 to 1.8 percent of GDP). But more recent data suggest that the gap is likely to persist in the medium term.

Rapid growth after 1994 has not, however, been associated with an equally rapid decline in registered unemployment. Statistical analysis of the observed relationship between output growth and unemployment changes for the period 1991-1999 demonstrates that unemployment falls only when the annual growth rate of GDP exceeds 4.7 percent. Moreover, an increase in the growth rate of 1 percentage point is associated with a fall in the unemployment rate of half a percentage point.[4] These estimates indicate that the process of reducing unemployment in Poland will necessarily be slow. Simple extrapolation suggests that at an average GDP growth rate of 5 percent p.a., it will take at least 25 years to cut unemployment in half.

Another important characteristic of macroeconomic performance has been the persistence of inflation. Compared to other countries that went through high inflation episodes (e.g., the Baltic countries and Slovenia among the ten candidate countries), disinflation in Poland has been slow and sometimes hesitant. In 1991-1992, the key inflationary factor was the high budget deficit, while in the following years, and especially in 1995-1997, inflation was fuelled mainly by cost factors, including crawling devaluations of the zloty and rapidly increasing money supply due to large inflows of international reserves. On the other hand, however, rapid increases in the nominal money supply may have to some extent helped to sustain economic growth. A more decisive anti-inflationary policy course started in 1997.

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[4] A simple regression equation of the form:

$$dU = a + b* \, rGDP$$

has been estimated for annual observations for the period 1991-1999. The results obtained are as follows (t-statistics in brackets):

$$dU = 2.57 - 0.55*rGDP$$
$$(5.25) \quad (-5.99) \qquad R^2 = 0.84$$

The equation suggests that (a) at a zero growth rate, unemployment increases by 2.57 percent, and (b) for unemployment not to increase the rate of economic growth must be at least 4.67 percent p.a.

Finally, it is important to underline the steady improvement in the fiscal stance. After a near-collapse of the state budget in 1992, the position of public finances has been improving gradually as a result of structural reform of the tax system, strengthened fiscal discipline, and (last but not least) economic growth. The budget-deficit-to-GDP ratio has been falling since 1992 (see Table 3.1), which also helped to reduce the rate of growth of public debt. The foreign debt restructuring operation with Paris Club and London Club creditors carried out in 1992-1994, and the disciplined stance of fiscal policy, allowed for a reduction of the ratio of public debt to GDP to less than 47 percent at end-1998. Both the size of budget deficit and the proportion of public debt to GDP are now within the Maastricht criteria for financial convergence.

3.2 Czech Republic

Two major economic and political events in the Czech Republic have crucially influenced recent macroeconomic developments in the Czech Republic: first, the start of economic reforms in 1990 and 1991 and, second, the dissolution of Czechoslovakia in 1993.

Until the dissolution, the economies of the two republics were to a large extent subjected to centralized economic policies, both before and after the collapse of communism and central planning in 1989. The reform program implemented in 1991 and 1992 also followed a centralized scenario, without much differentiation in policies implemented in the two republics, although the effects of the reforms were rather asymmetric. This high degree of initial centralization of economic policies, along with the considerable interdependence of the Czech and Slovak economies, were the important factors underlying macroeconomic developments in the two countries since the collapse of communism.

The economic relationship between the Czech Republic and Slovakia before the disintegration of Czechoslovakia was characterized by two important features: (i) high degree of economic interdependence, in particular via Czech-Slovak trade; and (ii) the dependence of Slovakia on the transfer of resources from the Czech Republic. Strangely, the actual size of the transfers was never disclosed, and any attempt to estimate the transfers is made difficult by the centralization of tax collection and the opaqueness of government finances in the former Czechoslovakia.[5] The transfers probably increased in the early 1990s in response to the asymmetric effects of the reforms, with important effects on macroeconomic developments in the Czech and Slovak Republics.[6]

Unlike other socialist countries, Czechoslovakia was not hit by major macroeconomic imbalances or severe shortages of basic commodities in late 1980s. In fact, the

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[5] One such attempt is Krovak and Zamrazilová (1990), whose results are also reported in Dedek (1996). According to their estimates, the average transfer was some 14 percent of Slovak disposable national income during the 1950s and 1960s, and 10 percent during the 1970s and 1980s. However, their methodology probably overestimates the size of the transfer. In particular, they disregard the effects of Czech-Slovak bilateral trade and borrowing by the federal government, and attribute the lion's share of the contribution of Czechoslovak foreign trade to Czech national income. See also the discussion in Fidrmuc, Horvath, and Fidrmuc (1999), section 4.

[6] Fidrmuc, Horvath, and Fidrmuc (1999) discuss the causes of the break-up and some of its implications.

economy grew at a respectable average rate of 2.1 percent between 1981 and 1990 (IMF 1999). Open unemployment and inflation were almost non-existent. Czechoslovakia was also a relatively advanced, industrialized economy. On the other hand, compared to Poland and Hungary, Czechoslovakia was more dependent on trade with the former Soviet Union and the CMEA. As late as in 1991, 35 percent of Czech exports went to the former CMEA (including the Soviet Union), whereas this figure was only 19 percent for Poland and Hungary (Fidrmuc and Fidrmuc, 1997, p. 194). Moreover, unlike some other socialist countries, private enterprise was all but unknown in Czechoslovakia prior to 1989.

The economic reforms in former Czechoslovakia started in earnest in January 1991, more than a year after the collapse of the communist regime made them possible. The reform followed a centralized and standard "scenario," with main elements being the restrictive fiscal and monetary policies, a large initial devaluation followed by a fixed exchange rate regime, the introduction of current-account convertibility, and the liberalization of price setting. A specific Czechoslovak feature was the fast pace of privatization, with the emphasis on the voucher method.[7] Despite the centralized approach, the effects of the reforms were largely asymmetric in favor of the Czech Republic. Here the transformational recession hit later, was much shallower (by a cumulative 10 percent of GDP), and smoothed out earlier than in the Slovak Republic. The break-up of Czechoslovakia negatively affected both republics. Šujan and Šujanová (1994) estimate that the break-up reduced Czech GDP growth by 2.2 percentage points during the first half of 1993.[8] Overall, the Czech economy stagnated, with GDP increasing by 0.6 percent.

Following stagnation in 1993, growth resumed in 1994. After sustaining growth for several years, the Czech economy turned out to be in need of further reforms and austerity measures. The government covertly accumulated sizeable debts even though it officially reported fiscal surpluses. One way this covert debt accumulated was by transferring bad loans from major banks to the state Consolidation Bank. The much hailed voucher privatization program eventually failed to create effective ownership structures. Enterprise restructuring was delayed, as owners and/or managers found it more profitable to divert assets for personal gain. The absence of restructuring was evident particularly in the extremely low unemployment rate.

When Prime Minister Klaus publicly proclaimed in 1995 that the transition was over, the trade unions responded by pushing for rapid real wage growth. Rising incomes, fiscal expansion, and the real appreciation of the currency led to a widening current-account deficit. After reporting a current-account surplus in 1993 of 1.3 percent of GDP, the current account ended in deficit of 2 percent in 1994, 2.7 percent in 1995, 7.6 percent in 1996, and 6.2 percent in 1997. While the current-account deficit was more than compensated for by a surplus on the capital-account until 1997, much of the inflow was speculative capital, vulnerable to external contagion or any shift in domestic developments.

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[7] For a detailed account of the reforms, see Dyba and Svejnar (1994).
[8] The overall decline was 0.5 percent, the other factors that they identify and their contributions were as follows: world recession (-2.1 percent), inflow of FDI (+2.7 percent), export growth (+3.1 percent), restrictive fiscal policy (-1.3 percent), and other factors (-0.2 percent).

In 1997, in the wake of the Asian and Russian crises, the Czech Republic experienced a substantial outflow of portfolio investment, which in turn precipitated the Czech currency crisis. The fiscal deficit also deteriorated, albeit not so dramatically: after reporting surpluses of under 1 percent of GDP in 1993-1995, the deficit gradually deepened to reach 1 percent in 1997 and 1.6 percent in 1998.

The gravity of the economic situation was fully realized in 1997, following the currency crisis in May 1997 (see Begg, 1998). GDP growth slowed in 1997 and the economy entered recession in 1998. Only after the shock of the currency crisis and the subsequent fall of the government has it become clear how much of a "structural deficit" was accumulated by 1997 in the form of poor corporate governance, loss-making and vulnerable large companies and banks, and delays in privatization and corporate restructuring. Since the disclosure of these deficiencies, structural changes are taking place, albeit at a slow pace partly due to weak interim and minority governments.

The Czech Republic has been rather successful in keeping inflation under control compared with the other transition countries. Price liberalization in 1991 was followed by a one-time increase in the price level, and subsequently inflation remained at around 10 percent, except for 1993, when after the introduction of the VAT, inflation increased to 21 percent.

A peculiar aspect of the Czech transformation has been the evolution of unemployment rates, which, starting from virtually zero, peaked at 4.1 percent in 1991 and remained very low until the 1997 crisis and subsequent austerity measures, which pushed the unemployment rate to a "normal" 7-9 percent.[9]

Czech exchange rate policy has been characterized by strong emphasis on exchange rate stability. The Czech Republic kept its exchange rate fixed from January 1991 until it was forced to float the koruna in May 1997. This policy led to a substantial gradual real appreciation of the Czech currency, with accompanying deterioration of competitiveness and worsening current account balances. The decision to float the currency has improved the situation somewhat, but the bias toward currency stability on the part of the Czech National Bank and the government persists. The koruna depreciated by 21 percent against the U.S. dollar and by only 8 percent against the Deutsche mark between March 1997 and July 1999.

The Czech economy, like most small economies, is strongly dependent on foreign trade. However, the policy of a fixed exchange rate along with continuing moderate inflation led to real appreciation of the currency and subsequently a trade deficit. The devaluation following the de-pegging of the Czech currency and the austerity package implemented in 1997 curbed imports and encouraged exports. Nonetheless, falling domestic demand, both public and private, had led the economy into recession by 1998 (see Figure 3.1).

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[9] The potential causes of the differences in unemployment between the Czech Republic and Slovakia are explored by Ham, Svejnar, and Terrell (1998). They find that about one-half of the difference in unemployment duration is explained by differences in demographics and demand conditions. The remainder can be attributed to differences in labor market efficiency, institutions, and so on.

3.3 Slovak Republic

In Slovakia, as in the Czech Republic, macroeconomic developments have been crucially affected by the start of economic reforms in 1990 and 1991, and the dissolution of Czechoslovakia in 1993. The reform program, as did policies before 1990, followed a centralized scenario, without much differentiation in the policies implemented in the two republics.

As indicated above, the Slovak part of Czechoslovakia was the beneficiary of the federal transfer system both before the political changes started and thereafter. According to estimates by Hajek *et al*., the net transfer amounted to 1.5, 2.6, and 4.4 percent of Slovak GDP in 1990, 1991, and 1992, respectively. OECD (1994) put the estimate for 1992 even higher, at 8 percent of Slovak GDP. Hence, the transfers were far from negligible, and their elimination after Czechoslovakia broke up in 1993 had important effects on macroeconomic developments in the Slovak Republic.

There were important differences in the industrial structures of the two republics, particularly at the disaggregated level. In particular, large parts of Slovak industry were built only after the Communist takeover in 1948 within the policy of industrialization of Slovakia. Hence, Slovak industry was much more affected by the Communist party's political objectives, in particular the emphasis on heavy engineering, metallurgy, and the chemical industry (see Pavlínek, 1995; Capek and Sazama, 1993).

As a result, Slovakia was more dependent on trade with its fellow member countries of the CMEA and thus was more adversely affected by the collapse of CMEA trade. Slovakia also had a greater concentration of the military-equipment industry. The latter was particularly important, since the output of this industry in Czechoslovakia fell by 85 percent between 1987 and 1992. This decline also affected Slovakia disproportionately. Whereas Slovakia accounted for 60 percent of Czechoslovak military-equipment production in 1987, its share fell to 40 percent by 1992.[10] Finally, Slovak industry was also more strongly regionally concentrated, as enterprises were, on average, larger and often constituted the dominant source of regional employment.

As a consequence of the reforms, the transformational depression in Slovakia began already in 1990, with a fall in GDP of 2.5 percent, followed by painful drops of 14.6 percent and 6.5 percent in 1991 and 1992, respectively. The break-up of Czechoslovakia again affected Slovakia more negatively than its brother republic, particularly because the costs of independence are not related to country size. Overall, Slovakia's GDP fell by nearly four percent during 1993.

Recovery started in 1994 and in the subsequent period Slovakia experienced significantly higher growth rates than the Czech Republic; by 1998 it had essentially returned to its pre-reform level of income. However, the seemingly robust recovery of the Slovak economy was in part fuelled by large debt-financed infrastructure investments by the last Mečiar government. In addition, the high growth rates reported were probably to some extent achieved by "creative statistics," rather than

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[10] These are figures reported by Dedek *et al.* (1995, p.56) and Kiss (1993, p. 1046). According to Kiss, the military industry accounted for 3 percent of Czechoslovak GDP and 10.5 percent of industrial output in 1987.

genuine economic growth (creative statistics could account for up to a percentage point of GDP every year from 1995 through 1998). After sustaining impressive growth for several periods, the economy turned out to be in need of further reforms and austerity measures. Massive infrastructure investments and the lack of any significant privatization revenues brought state finances to a very dire situation. The government accumulated sizeable debts and faced rapidly increasing interest rates on short-term debt in 1999. Escalating government borrowing increasingly crowded private investors out of the credit market. The government deficit reached 4.4 percent of GDP in 1996, 5.6 percent in 1997, and 2.7 percent in 1998.

"Crony privatization," characterized by direct sales to handpicked owners at a fraction of the actual value, not only failed to bring in much revenue, but also failed to deliver effective ownership structures. Enterprise restructuring was delayed, as owners and/or managers found it more profitable to divert assets for their own enrichment. Restructuring was stalled also because the Mečiar government was able to prevent layoffs by loss-making enterprises, either by giving them direct or indirect subsidies, or via the political influence that it was able to wield as a result of the privatization process.

Exchange rate policy was characterized by a strong emphasis on exchange rate stability. Slovakia kept its exchange rate fixed from January 1991 until October 1998, with the exception of a 10 percent devaluation in the wake of the break-up of the Czech-Slovak monetary union in 1993. Insistence on sustained exchange rate stability resulted in a real appreciation of the currency and a deepening current-account deficit. After reporting surpluses in 1994 and 1995, the current-account deficit reached 11 percent of GDP in 1996 and 10 percent in 1997 and 1998. Moreover, unlike in 1996, the surplus on the capital account in 1997 and 1998 was insufficient to cover the current account deficit.

The exchange rate was floated as of October 1, 1998, shortly after the September 1998 election. Between January 1998 and July 1999, the Slovak koruna depreciated by 18 percent against the euro (ecu) and 24 percent against the U.S. dollar. This rapid depreciation aggravated the economic difficulties of some of Slovakia's main industrial companies, such as the VSZ and Slovnaft, which had previously borrowed massively from foreign banks without hedging against currency risks.[11]

The gravity of the economic situation was fully realized in the run-up to the general elections in September 1998, when the illusion of successful reform began to be recognized as just that. Thus, one of the first tasks of the new government was the preparation of an austerity package. GDP growth slowed to 4.4 percent in 1998 and the forecast for 1999 is modest growth of 1.5 percent.

Slovakia, similarly to the Czech Republic, has been successful in keeping inflation under control. Price liberalization in 1991 was followed by a one-time increase in the price level, and subsequently inflation remained at or below 10 percent, except for 1993, when after the introduction of the VAT inflation increased to 23 percent.

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[11] VSZ defaulted on its debts in mid 1999. In addition to the depreciation of the koruna, the default is frequently attributed to the mismanagement and potentially illegal practices of the owners (who have close links to the HZDS, the party of former prime minister Mečiar).

The asymmetric effects of economic reforms on the two republics were most clearly revealed in the evolution of unemployment rates. Unlike in the Czech Republic, in Slovakia high unemployment emerged soon after start of the transformational recession (12 percent in 1991) and has never fallen thereafter to single-digit levels. In 1998 and 1999, Slovakia has posted the highest rate of unemployment among the CEECs, in August 1999 reaching 18.3 percent.

The Slovak economy, that of a country with only 5.4 million people, is particularly strongly dependent on foreign trade. The share of imports and exports in GDP has ranged from 60 to 80 percent. The renewal of growth started with export expansion and import contraction (as a consequence of setting up trade barriers) in 1994 (see Figure 3.2). Between 1995 and 1997, the government tried to sustain high growth rate in excess of 6 percent by means of expansive policies. This resulted in emergence of twin (i.e., budget and current account) deficits. As a result of this controversial policy, just when Slovakia had nearly become one of the first CEECs to reach its pre-reform GDP, in 1998 and 1999, steps have had to be taken to allow the growth process to decelerate in order to restore balance on the current account and the budget.

3.4 Hungary

The early start of the Hungarian reforms in 1968 is common knowledge, but it is less well known that the Hungarian economy did not show a good record of macroeconomic management in the 1970s and 1980s. The average growth of GDP in 1978-1989 was 1.8 percent, the worst performance in CMEA except Poland, and it was combined with growing macroeconomic imbalances. The specificities of Hungarian post-communist macroeconomic management and performance to be described below can be partly traced back to the past.

The first specificity is that, due to its advance in reforms, the country escaped the initial inflationary shock (see Halpern and Wyplosz, 1998). Repressed inflation had been relatively mild, as Hungarian "goulash communism" aimed at securing a satisfactory supply of goods and, simultaneously, tolerated moderate inflation. This meant that the build-up of a monetary overhang had been moderate. Since the liberalization of foreign trade was not associated with a significant devaluation of the forint (another specificity of Hungary's development), the country managed to avoid another initial push to inflation. Moreover, unlike in other transition economies, price liberalization in Hungary was a gradual process. As a consequence of these damping effects on price developments, a stabilization package *per se* was not needed.[12]

A second specificity of the Hungarian macroeconomic development was the strong limitations of the options available for macroeconomic management, due to the large initial external indebtedness of the country (see Table 3.2). This starting position was combined with the decision of all successive Hungarian governments in the 1980s and the 1990s to service the external debt, rather than default on it and initiate negotiations over forgiveness and rescheduling with the creditors, as did several other countries in the region (such as Poland, Bulgaria, and Russia).

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[12] This explains why analysts often find it difficult to date the start of Hungary's stabilization policy (see for instance Bruno, 1992, and Fischer, Sahay, and Vegh 1997).

A third specificity was the continuation of the tradition of the economic policymakers' preference for muddling through, reflected in naïve ideas on a smooth transformation *à la Hongroise* and resulted in delays in taking pressing radical measures (about this tradition see Kornai, 1996). This apparent attitude has made analysts routinely put Hungary in the bracket of the gradualists. However, the mechanical classification of Hungary as gradualist has had to be changed at least twice in recent years: first in 1992, when the simultaneous introduction of strict regulations on bankruptcy, banking, and corporate accounting caused a "legislative shock" (see Bonin and Schaffer, 1995); and again in March 1995 when the austerity package named after the then minister of finance Lajos Bokros (the so called "Bokros package") led to radical changes in almost all fields of macroeconomic policy. These shocks, while hampering a fast recovery and disinflation, triggered radical structural changes at the micro-level, which turned out to be fruitful for Hungary's development on the long run.

The last specificity is that Hungarian policy makers committed outright macro-economic mistakes as well (see below).

In the early years of the transition, Hungary's dismal growth performance astonished many external observers and the Hungarians themselves. Although Hungary started its de-coupling from the CMEA somewhat earlier than the other CEECs, the demise of the CMEA in 1991 and the collapse of the USSR in 1992 were felt there as shocks. As Gács (1994) showed, out of the 18.9 percent drop of GDP in 1988-1992, 7.9 percent could be attributed to the direct and indirect impacts of the loss of export markets due to the disappearance of the CMEA and the USSR.

As soon as the initial impact of the output decline seemed to be absorbed, in 1993-1994, influenced by some early positive results in macroeconomic performance, the government made the mistake of relaxing its policy stance. By 1992, the current account showed improvement and forecasts (wrongly) indicated a further expansion in the demand for Hungarian exports. At the same time, there was little understanding that through the bankruptcy of thousands of enterprises (a consequence of the legislative shock of 1992) the firms making up the lion's share of the export capacity would be decimated. In 1993 it was decided that the decline of GDP should end, and with this in mind monetary policy was eased through a lowering of interest rates. When exports started to fall and the current account surplus turned to a huge deficit, the government failed to correct its policies. Since domestic demand and imports grew fast, while exports declined, the current account and budgetary deficits became a major problem, while the expected recovery of output did not occur.

These adverse developments were broken by a complex austerity package (the Bokros package) in 1995. Following the improvement of the current account and budgetary balances, as well as the profitability of business in general, an export boom developed. Supported by the expansion of exports, the growth process picked up and in 1998-1999 Hungary achieved the highest GDP growth rates among the CEECs.

Starting from zero, unemployment reached 13.3 percent in 1993 and has stayed around 10 percent in 1997-1999. The share of long-term unemployed had reached 45-50 percent by the second part of the 1990s. A similarly dramatic development was the exit of about 17 percent of the previously employed from the labor force.

Another source of disappointment with Hungarian economic performance in the 1990s has been the slow and incoherent progress of the disinflation process. Single-digit inflation was achieved in the Czech Republic and Slovakia in 1995, in Slovenia in 1996, and in Latvia and Lithuania in 1997. Hungary will not reach this stage until 1999 or 2000. While research is inconclusive with regard to the causes of Hungarian inflation (see Hamecz, Vincze, and Zsoldos, 1998; Sahay, 1998), it seems that the stance of monetary policy was a major determinant of the developments. Monetary policy, however, was not formed independently of the government in the first years of the transition: direct financing of the budget was possible until the end of 1996, although to an increasingly limited extent.

One of the greatest successes of Hungarian development in the transition period is in its external economic relations. Following the reorientation of trade toward the West, Hungarian exports in 1994-1998 grew by a historically unprecedented 15 percent annually, while imports rose by 12 percent annually. There was, however, not only spectacular growth in the volume of trade, but also substantial quality improvements: while earlier exports were dominated by agricultural and food products, certain unprocessed products, apparel, and footwear, by 1999 machinery exports had gained a leading role.

Chief responsibility for these favorable developments can be credited to the activities of multinational companies which have made direct investments in Hungary. Due to Hungary's privatization stance, which has been characterized by a preference for strategic (mostly foreign) investors and the country's other appeals, a gradually increasing share of Hungary's enterprises has been partly or fully owned by foreign investors. In 1997, the share of value-added produced in companies with foreign interest (in the value-added of all companies) stood at 49 percent, the share of company investment at 60 percent, and that of exports at 75 percent (Foreign Direct Investment, 1998). The importance of foreign investors has had favorable consequences for corporate governance, microeconomic restructuring, and increasing the companies' domestic and international competitiveness. In terms of the dominance of foreign owned companies, Hungary had overtaken such prominent hosts of multinational companies as Canada, Austria, and Ireland. (Hunya, 1998).

3.5 Slovenia

Prior to 1991, Slovenia was part of the Yugoslav federation, whose economy was based on socially-owned means of production and a high degree of redistribution and internal protection. Despite several attempts at stabilization, former Yugoslavia never managed to achieve internal macroeconomic equilibrium; differences in the level of development between individual parts of the country grew wider, and by the late 1980s the internal Yugoslav market had started to gradually disintegrate. Following the events that led to the establishment of an independent Slovenia, the imminent tasks of transition were multiplied by the pressure of institution building and the necessity to decouple the Slovenian economy from the rest of the former federation.

Slovenia's GDP had started to decrease in real terms already in the second half of the 1980s. After 1988, the downward trend accelerated, with the sharpest declines in real

terms (by 8.9 percent in 1991 and 5.5 percent in 1992) recorded immediately after Slovenia broke away from the federation. The country experienced a series of shocks, including the closing down of markets in the countries of the former Yugoslavia and Eastern Europe; war in Croatia, which historically was Slovenia's most important trading partner; severed traffic and other infrastructure connections with the south; an economic blockade by the Federal Republic of Yugoslavia; confiscation of Slovenian companies' property in Serbia; and last but not least, non-selective measures imposed by the EU and the UN on Slovenia (as well as other former republics), which affected its exports.

Despite the fact that the transformational depression was deep, Slovenia was one of the countries in transition which relatively quickly overcame the crisis and showed a remarkably balanced and solid performance in growth. GDP began to rise as early as 1993. In the years following 1994, the pace of GDP growth slowed but in any case averaged around 4 percent annually.

At the initial stage of the transition, the registered labor force dropped by 8 percent, while the number of employed persons fell by 21 percent. The number of registered unemployed persons increased from 15,000 in 1987 to 137,000 in December 1993 (15.5 percent of the active population), when it reached its peak; since then it has been stagnating at around 14 percent.

One of the most problematic legacies of the former Yugoslavia was hyperinflation; as a consequence, inflationary expectations were incorporated into the economic system. The key step in price stabilization was monetary independence. Soon after Slovenia gained its independence, the government passed the new Price Act and took relatively comprehensive control over a range of prices of about one third of strategic products and services. The macroeconomic stabilization program was based on targeting the money supply, which represented the key stabilization variable, and two auxiliary pillars, the nominal exchange rate and inflation. The curbing of inflation was relatively quick and successful. It was not achieved by means of a shock, but through restrictive monetary policy. By 1995, inflation was reduced to the single digits.

Slovenia introduced its own currency – the tolar – on October 8, 1991. The Foreign Exchange Act and the Bank of Slovenia Act created a managed floating exchange rate regime for the tolar. Throughout 1992-1998, the exchange rate was formed under circumstances where supply on the foreign exchange market generally exceeded demand, enabling rapid growth of the foreign exchange reserves, which were at a very low level after Slovenia became independent ($409 million at the end of 1991 and $4.767 billion at the end of 1998).

The transition to a market (and national) economy after 1990 sparked profound structural changes, namely transition from social to private ownership, a shift towards a service-based economy, a shift from large to small companies, reorientation from the market of the former Yugoslavia to the more demanding (in terms of price and quality) markets of developed countries.

Data on the production structure of GDP show great changes. The share of manufacturing, for instance, while accounting for over 42 percent in the middle of the 1980s, declined to only 27.3 percent in 1998. On the other hand, the share of services

increased from about 44 percent in the 1980s to over 60 percent in 1998. Such a substantial increase in services has partly resulted from the rapid growth of non-corporate services related to establishing a new state, and partly from institutional changes. Large industrial companies covering a large spectrum of activities disintegrated into smaller units, out of which independent service companies were also formed.

While private ownership has become dominant, the main method of privatization (management buy-outs) and restrictions on the secondary market in shares seem to have perpetuated the governance structures of the old social management system. In 1993-1997, the volume of annual FDI inflows to Slovenia grew steadily, although its size was disappointingly small.[13] The main reasons for Slovenia's poor performance in attracting FDI are primarily the following: (i) incomplete transformation of the legal framework regulating economic activities, and discrimination in favor of certain categories of companies; (ii) most privatized companies have not yet substantially restructured their operation so as to make them attractive to strategic foreign partners; and (iii) certain measures that in principle favor FDI are in fact negatively oriented toward concrete individual FDI projects. At the end of 1997, while companies with foreign capital represented only 4.4 percent of the total number of Slovene companies, they accounted for 10.7 percent of the capital, and realized as much as 24.1 percent of the total exports generated by the Slovenian corporate sector.

With its small, open economy, Slovenia benefited from the favorable international economic environment in the early 1990s. Companies could relatively quickly re-orient themselves from former Yugoslav markets to those of the EU member states, which currently account for more than 60 percent of total Slovenian exports. In 1993-1998, the average annual growth of exported goods and services was 5.9 percent, while the share of exports in GDP in 1998 was 57 percent. The beginning of this period was characterized by a surplus in external trade in goods and services (7 percent of GDP in 1992), but this subsequently turned into a deficit (1.6 percent of GDP in 1995). Owing to surplus in factor services and unrequited transfers, until 1998 the current account was still balanced, although a deficit representing 0.7 percent of GDP is expected in 1999.

One factor contributing to Slovenia's successful disinflation process and export activity has been its incomes policy. Major means in this regard were collective and social agreements between the social partners, covering either the public sector or the corporate sector, or both (many times including wage indexation mechanisms or payments from excess wages into specific employment funds), as well as laws and acts defining wages and their payment applicable to companies with 50 percent or more socially-owned capital.

Immediately after Slovenia gained its independence, the share of gross saving in GDP rose by almost 6 percentage points, primarily because the newly-formed state accumulated its foreign exchange reserves. Gross saving has subsequently remained at a high level. In 1991 (the year of crisis), gross capital formation reached its trough

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[13] Some analysts (for instance Breuss et al, 1998) are strongly critical about the structural problems in Slovenia related to the way privatization was managed, and investments (both indigenous and foreign) were discouraged.

(below 17 percent of GDP). Later, it grew faster than any other item on the expenditure side of GDP, by 1998 surpassing 25 percent of GDP (see Figure 3.3).

Through 1995, high gross saving not only augmented gross capital formation, it also contributed to a positive current account balance. After accumulating sufficient foreign exchange reserves, the net capital outflow from the country subsided after 1995 and the balance of payments has since then been in virtual equilibrium.

The share of budgetary revenues in GDP ranks Slovenia among the developed economies: in 1992-1998, this share fluctuated between 42 and 44.7 percent of GDP. On the one hand, this relatively high proportion is the result of Slovenia's being a small country with a rather expensive state administration and a sophisticated social security system. Aggregate government finances in 1992 and 1993 recorded a budgetary surplus, in 1994-1996, the budget was balanced, and since then deficits equal to or less than 1.2 of GDP have been recorded. Balanced public finances have played a positive role in the stabilization of the economy, as the country has been able to avoid substantial international borrowing, which would have put additional pressure on interest and exchange rates.

3.6 Romania

Romania has failed to display the usual pattern among CEECs of gradual recovery from the transformational recession followed by strong economic growth accompanied by relatively low inflation. Indeed, it is the one of the few transition economies which exhibited positive economic growth in the early years of the transition, but has more recently been in decline (since 1997).

Two characteristics of the communist era in Romania that set it apart from other CEECs are the fact that it had the second most oppressive regime (after Albania's) in the region, and that it started the transition era with little foreign debt (Hunya, 1999). In the early years of the transition, the foreign exchange reserves remained low (and actually fell through 1995) and the exchange rate for the leu has been volatile.

The descendant of the communist party, in coalition with nationalist formations, won popularity in 1990-1991 by promulgating an egalitarian land reform and by subsidizing large state enterprises. Such governments remained in power until the elections of November 1996. The era from the beginning of the transition through then can be subdivided into one of rapid output decline and high inflation during 1990-1992, followed by recovery beginning in 1993, which peaked in 1995, when GDP grew by 7.1 percent.

However, the recovery was shallow, as it was not backed by thorough-going structural reforms; and overheating of the economy set in 1995, with the current account deficit reaching 7.4 percent of GDP the following year. November 1996 saw the election of a reformist coalition, which in February 1997 had liberalized prices and the foreign exchange regime and in April of that year won a new stand-by loan from the IMF.

As it turns out, the economy has performed poorly under both the new government and a successor that took office in April 1998; these governments have bickered over

privatization and structural reform (and non-economic issues). GDP declined by about 7 percent in both 1997 and 1998, and there were current account imbalances of around 6-8 percent of GDP, driven by similarly-sized trade deficits. General government budget deficits have been high by regional standards and on a generally upward trend, reaching 5.5 percent of GDP in 1998.

Annual foreign debt service grew steadily until by the first half of 1999 it reached a sufficient level to spark international concern that the country would follow Russia into default (that did not happen, due to new multilateral finance and credit roll-overs). Relations with the international financial institutions have generally been troubled, with the IMF on many occasions refusing to grant new loans or release loan tranches, although the Fund agreed on a new stand-by facility for the country in August 1999. There is evidence this year that the economic decline is slowing down, while foreign investor interest is on the rise.

3.7 Bulgaria

Bulgaria, similarly to Romania, deviates from the general pattern of macroeconomic stabilization and output recovery in Central and Eastern Europe because it has exhibited an unusual cyclical behavior. There were currency crises and related economic downturns during January-May 1994 and June 1995-February 1997 (OECD, 1999; Wyzan, 1998).

Macroeconomic stabilization seemed to have been moderately successful by 1995, when GDP growth reached 2.9 percent, and inflation as measured by the consumer price index (CPI) fell to 32.9 percent. Budget deficits were in the range of 5-6 percent of GDP – not as high as they seem if one takes into account large payments on foreign and domestic debt – and foreign trade and the current account was virtually in balance.

However, this stabilization was more apparent than real, since it masked festering structural problems, in particular, enterprise losses that were covered by commercial bank lending. The banks were in turn bailed out by programs that replaced the bad debts that they held by government paper and by refinancing from the central bank.

Performance began to deteriorate in mid-1995 and matters got out of hand during 1996 and early 1997; during February 1997 alone, (monthly) CPI inflation was almost 243 percent, the lev lost half of its value against the U.S. dollar, and the average wage fell to $25. The crisis was precipitated by unjustifiable decreases in the base interest rate by the national bank and by the fact that the IMF, dissatisfied with the pace of structural reform, declined to provide sufficient finance to support the lev and meet foreign debt service. Financing from the international financial institutions had been crucial to staving off currency crises on earlier occasions, especially after the agreement with the London Club in June 1994 left the country with about $1 billion in annual debt service.

Bulgarian economic performance has shown a marked economic turnaround under the reformist government elected in April 1997 and especially since the introduction of a currency board arrangement (CBA) in July 1997. The CBA has made it impossible for

the national bank to provide refinancing to troubled commercial banks, many of which failed during the crisis of 1996-1997. Most indicators of domestic macroeconomic stabilization have improved radically, with CPI inflation running at under 1 percent in 1998, the budget running a small surplus that year, and the national bank's base interest rate at under 5 percent.

If the CBA has succeeded admirably in bringing down inflation, the jury is still out on whether it is consistent with rapid economic growth: 1998's GDP growth rate of 3.5 percent largely reflects a recovery from the very low production levels of early 1997. Results from the first half of 1999 show flat GDP growth and the appearance of trade and current account imbalances in the range of 4-5 percent of GDP.

3.8 Estonia

Estonia has had among the best performing macroeconomies of the transition countries. The strict macroeconomic policy regime under the CBA arrangement introduced in June 1992 has been conducive to the achievement of positive economic growth in every year from 1995 through 1998 (peaking in 1997 at 11.4 percent).

With large private capital inflows, which under the CBA must be converted into kroon, sustained economic growth has resulted in rapid import growth. With a fixed exchange rate a major concern has been the real appreciation of the kroon. Current account deficits have, not surprisingly, been large (reaching 12.0 percent of GDP in 1997), but the CBA has not been seriously threatened, as the authorities have succeeded in cooling off the economy when necessary (as in 1998, when that deficit was reduced to 8.6 percent of GDP).

Estonia, like the other two Baltic states, experienced a particularly steep recession at the beginning of the transition, with annual GDP declines over 1991-1993 in the range of 8-14 percent. The break-up of the Soviet Union and the switch to paying world prices for Russian energy in 1992 dealt all three countries heavy blows. Although all three Baltic states, at least until mid-1998, were more heavily dependent on trade with Russia than other CEECs, this was the least so of Estonia. Moreover, Estonia has had more success in redirecting trade toward the EU and away from Russia than Latvia or Lithuania.

Indeed, in the early 1990s, the three Baltic economies had many similarities: they all experienced large output declines while (official) unemployment remained low; all enacted radical programmes of external (there were no import tariffs in Estonia until very recently) and internal liberalization; all introduced convertible currencies, which by 1994 were under fixed exchange rate regimes (CBAs in the cases of Estonia and Lithuania); both Estonia and Latvia have had nearly balanced government budgets; and all have since early in the transition enjoyed low inflation in comparison with other former Soviet republics (Hansson, 1993).

Although Estonia has had nine governments (under five prime ministers) in the 1990s, all have maintained a pro-reform orientation, so one cannot trace economic turnarounds to changes in government. The episode of negative GDP growth, which began in the final quarter of 1998, is largely traceable to the Russian crisis of August

1998, which resulted in a 20 percent decline in Estonian exports to that country in 1998 (the decline has accelerated in 1999), as well as to a conscious attempt to slow the economy down after it seemed to be overheating in 1998.

Another hallmark of the Estonian experience has been a distinctive approach to the banking sector. The authorities took a very tough stance toward three major banks that failed in November 1992, with little in the way of bail-outs for depositors. More recently, the banking system has been characterized by consolidation – there are currently only five banks in the country – and ownership by foreign banks, with the two largest local establishments (which together account for 85 percent of total assets) largely owned by Scandinavian banks.

A final distinctive feature of the Estonian experience is a highly successful privatization method based on sales to foreign strategic investors. The main macroeconomic implication of this approach is a large inflows of foreign direct investment (FDI), which has amounted to a cumulative total of $1.6 billion (over $1,000 per capita) during 1993-1998.

3.9 Latvia

Latvia's macroeconomic experience is broadly similar to that of Estonia, although the former has displayed a greater vulnerability to developments in Russia, arising on both goods and capital markets. Production in Latvia has displayed more of a cyclical pattern than has Estonia's: during the banking crisis of 1995, Latvia's GDP declined by 0.8 percent, after rising by 0.6 percent in 1994. The economy experienced a strong rebound from that crisis, with GDP growth rising to 6.5 percent in 1997. However, the Russian crisis affected Latvia quite severely, cutting economic growth almost in half in 1998.

Latvia has also been governed by a large number of governments since independence (nine under six prime ministers), although, as in Estonia, there has been a large amount of continuity in economic policy over time. Nonetheless, policy has generally been less liberal than in its northern neighbor; for example, Latvia has alienated both Estonia and Lithuania by placing tariffs on pork imports.

Alone among the Baltic states, Latvia does not employ a CBA. Nonetheless, the lats has been fixed to the IMF's special drawing right since 1994. Accordingly, Latvia's foreign exchange regime is fairly similar to those of Estonia and Latvia, except that its level of credibility is likely to be lower, since it would presumably be easier for the country to devalue its currency than it would be for Estonia or Lithuania.

Relatedly, as has Estonia, Latvia has run up sizeable current account imbalances. In 1998, the deficit reached an alarming 11.5 percent of GDP, an almost doubling in such terms relative to the year before. The economy has cooled off this year, however, with the current account imbalance back in the single digits as a share of GDP. This is due both to a tightening of macroeconomic policy and the recession brought on by the Russian crisis. Latvia's general government budget situation has been under control, with moderate deficits in the early years of the transition replaced by small surpluses starting in 1997.

A distinctive feature of the Latvian experience has been the heavy exposure of many of its banks to the Russian capital market. The year 1995 saw the banking system reduced from 56 to 36 banks, with three out of the ten largest banks going bankrupt. The crisis was caused by large-scale foreign currency speculation, poor regulation and fraud, all of which occurred against the backdrop of high nominal interest rates (Hansson, 1996); these problems arose largely in the context of dealings with Russia. The authorities took a tough approach to the affected banks (as in Estonia) and improved banking supervision, and the overall banking system stabilized fairly quickly. Nonetheless, the credit squeeze necessitated by the banking crisis was largely responsible for the aforementioned GDP decline in 1995.

After the strong recovery experienced from 1996 through mid-1998, the economy headed into recession again in late 1998. This time the main culprit was a large decline in trade with Russia, which set in even before the crisis in that country broke out in August; bilateral relations worsened in the Spring of the year over what Russia sees as Latvia's discrimination against its Russian minority. Latvia's exports to Russia fell by almost 37 percent in 1998, and at present Russia accounts for only about 7 percent of exports, down from 21 percent in 1997. Exposure of Latvian banks to Russia was again a contributing factor to the country's economic woes, although this time only one major bank has had to cease operations.

Although Latvia has been a leader in some facets of structural reform – including in reforming its pension system – privatization of major objects in the energy and shipping sectors has lagged. Cumulative FDI over 1993-1998 has been similar to that received by Estonia, although Latvia's population is about 70 percent larger.

3.10 Lithuania

Lithuania has in most respects lagged Estonia and Latvia in the vigor of its reform efforts, although GDP grew steadily over 1995-1998, with no signs of any cyclical behavior during that period.

In trade terms, Lithuania has been the most dependent on Russia (and the least integrated with the EU) of the Baltic states, but exports to Russia have fallen off rapidly since mid-1998, so they now account for only about 7 percent of the total. On the other hand, one peculiarity of the Lithuanian situation is that it remains completely dependent on Russia for oil to fuel the Mažeikiai oil refinery, production from which accounts for about 10 percent of GDP. Accordingly, Russia continues to be the source of around 20 percent of Lithuania's total imports.

Unlike Estonia and Latvia, Lithuanian politics has been characterized by long-serving governments of the traditional right and left; the latter was in power from December 1992 through November 1996, while the right has been in office since then. There have not been sufficient changes in economic policy to make for a politically-related business cycle.

Paradoxically, however, the right in its general election campaign in the autumn of 1996 vowed to eliminate the CBA introduced in April 1994. Although it has never

taken that step, in contrast to other transition countries operating CBAs (Bosnia-Herzegovina, Bulgaria, and Estonia), Lithuania's version has always been controversial. There has long been a debate – most recently between the Ministry of Finance and the national bank – as to when to replace the CBA and with what.

The pegging under the CBA is to the U.S. dollar (rather than the Deutsche mark, subsequently the euro, as in the other transition countries with CBAs); a strong dollar relative to European currencies, as has been the case recently, tends to boost the current account deficit. The litas has been subject to a particularly strong real appreciation, which can be seen in the rapid growth of dollar wages, which surpassed those in Latvia in 1997. The government decided in mid-October 1999 to re-peg the litas to the euro in the second half of 2001, replacing an earlier plan to tie it to a dollar/euro basket in 2000.

The current account deficit reached 12.1 percent of GDP in 1998 and is even higher (so measured) in the first half of 1999. The persistence of double-digit current account imbalances is striking, especially in the light of the decline in GDP (related to the Russian crisis) which began in early 1999. Local observers play down this seeming problem, arguing that balance of payments statistics misclassify some net trade-related inflows as capital inflows, and deny the need for a devaluation.

Lithuania has traditionally run larger budget deficits than Estonia or Latvia, although in 1997 and 1998, its imbalances were under 2 percent of GDP. A particular problem has been deficits in the state social insurance fund, which the government has periodically bailed out. Other questionable fiscal practices include providing agricultural subsidies and price supports, guaranteeing deposits at banks, and compensating savers for ruble savings deposits lost at the break-up of the Soviet Union.

In the early years of the transition, Lithuania received relatively little FDI, but that has changed more recently, with a large telecommunications deal in 1998 contributing heavily to that year's total of $920 million. Lithuania moved the most rapidly of the three Baltic states on privatization in the early years, but the method was heavily biased toward enterprise insiders and raised little cash.

4. Long-Range Growth of Candidate Countries While Approaching Their Steady State Growth Path

The issue of economic growth in transition has received considerable attention over the last several years. One class of models attempts to identify the key determinants of growth in the transition period and to explain the wide differences in growth performance across the transition region. As already mentioned in section 2.2, these investigations have found that the key determinants of growth in transition include such factors as the initial conditions, the pattern of macroeconomic policies, the speed of structural and institutional reforms, and the overall stability of the political environment (see de Melo, Denizer, and Gelb, 1996; Fischer, Sahay, and Vegh, 1996; de Melo, Denizer, Gelb, and Tenev, 1997; Havrylyshyn, Izvorski, and van Rooden, 1998; Berg, Borensztein, Sahay, and Zettelmeyer, 1999). In the early stages of transition, acceleration of economic growth does not depend much on actual

investment levels, but rather reflects efficiency gains from reallocation and better utilization of existing resources. This, in turn, depends essentially on the speed of market reforms and restructuring. Only after the transition period is over (and all necessary reforms implemented), can long-term growth be expected to be driven by the standard factors, such as long-term tendencies in capital and human capital accumulation and technological progress.

These models listed above are helpful in explaining the observed wide disparities in economic performance of transition countries, particularly in the early stages of recovery and growth. However, for several reasons, they seem to be of only limited use for forecasting the long-term growth potential of individual transition countries. First, in most econometric specifications the dominant role is played by transition-specific explanatory variables, without taking account of long-term structural variables (e.g., investment in human and physical capital). Moreover, the weights assigned to many of these transition related variables decline over time and eventually become zero. Second, these models have been identified and estimated from a sample of transition economies, and cannot be extended to predict their behavior in the post-transition period. Third, the results obtained for certain countries are anomalous and do not fit the actual observations.[14] Nevertheless, inasmuch as we assume that in particular countries the transition period is not over, when forecasting future growth the factors characterizing the transition period can not be excluded from the analysis.

The second stream in the literature, pioneered by Fischer, Sahay, and Vegh (1997; 1998a; 1998b), is more forward looking. It focuses on the future prospects of the transition countries rather than their past economic performance. It is motivated by the voluminous literature on the determinants of economic growth in cross-sections of countries.

This class of growth models takes a long-term view and aims at establishing structural relationships between growth and the standard growth factors. The models are typically estimated on the basis of much longer time-series and from a much wider cross-section of countries (Kormendi and Meguire, 1985; Barro, 1991; Mankiw, Romer and Weil, 1992; Levine and Renelt, 1992). Most of these models explicitly incorporate the neoclassical proposition that low-income countries will generally grow faster than mature economies because, with low ratios of capital to labor, they have higher marginal products of capital (Solow, 1956; Barro, 1991; Barro and Sala-i-Martin, 1992; Romer, 1996).

Based on this class of models, Fischer, Sahay, and Vegh forecast the future growth prospects of selected transition countries by applying the results of Barro (1991) and Levine and Renelt (1992) to data from these countries. Compared to other models of transition, this approach de-emphasizes the effects of government policies. Instead, it assumes that growth is determined by the country's economic and demographic characteristics, such as its initial level of income, the quality of human capital, population growth, and the rate of investment. The role of the government is limited to its size.

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[14] For instance, the fitted growth rates for Poland calculated by Havrylyshyn, Izvorski, and van Rooden (1998) for the period 1994-1997 are between 0.8 and 2 percent p.a., while the actual growth rates were between 5.2 and 7 percent.

However, as pointed out by Campos (1999), this approach has several pitfalls. In particular, Fischer, Sahay, and Vegh make growth forecasts for the transition countries based on regression results obtained for a completely different set of countries and for a different time period. One doubts whether results obtained from a data set dominated by developing countries make a good basis for growth predictions for transition countries. Moreover, it is reasonable to assume that the transition and post-transition periods are specific, so the determinants of growth can be very different from those obtained for market economies. Indeed, Campos (1999) estimated regressions of the Barro and Levine and Renelt types on data for transition countries in the 1990s; he obtained strikingly different results from those that Barro (1991) and Levine and Renault (1992) found with their large samples.

Finally, Fischer, Sahay, and Vegh based their growth forecasts on the most limited regressions estimated by Barro and Levine and Renelt. Both Barro and Levine and Renelt report also regressions with dummies for sub-Saharan Africa and Latin America. Inclusion of these dummies alters some coefficient estimates substantially; for instance, the coefficient on secondary-school enrollment in Barro's equation is cut more than in half, as is the coefficient estimate for investment in the Levine-Renelt equation.[15]

Keeping these critical remarks in mind, it is worth looking at the structure of these models, particularly since they have become so popular in recent years for predicting long-term growth rates and catching-up periods for transition countries.

4.1 The Barro and Levine-Renelt Models and their Applicability

In most growth models (for useful surveys of the various studies, see Levine and Renelt, 1991, and Temple, 1999), human capital development is proxied by changes in education levels, which are typically measured by school enrollment ratios at the primary and secondary levels, while physical capital development is measured by the ratio of investment to GDP. In addition, they frequently include a measure of initial income to reflect the convergence hypothesis. The model developed by Barro (1991) (and applied by Fischer, Sahay, and Vegh to the transition countries), which he estimates for a cross-section sample of 98 countries during 1960-1985, takes the following form:

a) Barro growth equation:

$$y = 0.0302 - 0.0075\ Y_{1960} + 0.025\ PRIM + 0.0305\ SEC - 0.119\ GOV \qquad (1)$$

The model developed by Levine and Renelt (1992) and estimated for a sample of 101 countries, covering 1960-1989, is as follows:

b) Levine-Renelt growth equation:

$$y = -0.83 - 0.35\ Y_{1960} - 0.38\ POP + 3.17\ SEC + 17.5\ INV \qquad (2)$$

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[15] These comparisons refer to equations (1) and (14) in Barro (1991), and equations (i) and (ii) in Levine and Renelt (1992). Levine and Renelt's equation (ii) also includes additional variables besides the two dummies.

where y denotes per capita GDP growth, Y_{1960} is the initial level of real per capita income on a purchasing power parity (PPP) basis (expressed in logarithms in the Barro equation and in thousands of U.S. dollars in the Levine-Renelt equation), *POP* is the growth rate of population, *PRIM* is the gross primary school enrollment rate, *SEC* is the secondary school enrollment rate, *GO*V is the share of government consumption in GDP, and *INV* is the share of investment in GDP. All the coefficients except for *POP* and for the constant term in (2) are significant at the 5 percent level.

Fischer, Sahay, and Vegh (1998a) assumed a uniform investment-to-GDP ratio for all CEECs (30 percent), and a uniform government consumption-to-GDP ratio (10 percent), and then calculated average per capita growth rates for these countries. They then used these growth rates to calculate the number of years needed for the CEECs to converge to the per capita GDP levels of the low-income EU countries (the average for Greece, Portugal, and Spain). The results obtained are shown in Table 4.1.

At first glance, the results obtained by Fischer, Sahay, and Vegh (1998a) seem to give a fairly reasonable estimate of the catching-up period for the whole group of CEECs. The estimated growth rate differentials of 3-4 percent *per annum* imply a catching up period of 11-24 years for the five CEECs that have started accession negotiations plus Slovakia, and 23-36 years for the remaining four CEECs.

Nonetheless, there are certain problems with these equations. First, the initial GDP per capita figures expressed in PPP U.S. dollars taken from the IMF database, have been recently subject to revision.[16] Moreover, these figures are in some cases very much different from those reported in other sources, such as, for instance, the Human Development Report (UNDP, 1998) or the World Bank. The differences are particularly large for countries such as Estonia and Slovenia. Second, the differences between the obtained growth rates for individual countries are very small, irrespective of the large disparities in initial GDP levels. This is partly the result of fairly similar ratios of (primary and secondary) school enrollment across CEECs and partly the result of unrealistic assumptions about the uniformity of the economic policies followed in all CEECs (implied by the same government consumption-to-GDP and investment-to-GDP ratios). Third, the assumed per capita GDP growth rate of 2 percent for the three EU countries seems to seriously understate their performance; the actually observed growth rates for Greece, Portugal, and Spain for 1994-1998 were 2.4 percent, 3.2 percent, and 2.9 percent, respectively.

Furthermore, the assumed values of the investment ratio (30 percent of GDP) and government consumption ratio (10 percent of GDP) are not only quite different from the empirical data, but also fail to take account of differences in investment ratios arising from divergent levels of FDI inflows. World Bank data for 1994-1997 show that out of the ten candidate countries only five had higher investment ratios than 20 percent and only one, Slovakia, exceeded the 30 percent limit (and, as our country report indicates, that share turned out to be unsustainable). Furthermore, the ratio of government consumption to GDP is in almost all CEECs higher than that assumed by Fischer, Sahay, and Vegh (1998a). Had these more realistic figures been used, the estimated growth rates obtained would have been lower. Finally, it should be

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[16] The GDP per capita figures in PPP dollars for EU countries have been recently revised, which has resulted in a sharp increase in these figures for the three lowest income EU countries from $11,690 in 1995 to $14,320 in 1997 (see UNDP, 1999, p. 248).

remembered that the structural parameters in both models have been estimated with a set of initial per capita GDP figures for developing countries in 1960 which are much lower than those observed at present. This may lead to a systematic error in estimating growth rates for CEECs (initial GDP per capita figures enter both equations with a negative coefficient). These problems suggest that both models need revision.

In Table 4.2, we present the results of various recalculations of the Fischer, Sahay, and Vegh application of the Levine-Renelt equation. In the first column of the upper block the original Fischer, Sahay, and Vegh results are presented, with an assumed investment ratio of 30 percent. The next two columns show the sensitivity of the growth rates to two realistic alternative assumptions about the investment ratio. Column 4 uses historic investment ratios of 1994-1997 as opposed to assumed ratios. The differences from the Fischer, Sahay, and Vegh growth rates in the column 1 are striking, especially for Bulgaria, Hungary, Lithuania, Poland, and Slovenia. Columns 5 and 6, in addition to the investment ratios included in column 4, employ population growth rates for 1994-1997, and secondary enrollment ratios for 1994-1996, rather than for a single year, 1993, as did Fischer, Sahay, and Vegh. Finally, the last column (in addition to the variables previously included) applies the technique of EBRD (1997, p. 107) to calibrate the initial levels of GDP to the sample of the Levine-Renelt equation by applying the scale of the GDP of the U.S. in 1960, and the ratios to GDP of the CEECs in 1996-1997. The lower block presents the differences in the variables relative to the ones used by Fischer, Sahay, and Vegh in their various calculations.

Clearly, with the use of various data we can come up with a wide spectrum of average long-term growth rates. There is typically a range for a given country of at least 1.5 percentage points, but for certain countries, such as Estonia, the range is larger than 3.5 percentage points. The conclusion of this exercise is that the growth literature can provide us with only general guidelines for the estimation of growth rates for the medium and long term; the estimated growth rates produced by these models should not be taken overly seriously.

4.2 Combining Models of Transition and Growth

In this section, an attempt is made to unite the approaches of the transition models and the growth models. The determinants of growth during transition will be analyzed using variables capturing the effect of policy, in particular the liberalization index, initial conditions, as well as some of the variables found to be significant in the growth literature. Moreover, we follow Havrylyshyn, Izvorski, and van Rooden (1998) in looking separately at growth determinants during the period of output contraction and recovery, which we set, somewhat arbitrarily, as 1990-1993 and 1994-1998, respectively. We then use the results obtained for the latter period to forecast the future growth prospects of the post-communist countries.

Table 4.3 summarizes the results. The first regression is based on the entire period, the second one considers the first four years of transition (the contraction), while the third analyzes the last five years (the recovery). The regressions were estimated for the 25 transition countries listed in Table 4.4. The unweighted average rate of growth during the entire period was -4.33 percent annually during the contraction period;

GDP on average fell by -9.71 percent per year during the contraction period, whereas the growth rate during the recovery was essentially zero (-0.03 percent).

The first explanatory variable is the liberalization index. For the contraction period, we used the liberalization index as of 1991 constructed by de Melo, Denizer, and Gelb (1996). For the recovery regression as well as the regression for the entire period we used the average of EBRD Progress-in-Transition indices as of 1994. Using indices for later years yielded less significant or insignificant results. Apparently, reforms need time to take effect. The effect of liberalization on economic performance is positive and significant in all sub-periods; moreover, the effect is considerably stronger for recovery than for contraction. Hence, more liberalization implies higher growth, especially during the recovery.

We control for "initial conditions" or locational determination by including the distance from the country's capital to Brussels in the regressions. The distance from Brussels serves as a proxy for a variety of factors such as historical legacies, social and cultural traditions, quality of institutions and the rule of law, as well as the cost of establishing economic relations with Western Europe.[17] Åslund, Boone, and Johnson (1996) find that the effect of economic liberalization on economic performance becomes insignificant after controlling for initial conditions by including dummies for the FSU and countries affected by military conflicts. After controlling for the initial conditions by the distance from Brussels, along with the dummy for military conflicts, however, the effect of liberalization remains strongly significant.[18]

Initial conditions are more important during the recovery: each 1,000 kilometers from Brussels reduces growth by 1.3 percentage points (interestingly, this contradicts Berg *et al.*, 1999, who found that initial conditions are effective in the contractionary phase; see also section 2.2 of this study). The dummy for military conflicts has a strongly negative effect on economic performance during the contraction (reducing growth by 7.8 percentage points annually) and a positive effect during the recovery (increasing growth by 5.8 percentage points). The latter effect apparently reflects catching-up after the conflict has ended or subsided.

Population growth, secondary-school enrollment, and the initial level of GNP are variables found to be important in the growth literature.[19] In the transition countries, however, population growth is insignificant, although it has the expected sign, in the recovery period. During the contraction period, on the other hand, it appears with the

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[17] Fischer, Sahay, and Vegh (1998b) use distance from Brussels, while Murrell (1996) uses the distance to Vienna. Neither, however, use this variables as an explanatory variable in determining economic performance.

[18] We believe that the distance from Western Europe reflects the differences in the initial conditions better than the FSU dummy. Clearly, the initial conditions were dramatically different, for example, in Estonia and Tajikistan.

[19] The data we used can be criticized. We chose contemporaneous population growth and secondary-school enrollment even though these variables obviously need time to take effect. However, the alternative was to use data stemming from the communist period, which are known to be unreliable. Using more recent data can also capture post-reform demographic changes, in particular falling fertility rates, which can be important for making forecasts about future growth rates. Since demographic data typically show very high serial correlation, using older data would probably not change the results. The estimates of the initial GNP seem to be unrealistically high for the FSU republics. Given that these figures are in PPP terms, the high figures reported for the FSU probably reflect, among other factors, low prices for energy and housing.

wrong sign, albeit not significantly so. Secondary-school enrollment has the right sign and is significant in both sub-periods (albeit at only 6 percent during the contraction).

When we included additional variables suggested by the growth literature, in particular primary-school enrollment and government expenditure, they were generally not significant. In fact, if anything, government expenditure appears to have a mild positive effect on growth during transition (Campos, 1999, obtained a similar result). Investment (as a share of GDP) has a significant and positive effect during the contraction only, whereas it is insignificant and negative during the recovery (not reported). Finally, the coefficient on initial GNP per capita is negative, although it is not very strongly significant (at the 10 percent level during the recovery). The negative coefficient indicates convergence, in line with neoclassical growth theory, although this result is not very strong.

The regressions reported in Table 4.3 provide a rather good account of the determinants of growth in the transition countries: the regressions explain between 55 and 76 percent of the variance in growth rates across countries. The most important explanatory variable is the liberalization index, which alone explains 39 percent of the variance for the recovery period. The distance from Brussels, as a measure of initial conditions, alone explains 21 percent of the variance during recovery. Population growth explains 20 percent of the variance when included as the sole explanatory variable. The initial GNP and secondary-school enrollment alone explain 7 and 3 percent of the variance, respectively.

Table 4.4 utilizes the results of the recovery regression to construct fitted growth rates for 1994-1998 as well as forecasts of potential future growth rates for the coming few years when the characteristics of the transition period are still to be expected to play a role. The growth prospects were computed by substituting the 1998 EBRD Liberalization Index into the regression equation which had been estimated for the recovery period. We used the actual values of the past period for all the other variables. Comparing the actual and fitted values for 1994-1998 reveals that some countries performed significantly better, and some significantly worse than predicted by the model. Albania, Armenia, and Uzbekistan outperformed the model by three to six percentage points on average per year, while Azerbaijan, Moldova, Romania, Russia, and Tajikistan performed worse by three to eight percentage points.

The model predicts that the transition countries will on average grow by 1.2 percent annually in the near future, while the CEECs' expected growth is 3.11 percent. In the latter group a steep decline is predicted for Bulgaria, where in addition to a low level of liberalization, the poor growth prospects reflect low secondary-school enrollments. On the other hand, the countries with the best growth prospects among the CEECs are the Czech Republic, Hungary, Poland, and Slovakia.

The growth forecasts reported in Table 4.4 differ from those computed by Fischer, Sahay, and Vegh (1998a). This is so because our method gives a large weight on the effect of liberalization, which the estimates of Fischer, Sahay, and Vegh do not consider at all. Our method, in contrast, underscores the crucial importance of sound economic policies for achieving sustained recovery.

A word of caution is in order regarding the interpretation of these growth forecasts. The model predicts potential growth rates based on economic performance over the past five years. Clearly, these growth forecasts do not take into account the potential effects of external or internal exogenous shocks or changes in policies. Moreover, these figures should be seen as medium-term, rather than long-term growth forecasts. Transition is a transitory phenomenon and it is reasonable to expect that the post-communist countries, particularly the more advanced CEECs, will eventually converge to the growth patterns observed in market economies.

The estimated results just presented will be used in Section 5.2.2 to construct forecast scenarios for the Czech Republic and Slovakia.

5. Scenarios for Accession and Non-Accession

In this section we present the results of calculations performed by the authors of the country studies concerning the patterns of development of individual CEECs up to 2010. They constructed the scenarios under two assumptions: EU membership from 2005 (the accession scenario), and no EU membership throughout the period (the status quo or non-accession scenario). It was assumed that the countries will not have to join the euro-zone in the forecast period.

As for the methodology employed, the authors were required to accept only certain loose guidelines, beyond which they were free to choose how they could forecast development with, and without accession. Each author took into account the patterns of growth that emerged in their individual countries during the 1990s and analyzed recent government documents dealing with the medium- and long-term development of the given countries. In order to go beyond the contours projected by the cross-sectional growth literature (which follows a "supply side approach"; see section 4), the authors of the country studies were requested to estimate the elements of the "demand" or "use" of GDP and base their forecasts on those estimates.

The authors of the five main country studies were requested to ensure consistency among the predicted variables. They have also tried to single out specific sources of and bottlenecks to growth in their respective countries and assess the impact of accession/non-accession relative thereto. They utilized the most important results of the "impact of accession" literature, particularly those developed and summarized by Baldwin (1994), Baldwin and Venables (1995), Baldwin, Francois, and Portes (1997), and Breuss (1998a, 1998b).

Most of the country projections start from the non-accession or status quo scenario, it is, however, not proper to label these scenarios as the "status quo." Recent developments in the CEECs (particularly the more developed ones) have been already based on the assumption of coming membership in the EU. Not only have reforms been geared toward membership (due to the Europe Agreements, Accession Partnerships, and the screening and evaluation process of the EU with respect to membership), but the establishment of domestic institutions, the elaboration of legislation, the behavior of investors, and economic agents in general, have already anticipated a coming membership. As a result, in most of the CEECs the normal course of developments would in fact be severely affected by the news that accession would not take place before such a distant date as 2010.

5.1 Effects of Membership: Benefits and Costs

Calculations of the effects of membership on the candidate countries are based on the general propositions of economic theory. This tells us that joining integration schemes means expanding markets and removing barriers to trade and resource flows. These steps in turn increase economic efficiency, both in the static and dynamic sense, and contribute to economic growth. Theory tells us also that there are two broad categories of economic benefits to be obtained from EU enlargement: 1) gains from free trade in goods and services, and 2) gains from a free flow of resources.

5.1.1 Free Trade

Free trade allows for more efficient specialization among countries and better response to consumers' needs. In the longer run, it improves efficiency through increased competitive pressure, economies of scale, and better technological opportunities. These long-term benefits are considered to be more important than the short-term ones. EU enlargement means *inter alia*, the removal of all trade barriers between EU-15 and new members.

Static effects are difficult to measure in economies in flux, and anyway, by 2000-2002 (i.e., the years before the date of accession), a free trade area for industrial products will be established between the EU and the individual candidate countries. In addition, the candidate countries and the EU are part of the broad system of Pan-European cumulation. These two developments indicate that, with accession in 2005 or after 2010, the CEECs would not feel a shock of trade creation since by that time mutual reduction of customs tariffs and non-tariff barriers between the EU and the CEECs will have already been completed.

If the CEECs have lower tariffs vis-a-vis third countries than the Common External Tariff, trade diversion could occur in the time of accession. This is however, as a rule, not the case. As Drábek has shown (cited in Gács and Wyzan, 1998), MFN tariff rates vis-a-vis third countries are usually higher in CEECs than the relevant MFN tariffs in the EU. For instance, in 1998 in Poland, 31.5 percent of the MFN tariff sectors had rates 1.75 times higher than the relevant EU rates, and 56.2 percent of the sectors had rates 1.25 times higher than the EU rates. (A further complication is the differences between GSP rates, an issue that we will not cover here.) For Estonia, some trade diversion is bound to occur, since its adoption of the Common External Tariff will raise its MFN tariff rates on industrial goods from the 0 percent level. (In late September 1999, the Estonian government approved a package of customs tariffs on food products, to go into effect on 1 January 2000, so trade diversion relative to such goods may occur well before accession).

A special problem arises if the CEEC 10 do not join the EU at the same time. In that case tariffs have to be raised between those CEECs which earlier granted concessions to each other and which are not covered by the current European Agreements (i.e., in the framework of CEFTA or the Baltic Free Trade Agreement). The accession of the Czech Republic earlier than the Slovak Republic will mean that the two countries will no more participate in the same customs union, a development that some analysts forecast would lead to substantial trade diversion, especially for the Slovak Republic.

Joining the Single Market will bring changes in the form of lower trade costs, efficiency gains through common standards, and increasing competition in services. The impact of accession on agriculture, given the unsettled plans of the EU for reforming the Common Agricultural Policy (CAP), for the new member states is highly uncertain. Due to this uncertainty and the complexity of agricultural issues, in the forecasts presented below, we do not explicitly deal with agriculture.

It is commonly argued that one of the most important long-term benefits of accession is the positive impact of increased competitive pressures on technical efficiency: firms, confronted with more foreign competition which they cannot contain through political action, reduce costs, apply new technologies, rationalize employment, and increase marketing efforts. These adjustments shift the supply curve downward in the long run, producing efficiency gains. These gains are very difficult to measure. Moreover, competitive pressures by foreign (non-resident) firms, particularly on goods markets, are already strongly felt due to the progress of the association process. Accordingly, in this field, membership will not bring much change.

The second important long-term benefit is economies of scale arising from the expansion of sales to a larger market. These are easier to capture than the more elusive efficiency gains and, under some assumptions, can be measured by the changes in unit production costs, typically calculated on a sectoral basis. But some specific benefits are internal to the firm; these include the effects of enterprise growth and of learning-by-doing. These are also rather difficult to measure directly.

One of the most popular tools for forecasting trade effects is the gravity model. Early gravity models (such as Hamilton and Winters, 1992, and Winters and Wang, 1994) indicated a huge potential for trade expansion based on a gravity model estimated for data for the middle of 1980s. According to Winters and Wang (1994), for instance, to achieve their potential trade levels, five CEECs (Bulgaria, Czechoslovakia, Hungary, Poland, and Romania) would have to increase their trade with the EU by five to twelve times, with EFTA more than three times, and with other industrial countries more than 10 times. However, their trade with other East European partners would have to be cut by a quarter. As for total trade, the potential level would have been four times higher than the actual level at the incomes levels of 1985.

More recent and more sophisticated gravity models (such as Gros and Gonciarz, 1996; Breuss and Egger, 1997) indicate, however, that by the middle of the 1990s the CEECs were close to or even beyond their potential trade, particularly in their trade with the EU 15. Brenton and Di Mauro (1998) show that even in the field of sensitive products - the class of products where the EU has protected its market the most – one can not expect a surge in EU imports following an additional integration of the CEECs with the EU.

The implication is that in principle no surge in CEEC exports to the EU should be expected after their accession to the EU. In Table 5.1.1, we present the development of export shares in the candidate countries and the relevant shares in the EU member countries in 1998. One can see that in 1998 the candidate countries already exported a high share of their products to the EU (61.3 percent); in fact their average is close to the average of the current EU members (64.5 percent). Given that the CEEC 10 are on average smaller than the EU 15, as well as the notion of real convergence (i.e., the

expectation of faster increase in GDP in poorer countries), we can expect higher trade shares with the already developed EU countries (as is in fact suggested by the gravity model framework), particularly after accession. However, the potential for a rise in trade shares with the EU is not large. After accession, naturally the individual countries may (and will) experience changes in their trade shares with the EU (and with the individual members of EU 15), the more so across industries. Nevertheless, in 1998 the shares seem to be at "normal" levels: associate status has drawn the CEEC 10 close to membership status in term of integration through trade.

The table also shows the share of CEEC 10 trade within the CEEC 10 group. The largest shares are achieved by those countries (the Czech and Slovak Republics and the Baltic countries) that have fellow countries in the CEEC 10 with which they belonged to the same union or federal republic before 1992-1993. If the EU 15 and CEEC 10 are viewed as a single group, the CEEC 10 countries show higher shares, meaning that if the CEEC 10 joined the EU today, at the start the CEEC 10 as a group would be more integrated within the EU than the current EU members as a group.

Saying that no surge of exports should follow membership does not imply that the country studies in our project did not expect an acceleration of exports following membership. Some are projecting sizable increases in exports, however, not only towards the EU, but through higher scale, better efficiency, and global business horizon to many other directions in the word.

5.1.2 Gains from Free Flows of Resources

New EU members are certain to gain from increased inflows of capital, in particular in the form of FDI. These inflows have already been substantial in the case of some more advanced transition countries, but they can be expected to expand further once the CEECs concerned become full members. This is because integration expands the size of the market, replacing separate national markets by one regional market. Moreover, the reduced investment risk (due to political and economic integration) and institutional-cum-policy convergence leads to lower transaction costs in member countries, which in turn results in higher rates of return.

Theoretical considerations therefore suggest that EU enlargement will have a strong and positive impact on FDI inflows to new member countries, although it is rather difficult to predict the actual magnitude of future FDI inflows. Some inference can be obtained from the experience of earlier enlargements. Table 5.1.2 shows inflows of FDI to new member countries before and after earlier EU enlargements. It can be seen that EU accession was associated with a substantial increase in FDI inflows, both in value terms and as shares in total inflows to EU and OECD, in the United Kingdom, Ireland, Austria, and Sweden. Moreover, the very prospect of accession seems to have attracted increased amounts of FDI to Portugal, Spain, Austria and Finland - as shown by the absolute and relative figures for the period of one to three years before accession.

The impact of EU accession is probably best illustrated with figures in the three final columns of Table 5.1.2. It can be seen that in most cases FDI increased substantially already in the period immediately before accession, and this tendency continued

strongly after the accession. On average, annual FDI inflows increased by 1.76 times in the three-year period before accession as compared with the previous three-year period. In the first three-year period after accession annual FDI increased on average by a factor of 2.18, and in the following three-year period it rose by a factor 2.24. On average, annual FDI inflows broadly doubled from one three-year period to another.[20]

The cases of Ireland and Portugal on the one side and of Greece on the other side are particularly instructive. They demonstrate that EU accession is a necessary but by no means a sufficient condition for attracting increased inflows of FDI. What counts is political stability, overall economic performance and sound domestic and international policies. If these conditions are met, FDI are likely to come on a large scale. The new candidate countries can therefore expect considerable increases in FDI inflows.

5.1.3 Structural Assistance Programs and Contributions to the EU Budget

One clear benefit from EU enlargement for new members is that they will become eligible for a whole range of structural assistance programmes, involving large transfers of resources from the EU. But the overall magnitude and structure of these transfers has been determined only recently.

At the Amsterdam summit in 1996, a new financial strategy for the EU was proposed in the form of a New Financial Framework that set broad guidelines on the financial and budgetary aspects of eastern enlargement. But it took almost three years of difficult and sometimes bitter bargaining before the guidelines were formally approved at the EU summit in Berlin in March 1999. The so-called Financial Perspective for 2000-2006 adopted at the summit classifies all assistance programs under four headings: structural assistance programs,[21] assistance to agriculture within the framework of the CAP, and support for domestic policies and administration.

The key underlying assumptions are that the first six new members will already join the EU in 2002 (probably five CEECs and Cyprus), that there will be a cap on the amount of financial transfers to new members equal to 4 percent of their GDPs, and that funds earmarked for enlargement will not be used for other purposes ("ringfencing" of expenditures). Table 5.1.3 shows the amounts of planned transfers between 2000 and 2006. Table 5.1.4 presents calculated contributions on the assumptions that the five new CEEC members are those in the first round of negotiations, and that GDP in the new members will grow by an annual 4 percent from 1999 onward.

As the numbers in Table 5.1.4 indicate, when all the assumptions are realised, the new members will pay 0.7-0.8 percent of their GDP as contributions to the EU budget and will receive increasingly large transfers that approach the cap of 4 percent of GDP.

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[20] Obviously, there are quite large differences across countries; but in almost all cases FDI inflows increased before and after accession. The two only exceptions to this pattern - for quite different reasons - are Denmark and Greece, with the latter experiencing serious political instability at the time of and after its accession

[21] Structural Funds include five separate programs: FEOGA (agriculture), the European Social Fund, the European Fund of Regional Development, the Cohesion Fund, and the Financial Instrument for Fishery, which are spent on six specific "development objectives."

The actual amounts, however, can be lower because of the limited absorptive capacities of CEECs. The experience of the EU shows that only about 70 percent of available Structural Funds (the largest part of transfers) are effectively spent because of problems with raising the "matching funds" by the recipient countries and difficulties with the identification and preparation of projects to be financed by EU funds.

The second component of assistance is the CAP. Some early estimates of the expected financial transfers under CAP came up with very high figures - ranging from EUR 31 billion to EUR 37 billion per annum for the four Visegrád countries - casting serious doubts on the feasibility of the plans to extend this form of structural support to new CEEC members (see, e.g., Tyers, 1994; Anderson and Tyers, 1995; Baldwin, 1994). These high figures were subsequently revised downward, taking into account the reduction in the CAP budget obtained through the McSharry reforms of 1995. More recent studies gave estimates of EUR 9-15 billion for the Visegrád 4, with Baldwin, Francois, and Portes (1997) suggesting a "consensus" estimate of EUR 10 billion. Recent documents of the Commission, however, do not give any indication of the form in which the CAP will be applied to new members, other than the limited amount earmarked for agriculture in the Financial Perspectives for new members.

5.1.4 The Costs of Preparation and Compliance

As far as preparatory costs for EU membership are concerned, the specific investments or sacrifices made in this period by the CEECs in order to comply with EU membership criteria are usually not to be considered costs. This is because most of the preparations in this stage are part of building up the social infrastructure necessary for a well functioning market economy. Accordingly, they contribute to, rather then reduce, growth on the long run. Nevertheless, it is clear that if investments, such as those needed for compliance with EU environmental requirements or with the Schengen agreement, have to be effected in a short period of time and without the financial assistance of the EU, then other productive investments may have to be postponed. In any event, in the case of these investments financial assistance before accession will be substantial and for complying with the environmental criteria the candidate countries will most probably be allowed substantial transition periods.

In the Appendix we summarize the findings of a study commissioned by IIASA about the likely costs of compliance with EU environmental requirements in four candidate countries.

5.2 Country scenarios

5.2.1 Poland

Non- accession Scenario

Export-dependent growth model

The Polish economy is relatively less open in terms of exports-to-GDP ratio than other more advanced transition economies in the region. This suggests that the role of domestic demand in determining the rate of growth is substantial. At the same time, however, the recent economic slowdown, caused primarily by the steep fall of exports in the wake of the crisis in Russia, indicates that changes in output around the longer-term trend are heavily dependent on changes in exports. A simple regression of GDP growth rates on export volume changes for 1992-1998 is an illustration of this relationship. The following results have been obtained (t-statistics in brackets).

$$r(GDP) = 3.50 + 0.18 \; r(EXP) \hspace{4cm} (P1)$$
$$\hspace{1.5cm} (6.77) \;\; (4.16)$$
$$R^2 = 0.78$$

The equation shows that there is a strong domestic demand-driven component of GDP growth, responsible for some 3.5 percentage points of the growth rate. The dependence on exports is much weaker: export growth of 1 percent in real terms has been associated with GDP growth of about 0.18 percent (this elasticity, in fact, resembles the share of exports in total output of about 20 percent).

This relationship has been used to extrapolate economic growth for 1999-2010, with future values of export growth estimated as weighted averages of export growth rates to the EU and to other countries. The calculations are based on several assumptions. First, the initial proportion of EU and non-EU exports has been set at 70 percent (the observed EU share has increased from 64.2 percent in 1997 to 68.3 percent in 1998, and to 71.8 percent in the first half of 1999); in later years, this figure is dependent on the relative growth rates of both categories of Polish exports. Second, future growth rates of exports to the EU have been estimated with the use of EU income elasticities of demand for Polish exports and for all imports. These calculations are shown in Table 5.2.1.1 For the purpose of estimating the expected income elasticity of import demand it was decided to limit the period covered to 1995-1998, thereby ignoring the unusually high export growth figures from the first years of transition and thus minimizing the influence of transition-specific factors on Polish exports. The average ratio of the EU's income elasticity of the demand for imports from Poland to the EU's income elasticity of the demand for all imports is next assumed to remain unchanged at 1.7 up to 2010. Finally, it has also been assumed that other Polish exports increase at a flat rate of 10 percent p.a.[22] Table 5.2.1.2 shows the relevant figures and results.

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[22] This is a conservative assumption. The average growth of Poland's non-EU exports between 1993 and 1997 was 18 percent in volume terms, higher than exports to the EU (12.4 percent), mostly because of dynamic export expansion to central and eastern Europe. Only in 1998 did a decline occur due to the fall of exports to CIS markets, but a recovery can be expected once the financial situation in Russia returns to "normal."

The results obtained seem to be plausible and consistent with other forecasts (see, e.g., Strategy, 1999), but they can only be considered as preliminary. The main difficulty is that the growth path shown in Table 5.2.1.2 has been estimated on the assumption of a constant export elasticity of GDP, equal to the coefficient value b = 0.18. This may not be true in the longer run. As equation (P1) implies a constantly growing share of exports in GDP, the export elasticity of output would tend to increase because of growing dependence of GDP growth on exports. Indeed, a systematic increase of the share of exports in GDP is to be expected, as the Polish economy will become more open in the process of integration with the EU. The assumption of a constant export elasticity of output will be relaxed in the next section, which deals with the impact of EU accession.

To arrive at forecasts of GDP per capita growth it is necessary to take into account the long-term trend in population growth. In the past, Poland used to belong to countries with high rates of population growth, but since the beginning of the transformation fertility have rates declined substantially in reaction to falling living standards, reduced real social security benefits, and changed incentives. The average annual population growth declined from 0.25 percent in 1989-1993 to only 0.06 percent in 1994-1998, although such growth is still positive, in contrast to most other CEECs. If a 0.1 percent rate is assumed for population growth for 1999-2010, GDP per capita growth rates will only marginally differ from GDP growth rates as reported in the last column of Table 5.2.1.2. In what follows, a long-term per capita growth average of 5 percent is assumed and the catching-up period would thus be 33 years (starting in 1997).

Other macroeconomic variables: the demand side

It is necessary to check whether the suggested growth path is internally consistent and does not lead to serious internal or external imbalances. The most stable component of aggregate demand is consumption. Following a period of decline and stagnation in the early stages of transformation, real consumption grew at 5-7 percent between 1994 and 1997, before slowing to 4.2 percent in 1998, and is expected to be about 3.5 percent in 1999. Taking into account the suggested GDP growth path as shown in Table 5.2.1.2, real consumption is assumed to grow at between 4 and 5 percent up to 2010. This assumption seems to be consistent with long-term trends and, allows for a substantial increase in per capita consumption, which is feasible from a political and social perspective.

During the period of economic growth, the incremental capital-output ratio (ICOR) (in real terms) increased rapidly from 2.2 in 1995 to 5.1 in 1998, reflecting diminishing returns from early efficiency gains and from better use of existing capacities.[23] While it is quite difficult to predict changes in such ratios,[24] it can be expected that the ratio will remain around that level with a slight tendency to increase, gradually converging to the levels observed in industrialized countries. This assumption, together with the suggested GDP growth path, imply a decline in

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[23] To eliminate the impact of price changes, the ICOR is defined as $INV(t-1)/[(GDP(t)/(1+\pi(t))-GDP(t-1)]$, where $\pi(t)$ is the GDP deflator in year t.

[24] Once the transition period is over, the ICOR will tend to rise. At the same time, however, investment gradually shifts from capital-intensive to technology- and human capital-intensive sectors, which would tend to reduce the ICOR over time. It is difficult to determine which tendency will prevail.

investment growth rates from 14 percent registered in 1998 to 9-10 percent in 1999-2000, and to some 6 percent in real terms towards 2010. Under these assumptions, however, the external balance gets gradually out of control: the current account deficit systematically increases from 4.5 percent of GDP in 1999-2001 to more than 7 percent of GDP in 2008-2010. The balance of payments constraint would therefore require a slower growth of either consumption or investment, or a significant improvement in the investment-output ratio. A reduction in the consumption growth rate to 4 percent throughout brings the current account deficit under control: it first grows to 6.3 percent in 2000 and then gradually declines to 4.5 percent of GDP in 2010.

The "non-accession" scenario is therefore constructed from the following set of equations and identities:

$$GDP(t) = (1+r(t))*GDP(t\text{-}1)$$
$$rGDP(t) = 3.5 + 0.18\ rEXP(t) \tag{P2}$$
$$CA(t) = GDP(t) - C(t) - I(t) = EXP(t) - IMP(t)$$

Note that exports (*EXP*), consumption *C*, and investment *I* are exogenously given, while imports (*IMP*), the current account balance *CA* (or net exports) is defined as the difference between output and absorption. In the non-accession scenario, it is also assumed that the balance of other current transactions (services, factor incomes, transfers) is zero. The two scenarios (one with higher consumption growth and a larger current account deficit, and the other with lower consumption and deficit) are presented in Tables 5.2.1.3 and 5.21.4 .

Unemployment, real wages, and inflation.

To establish the relationship between economic growth and the level of unemployment, the regression equation from the last footnote to section 3.1 is used. GDP growth rates between 4.9 percent and 5.3 percent p.a. will allow for a gradual reduction in the unemployment rate. However, the process will be slow, and in 2010 the unemployment rate will still stand at 8.3 percent, only two percentage points down from 1998-1999 levels. Relatively high unemployment is likely to persist in Poland in spite of high growth, because the necessary restructuring in heavy industry and particularly agriculture will involve significant lay-offs, systematically adding to the officially registered pool of unemployed.

Changes in real wages are more difficult to predict. However, wage fluctuations are likely to be much smaller than in the past and more in line with the assumed consumption growth path. In the recent growth period 1995-1998, average real (gross) wages grew slightly faster than real consumption (4.5 percent vs. 4.25 percent). One can expect that this proportion will be broadly maintained in the future, because it is consistent with the assumed GDP growth and because the propensity to save is expected to increase with growing incomes. Thus it will be assumed that real wages will increase at rates equal to the predicted consumption growth rates multiplied by a factor of 1.06.

Inflation is most difficult to predict, as it is essentially a short-term phenomenon. In the Medium Term Monetary Policy Strategy of the National Bank of Poland

(Strategy, 1998) it is planned that annual inflation, as measured by changes in December-to-December consumer price index (CPI) figures, will gradually decline from 6.6-7.8 percent in 1999 to below 4 percent in 2003. This is a realistic scenario if monetary and fiscal discipline is maintained. However, further significant disinflation after 2003 will be more difficult because the expected productivity gains in the tradable sector will put upward pressure on wages across all sectors and will keep inflation at higher levels than in the European Union. Therefore it is assumed that between 2003 and 2010, inflation will come down slowly, to reach 2.5 percent at the end of the period under analysis.

Predicted changes in unemployment, real wages and inflation for 1999-2010 are shown in Table 5.2.1.5.

Exchange rates and GDP per capita

Poland's real exchange rate is expected to appreciate in the medium term, because of relative productivity gains in the tradable sector (Balassa-Samuelson effect). This will be reflected in a higher rate of inflation in Poland than in the main trading partners (i.e., in the EU). In line with this mechanism, it will be assumed that the nominal exchange rate will depreciate somewhat in 1999-2003, but at a declining rate, and that as of 2003 the nominal rate will remain stable. This pattern is consistent with the intention of Polish authorities to join the EMU, which requires the national currency to be first part of the ERM II mechanism. This implies stability of the nominal rate and, under higher domestic inflation than in the euro-zone, a real appreciation. The values of the nominal exchange rate, together with differences between price levels in Poland and in the EU price level, allow for calculating changes in PPP exchange rates. Under the specified assumptions, the PPP rate increases from 2.11 zlotys/USD in 1998 to 3.23 zlotys/USD in 2010, and the ratio of the PPP rate to the market rate increases from 0.605 in 1998 to about 0.788 in 2010.

PPP values are then used to calculate the values of GDP and GDP per capita expressed in PPP dollars. All the data are shown in Tables 5.2.1.6 and 5.2.1.7: it can be seen that GDP per capita figures in PPP dollars for Poland increase at a much faster rate than similar figures for the EU-3 (Greece, Portugal, and Spain). The speed of convergence depends on the scenario selected. In the non-accession scenario the difference between the EU 3 and Poland narrows from 1 to 2.15 in 1998 to 1 to 1.53 in 2010. In the EU-accession scenario II (see below), which implies fastest growth, the difference falls to 1 to 1.42. A similar calculation for the convergence to the GDP per capita level of EU 15 shows that the differnce between Poland's GDP per capita to that of EU 15 narrows from 1 to 2.94 in 1998 to 1 to 2.02 in the non-accession scenario, while the difference further decreases to 1 to 1.91 in the case of accession scenario II.

Accession Scenario

Static and dynamic trade effects of accession to the EU are certain to further accelerate expansion of Poland's exports to EU markets. First, it can be expected that elimination of the remaining barriers to trade will increase, through trade creation and trade diversion effects, the share of Poland in EU imports. This implies an increase in

the income elasticity of demand for Polish exports relative to the average elasticity for all imports to the EU. It will be assumed that the ratio of the two will rise from 1.7 to 2.0 in 2002-2004, that is, immediately before accession, and then it will rise further to 2.25 in 2005-2010, that is, after accession. Second, the dynamic effects will reinforce the positive impact of export growth on GDP. This will be approximated with an increase of the elasticity of GDP with respect to exports from 0.18 to 0.22 from the moment of accession, that is, from 2005 onwards. This increase is consistent with the process of long-term structural convergence of the Polish economy to the EU economy.[25]

These two changes will result in acceleration in the average Poland's export growth rate from 8-8.5 percent to 10 percent p.a., and in GDP growth rate from the average of 5 percent to about 5.5 percent p.a. In this scenario, consumption is allowed to grow somewhat faster from 2003 onwards, reflecting income gains from increased exports and GDP. The results of the calculations are shown in Table 5.2.1.8 as EU Accession Scenario I.

As for the free flow of capital, the massive inflow of FDI to Poland in 1998 – the largest ever registered - was equivalent only to 3.25 percent of GDP. This proportion is likely to increase during 1999-2010. The figures shown in the last three columns of Table 5.1.2 suggest that FDI inflows would broadly double from one three-year period to another before and after accession. Remaining on the conservative side, it will be assumed that annual FDI inflows would increase by a factor of 1.5 in each consecutive three-year period, starting in 2002, that is, three years before accession. This implies that the share of FDI in GDP would increase to 3.9-4.0 percent in 2002-2004, to 4.8-5.1 percent in 2005-2007, and to 5.9-6.2 percent in 2008-2010.

In order to evaluate the impact of these additional FDI inflows on Poland's economic growth it is assumed that the ICOR is equal to 4.[26] Although Poland is likely to remain an attractive place for FDI, it would be unrealistic to assume that all profits on foreign projects would be reinvested in the country. The net factor incomes paid out in 1998 were about $0.6 billion, or some 4 percent of the accumulated stock of FDI. It is assumed that a similar proportion will also prevail in future. Repatriated profits equal to 4 percent of the new inflow of FDI accumulated over years will thus be included in the current account balance.

As for the structural assistance programs, the amount of funds allocated in the new Financial Perspective for 2000-2006 suggests a total transfer of EUR 11.440 billion in 2005, which is equivalent to an arithmetic average per capita for the six candidate countries (five CEECs plus Cyprus) of about EUR 175. The actual amounts can be lower because of the limited absorptive capacities of CEECs. Assuming a disbursement ratio of 0.7 for the new members and equal per capita distribution across new members, the likely amount of Structural Funds actually flowing to Poland in 2005 would be only about EUR 120-125 per capita, increasing to some EUR 160-165 per capita in 2006.

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[25] The average export elasticity of output for EU countries estimated for 1990-1998 is 0.34.
[26] The ICOR for FDI can be assumed to be somewhat lower than for overall investment.

The second component of structural assistance is related to agriculture. In the light of the Financial Perspective for 2000-2006, agricultural assistance to new members is planned to rise from EUR 1.6 billion in 2002 to EUR 3.4 billion in 2006 (Table 5.1.3). The distribution among new members is uncertain. Poland accounts for more than 70 percent of the total farming population of the CEEC 5, but certainly not all farmers will be covered by agricultural assistance. Assuming that Poland will receive at least 65 percent of the amount earmarked for agriculture in 2005, the amount of transfers will be some EUR 1.9 billion. This level of assistance represents less than 40 percent of CAP average spending per hectare in incumbent members, such as Germany.

Other transfers from the EU will be used to support domestic policies and public administration. Like agricultural payments, they take the form of unrequited transfers and as such reduce the current account deficit. With a 65 percent share in agricultural payments and a 61 percent share in other transfers, Poland can be expected to receive under these headings a total amount of EUR 2.68 billion in 2005 and EUR 3 billion in 2006. As the EU has not yet decided on the budget for the period after 2006, the same amount of transfers will be assumed for 2007-2010.

Net EU transfers are calculated to be equivalent to 2.6-3.0 percent of Poland's GDP, and they will undoubtedly contribute to an acceleration of economic growth. The actual effect will depend on the proportion of transfers spent on capital investment. It is difficult to anticipate the actual composition of transfer payments. As CAP payments and other transfers will probably be used for current consumption, some 60 percent of net transfers can be expected to add to the country's capital accumulation. In what follows, a simple assumption is made that all transfers from the Structural Funds are used for investment, while all other transfers are used for current consumption. Net transfers are thus decomposed according to the proportions in which the two categories of transfers are made. Assuming an ICOR of 4, the expected increase in the annual growth rate after 2005 would be between 0.2 and 1.2 percentage point.[27] This, of course, is only the direct impact of structural assistance programs on growth. In a broader perspective, the indirect effects would include additional private investment induced by improved physical and institutional infrastructure due to structural assistance programs.

Adding to that the impact of FDI on growth would mean an increase in the expected rate of growth after 2002 from an average of 5.3 percent (EU accession scenario I) to some 6.6-7.2 percent p.a. (EU accession scenario II).

The "EU Accession" scenario with full effects of faster export growth, larger FDI, and Structural Funds is calculated from the following set of equations and identities:

$$GDP_A(t) = (1+r(t))*GDP_A(t\text{-}1)$$
$$rGDP_A(t) = 3.5 + b*rEXP_A(t)$$
$$CA(t) = GDP(t) - [C(t) + IT(t) - ST + 0.04\Sigma\Delta FDI]$$
$$IT(t) = I(t) + \Delta FDI + ST \qquad\qquad\qquad\qquad (P3)$$

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[27] Structural transfers will mostly be used for infrastructural investment, where the direct ICOR is typically higher than in production. However, since large positive externalities can be expected from those investment projects, it has been decided to hold the ICOR constant at 4 for all foreign investment inflows.

$$GDP_B(t) = GDP_A + \Delta GDP_A$$
$$\Delta GDP_A(k) = (k-1)\Delta I(1)/ICOR + (k-2)\Delta I(2)/ICOR + \ldots + \Delta I(k-1)/ICOR$$
$$= \Sigma(k-t)\Delta I(t)/ICOR$$

It can be seen that the GDP level in year t is a sum of two components. First, there is the export-driven component, denoted as GDP_A, with export elasticity (coefficient b) changing from 0.18 to 0.22 in 2005 and with revised upward export growth rates $rEXP_A$. Second, there is the foreign investment-driven component that is determined by the sum of additional FDI (ΔFDI) and structural transfers (ST). This "new" augmented GDP is denoted as GDP_B. The current account balance, CA, is the difference between GDP and domestic absorption, reduced by the amount of structural transfers, and increased by the amount of repatriated profits on a growing stock of additional FDI. Note that EXP, C, I, FDI and ST are all exogenously determined. In this variant, consumption is allowed to grow somewhat faster, as in the EU accession scenario I, because of income gains due to additional exports. The full scenario is presented in Table 5.2.1.9.

Other macroeconomic variables

Under EU-accession scenarios, unemployment declines faster and real wages grow at a higher rate than in the non-accession scenario. Higher economic growth allows for the level of unemployment to fall from 10.4 percent in 1998 to less than 7 percent (scenario I) and to less than 4 percent (scenario II). Similarly, average real wages are allowed to grow at rates higher by nearly one percentage point than in the non-accession scenario II. In EU-accession scenario II, the current account deficit increases rapidly reaching 6.5 percent of GDP in 2005, with the overall balance of payments gap at some $2.6 billion. Only after 2005 is deficit narrowing rapidly, with the overall balance turning into a surplus as of 2008. Therefore, under this scenario there is also a transitory gap in the balance of resources which will have to be covered by external borrowing, larger FDI inflows, or reduced consumption growth.

Summary

In the medium-term macroeconomic forecast for Poland for 1999-2010, the two basic scenarios were as follows: one assuming that Poland's entry to the EU will take place in 2005, and the other assuming that accession is postponed beyond 2010. The analytical framework is based on a simple model linking GDP growth with export expansion and the inflow of foreign investment. A number of simplifying assumptions have been adopted with respect to future growth rates of exports, other components of final demand, wages, and prices.

The "non-accession" scenario shows GDP growth rates varying between 4.9 percent and 5.3 percent. If consumption growth does not exceed 4 percent p.a., the current account deficit remains under control at between 2 percent and 4 percent of GDP; but if consumption growth is allowed to increase gradually to 5 percent p.a., the current account deficit reaches the dangerous level of more than 7.5 percent of GDP. The "EU accession" scenario is examined in two variants: the first assumes acceleration of growth due to faster expansion of exports and more trade dependence, and the second adds the effects of FDI and structural transfers from the EU on GDP growth. The first variant shows an acceleration of economic growth to 5.3-5.5 percent and faster

growth of consumption, with current account deficit broadly stable at 5 percent of GDP. The second variant shows GDP growth rates increasing considerably to between 5.5 and 6.5 percent, allowing for higher consumption and investment. The current account deficit first increases to 6.5 percent of GDP and then falls to 3 percent, being financed by large foreign capital inflows.

5.2.2 The Czech Republic and Slovakia

Since the forecasts for the two countries were generated by a similar methodology, these forecasts are presented here in a joint section.

Potential growth prospects

As a first step, forecast estimates of the potential medium- and long-term growth of the Czech and Slovak economies are constructed. One possible approach is based on the calculations carried out in section 4 as reported in Table 4.4, whereas another approach is the Barro and Levine-Renelt growth equations as applied by Fischer, Sahay, and Vegh (1998a) (see Table 4.1). Alternative growth forecasts based on the two approaches are presented in Table 5.2.2.1C and 5.2.2.1S. The upper parts of the tables (rows A-C, and A-D, respectively) report growth projections based on the recovery regression from Table 4.4, along with the underlying values of the variables that are used. The lower parts (rows E-F) report growth projections based on the approach suggested by Fischer, Sahay, and Vegh (1998a).

It is important to emphasize that the figures obtained using both approaches are potential growth rates. Currently, both the Czech and Slovak Republics are implementing austerity measures and struggling with economic downturn (or deceleration) caused by delayed reforms and twin deficits. Accordingly, they are expected to achieve substantially lower growth rates in 1999 and 2000 (see below).

The first forecasts (rows A) are identical with those reported in Table 4.4 for the two countries. The forecasted growth rate for the Czech Republic is 5.14 percent, while that for Slovakia 5.21 percent. The estimates reported in rows B were computed with higher values of per capita initial income: $10,000 for the Czech Republic and $8,000 for Slovakia. These changes are supposed to take account of the convergence effect: as the countries' income increases, they tend to grow more slowly. The figures used roughly correspond to those reported by WIIW (1998) for 1996 (in PPP terms).

In addition, forecasts in rows B assume an increase in the liberalization index by ten percent. The projected growth rate thus becomes 5.32 percent for the Czech Republic and 5.96 percent for Slovakia. Rows C retain the higher liberalization and higher per capita incomes, and additionally assume lower population growth (in line with current demographic trends). This increases the forecasted growth rates slightly to 5.36 percent and 6.05 percent, respectively. In addition, row D in the Slovak table assumes that Slovakia catches up with the Czech Republic in terms of liberalization, and is hence expected to grow more rapidly, at 6.59 percent.

Finally, the lower part of Tables 5.2 2.1C and S, rows E and F, report the values based on the approach utilized by Fischer, Sahay, and Vegh (1998a), but with the same

values for population growth, school enrollment, and initial income as in the upper part of the tables.[28] We assume that the government consumption remains 20 percent of GDP in both economies (this is the value reported by Fischer, Sahay, and Vegh (1998a, Table 6), and the investment share will be higher by 10 percent (the figures reported by Fischer, Sahay, and Vegh, 1998a, in Table 6 are 31 percent of GDP for the Czech Republic and 22 percent for Slovakia).[29] According to these values the Czech Republic should grow at an average annual rate of 3.97 percent according to the Barro regression, and 4.40 percent according to the Levine-Renelt regression, while Slovakia should grow at an average annual rate of 4.26 percent according to the Barro regression, and 3.33 percent according to the Levine-Renelt regression.

The variety of growth projections presented in Tables 5.2.21C and S can be reconciled as follows. The figures reported in rows A can be interpreted as the *immediate growth potential* of the two economies (assuming no accession), given the current level of liberalization and demographic characteristics. The figures in row C and D (where applicable) reflect the *medium term potential*, assuming continuing liberalization and further declines in the rates of population growth. However, it is reasonable to assume that the post-communist countries will eventually converge to the growth patterns observed in market economies. Thus, the estimates presented in the lower part of the tables can be interpreted as the *long term growth prospects*. Nevertheless, it should be emphasized again that these figures only reflect potential growth. Actual growth performance will depend on whether the economies live up to our expectations on continuing liberalization, as well as a variety of endogenous and exogenous factors that are not captured by this simple framework.

The effects of EU accession will come through several channels (see Baldwin, Francois, and Portes, 1997). The economy will gain from the elimination of trade barriers on EU-CEEC trade, adoption of the more liberal EU external tariffs, and becoming part of the Single Market. Baldwin, Francois, and Portes (1997) estimate the potential cumulative gain to seven CEECs (Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia, and Slovenia) from joining the EU at between 1.5 and 18.8 percent of their total GDP. The former figure only considers the aforementioned effects (conservative scenario), while the latter also considers the effects of EU accession on reducing the risk premium on investment in the CEECs. The acceding countries will also benefit form receiving significant subsidies from the EU's Structural Funds. Last but not least, EU membership will largely stabilize and improve the overall economic environment by precluding abrupt policy changes, implanting well-defined property rights, minimum legal standards, and regulation of capital markets. It will also facilitate further economic liberalization. The acceleration of liberalization will have an important effect, as can be seen from comparing rows A and B in both Tables 5.2.2.1C and 5.2.2.1S.

Therefore, in the case of the Czech Republic the growth rate in row C (5.36 percent) can be interpreted as the medium-term forecast of growth in both scenarios (if the current demographic trends continue). For Slovakia the growth rates in rows C and D

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[28] Using different values, Fischer, Sahay, and Vegh arrive at somewhat higher estimates of growth prospects.
[29] Fischer, Sahay, and Vegh make different assumptions about consumption and investment when constructing their growth projections. They assume that the former will fall to 10 percent of GDP, and the latter will reach 30 percent of GDP in all the countries that they consider.

can be interpreted as the medium-term forecasts (again, if current demographic trends continue). Accordingly, Slovakia can be expected to grow by 6.05 percent per annum without the prospect of EU membership, and 6.59 percent in the run up to EU membership. The latter figure is based on the assumption that the prospects of EU membership will induce Slovakia to catch up with the Czech Republic in terms of economic liberalization.

To account for the additional effects of accession stemming from trade liberalization and subsidies from the Structural Funds, we believe it is prudent to expect these effects to push the growth rates up by approximately one percentage point annually after accession. Given the estimates of Baldwin, Francois, and Portes, as well as the potential size of the transfers from the EU's Structural Funds, this expectation seems reasonable. Hence, the long-term growth potential of the Czech Republic after accession is 5.2 percent per annum (compared with 4.2 percent without the accession), while for Slovakia these are 4.8 percent and 3.8 percent, respectively. These figures were obtained by averaging the estimates reported in rows E and F and adding one percentage point as the effect of EU accession. Table 5.2.2.2 summarizes these results.

Forecasts of macroeconomic developments for alternative scenarios

In what follows forecasts of developments in the Czech and Slovak economies will be presented in three periods (1999-2000, 2001-2004, and 2005-2010), under two alternative scenarios (accession and no accession). The Short term forecast for 1999-2000 is based on the OECD forecast for the Czech Republic, while in the case of Slovakia[30] it is based on the recent forecast of the Institute for World and Slovak Economy of the Slovak Academy of Sciences.

The short-term forecast for the Czech Republic envisages an improvement in growth performance from -0.5 percent in 1999 to 2.4 percent in 2000. An acceleration of capital formation and external demand will be the major sources of growth in this period, while public and private consumption will experience moderate growth.

The short-term forecast for Slovakia foresees a significant slowdown of the Slovak economy in 1999 and a slow turnaround in 2000. GDP growth is expected to fall to 1.5 percent in 1999 (from 4.4 percent in 1998 and 6.5 percent in 1997). The reduction of growth is caused mainly by falling domestic demand (-4.5 percent), which in turn is largely due to a contraction in investment (-12.4 percent).

For both countries, we assume that in 1999-2000 economic developments will not yet be influenced by integration or non-integration into the EU. The developments in the

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[30] A specific problem with our forecasts for the Slovak Republic is the low reliability of the available data. National accounts for the Slovak Republic show a reduction in the trade deficit from -55.8 billion koruna in 1996 to -27.1 billion koruna in 1997 (both in constant prices of 1995). However, customs statistics showed only a moderate reduction of the trade deficit from -69.2 billion koruna to -67.5 billion koruna (both in current prices). The current account deficit declined only slightly from -$2.1 billion to -$1.3 billion between 1996 and 1997. This indicates that trade in services can account only for a part of the strong reduction of the trade deficit reported by the national accounts. As a result, we expect that this figure will be significantly revised in the future. This could reach up to 2 percent of GDP. Nevertheless, in order to ensure consistency and comparability, we use the official data for our forecasts.

subsequent periods, however, will crucially depend on whether the two countries become members of the EU.

For the forecast of GDP growth rates for non-accession and accession we take the results in Table 5.2.2.2, which were based on estimations of growth equations. What follows is the forecast of the elements of GDP assuming non-accession and accession. Technically speaking, the accession will influence macroeconomic developments via interest rates, public consumption and real wages.

In order to get forecasts for the main elements of the GDP we estimate the determinants of consumption and investment functions for a panel data set of CEECs (Bulgaria, Hungary, Poland, Romania, Slovakia, Slovenia, and the Czech Republic). The results are summarized in Table 5.2.2.3. They show that interest rates and public consumption (and real income in the regression for private consumption) are significant determinants of private consumption and investment in CEECs.

The Czech Republic has experienced a significant reduction in real interest rates (the lending rate according to the IMF, deflated by the CPI) since the publication of the first opinion of the European Commission on the accession of Czech Republic to the EU. The prospect of early membership in the EU, which has reduced the risk premium for investment in the Czech Republic, and declining inflation have resulted in stable interest rates of about 12 percent. Thus, real interest rates have ranged between 3.4 and 4.3 percent since 1995, and the higher unexpected inflation in 1998 caused a decline to only 2 percent. This level is lower than in Portugal in the whole quoted period.

In the accession scenario, we assume a continuation of low real interest rates both in the periods before accession (2.87 percent annually between 2001 and 2004) and after accession (1.74 percent between 2005 and 2010). In contrast, we assume that real interest rates will significantly increase in the non-accession scenario. Consequently, we assume average rates of 4.81 percent and 3.82 percent in the periods 2001-2004 and 2005-2010, respectively.

While it may seem odd that in this estimation public consumption determines private consumption, here the idea is that public consumption is taken as a proxy for transfers from the state budget to private income (including unemployment benefits, pensions, children benefits, subsidies to loss-making companies, as well as to prices such as energy, public transport, etc.). These transfers are not necessarily part of public consumption according to national accounts, but they are strongly correlated with it. The estimations show that the relationship between public and private consumption is relatively robust, although significant at 10% level only.

We assume that public consumption will grow faster as a result of the preparatory measures for accession and possibly the influx of EU funds under the accession scenario. We expect that the difference between the two scenarios in the Czech Republic will be 0.5 percentage points before the accession (2001-2004) and 1.8 percentage points after the accession (2005-2010).

As far as Slovakia is concerned, it represents a specific case in Central and Eastern Europe. Real interest rates seem to be positively (and significantly) related to capital

formation in Slovakia. This can be explained only by the fact that the Slovak government undertook large infrastructure investments financed by borrowing between 1993 and 1998. Real investment grew by an incredible 40 percent in both 1995 and 1996. Such massive public investment pushed up interest rates, as can be seen in Table 5.2.2.3 in the positive effects of real interest rates on capital formation.

This hypothesis is further confirmed by a comparison with the other countries in Central and Eastern Europe. Countries with expansive monetary policy and large public investment generally show small and insignificant effect of real interest rates on investment. In turn, we found negative and significant coefficients for Hungary and the Czech Republic, which followed more cautious monetary and fiscal policies. However, the result observed for Slovakia is based on a short-term, politically motivated deviation from monetary equilibrium. Therefore, we expect a convergence to more typical behavior (and thus a negative relationship between the interest rate and investment) in Slovakia, as in the Czech Republic, in the long-term forecast (2001-2010).

Slovakia has experienced a significant increase in real interest rates from only 6.3 percent in 1995 to 13.6 percent in 1998. This was caused by the unsustainable monetary and fiscal policies of the Slovak government and by the exclusion of Slovakia from the first wave of the EU's eastern enlargement. The latter implied an increase in the risk premium for investment in Slovakia.

In the accession scenario, we assume that the perspective of early membership in the EU will reduce the risk premium on investment in Slovakia. Low inflation will further contribute to a reduction in real interest rates to about 2 percent. In contrast, we assume that real interest rate will remain relatively high (3.77 percent between 2001 and 2004) under the non-accession scenario. Nevertheless, even this expected real interest rate is an improvement over the levels experienced in 1997-1998.

We assume that public consumption will grow faster as a result of the preparatory measures for the accession and possibly the influx of EU funds under the accession scenario. We expect that the difference between the two scenarios will be 0.5 percentage points before accession (2001-2004) and 1.5 percentage points after accession (2005-2010).

In many countries, nominal wages are largely the result of formal negotiations between enterprises and trade unions in the most important sectors. These negotiations more or less determine the wage level for the whole economy. This system was called "tripartite negotiations" in both the Czech Republic and Slovakia. Although this system has lost much of its importance recently, we still consider nominal wages as an exogenous variable. Although wage growth (above productivity growth) is one important source of inflation, negotiations on nominal wages try to take into account the possible implications of inflationary developments for real wages. Thus, our assumption that real wages are exogenous does not seem to be a strong simplification. In the Czech Republic, we assume a higher real wage growth in the accession scenario by 1.0 and 1.5 percentage points in the respective forecast periods, while in Slovakia we assume 1.3 percentage points for this variable in both periods.

As a result, the investment and consumption paths will differ significantly between the two alternative scenarios (see Tables 5.2.2.4C and 5.2.2.4S). In the Czech Republic, private consumption will grow by 0.6 percentage points faster in 2001-2004 and by 0.9 percentage points faster in 2005-2010, when comparing the accession and non-accession scenarios. Furthermore, the growth differentials in capital formation in the accession scenario in comparison with the non-accession scenario will reach 3.1 and 4.0 percentage points in 2001-2004 and 2005-2010, respectively. The growth of the domestic demand under the accession scenario will be 1.3 and 2.0 percentage points above the growth rates under the non-accession scenario in the respective periods.

In Slovakia, private consumption will grow faster by 2.1 percentage points in 2001-2004 and by 0.7 percentage points in 2005-2010, when comparing the accession scenario and the non-accession scenario. Furthermore, the growth differentials in capital formation in the accession scenario in comparison with the non-accession scenario will reach 3.6 and 2.6 percentage points in 2001-2004 and 2005-2010, respectively. The growth of the domestic demand will be 2.3 and 1.9 percentage points above the growth rates in the accession vis-a-vis the non-accession scenario, in the respective periods.

Finally, we assume that GDP growth will reach the rates reported in Table 5.2.2.2, at the end of the period 2001-2005. Accordingly, for the Czech Republic GDP growth is forecast to be 4.5 percent and 5.0 percent in 2001-2004, and 4.19 percent and 5.19 percent in 2005-2010, for the accession and non-accession scenarios, respectively. In Slovakia, average GDP growth is forecast to be 4.7 percent and 6.0 percent in 2001-2004 and 3.8 percent and 4.8 percent in 2005-2010 for the accession and non-accession scenarios, respectively. Note that we have already adopted for the pre-accession period different sets of assumptions under the accession and the non-accession scenarios. These differences influence the speed of convergence to potential growth, although such growth is the same in both scenarios.

For both scenarios and both countries, we expect a significant reduction in the trade deficit between 2000 and 2010. In the Czech Republic, in the non-enlargement scenario, we expect that the net exports turn positive, while in the enlargement scenario they remain slightly negative. With respect to Slovakia, note that net exports are relatively high due to possible statistical bias in 1997 in both scenarios. If we reduce net export forecasts by about 30 billion koruna (in constant prices), net exports will be only slightly positive or even negative.

In both economies the improvement in the trade balance in the non-enlargement scenario is reached by exchange rate devaluation and a reduction in economic growth. The trade deficit is expected to be greater under the accession scenario, reflecting the faster growth of the domestic demand and the available transfers from the European Union.

From the technical point of view, net exports are computed as a residual. However, this can also be presented as a comparison of two different forecasts of economic development: First, we estimate potential growth in the economies under the accession and the non-accession scenarios. Second, we provide a structural forecast of GDP components under the assumption of net exports converging to zero. We show

that both forecasts are consistent. The exact path of net exports is then determined residually. Alternatively, we can also use assumptions on the development of exports (usually, exports are exogenous in forecast models because of the variety of factors influencing them). This two-way forecast of GDP growth shows the robustness of the figures presented.

In the non-accession scenario, we do not see any possibility for Slovakia to finance its current account deficits comparable to those in the past. In the accession scenario, the assumption is that trade balance will improve based on the reduction of trade barriers in the EU against the Czech Republic and Slovakia. These barriers include not only tariffs, but also non-tariff restrictions to trade. For Austria, Fidrmuc and Pichelmann (1996) expected (based on the well-known Cecchini report) a reduction in real exports to the EU (the pre-1995 twelve member states) of 4.7 percent (that is, about 0.9 percentage points annually) between 1995 and 2000 in the non-accession scenario. Note that Austria before its accession was much better integrated into the European division of labor than the CEECs are now. Therefore, we assume that Czech exports will increase by about an additional 1.0 percentage points in 2001-2004 and 2.0 percentage points in 2006-2010; the respective rates for Slovakia are 1.7 and 3.0. The comparison with the Austrian example shows that our assumptions are relatively cautious.

Tables 5.2.2.4C and 5.2.2.4S list the actual values for 1990-1998, the forecasts for 1999 and 2000, and the projections of average growth rates for the periods 2001-2004 and 2006-2010. The projections for 2001-2004 and 2006-2010 have been constructed for two alternative scenarios: no accession and accession in 2005. The first part of Table 5.2.2.4 reports the main components of national accounts in constant prices. The second part then reports the growth rates of these indicators. Finally, the third part reports some other indicators of interest.

Tables 5.2.2.4 list only average forecast values for the periods 2001-2004 and 2005-2010. Beyond the average rates we expect that both economies will experience some cyclical movements in 2004 to 2007 under both the accession and non-accession scenarios. Thus, the accession scenario follows the current cyclical pattern (recession in 1998-1999, recovery in 2000-2003, boom in 2004-2007, and a soft landing in the following years), while the non-accession scenario would extend the current recession until 2005. International experience (e. g., in Latin America) shows that it is much more difficult to reach growth after a long period of recession. Expectations of continued stagnation have to be broken by credible changes in economic policy. Thus, recovery after 2007 under the non-accession scenario can be brought about by progress in the (delayed) accession process.

Summary

Accession to the EU will bring about higher economic growth through several channels. EU membership (and the prospect of it in the run-up to accession) will increase private investment, both because of greater inflow of FDI, as well as because of lower risk premiums and lower real interest rates. Real wages are expected to grow faster in the accession scenario, thus fueling greater private consumption (and at the same time, worsening the trade balance). EU membership will have a strong positive effect on both imports and exports. In the Czech Republic, it will bring about a

moderate deterioration of the current account balance. However, the deterioration of the current account will be sustainable because of the greater inflow of FDI. In Slovakia the current account balance is expected to be positive, although it will be lower in the accession scenario. Finally, higher growth will also be fueled by the transfers from the EU's Structural Funds.

5.2.3 Hungary

The Hungarian forecasts take as a point of departure two base conditions: (1) the primary importance of foreign economic relations for the path of growth (and the development of the components of GDP); and (2) the limited propensity to save in Hungary and the resulting necessity of attracting foreign saving.

Foreign economic relations

Hungary's growth in 1990-1999 was, as its small country status suggests, critically influenced by its trade performance. Recovery from the transformational recession in 1992-1994 was driven by the growth of exports (already reoriented toward Western Europe). Moreover, the slowdown of growth in 1995-1996 was overcome by austerity measures, many of which supported exports and encouraged import substitution. Here one should mention the substantial real devaluation of the forint in 1995, accompanied by a switch to a pre-announced crawling peg system, and the introduction of temporary import surcharges. Attempts in the 1990s to support output growth by stimulating domestic demand have always had a tendency to increase the current account deficit.

A simple regression of the rate of volume growth of GDP (*rGDP*) on that of exports (*rEXP*)[31] for 1990-1999 shows the following close relationship:

$$rGDP = -1.992 \quad + \quad 0.340 * rEXP \quad\quad\quad\quad\quad\quad (H1)$$
$$\quad\quad\quad (-1.906) \quad\quad (4.346)$$

adjusted $R^2 = 0.6653$

Hungary's export performance was heavily influenced by demand conditions in the EU, and particularly Germany, and the recovery of supply, particularly with the help of inward FDI. Figure 5.2.3.1 shows the responsiveness of Hungarian exports to various indicators of the demand for those exports in Western Europe. The negative constant term in the equation emphasizes Hungary's strong reliance in foreign trade: it suggests that without substantially expanding exports GDP growth could not be realized in 1990-1999 (with a possible expansion of domestic demand alone, brakes should have been applied to prevent a deterioration of the current account).

In the 1990s, Hungary was a leading target country for FDI among the CEECs: in 1991-1998 the economy received an average 4.9 percent of GDP annually in FDI. This investment was increasingly oriented toward exports, as in fact Hungary's small-

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[31] Here and throughout the whole analysis exports and imports mean the categories in the GDP classification, i.e., trade of goods and non-factor services.

country status makes necessary. Without such investment, the country could not have achieved an export expansion of 26 percent in 1997, followed by one of 16 percent in 1998.

The following regression explains the growth of exports in terms of the development of import demand in the EU 15 (*rEUIMP*) and the last three years' cumulative FDI as a percentage of GDP (*CFDI*).

$$rEXP = \ -26.374 \ + \ 2.452* \ rEUIMP + 1.452* \ CFDI \hspace{2cm} (H2)$$

$$(-3.610) \hspace{0.8cm} (4.383) \hspace{1.5cm} (2.968)$$

adjusted $R^2 = 0.8059$

A simple regression explaining exports solely in terms of EU imports is as follows:

$$rEXP = 1.847* \ rEUIMP \hspace{4cm} (H3)$$
$$(3.876)$$

adjusted $R^2 = 0.4063$

These calculations can easily be criticized both for the short sample on which they are based and the heterogeneity of the period that they cover. It is immediately clear that the estimated parameters can provide us with only general guidance. If we take equation (H1) and expect the Hungarian economy to grow by a modest yearly 4 percent in the coming period, the required export growth would be 17.5 percent a year.

Based on equation (H2), if Hungary would like to increase its exports by 8 percent annually and faces 5 percent growth of imports of the EU, the required three-year cumulative FDI would amount to 15.3 percent, which would require a yearly FDI equivalent to 5.1 percent of GDP.

The implication of this exercise is that in recent years Hungary has achieved a modest rate of investment, to which FDI contributed in an unusually high share. The result was spectacular growth of exports and relatively modest growth of GDP. One reason for this peculiar development was the assembly type of operations of the foreign-owned companies which drove exports (and imports), and the low domestic value-added content of these export products. It is clear that this tendency cannot go on forever. The efficiency of investment (including FDI) in terms of GDP must increase.

Many indicators show, in fact, that this process has already started. The two-year average ICOR for gross fixed capital investment has developed as follows since 1994: 1994-1995: 10.1, 1995-1996: 14.9, 1996-1997: 10.7, and 1997-1998: 4.5. While the index for 1997-1998 is probably too favorable to be sustained in the long run, we may expect that by the end of the forecast period this efficiency index will approach the

EU 15 average which (in the case of gross fixed capital formation) varied between 6 and 14, but mostly centered around 6-7, during 1986-1996.

One specific aspect of foreign-owned business in Hungary should be mentioned here, because it will be taken into account in the forecasts. FDI, the operation of multinational companies, and the development of their export activities in Hungary have caused a certain segmentation of the economy in several respects. Most of the thriving foreign businesses are located in western Hungary and the agglomeration around Budapest. Regions in eastern Hungary, most of which were hit hard by the transformational recession, have received only minimal FDI. Most of the foreign-owned manufacturing firms that target export markets are located in customs-free areas (there are currently about 130 such zones). Finally, attempts at integrating non-multinational, domestic suppliers into the subcontracting network of multinationals operating in Hungary have largely been unsuccessful in recent years. Domestic businesses have not been able to build up the forward linkages that would allow them to benefit from the economic, technological, and managerial supremacy of the foreign-owned manufacturing firms in the country.

Since Hungary's external debt is still substantial, even taking into account its reduction since 1995 (see Table 3.2), the maintenance of a modest current account deficit is crucial to the management of the Hungarian growth process. Recent currency crises around the world have proved that large external debt and current account deficits make even solid economies vulnerable to sudden shifts in financial flows. That makes it inevitable that the current level of indebtedness (which is still above average for investment-grade, middle-income countries) is at least maintained, and possibly gradually reduced.[32] Table 5.2.3.1 shows the importance of FDI in financing the current account: since 1990, except for three years, FDI, complemented by other non-debt generating investments, always covered the current account deficit, and maintained or reduced the country's net external debt.

Based on this experience, three considerations are crucial: the extent to which Hungary is able to expand further its exporting capacities; the degree to which FDI can contribute to these capacities; and finally, the extent to which FDI and other non-debt generating inflows can help finance Hungary's current account deficit, which is likely to remain in the range of 2.5-5 percent of GDP.

Domestic saving

Since the early 1980s, Hungary has experienced a continuous decline in the fixed capital investment/GDP ratio from 30 percent to close to 20 percent. However, an increase in investment in physical capital is crucial during the post-transition years, especially if one takes into account the loss of capital in the phase of output decline. Borensztein and Montiel (1991) argue that much of the physical capital established during central planning reflected excessive or misallocated investment, which could not be transferred to other productive activities under the new system. According to their assessment, 75 percent of the registered physical fixed capital in Hungary was

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[32] The importance and indicators of sustainability of external and internal indebtedness in CEECs from the point of view of fulfilling the requirements of a coming EU accession is extensively discussed in Breuss *et al*. (1998), particularly in chapter 11. Sustanaibilty calcualtions for Hungary are performed in Oblath (1998).

made superfluous by changes in relative prices and the emergence of international competition. Even if unusable capital did not represent such a dominant share as these authors estimate, it is true that a substantial part of the capital inherited from the period of central planning simply had to be written off, so that much of investment during the transition period can be considered replacement investment.

Since investment is financed from saving, one has to acknowledge the fact that the level of household saving in Hungary is only moderately high. At the beginning of the transition, saving increased due to increased precautionary saving related to the surge in inflation and the overall uncertainty faced by the population in those hectic times. However, this was followed by a drop and then a moderate recovery to a still disappointingly low level of 12 percent for household saving as a ratio of GDP and 16 percent for its ratio to adjusted disposable income. Even the latest data suggest that the household sector, which has been the major net saver in the economy (even if in the past there was a strong tendency for the share of enterprise saving to increase), will not be able to finance sufficient investment to support sustained rapid economic growth. The implication of this is again that that external capital flowing into the country either through FDI (or other non-debt generating flows) or as transfers will be crucial for supporting the growth process.

Export and FDI-led growth

Non-accession scenario

In order to forecast Hungary's growth in the case of non-accession, we must predict the development of exports. In order to do so, one must take into account in particular expected growth and the demand for imports in the EU in general and Germany in particular.[33] To forecast the EU's total imports in 2000-2010, we take WEFA's (Wharton Econometric Forecasting Associates) forecast until 2004, while for 2005-2010 we estimate total EU imports on the basis of WEFA's forecast for German imports and a multiplier (1.15) calculated from past data.

To calculate Hungarian exports we start from equation (H3). Its predicted values are quite far from the actual ones, particularly at the end of the period 1991-1999. In order to obtain realistic values, we start from the relationship $rEXp = 1.7*rEUimp$, and assume that the coefficient on $rEUimp$ will gradually decrease to 1.2 by 2006 and then remain at that level. This assumes that Hungarian exports will be sufficiently stable that they are less vulnerable over time to fluctuations in the demand for imports in the EU; it also assumes that, since there will be no accession, investors will direct their activities less toward export markets.

Nevertheless, based on past experience, the estimation of GDP should rely on the growth of exports. We take equation (H1) as a starting point. Here again, the parameter of the equation is increasingly less characteristic of the most recent developments. Taking the last three years, the modified relationship would be the

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[33] In 1998, 73 percent of Hungarian exports went to the EU and another 9 percent to CEFTA countries, which are increasingly integrated with EU markets. Hungary's main trading partner is Germany (37 percent), where developments have a strong influence on Austria (12 percent), Hungary's second largest partner.

following: $rGDP = 0.5 + 0.34*rEXP$. Even this relationship would probably not hold for the period 2001-2010. We may assume that the constant term (i.e., the portion of GDP growth independent of export performance) would increase; however, the coefficient of $rEXP$ is also likely to increase to reflect Hungary's continuing reliance on export possibilities. We assume that the equation gradually reaches the form $rGDP = 1 + 0.5*rEXP$ by 2006, and than retains that specification. The resulting export and GDP growth rates are found in Table 5.2.3.2.

The next step is the estimation of the rest of the components of GDP with the help of a number of assumptions and constraints. We assume that (1) the sources of financing for the current account deficit are limited, particularly by a 3.5 percent of GDP net inflow of FDI (this ratio is commonly foreseen by both Hungarian analysts and IMF experts; see The World and Hungary, 1998, and IMF, 1999a); (2) net transfers from abroad will increase from 2000 by 1 percent of GDP (this is a realistic estimate for Hungary's share of the EU's pre-accession aid; see Table 5.1.3); (3) due to households' low propensity to save and the limited amount of foreign saving attracted under this scenario, the share of gross fixed capital formation in GDP (in 1997 prices) will not surpass 27 percent, while the share of gross investment will not surpass 32 percent. Under these (and a number of less important constraints), the rate of growth of consumption is a residual, which is further split into private consumption and (slower growing) public consumption. The slower growth rate of public consumption is based on the government's commitment to continue to reduce the share of GDP redistributed through the budget, a process that began in 1995.[34]

For the resulting non-accession scenario see Table 5.2.3.3, where GDP growth rates are moderate (around 4 percent). In order to maintain a financeable current account deficit of 4.5 percent, imports must be reduced to the same rate of growth as exports until 2004, and beyond that year to a rate below the growth rate of exports. In 2001-2004, the rate of growth of investment substantially decelerates and in 2005-2010, it no longer surpasses the rate of growth of GDP. Nevertheless, the ratio of gross fixed capital formation to GDP will remain at 27 percent from 2003 onward.

Under this scenario, the export/GDP ratio will increase from 50 percent in 1998 to 72 percent in 2010. ICOR indices for gross fixed capital formation will stay mostly in the range of 6.6-7.2, which reflects the high efficiency of investments due to the presence of multinational companies through past and ongoing foreign investment.

Accession scenario

Accession would bring several changes as reflected in the structure of our forecasts. We assume that positive news about a coming accession in 2005 will be known from 2001, so the effects of accession will already begin to manifest themselves in that year.

First, there are trade-related effects. We assume that, in view of the expectation of accession, exports will remain responsive to demand conditions in Western Europe,

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[34] According to the latest medium-term draft budget, the government intends to reduce the share of primary government expenditures in GDP from 39.6 percent in 1997 to 36-37 percent by 2002; this reduction will be accompanied by a similar decline in primary revenue (see Ministry of Finance, 1999).

which means that the coefficient in our base equation (H3) will decrease less rapidly than in the non-accession scenario, and will remain at 1.5 from 2006 onward. As for the GDP equation, we assume that the regression coefficient in the equation $rGDP = 1+ 0.5*rEXP$, which determines the rate of growth of GDP in 2006 in the non-accession scenario, will increase to 0.58 by 2010, indicating the beneficial effects of economies of scale achieved through exports to the large single market. The resulting growth rates are shown in Table 5.2.3.2.

Second, we expect increasing transfers from 2005 onward: total net transfers equivalent to 3.2 percent of GDP in 2004 will gradually increase to 5.2 percent in 2010, broadly in accordance with the figures in Table 5.1.4. Technically, these transfers will decrease the (otherwise larger) current account deficit, while physically they will be used mostly to finance infrastructural investments, as well as supporting and restructuring the agricultural sector.

Third, FDI will increase due to reduced risk of investment in the country and better access to larger markets. As in earlier instances of accession, FDI will start increasing (as a percentage of GDP) two years before accession. However, the pace of this increase will be relatively slow compared to the international experience reflected in Table 5.1.2. The reasons for this are numerous. First, Hungary has already benefited a great deal from FDI in recent years and, with a simultaneous accession of several CEECs in 2005, there is a chance that Hungary will lose some of its appeal. In particular, the country must abandon the tax breaks that it has offered to investors and develop other forms of support, which will take time and be costly (at least in the short term). The country must also close its customs free-zones (unless it is allowed to be kept some of them open during transition periods achieved in membership negotiations).

Another reason for the slow growth of FDI around the accession date is that most of the western part of the country is already "well-endowed" with FDI, while foreign capital seems to be reluctant to move to most of the less developed eastern region of the country. We calculate that much of the structural transfers from the Union will be used to improve the infrastructure in eastern Hungary. Since this process takes time, only by the end of the forecast period will FDI move in larger amounts to these regions.[35]

Foreign saving (transfers and FDI) will complement domestic savings to finance investment. Gross fixed capital formation will develop much faster than in the non-accession scenario, and at the end of the period will reach 33 percent of GDP (in 1997 prices). ICOR indices under this scenario will fall mostly in the 6-6.5 range, a good level in international comparison, with a slightly higher efficiency of investment than under the non-accession scenario.

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[35] Our cautious approach is also supported by Brenton and Di Mauro (1997), who point out that by 1995 advanced transition economies, including Hungary, have already attracted more FDI, than a relevant gravity model would forecast for them, particularly from Germany, the traditional foreign investor in Hungary. It is true, however, that in case of EU membership, an additional factor, the preferential relationship with EU members, would play a role, so that a higher FDI than that explained by the normal factors of the gravity model (i.e., particularly the growth of GDP in Hungary) would be consistent with international experience.

FDI will also finance larger net exports and current account deficits: under this scenario, imports will develop faster than exports since both increased FDI and transfers will tend to increase them. Private consumption will not grow appreciably faster than in the non-accession scenario (this fact may loosely be interpreted as the effect of stronger competition on real wages), but the growth of public consumption will gradually accelerate, reflecting the run-up to membership and the use of transfers for public projects after accession.

The results are indicated in Table 5.2.3.4. As the table shows, in 2000-2004 exports will develop annually at only about 0.6 percentage points faster than under the non-accession scenario. However, in 2005-2010, the difference will already be 1.5 percentage points annually. Similarly, in the case of GDP, the difference in the first period would be negligible, while in the second period it would grow to 1 percent. The results reflect that the fact that, following Hungary's strong integration into the EU through trade in the pre-accession phase, we do not expect an export boom, but only a modest acceleration of exports. This is also justified by the fact that the barriers to trade that will be left to eliminate at the time of accession in 2005 will be minimal. Membership will bring benefits instead through higher investment (8 percent growth of gross fixed capital formation in 2005-2010 in the accession scenario as against 4 percent in the case of non-accession) and the affordability of higher imports (2.2 percentage points difference annually in 2005-2010).

Other variables

The reduction in inflation in 1999 has not precisely followed the path planned by the government; accordingly, the Ministry of Finance's forecast for achieving 3.5-4.5 percent inflation by 2002 is probably too optimistic. It is more likely that Hungary will achieve this target by 2004-2005, irrespective of the scenarios. By that time, the crawling peg exchange rate system will be abolished, but the inflation rate will remain in the 3-4 percent range because the real restructuring of the economy (irrespective of the scenario) will demand such a range to accommodate wage claims.

Employment will show only a moderate increase, particularly through 2002, due to longer schooling and the gradual introduction of a higher pension age. A portion of those forced to leave the labor market in the 1990s will probably return to it, but the reduction in unemployment will be very slow due to hysteresis and the country's regional split. Under the accession scenario, particularly in view of the forecast infrastructural and productive investments in the eastern part of the country, the employment/unemployment situation will change more rapidly.

We have not produced alternative scenarios for the forecasting of population. The gradual decline of the Hungarian population will continue, as will the immigration of foreign citizens, particularly ethnic Hungarians from neighboring countries. It is probable that the country's appeal to immigrants will increase due to accession. On the other hand, accession will most likely not provide for the CEECs' inclusion in the free flow of labor within the EU during a transition period. In any case, surveys indicate that Hungarian workers would probably avail themselves of such an opportunity to a much lesser extent than their counterparts from other candidate countries.

Summary

The Hungarian economy's strong reliance on exports and inward FDI, and its sensitivity to current account deficits, mean that the outcome of this forecasting exercise is determined by our assumptions about these variables. It is envisaged that the most recent fast growth of exports will decelerate, but that the growth of GDP will continue to be crucially determined by the utilization of export opportunities, particularly in the EU. Without accession, inward FDI will stabilize at 3.5 percent of GDP, and GDP will grow by around 4 percent annually. With accession, trade activities will be livelier, with more possibility for increasing investment and the accommodation of higher imports by larger current account deficits. The expected transfers from the Union will be utilized to prepare the ground for another boom in FDI and indigenous investment in the eastern and other backward parts of the country, which will raise the growth rate of GDP to 5 percent and beyond.

5.2.4 Slovenia

The Slovenian country study is based on the results of several macroeconomic and computable general equilibrium models for the country (Damijan and Caf, 1995; Potočnik and Majcen, 1996; Potočnik, 1997). Although these models were mainly designed for estimating the relative costs and benefits of integration with the EU at the sectoral level, and were static, some of their results can be utilized to identify the, mostly favorable, long-term effects of such integration on GDP growth. In addition, the methodology utilizes the results of previous accessions, forecasting individual time-series based on past developments and the government's medium-term strategy, and ensuring consistency in a particularly complete account of economic sectors.

Growth

Slovenia's level of economic development, which is higher than those of all other countries in transition (and is similar to that of the less developed EU member states), requires that due care be taken when predicting future economic growth. In such circumstances, each percentage point of economic growth should be considered a success, especially inasmuch as the country is in urgent need of further stabilization, restructuring of production, and institutional change. Growth rates of 5-6 percent can be expected only under the accession scenario and only in the periods immediately before and after accession. Thereafter, a gradual decrease in growth rates and approximation of the rates recorded in developed European countries can be expected (see Table 5.2.4.1).

The achievement of 5-6 percent growth in the given period would partly be the result of the positive economic effects of Slovenia's integration into the EU. It would also result in the post-accession period from expected substantial financial investment in the development of economic and social infrastructure, entrepreneurship, technology, and human resources. Such investment would be financed to a large extent from structural aid provided to Slovenia by the EU.

Higher economic growth is expected even in the pre-accession period (2001-2005), once the European Commission announces the date of eastern enlargement. If Slovenia manages to maintain its position among the most successful applicant countries, such an announcement will reduce perceived county risk and encourage FDI inflows. Another factor behind such positive trends is the Europe Agreement between the EU and Slovenia, which provides an exact timetable for the complete opening of the Slovenian capital market by 2002. Thus, Slovenia will likely benefit from the effects of integration with the EU's internal market in the pre-accession period. In the years to come, there will be a number of benefits from the better functioning of Slovenia's domestic market due to the ongoing institution-building process.

Slovenia's trade agreements with the EU and EFTA are asymmetrical: the EU and EFTA countries have abolished customs tariffs on the majority of industrial products, while in Slovenia such tariffs will be lifted only gradually by 2001. In principle, this leaves some space for the so-called static effects (trade creation and diversion) as laid out in classical customs-union theory. However, estimates of the rate of effective tariff protection in Slovenia show that such protection already declined significantly between 1986 and 1993. Thus, producers have already overcome the first shocks from foreign trade liberalization and reorientation from domestic to international markets. Further liberalization will greatly affect neither the trade balance nor the level of domestic production.

For some sectors, adjustment to new demand conditions will be painful in the coming years. But for the economy as a whole, the costs of adjustment should still be relatively low and the benefits particularly large (Gros and Vandille, 1995). The greater the extent to which the product structure of exports resembles that of trading partners, the lower the costs of adjustment. The similarity of the structure of Slovenia's exports to that of the EU is strong. The correlation coefficient between the Slovenian export structure and EU's is as high as that of Netherlands (Slovenia 68, Netherlands 66, Greece 18, Portugal 44, Ireland 34, Spain 87, Italy 82, Germany 96, France 95, Belgium 91). Thus, most adjustment costs have already been incurred.

The accession scenario assumes that Slovenia's present level of economic development will make it eligible for considerable inflows from the Union budget, notwithstanding the fact that Slovenia is the most developed candidate country. In 1997, GDP per capita at purchasing power parity in Slovenia was 69 percent of the average reported by the EU. At the assumed rate of economic growth (abstracting from relative price effects), Slovenia would in 2002 exceed 75 percent of the average level of development in the EU (which is the limit separating large from small net receivers of EU structural aid). According to data from SORS, the Slovenian Statistical Office, Slovenia is currently approaching the EU average level by 1.5 structural points annually. Should this trend persist, Slovenia would significantly exceed 75 percent of the average economic development level of the EU before accession.

However, this economic growth will be accompanied by relatively rapid increases in domestic prices. Given the persistent difference between domestic and average European inflation, the internal purchasing power of GDP in Slovenia is expected to increase slowly, despite the rapid economic growth. Accordingly, Slovenia is

expected to exceed the level of 75 percent of the EU average only in 2005, when the EU average will fall due to the accession of a group of candidate countries. Consequently, all of Slovenia would still be eligible to receive Structural Funds as an Objective 1 region in the EU Financial Perspective 2007-2013 (for calculations, see Table 5.2.4.1). Later, it would benefit from so-called "transitional status" and from the Cohesion Fund, which should provide for sufficient time to carry out the necessary restructuring and raise the level of development of not only human resources, but also of the social and economic infrastructure.

The non-accession scenario promises much poorer results. According to that scenario, Slovenia would benefit only from so-called pre-accession structural assistance (the ISPA, SAPARD, and PHARE instruments). The amounts already allocated to Slovenia are minimal (around euro 50 million annually). Under this scenario, which envisages 3-4 percent economic growth, Slovenia would have to carry the burden of restructuring largely by itself.

Both scenarios assume that Slovenia will implement the adopted program for the harmonization of its legislation and institutions within the set deadlines. In addition to legal and the institutional adjustments in preparation for membership, attention must also be paid to general economic policy. Also in this area, both scenarios anticipate the harmonization of economic policy with that of the EU, as set out in the document "Joint Assessment of Medium-term Economic Policy Priorities," signed by the European Commission and Slovenia in 1998.

Elements of gross domestic product

In the years to come, the structure of the primary and final distribution of GDP is expected to change. The share of wages and final consumption in GDP should be reduced, while that of national saving and funds retained by companies for investment should increase. This would ensure a sufficient level of national saving and help preserve budgetary and balance of payments equilibrium. Slovenia needs the EU's development assistance for financing transition costs, stimulating domestic development incentives, and providing financial resources to the private sector. However, it is essential that long-term economic stability be firmly based in the competitiveness of domestic economy, which requires an adequate level of national saving. The state's role in investment should gradually diminish. If structural reforms and the stimulating role of the state are realized, as planned in the respective strategy papers, this would enable investment in technological development at the company level to ensure sufficient bases for the further growth of labor productivity.

In the following years, individual and collective final consumption will contribute somewhat less to economic growth (see Table 5.2.4.2). By limiting both types of consumption, incomes and budget policies will aim actively to increase the economy's export competitiveness.

The dynamics of economic growth over the next few years will largely depend on the structure of gross fixed capital investment. The state's present role as the prevailing indirect investor must diminish in the following years. At the same time, the state will have to support development projects initiated by companies and regions but of national interest.

In a few years' time, gross investment is expected to exceed the desired long-term level (of about 25 percent of GDP). In order to ensure its continuing contribution to economic growth, it is above all necessary to increase its efficiency (see Table 5.2.4.3). After accession to the EU, the share of gross fixed capital investment is expected to gradually approach the European average, that is, to drop below 25 percent of GDP. A high level of national saving is anticipated, so as to ensure that the level of gross fixed capital formation is above the European average in the next decade. Under such conditions, investment would in the long run contribute to accelerated economic growth and increased employment. In the long term, it is also expected that the outflow of direct investment abroad will increase. Through income and profit transfers, this type of investment should indirectly increase economic growth and the employment rate.

The influence of economic integration on investment also manifests itself through so-called dynamic (accumulative) effects. These arise from new investment initiatives which increase the volume of available productive factors and accelerate economic growth. An example of this is FDI, the substantial attraction of which requires a series of microeconomic and macroeconomic conditions. At present, Slovenia is far from realizing its potential as a site of FDI.

Concluding the process of ownership restructuring of the former "social" property has brought about new owners, not all of whom are taking progress-oriented action. Three issues will have to be dealt with to complete the transition process in the enterprise sector and, thus, to pave the way for successful integration into the EU: (1) the achievement of sustainable profitability by the externally and internally privatized companies which form the core of the future economic tissue of the country; (2) the rapid reduction, in a socially acceptable manner, of the large loss-making non-privatized sector; and (3) the acceleration of new domestic market entries and FDI.

Distribution ratios in the cost structure of GDP favorable to development are expected to continue. The share of funds retained by companies for investment will increase, while the rate of growth of gross wages per employee will remain limited to the rate of labor productivity growth. Contribution rates for social security are not anticipated to rise, but there should be additional cuts in the labor costs incurred by the economy. The elimination of the subsidies covering wages and social contributions at loss-making companies, together with a more equitable distribution of the burden of contributions among employers, would enable additional cuts in labor costs and contribution rates.

If it takes these actions, Slovenia will establish itself as a "tax-friendly" economic area and encourage the inflow of FDI. The two scenarios vary as regards the intensity of the above mentioned changes in primary distribution. The accession scenario requires a more sustainable "wage policy," which will have to be achieved by means of consensus between the social partners.

International economic relations

Export growth under both scenarios is in accordance with the assumption that exports will drive higher economic growth. Both scenarios count on the fact that the real

growth of exports will be higher than that of GDP. This will be mainly due to the improved international competitiveness of the manufacturing sector as a result of better cost competitiveness, and the opening up of the domestic market due to the implementation of the Association Agreement and National Program for the Adoption of the Acquis (see Table 5.2.4.4).

In the long run, the Slovenian market is much too small to provide sufficient domestic demand. Moreover, domestic demand will be limited by the anticipated incomes policy, which will guarantee that labor costs grow slower than labor productivity. Just a slightly faster growth in imports is forecast, in order to cover the import requirements of domestic production and of growing investment.

Slovenia is not likely to experience the negative effects of trade diversion, since the EU's common external tariff is lower than the country's present levels. However, third countries (especially developing ones) may increase their access to the Slovenian market, as the country will be obliged to adopt current the EU's international obligations, including providing preferential treatment for imports from third countries. On the other hand, Slovenia will be able to take advantage of the EU's current trade arrangements, which will open up third countries' markets to it.

An increase in the absolute volume of exports can only be achieved by raising the share of value-added per unit of exported goods. Livelier investment activity, combined with a better supply of high-quality imported materials, is expected to lead to the production of new products, which will be more competitive on international markets than current ones.

In addition to international loans for infrastructure and greater assistance from the EU, inflows are also expected to rise due to increased FDI. The latter would be assisted primarily by the completion of privatization and restructuring, the consolidation of the legal order, further macroeconomic stabilization, and a favorable credit rating (meaning low country risk). It is anticipated that FDI will increase from $165 million in 1998 to $550 million by 2006 and then gradually decrease to $400 million by 2010.

Accelerated growth of the domestic service sector is expected to result in a greater international exchange of services, which is likely to rapidly grow on both the import and export sides. A slight surplus is anticipated in this sphere.

According to the accession scenario, the trade deficit is projected to gradually increase, reaching approximately $2.865 billion by 2010. The surplus in the invisible part of the balance of payments (unrequited transfers and trade in factor services) is unlikely to fully cover the trade deficit. However, the deficit on the current account should remain within sustainable limits, namely, up to 3.5 percent of GDP (see Table 5..2.4.4). A net inflow of capital should augment available domestic investment funds and accelerate restructuring. It would be advantageous if financing were to come through direct capital flows as much as possible (i.e., from the Structural Funds and the Cohesion Fund), thus guaranteeing that inflows are predominantly used for development purposes.

Gradual deregulation of capital flows will increase Slovenia's participation in international capital flows. An increase in private sector capital outflows, for example,

by establishing companies abroad or crediting purchases of Slovene exports, is also expected.

In the 2000-2010 period, the non-accession scenario anticipates an average growth of 5.3 percent for exports (of goods and services) and 5.1 percent for imports. Due to the postponed participation of Slovenia in European integration processes, real growth rates of trade under this scenario would be approximately one-third lower than under the accession scenario. With limited investment activity and smaller inflows of FDI, Slovenian companies would delay the restructuring of their production capacities (since they would have a reduced need to make their products more competitive on the global market).

Under to the non-accession scenario, the visible current account deficit would firm up at around $960 million or 3.3 percent of GDP. Even under this scenario, economic growth stimuli would have to come from foreign demand, so that international trade in goods would need to grow faster than GDP. To ensure that goods exports increase in real terms somewhat faster (5.5 percent) than imports (5.1 percent), a restrictive incomes policy will be needed.

Both development scenarios envisage greater regional diversification in the exchange of goods. The share of exports to EU member states is expected to fall, as the ratio of exports to other countries (especially CEFTA member-states and those that have emerged from the former Yugoslavia) rises. In the accession scenario, after 2005 the effects of economies of scale will start to show up, so that by 2010, the share of exports to EU markets would again reach approximately the same level as in 1998 (see Table 5.2.4.5).

Incomes and budgetary policies

Both development scenarios forecast that incomes policy will be able to maintain the positive trend from recent years, when the gross wage per employee grew on average slower than labor productivity. The agreement between the social partners on wage policy in 1999-2001 is expected to ensure that wages increase at a moderate rate. Wages in the corporate sector are set by collective agreements negotiated between employers and employees. Through the process of ownership concentration, the role of owners in defining the level of wages will increase. Under the accession scenario, from 2005 onward, the growth of the gross wage per employee will lag that of labor productivity slightly more than at present (and also more than under the non-accession scenario), because the necessity of increasing the competitiveness of the economy will increase.

The budgetary framework takes into account international financial flows which will gain considerably in importance once Slovenia joins the EU. Here, the contribution of the state budget to the Union budget plays an additional role, as will the EU's structural aid and agricultural transfers. Even more important than net financial flows will be gross inflows and the funds activated domestically by development aid as a result of the principle of co-financing. The developmental scenarios also take into account the psychological effects caused by development aid. The focus of economic policy will be shifted from status and legal matters (ownership restructuring,

denationalisation, privatisation, and so on) to development. As far as budgetary effects are concerned, the difference between the two scenarios is considerable. In the case of non-accession, Slovenia can count only on pre-accession aid, which is much smaller in volume.

Thrift in spending budgetary resources and a considerable restructuring of budgetary outlays will also be dictated by the new tasks arising from Slovenia's integration into the EU. The budget deficit will have to be maintained within sustainable limits, that is, a more or less balanced budget will have to be re-established (see Table 5.2.4.6). In case of the accession scenario, as a result of high EU adaptation costs, the general government expenditure ratio to GDP is expected to increase gradually till 2005. After accession, the share will grow further due to the Structural Funds, which will affect both the revenue and the expenditure sides of the state budget. Due to the co-financing principle, there will be a need to assure additional funds from domestic sources to co-finance development programs.

Inflation

Economic integration should lead to competition among an increased number of manufacturers, as well as to economies of scale, both of which will result in higher efficiency and lower prices. Increased competition is also expected to eliminate inefficient companies and promote the restructuring of the economy.

After the creation of the EU's internal market, restructuring in the member states was primarily carried out on the capital market, namely, by means of mergers and acquisitions. Such activity has led to increased concentration of economic activities within European manufacturing. The most important improvements have occurred in technology-intensive industries, ones related to procurement (e.g., telecommunications), the food industry, and the electrical appliances industry. Liberalization of financial services and capital movements has decreased the prices of financial services. Increased competition on the single market after its introduction has triggered reductions in the prices of telecommunications, air transport, banking services, and cargo road transport (European Commission, 1996).

A further curbing of inflation to a rate comparable to EU levels remains one of the key goals of Slovenian economic policy. The success of further cuts in inflation does not depend on monetary policy alone, which played the key role during 1992-1996, but also on successful income policies, the extent of continuing price controls, further liberalization, deregulation, opening of the market, promotion of competition, trends in import prices (especially those of crucial strategic raw materials), and exchange rate fluctuations. Given the successful and coordinated action of all components of economic policy which directly or indirectly influence price movements, it is estimated that the average annual inflation rate in Slovenia should fall to a level comparable to the European average by 2005. Decreased inflation should bring about a reduction in real interest rates and the automatic abolition of indexation mechanisms. Data on inflation and the other main variables under the two scenarios are presented in summary Table 5.2.4.7.

Summary and risk factors

Given Slovenia's small country status, the accession scenario brings particularly large differences in the indicators of international trade and capital movements, and mostly through these, higher GDP growth compared to the non-accession scenario.

The fulfillment of the accession scenario depends on a number of conditions and assumptions. These include an early announcement of the date of the first round of Eastern enlargement (possibly in 1999), fast conclusion of EU membership negotiations, the EU's willingness to grant new entrants reasonable transition periods, and whether there will be sufficient technical and financial assistance in the pre-accession period.

The second crucial assumption is the expectation of positive business cycle conditions and generally favorable economic environment on the markets of Slovenia's major trading partners. Such a situation will stimulate international trade and facilitate Slovenia's economic integration into the EU market.

The third crucial presumption is that domestic economic policy will be able to assume all the necessary obligations and to conduct the required reforms according to the determined schedule. Delays in the fulfillment of the Europe Agreement and failure in the realization of the National Program for the Adoption of the Acquis would pose a serious threat to the EU accession process. Delays in one of the fields of economic policy could easily lead to delays in other fields and make the entire schedule of reforms inconsistent.

Further macroeconomic stabilization is another crucial presumption. If the opening up of the capital market under the Europe Agreement is to be realized successfully, the inflation rate and nominal interest rates will fall to EU levels by 2001. Otherwise, a speculative inflow of portfolio investment could occur, leading to a high risk of capital withdrawal and financial vulnerability for the country.

5.2.5 Romania, Bulgaria, Estonia, Latvia, and Lithuania

Romania

The first half of 1999 marked a watershed in Romania's post-communist economic history. There was considerable international concern that the country might default on the large foreign debt service payments that came due in May and June (the total for the year is $2,300 million). The country weathered the crisis, however, albeit with a major weakening of the leu and a decline in foreign reserves to dangerously low levels; it then reached agreement in August with the IMF on a new $547 million stand-by facility. Meanwhile, production indicators have strengthened during the year.

As noted by Hunya (1999, p. 23), the government, faced with a potentially severe payments crisis, chose to "muddle through" by tightening monetary and fiscal policy and allowing the leu to depreciate, in the process bringing down the current account deficit from over 7 percent of GDP to 6 percent. The result of this strategy over the

medium term will be relatively high inflation, stagnation (or slow growth) of GDP, and falling or declining private consumption.

If the government can stay on course on these policies and maintain the accelerated pace of privatization in evidence this year, the economy should begin a sustainable recovery by the second half of 2000 (see Table 5.2.5.1). However, there is considerable political uncertainty concerning the results of general elections which are to be held by late 2000. The former communists and nationalists who ran the country until the November 1996 elections are currently well ahead in opinion polls. Based on their track record in their previous term in office, we can expect much less strict macroeconomic policy and worsened relations with the international financial institutions and private international lenders.

Moreover, forecasters are predicting a loosening of monetary and fiscal policy by the current government in the run-up to the elections. This accounts for the temporary rise in inflation and GDP and decline in unemployment in 2001, which are followed by another recession in 2002, as the authorities clamp down once again to avoid another possible international payments crisis such as the one in early 1999.

The forecasts in Table 5.2.5.1 presume that, as is likely, the country will not accede to the EU in 2005. A stumbling block to early accession is the weak economy, with Romania undoubtedly in the worst position in this regard of the ten post-communist candidate-members. The Commission's most recent report (of October 1999) found that it was still not possible to assert that the country had a functioning market economy; it also held that Romania's administrative and judicial capacity had improved insufficiently. The report also stated that improvements must be made to conditions in orphanages before accession negotiations could begin.

If accession does occur in 2005, we can expect larger net FDI inflows, faster overall export growth, higher investment and consumption (due to larger transfers from the EU), and other effects (e.g., from gaining access to the Single Market) may increase GDP growth in 2005 by approximately 1-1.5 percent per year. The costs of non-accession, and the lack of any prospect of accession in the years immediately thereafter, may be particularly high for Romania, since such an outcome may send a strong signal to international investors that economic policy-making is still vulnerable to political instability and is not proceeding consistently in a positive direction.

On the other hand, maintaining good relations with the IMF and other international financial institutions is to a limited extent a substitute for accession as a signaling device. Future political events may make even this, more limited goal, quite a challenge for Romania.

Bulgaria

Considerable uncertainty in forecasting future Bulgarian macroeconomic developments arises from the functioning of the CBA. The arrangement has demonstrated its consistency with low inflation and interest rates, but the economy as of mid-1999 had yet to exhibit sustained economic growth, aside from the recovery in early 1998 from the collapse of 1997.

The projections for GDP in Table 5.2.5.2, which are on the scenario of no accession by 2005, are consistent with those carried out by local forecasters and are on the conservative side (see, e.g., Angelov *et al.*, 1999), predict that GDP growth will in a "normal" year be about 4 percent. CPI inflation is expected to rise to 3 percent in the medium term, before settling down at 2 percent.

Forecasting the foreign trade and current account balances is particularly difficult in the Bulgarian case. Bulgaria has not during the first decade of transition seen large such deficits, largely due to tight international financing constraints and slow GDP growth which kept imports from rising rapidly. Under the current reformist leadership (and with a well-functioning CBA), we expect Bulgaria that sustained GDP growth of about 4 percent should lead to relatively rapidly growing imports.

Bulgarian forecasters vary in their assessments of whether exports will grow faster than imports in the coming years. Angelov *et al*. (1999, p. XXX) expect the growth of imports (especially from the EU) to outstrip export growth, resulting in a trade deficit of 6-7 percent of GDP in 2000, declining to 2-3 percent by 2005, thereafter replaced by trade surpluses. On the other hand, the official government projections predict that exports will grow much faster than imports, with the trade deficit moving gradually downward from 4.4 percent of GDP in 2000 to 2.1 percent in 2005. In the forecasts above, we predict that exports will rise slightly faster than imports, implying that there will be a slowly declining trade deficit as a share of GDP.

The forecasts above presume that Bulgaria will not accede to the EU in 2005. One stumbling block to early accession is the relatively weak economy (which in the Commission's opinion would have difficulty withstanding the competitive pressure and market forces within the EU). Another is the issue of the early closure of the oldest reactors at the Kozloduy nuclear power plant. In its recent report (dated 13 October 1999) on Bulgaria's progress toward accession, the Commission stated that "although Bulgaria has taken some steps in energy policy it has made no progress in committing itself to a realistic timetable for the closure of Units 1-4 at Kosloduy [sic] nuclear power plant, despite the fact that this was a short term priority of the Accession Partnership" (see http://europa.eu.int/comm/enlargement/bulgaria/ rep_10_99/c.htm). Prime Minister Ivan Kostov said in late October 1999 that the country would not alter the present timetable for the closure of the plant – which calls for the first reactor to be closed in 2003, the second in 2005, the third in 2008, and the fourth in 2010 – unless the EU offers compensation for the resulting losses.

If accession in 2005 does not occur (as is reasonably likely in the Bulgarian case) and the EU makes no commitment that Bulgaria will accede within a reasonably short time period thereafter, the country may receive less FDI; such an eventuality would signal a split from most of the other countries in the region, which most likely would have acceded. Another result of non-accession by 2005 would be that the momentum for a continuation of rapid growth of exports to the EU may be lost, especially for agricultural exports, which are particularly important for Bulgaria. Moreover, pre-accession assistance to countries whose accession is delayed will be much smaller than the various transfers (especially the Structural Funds) to first-wave acceding countries. The impact of this fact would be felt with respect to investment, which may grow by 2 percent less per annum after 2005 under the non-accession scenario, and consumption, which may grow by 1 percent less annually.

Smaller net FDI inflows, slower overall export growth, lower investment and consumption due to lower transfers, and other effects (e.g., the failure to gain access to the Single Market) under the non-accession scenario may reduce GDP growth after 2005 by approximately 1-1.5 percent per year. However, the key issue (rather than whether Bulgaria accedes at an early date) may be whether the country receives sufficient international support and is able to maintain its momentum for reform in the absence of early accession. As in Romania, remaining on good terms with the international financial institutions is of particular importance: support from the World Bank and such other institutions as the EBRD will be vital for funding projects that would have been funded by the EU if the country had acceded.

Estonia

Estonia's well performing economy and consistently liberal economic policy have made it one of the leading candidates for early accession to the EU. In the medium term, the most important question is when and how strongly the country will emerge from the recession brought on in late 1998 by the Russian crisis. Most forecasters (including the IMF) expect the turnaround to begin in 2000, with GDP growth returning to respectable levels and exports and imports beginning to rise again after a collapse in 1999 (see Table 5.2.5.3).

Another pivotal medium- and long-term issue is the fate of the CBA; at present, there is no serious discussion in Estonia of a possible replacement for the arrangement. One question is whether it would have to jettison the CBA and join ERM II (the European Exchange Rate Mechanism). The current requirement is that a country be a member of ERM II for two years before joining the EMU. Under ERM II, the authorities would have to let the exchange rate for the kroon against the euro fluctuate within a 15 percent band – or a narrower one adopted on a voluntary basis – and develop experience in carrying out certain monetary policy functions (under the CBA, there is no monetary policy as such).

A second question about the CBA, assuming that it is retained for several additional years, is whether the real appreciation which is inevitable in a rapidly growing transition country employing a fixed exchange rate will lead to unsustainable current account deficits. The authorities' track record in this respect is favorable, as they are succeeding in bringing the deficit down from 12.0 percent of GDP in 1997 to a projected 7 percent in 1999 (albeit with the help of the recession that began in late 1998, which has depressed imports). The projections above, following those of the Ministry of Economic Affairs, allow for a gradually declining current account imbalance over time.

The forecasts in Table 5.2.5.3 presume that Estonia will not accede to the EU in 2005, although at this point accession seems fairly likely. An issue particular to the Baltic states concerns what would happen if at least one but fewer than all three of them have acceded as of a given time period. The effects on Estonia of its acceding first do not seem dramatic: the brunt of the effects would fall on trade with the other two Baltic states, especially in agricultural products. Since non-acceding Baltic states would continue to be governed by Europe Agreements, which cover trade in industrial products, trade diversion would presumably be limited to agricultural commodities,

which have already been the focus of trade disputes among the countries. In any case, Estonia's total trade with Latvia and Lithuania is a rather minor share of the total [in the first seven months of 1999, Latvia accounted for 8.8 (2.1) percent of Estonian exports (imports), while Lithuania was responsible for 4.0 (1.5) percent of the country's exports (imports)].

If accession does occur in 2005, the effects on our forecasts would be similar to those described earlier for Bulgaria and Romania in such an eventuality. Larger net FDI inflows, faster overall export growth, higher investment and consumption, and other effects (e.g., those of gaining access to the Single Market) may increase GDP growth after 2005 by approximately 1-1.5 percent per year.

However, the costs of non-accession may be higher in the Baltic states than elsewhere because these countries face an unusually high degree of uncertainty about their security and territorial integrity. Accession to the EU would to be an important signal, especially to Russia, that the countries belong to the European mainstream, as well as a substitute for membership in NATO, which Russia vehemently opposes. Accordingly, non-accession for Estonia may deter FDI to a greater extent than it would for, for example, Bulgaria. On the other hand, Estonia is already well known to foreign investors – it was in 1998 the leading per capita recipient of FDI among transition countries – so the effects of somewhat delayed accession (especially if the delay applies to all the leading candidates) should not be as dramatic as for the South 2.

Latvia

The forecasts in Table 5.2.5.4 follow fairly closely those produced by the Latvian Ministry of Finance. The one area where they deviate from those forecasts – not counting cases where the ministry forecasts do not include projections for a given variable (e.g., FDI or exports to the EU) – concerns exports and imports. The official forecasts call for total export growth (in current lats) beginning in 2002 of about 10 percent annually, along with total import growth over this period on the order of 7.5-9 percent per year. Since these growth rates appear overly optimistic, we have scaled back both estimates to make them more comparable with the export and import growth projections for the other Baltic states.

Overall, Latvia's situation is fairly similar to Estonia's: it has a relatively well functioning economy and a liberal, reformist policy regime. It has also been in fairly deep recession since the final quarter of 1998. As with Estonia, we assume, following other forecasters, that the economy will turn around in 2000 and exhibit steady growth thereafter.

Two differences with Estonia stand out. First, Latvia is the only Baltic state that does not employ a CBA. The consequences of having somewhat lower credibility than Estonia may impinge on the country's ability to attract FDI and other capital inflows; in any case, alone among the three countries, Latvia experienced a poor year for FDI in 1998.

Second, Latvia has shown itself to be vulnerable to banking crises, as happened in 1995, when the entire economy was dragged down by such a crisis. An "over-banked"

system with large number of small banks, some of which are heavily exposed to the extremely risky Russian capital market, can be a factor contributing to economic instability in the medium term. On the other hand, local observers argue that banking supervision has improved greatly since the 1995 crisis, and that in any case, three large banks account for a high fraction of the sector's assets. Moreover, this time around banking sector problems do not seem to be important, with the GDP decline being largely determined by the fall in exports to Russia.

Even if not employing a CBA has certain implications for the credibility of the macroeconomic policy regime, in many ways the situations in Estonia and Latvia are fairly similar. Latvia will have to decide whether to drop the fixing (or at least switch it to the euro) and join ERM II. It has also had to live with the effects of a real appreciation of the lats, the effects of which can be seen in the large jump in the current account deficit as a share of GDP in 1998. In 1999, however, that deficit has come down considerably (as in Estonia, partially due to conscious austerity policies and partially due to the recession), and we are forecasting high but sustainable such deficits in the medium term.

The forecasts in Table 5.2.5.4 presume that Latvia will not accede to the EU in 2005. The country is probably the one that has raised its standing with the Commission the most since the July 1997 Opinion, which put Latvia in the group of countries with which negotiations would not immediately begin. The October 1999 report gives Latvia high marks in terms of both the existence of a functioning market economy and its ability to withstand competitive pressures and market forces, although it holds that much work remains to be done with respect to strengthening its administrative and judicial capacity.

As discussed in the section on Estonia, the question arises as to what would happen if at least one but fewer than all three Baltic states have acceded as of a given time period. There are two realistic possibilities as regards Latvia: it and Estonia may accede before Lithuania, or Estonia alone may accede first. In either case, one should expect (in addition to the usual effects on Latvia of its non-accession in the latter instance) disruption in trade in agricultural products between Latvia and whichever neighbor is in the other (accession or non-accession) category. Overall, however, Latvia's total trade with Estonia and Lithuania is a rather minor share of the total [in the first seven months of 1999, Estonia accounted for 4.4 (6.5) percent of Latvian exports (imports), while Lithuania was responsible for 7.5 (7.0) percent of the country's exports (imports)].

If Latvian accession does occur by 2005, the effects on our forecasts would be similar to those described earlier for the three countries already discussed in this section in such an eventuality. Larger net FDI inflows, faster overall export growth, higher investment and consumption, and other effects (those of gaining access to the Single Market) may increase GDP growth after 2005 by approximately 1-1.5 percent per year. However, see our earlier remarks in the discussion on Estonia that, due to the Baltic states' special security concerns, the costs of non-accession may be higher there than elsewhere. This is especially the case in Latvia, which has often come under political and economic pressure from Russia arising from Moscow's concerns over the treatment of Latvia's large ethnic Russian minority.

Lithuania

GDP growth in Lithuania occurred at a sustained rapid rate over 1995-1998; declining GDP set in only in the first quarter of 1999, one quarter later than in Estonia and Latvia (see Table 5.2.5.5). Although the decline in the first half of 1999 – generated, as elsewhere, by the collapse of exports to Russia – was particularly steep (4.8 percent), the recession is expected to be over by late 1999, at which point sustained economic growth will resume. Lithuania's economy has been a consistently good performer in the late 1990s and there is every reason to believe that it will continue to be one in the next decade.

Lithuania has the reputation of being less reformist than the other Baltic states. One factor that has tended to diminish policy-makers' credibility is the fact that it has run up larger budget deficits than Estonia and Latvia. These deficits are not due to more rapid restructuring programs or a larger foreign debt, but the result of a number of questionable fiscal practices (see section 3.10 above). Nonetheless, the importance of this factor should not be exaggerated: budget deficits have been small relative to other transition countries, and the government has been able to put through spending cuts when necessary (as happened most recently in late August 1999).

The forecasts in Table 5.2.5.5 presume that Lithuania will not accede to the EU in 2005. The prospect of accession is considerably less likely for Lithuania than for the other two Baltic states. Unlike for Estonia and Latvia, the Commission's October 1999 report averred that Lithuania did not have a functioning market economy and is not at present capable of withstanding competitive pressure and market forces within the EU. Thus, unlike in the case of Latvia, the Commission has not essentially changed the view, expressed in its July 1997 Opinion, that Lithuania is not currently ready for accession. Moreover, the Commission also asserted that "significant efforts are still needed to fully address priorities in the areas of economic reform, internal market and administrative capacity (financial control)" (see http://europa.eu.int/comm/enlargement/report_10_99/composite/xi.htm).

Unlike the other two Baltic states, but similarly to Bulgaria and Slovakia, Lithuania also has faced the problem of determining a schedule acceptable to the EU for shutting down an aging Soviet-design nuclear power plant (at Ignalina); the plant provides 80 percent of Lithuania's electricity. In early October 1999, parliament approved an energy plan calling for the decommissioning of the first unit at Ignalina in 2005, conditional on receiving foreign assistance to cover the costs of doing so. However, the issue has not been entirely resolved. For one thing, no date has been set for the decommissioning of the second reactor at Ignalina. Furthermore, it is unclear whether the 2005 closure date for the first reactor will be acceptable to the parliaments of the 15 incumbent members, which must ratify Lithuania's accession. Accordingly, Ignalina remains a potential stumbling block on the path to accession.

As discussed in the sections on Estonia and Latvia, the question arises as to what would happen if at least one but fewer than all three Baltic states have acceded as of a given time period. There are two realistic possibilities as regards Lithuania: Estonia may precede both Latvia and Lithuania in accession, or Lithuania alone may be left behind. If the first possibility seemed more likely after the July 1997 Opinion, the second one seems more likely in the wake of the October 1999 Report. In either case,

one should expect (in addition to the usual effects on Lithuania of its non-accession) disruption in trade in agricultural products between Lithuania and whichever neighbors accede. Overall, however, with the exception of exports to Latvia, Lithuania's trade with Estonia and Latvia is on the whole a rather minor share of the total. [In the first seven months of 1999, Estonia accounted for 2.1 (1.5) percent of Lithuanian exports (imports), while Latvia was responsible for 13.3 (2.2) percent of the country's exports (imports).]

If Lithuanian accession does occur in 2005, the effects on our forecasts would be similar to those described earlier for the four countries already discussed in this section in such an eventuality. Larger net FDI inflows, faster overall export growth, higher investment and consumption, and other effects (those of gaining access to the Single Market) may increase GDP growth after 2005 by approximately 1-1.5 percent per year. However, see our earlier remarks in the discussions of Estonia on Latvia that, due to the Baltic states' special security concerns, the costs of non-accession may be higher there than elsewhere. Lithuania, although it does not have a large ethnic Russian minority, as do the other Baltic states, remains vulnerable to Russian pressures, particularly as regards the supply of crude oil to the Mažeikiai oil refinery and providing ground access to Russia's Kaliningrad region.

6. Summary

For most of the candidate CEECs, less than a decade has passed since they renounced the communist system and embarked on the transition to political democracy and the market economy. The years since the initial changes have been volatile, especially with respect to prices. They have also seen developments which are unprecedented in these countries' recent histories, specifically output declines and the sudden emergence of unemployment, as well as constant institutional change in both the business and state sectors. Following radical reforms and painful adjustments, by 1997-1999, in many of the more advanced countries (such as Poland, Hungary, Slovenia, and the Baltic countries), the macroeconomic situation looked solid. Although the combined impacts of the Asian and Russian crises posed major challenges for these countries' macroeconomic stability, they seem to have passed the test (needless to say, not without considerable costs).

The Czech Republic and Slovakia, with their recession and deceleration, respectively, in 1997-1999, are paying for delays in structural reforms and misguided economic policies. Nevertheless, given strong governmental efforts to correct past policy errors and speed up structural reform, they may find themselves in the company of the aforementioned countries, where most remaining reforms are geared toward accession to the EU.

Bulgaria, although its economy has stabilized with the help of the currency board arrangement introduced in July 1997, remains burdened by its unfavorable initial conditions (including location) and the time wasted in the mid-1990s, and has yet to exhibit sustained economic growth. Romania seems to be the most backward country in terms of macroeconomic stabilization and sustained structural reforms. It will take a favorable coincidence of a reformist government, support from the international financial institutions, and persistent interest on the part of foreign investors (which has increased recently) for Romania to make up for lost time in the medium term.

Growth models are useful in providing guidance on potential rates of growth in transition economies. Ideally, one would take into account both the factors governing developments during the transition period (the initial conditions, the commitment to stabilization, and structural reforms) and those that determine long-term growth once the transition is over. Estimating such growth equations can yield interesting results, but the procedure is burdened by several drawbacks. In particular, such equations cannot readily take into account differences across the countries in the beginning and end points of the transition, nor differences among them in the patterns of structural reforms during the transition. If one takes into account the development patterns of the 25 transition economies and assumes that "transition factors," together with some traditional growth determinants, will play important roles until 2004, the average annual GDP growth rate of the ten candidate countries in 1999-2004 would be 3.11 percent. The highest growth rates would be achieved by Poland, the Czech Republic, and Slovakia (all between 5.1 and 5.4 percent), while the lowest rates would be shown by Bulgaria (around -2 percent) and Lithuania (below 1 percent).

The application of traditional growth equations (such as the ones developed by Barro, 1991, and Levine and Renelt, 1992) to transition economies (as first carried out by Fischer, Sahay, and Vegh, 1996) raises several methodological and substantive problems. Particularly sensitive are the forecasts for such variables as the investment ratio and government consumption, both of which are currently in flux in transition economies. The resulting range of potential long-term growth rates for the transition economies is excessively wide. For example, in our estimates for the Levine-Renelt equation, the average annual growth rate for the ten candidate countries varies between 3.4 percent and 5.5 percent, and for individual countries the variation is often much higher (e.g., for the Czech Republic, it varied between 2.7 and 6.2 percent).

To realize the aim of the study, namely, investigating likely macroeconomic developments in the ten East European candidate countries through 2010, two distinct scenarios were drawn up: one that assumed accession for the relevant country to the EU in 2005, and another that assumed that it will not accede before 2010 (the status quo scenario). Of the ten candidate countries, five were selected for detailed analysis: Poland, the Czech Republic, Slovakia, Hungary, and Slovenia, the countries that are adjacent to the core of the EU. The other five candidate countries (Romania, Bulgaria, Estonia, Latvia, and Lithuania) were also covered, but only briefly and in much less depth. While the country projections took as a starting point the non-accession scenario, it is not proper to label these scenarios as the "status quo." Recent developments in the CEECs have already been based on the assumption of coming EU membership, so that in most of them the news that accession would not take place before such a distant date as 2010 would have severe effects on economic performance and policy.

Our estimates of the effects of membership on the candidate countries are based on the general propositions of economic theory, which tell us that joining integration schemes means expanding markets and removing barriers to trade and resource flows. These steps in turn increase economic efficiency, in both the static and dynamic senses, and contribute to economic growth.

As far as the preparatory "costs" of EU membership are concerned, the investments or sacrifices made during the pre-accession period by the CEECs in order to comply with EU membership criteria are usually not considered costs. Most such preparatory steps in reality reflect the building up of the social infrastructure necessary for a well functioning market economy. Accordingly, they actually contribute to growth in the long run.

Static trade effects are difficult to measure in economies in flux; in any case, by 2000-2002 (i.e., the years before the assumed date of accession), a free trade area in industrial products will have been established between the EU and the individual candidate countries. In addition, the candidate countries and the EU are part of the broad system of pan-European cumulation. These two developments indicate that, with accession in 2005 (or even after 2010), the CEECs would not face a trade-creation shock, since by that time the mutual elimination of customs tariffs and non-tariff barriers between the EU and the CEECs will already have been completed. Recent sophisticated gravity model calculations also indicate that by the middle of the 1990s the CEECs were close to or even beyond their potential trade levels, particularly so with respect to the EU 15. In addition, data on the CEECs' share of trade with the EU 15 and with themselves show that in quantitative terms the CEECs are already closely integrated with the current and future EU.

As summary Table 6.1 shows, the forecasts for exports contained in the country studies do not generally predict very rapid growth of exports in the case of accession. The one exception to this rule is Poland, which, having a relatively closed economy (partly due to its size) has more potential for trade than the other candidate countries. However, pronounced differences in the development of trade can be found between the non-accession and accession scenarios. These differences in annual export growth rates are forecasted to be between 0.6 percent (in Hungary) and 1.8 percent (Slovenia) during 2001-2005 (based on the assumption that the date of accession becomes known several years before it takes place). From 2005 onward, the difference between export growth rates under the non-accession and accession scenarios varies between 1.5 percent (Hungary) and 3.4 percent (Slovenia). In some countries, it is foreseen that the share of trade with the EU will increase (although only to a moderate extent), while for others the calculations show higher export growth rates to non-EU regions than to the EU. These latter forecasts are based on the assumption that trade with such traditional markets as Russia, the other CIS countries, and the republics of former Yugoslavia will revive in the future.

New EU members are certain to gain from the free flow of resources, particularly from the increased inflows of capital, especially in the form of FDI. This is because integration expands the size of the market, replacing separate national markets with one regional market. Moreover, reduced investment risk (due to political and economic integration) and institutional-cum-policy convergence leads to lower transaction costs in member countries, which in turn result in higher rates of return to capital.

Experience with earlier enlargements shows that increased inflows of FDI to new member countries begin several years before accession and that this tendency continues after accession. On average, annual FDI inflows increased by 1.76 times in the three-year period before accession as compared with the previous three-year

period. Over the longer run, FDI inflows broadly doubled from one three-year period to another.

The country studies predict substantial growth of inward FDI in the case of accession. FDI is perceived as a major engine of growth, particularly through its higher efficiency (relative to indigenous investment). It also serves as an instrument for relieving the current account constraint on growth in countries that have relatively high external indebtedness or that are prone to current account deficits when growth accelerates.

The Polish study predicts that in the case of accession FDI would increase gradually from $5.6 billion in 2000 to $19.1 billion in 2010. The Czech and Slovak forecasts are more moderate: in the former starting with $2.8 billion in FDI in 2000, inflows would average $2.0 billion in 2001-2004 and $1.5 billion in 2005-2010. In Slovakia, starting with $1.2 billion in 2000, the average annual inflow in 2001-2004 would be $1.0 billion, while in 2005-2010 it would amount to $800 million annually. The Hungarian forecast takes into account the fact that Hungary had already attracted sizeable FDI before the forecast period, and predicts that net FDI would increase more or less gradually from its level in 2000 of 3.5 percent of GDP (about $1.8 billion) to 5 percent of GDP (about $4.1 billion) in 2010. Finally, in Slovenia, the expectation is that in the case of accession FDI would gradually increase from $200 million in 2000 to $550 million in 2006, and then slowly decrease to $400 million in 2010.

Another clear benefit from EU enlargement for new members is that they will become eligible for a whole range of structural assistance programs, which involve large transfers of resources from the EU. According to the Financial Framework of the EU budget for 2000-2006, new members are expected to pay 0.7-0.8 percent of their GDP as contributions to the EU budget in the first years of membership, and will receive increasingly large transfers approaching the announced cap of 4 percent of GDP. The actual amounts of transfers, however, may be lower, due to the CEECs' limited absorptive capacities. The country forecasts take into account increasing amounts of transfers as the source of financing for those infrastructural investments which are necessary for the economy to adjust to the increased competitive pressures within the EU. The need to provide co-financing implies also increasing domestic investments and government consumption.

The individual country studies employ different approaches to forecast growth. The Polish study departs from an export-led growth model; the Hungarian section assumes that growth is determined by exports and FDI; the Czech and Slovak studies take the results of the growth equations mentioned above as their starting point; and the Slovenian study, relying on computable general equilibrium models of Slovenia, follows an eclectic, although highly consistent, approach.

The forecasts for the costs and benefits of accession take into account the static trade effects and the dynamic effects related to a larger market, economies of scale, lower risk premia which lead to an enhanced inflow of foreign capital, and the effects of increasing EU transfers.

Table 6.2 summarizes the projections for GDP growth presented in the country studies. As the table shows, differences between the non-accession and accession

scenarios already show up, albeit moderately, in the period preceding accession (assuming that the date of accession becomes known). This difference varies between 0.3 percent (for Poland, Hungary, and the five countries analyzed less in detail) and 1.6 percent (in the case of Slovenia). Following accession, the difference will be more unambiguous: 1 percent or more annually in each country (1 percent in the Czech Republic, Slovakia, and Hungary, with again the largest difference emerging in Slovenia).

Caution is advised in comparing growth performance across the CEECs in the coming decade based on the forecasts presented in Table 6.2. The forecasts were carried out by different scholars, employing quite different methods (although they followed certain central guidelines). Nonetheless, it is safe to conclude that growth rates in the period 2005-2010 will vary between 3 percent and 5 percent in the non-accession scenario, and between 4.3 percent and 6.2 percent in the accession scenario, with in both cases the lowest growth rate achieved in Romania and the highest in Poland.

All country forecasts assume that there will be no major world-wide recession(s) during the forecast period. In addition, some of the authors make assumptions about the directions of economic policy in their respective countries which are required if the countries are to realize the given scenarios.

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Appendix

**Cost Estimates for the Czech Republic, Hungary, Poland, and Slovenia,
Complying with EU Environmental Standards**

by

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(Yale University)

This is a summary of research devoted to the estimation of the costs of compliance with EU environmental standards, and the identification of distributional patterns of the cost bearing.[36] In particular, this work is focused on the case of four CEECs bordering on the EU, namely the Czech Republic, Hungary, Poland, and Slovenia. Costs associated with two scenarios were estimated under both (1) an accession scenario that assumes that the four countries accede to the EU in 2005; and (2) a non-accession scenario that assumes that four countries do not accede until 2010. Under both scenarios, additional transitional periods were allowed for in order to comply with the environmental requirements. These periods were three years in the case of accession in 2005, and two years in the case of non-accession (but a hope of accession in 2010-2012). Due to the time constraint on the author, the cost estimates employed in the study were not based on original macroeconomic or computable general equilibrium models, but on the extrapolation and forecasting of available results. Further, the total costs associated with the above scenarios were disaggregated into the costs of investment for the private and public sectors. The final stage of the research involved the identification of the major actors who would bear the costs of the investment, as well as evaluation of the distribution of cost sharing among them.

The costs of compliance with EU environmental regulations are heavy for all the candidate countries. In Slovenia most of costs are related to water and waste management, while in the Czech Republic, Hungary, and Poland, most of the costs go for improving the quality of water and air. The costs of compliance with EU environmental regulations vary substantially among the four candidate countries. For all scenarios considered here, the upper bound of the estimated costs is about twice as high as the lower one (see Table A1). For example, under the accession scenario with no transition periods, the required investment falls on average in the range of from 1.6 percent of GDP per year in Slovenia to almost 3.2 percent in Poland (under the high investment scenario).

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[36] The full paper will be published as a IIASA Interim Report.

Table A1
Costs of Compliance
(% of GDP annually)

Country	Accession scenario		Non-accession scenario	
	2005	**2005+3**	**2010**	**2010+2**
Slovenia	1.56	1.07	0.87	0.72
Czech Republic	1.65	1.05	0.86	0.76
Hungary	2.12-2.90	1.44-1.97	1.17-1.60	0.97-1.39
Poland	1.64-3.17	1.11-2.16	0.90-1.74	0.75-1.45

However, the differences need not be interpreted as resulting from enormous actual discrepancies among the countries between the cost structures and investment needs. In addition to the slightly different environmental conditions that were considered as initial conditions, the differences in estimates can largely be attributed to methodological discrepancies among the calculation procedures. Each of the studies, the results of which provided the basis for our extrapolations, had a very different definition of the problem areas that were used as basic units, so the areas of investment covered are not easily comparable. Some of the studies provided underestimates because they simply omit parts of total costs. For example, the Czech estimates did not include investment in air pollution reduction from mobile sources and very likely ignored the major part of public investment, while the World Bank's estimates of Polish costs, on the contrary, focused exclusively on public sector investment.

On the other hand, environmental investment in per capita terms seems to follow a consistent pattern. In general, the costs are close to EUR 1 billion per million citizens across all four countries (see Table A2).[37] Thus, the results can be judged, despite their many biases, as reasonably compatible.

Table A2
Environmental Investment

Country	Total Investment (billion euros)	Population (millions)	Investment per Capita (thousand euros)
Slovenia	2.7	2.0	1.35
Czech Republic	7.5	10.3	0.73
Hungary	9.5-13	10.2	0.93-1.3
Poland	22.1 - 42.8	38.7	0.57-1.1

Further discrepancies in the estimates are associated with the distribution of total investment between the private and public sectors. Here we observe a consistent pattern among Slovenia, Hungary, and Poland, whereby the public sector is expected

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[37] The only inconsistency in this pattern is the low estimate for the Polish costs. However, the relevant calculations consider only public investment and as such provide highly underestimated results.

to contribute around 70 percent of the total investment cost (see Table A3). The exception is the Czech estimate, which predicts that the public sector will contribute only 4 percent.

Table A3
Shares of Public and Private Investment
(%)

Country	Private	Public
Slovenia	30	70
Czech Republic	96	4
Hungary*	27	62
Poland	30-40	60-70

* The remaining 11% of investments are expected to be covered from EU funds.

This result contrasts with the distribution of expenditures that have been already carried out in the Czech Republic, where public sector investment covers about 50 percent of the total costs. One possible reason for this odd estimate is that the estimated costs are in fact exclusively related to private sector investment. This reasoning could also explain the relatively low total costs compared to the remaining three countries.

Overall, the estimates presented here are the only ones available in mid-1999, and thus, despite their obvious weaknesses, should be treated as providing a general range of approximation. In all cases, the short-term scenarios result in high annual investment needs that often significantly exceed the maximal capabilities of the national economies. These results confirm that all candidate countries will need transition periods in order to meet the EU requirements without distorting their economies.

Finally, the results demonstrate the urgent need for an original detailed cost analysis, based on a consistent methodology, which would provide comparable and reliable results.

Tables

Table 2.1 Annual Consumer Price Indices, %

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999*
Bulgaria	23,8	338,5	91,2	72,8	96,0	62,1	123,0	1082,3	22,3	2,5
Czech Rep.	9,7	56,6	11,1	20,8	10,0	9,1	8,8	8,5	10,7	3,5
Estonia	17,2	211,0	1076,0	90,0	48,0	29,0	23,0	11,0	10,6	2,5
Hungary	28,9	35,0	23,0	22,5	18,8	28,2	23,6	18,3	14,3	9,9
Latvia	10,5	172,0	951,0	108,0	36,0	25,0	17,6	8,4	4,7	1,8
Lithuania	8,4	225,0	1021,0	410,0	72,0	39,5	24,7	8,9	5,2	0,3
Poland	585,8	70,3	43,0	35,3	32,2	27,8	19,9	14,9	11,8	7,5
Romania	5,1	170,2	210,4	256,1	136,8	32,3	38,8	154,8	59,1	50,0
Slovakia	10,4	61,2	10,0	23,2	13,4	9,9	5,8	6,1	6,7	12,3
Slovenia	551,6	115,0	207,3	32,9	21,0	13,5	9,9	8,4	7,9	6,8

Non-weighted averages

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CEEC 5	237,3	67,6	58,9	26,9	19,1	17,7	13,6	11,2	10,3	8,0
Baltic 3	12,0	202,7	1016,0	202,7	52,0	31,2	21,8	9,4	6,8	1,5
South 2	14,4	254,4	150,8	164,5	116,4	47,2	80,9	618,5	40,7	26,3
Average	125,1	145,5	364,4	107,2	48,4	27,6	29,5	132,2	15,3	9,7

Note: CEEC 5: Czech Republic, Hungary, Poland, Slovakia and Slovenia.

Baltic 3: Estonia, Latvia, Lithuania.

South 2: Bulgaria, Romania.

The lines at the start of the periods indicate the approxiamte starting year of the transition process.

The shaded areas indicate breaks in the disinflatiobary process.

* Forecast

Source: WIIW (1998), Havlik et al. (1999), EBRD (1999), Baltic Economies 1999. No.4., KOPINT-DATORG (1999), and the country sections in this
study.

Table 2.2 Growth of Real GDP, %

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999*
Bulgaria	-9,1	-11,7	-7,3	-1,5	1,8	2,9	-10,1	-6,9	3,5	1,5
Czech Rep.	-1,2	-11,5	-3,3	0,6	3,2	6,4	3,9	1,0	-2,7	-0,5
Estonia	-8,1	-13,6	-14,2	-9,0	-2,0	4,3	4,0	11,6	4,0	-0,4
Hungary	-3,5	-11,9	-3,1	-0,6	2,9	1,5	1,3	4,4	5,1	3,7
Latvia	-3,5	-10,4	-34,9	-14,9	0,6	-0,8	3,3	8,6	3,6	1,0
Lithuania	-6,9	-5,7	-21,3	-16,2	-9,8	3,3	4,7	7,3	5,1	-2,0
Poland	-11,6	-7,0	2,6	3,8	5,2	7,0	6,1	6,9	4,8	3,8
Romania	-5,6	-12,9	-8,8	1,5	4,0	7,2	3,9	-6,6	-7,3	-4,5
Slovakia	-2,5	-14,6	-6,5	-3,7	4,9	6,9	6,6	6,5	4,4	1,5
Slovenia	-4,7	-8,9	-5,5	2,8	5,3	4,1	3,3	3,8	4,0	3,0

Non-weighted averages

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CEEC 5	-4,7	-10,8	-3,2	0,6	4,3	5,2	4,2	4,5	3,1	2,3
Baltic 3	-6,2	-9,9	-23,5	-13,4	-3,7	2,3	4,0	9,2	4,2	-0,5
South 2	-7,3	-12,3	-8,1	0,0	2,9	5,0	-3,1	-6,8	-1,9	-1,5
CEEC 10	-5,7	-10,8	-10,2	-3,7	1,6	4,3	2,7	3,7	2,5	0,7

Note: CEEC 5: Czech Republic, Hungary, Poland, Slovakia and Slovenia.

Baltic 3: Estonia, Latvia, Lithuania.

South 2: Bulgaria, Romania.

The lines at the start of the periods indicate the approxiamte starting year of the transition process.

The shaded areas indicate breaks in the recovery process (i.e. declines in GDP).

* Forecast

Source: WIIW (1998), Havlik et al. (1999), EBRD (1999), Baltic Economies 1999. No.4., KOPINT-DATORG (1999), PlanEcon Monthly Reports
   and the country sections in this study.

Table 2.3 General Government Expenditures, % of GDP

	1991	1992	1993	1994	1995	1996	1997	1998
Bulgaria	45,6	43,6	48,1	45,7	41,3	42,3	34,1	30,0
Czech Republic			41,9	43,3	42,8	41,8	41,4	42,1
Estonia		34,9	40,3	39,2	41,4	40,5	37,4	36,8
Hungary	52,1	53,7	54,6	52,1	48,7	47,5	48,6	46,4
Latvia		28,2	35,2	38,2	38,2	39,0	38,9	42,5
Lithuania	38,7	31,5	35,1	38,5	36,8	34,1	34,6	40,0
Poland	49,0	39,5	50,5	48,9	47,9	47,5	48,1	
Romania	38,7	42,0	34,2	33,9	34,5	34,1	34,3	34,7
Slovakia			51,3	47,8	46,7	49,3	50,5	48,8
Slovenia	41,1	45,6	46,7	46,1	45,7	44,9	45,7	44,0

Non-weighted averages

	1991	1992	1993	1994	1995	1996	1997	1998
CEEC 5			49,0	47,6	46,4	46,2	46,9	
Baltic 3		31,5	36,9	38,6	38,8	37,9	37,0	39,8
South 2	42,2	42,8	41,2	39,8	37,9	38,2	34,2	32,4
Average			43,8	43,4	42,4	42,1	41,4	

Note: CEEC 5: Czech Republic, Hungary, Poland, Slovakia and Slovenia.

Baltic 3: Estonia, Latvia, Lithuania.

South 2: Bulgaria, Romania.

Source: EBRD (1999)

Table 2.4 Unemployment Rates (registered, as % of labor force), end of period

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999*
Bulgaria	1,7	11,1	15,2	16,4	12,8	11,1	12,5	13,7	12,2	13,0
Czech Rep.	0,8	4,1	2,6	3,5	3,2	2,9	3,5	5,2	7,5	9,0
Estonia**				.	7,7	9,7	10,5	9,8	9,6	10,6
Hungary***	1,9	7,8	13,2	13,3	11,4	11,1	10,7	10,4	9,1	9,4
Latvia****				5,8	6,5	6,6	7,2	7,0	9,2	9,9
Lithuania				3,4	4,5	7,3	6,2	6,7	6,9	8,1
Poland	6,3	11,8	13,6	16,4	16,0	14,9	13,2	10,3	10,4	11,9
Romania	.	3,0	8,2	10,4	10,9	9,5	6,6	8,8	10,3	11,3
Slovakia	1,6	11,8	10,4	14,4	14,8	13,1	12,8	12,5	15,6	18,3
Slovenia	5,8	10,1	13,4	15,4	14,2	14,5	14,4	14,8	14,6	13,4

Non-weighted averages

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CEEC 5	3,3	9,1	10,6	12,6	11,9	11,3	10,9	10,6	11,4	12,4
Baltic 3					6,2	7,9	8,0	7,8	8,6	9,5
South 2		7,1	11,7	13,4	11,9	10,3	9,6	11,3	11,3	12,2
Average	3,3	8,5	10,9	11,0	10,2	10,1	9,8	9,9	10,5	11,5

Note: CEEC 5: Czech Republic, Hungary, Poland, Slovakia and Slovenia.

Baltic 3: Estonia, Latvia, Lithuania.

South 2: Bulgaria, Romania.

The lines at the start of the periods indicate the approxiamte starting year of the transition process.

* In one of the summer months.

** Ratio of numbers of unemployed to the labor force, based on labor force surveys according to ILO methodology. Figure for 1998 refers to June

*** Changes in methodology from 1995.

****Ratio of those registered with State Employment Board and holding status of unemployed to economically active population.

Source: WIIW (1998), Havlik et al. (1999), EBRD (1999), Baltic Economies 1999. No.3., KOPINT-DATORG (1999)

Table 2.5 Various Indicators of Initial Positions

Country	1 Per capita GNP at PPP US$ 1989	2 Urbaniz. (% of pop.) 1990	3a Industry share in GDP 1990 current pr.	3b Predicted share of industry	3=3a-3b Share of industry diff.	4 Average growth. 1985-1989 %	5 Location	6 Repressed inflation 1987-90	7 Black Market Premium 1990 (%)	8 State	9 CMEA share in trade 1989	10 Years under central planning	11 External debt % of GNP 1989	Number of "Bads"
Bulgaria	5000	68	0,59	0,36	0,23	2,7	0	18	921	2	62	43	114	7
Czech Rep.	8600	65	0,58	0,37	0,21	1,6	1	-7,1	185	1	47*+	42	15.7*	2
Estonia	8900	72	0,44	0,34	0,10	2,7	1	25,7	1828	0	++	51	..	5
Hungary	6810	62	0,36	0,37	-0,01	1,6	1	-7,7	47	2	41	42	73	1
Latvia	8590	71	0,45	0,35	0,10	3,5	1	25,7	1828	0	++	51	..	6
Lithuania	6430	68	0,45	0,35	0,10	2,9	1	25,7	1828	0	++	51	..	6
Poland	5150	62	0,52	0,39	0,13	2,8	1	13,6	277	2	41	41	55	4
Romania	3470	53	0,59	0,37	0,22	-0,8	0	16,8	728	2	25	42	3	6
Slovak Rep.	7600	57	0,59	0,36	0,23	1,6	1	-7,1	185	0	47*+	42	15.7*	4
Slovenia	9200	62	0,44	0,39	0,05	-0,4	1	12	27	1	19+	46	15**	0

* Czechoslovakia

** In 1991

\+ Plus a large share of deliveries carried out within Czesoslovakia/Yugoslavia

\++ A large share (about 95%) of deliveries within the Soviet Union

Source: De Melo, M., Denizer, C., Gelb, A., and Tenev, S. (1997), World Development Indicators (1998) and own calculations

Table 3.1: Poland: Macroeconomic indicators, 1989-1998, annual changes in % (unless stated otherwise)

	1990	1991	1992	1993	1994	1995	1996	1997	1998
GDP	-10,0	-7,2	2,4	3,6	5,2	7,0	6,0	6,8	4,8
GDP (1989 = 100)	88,4	82,2	84,4	87,6	92,1	98,6	104,5	111,7	117,1
Industrial output	-24,0	-8,0	2,8	6,4	12,1	9,7	8,3	11,5	4,6
Unemployment rate [a]	6,5	12,2	14,3	16,4	16,0	14,9	13,2	10,3	10,4
Consumption, total	-14,0	7,5	3,5	4,8	3,9	3,2	3,2	6,1	4,2
Investment, total	--	-20,1	-13,0	12,8	9,0	24,1	19,5	20,8	14,1
Inflation (CPI) [b]	585,8	70,3	45,3	36,9	33,2	27,8	19,9	14,9	11,8
Average real wage, gross	-24,4	-0,3	-2,7	-2,9	1,7	2,8	5,5	5,9	3,8
Budget deficit [c, d]	0,5	-3,8	-6,0	-2,8	-2,7	-2,5	-2,4	-1,3	-2,4
Exports [e]	13,7	-2,4	-2,6	-2,1	18,3	16,7	9,7	13,7	9,4
Imports [e]	-17,9	--	--	18,4	13,4	20,5	28,0	22,0	14,6
Trade balance [f]	5,7	-0,6	-3,0	-4,6	-4,6	-6,2	-12,7	-16,6	-18,8
Current account balance [d, g]	0,8	-2,0	-3,7	-6,7	1,0	0,7	-2,4	-3,0	-4,3

[a] end of period, in %

[b] year-to-year

[c] consolidated budget deficit

[d] as % of GDP

[e] in volume terms

[f] balance of "registered" merchandise trade (excl. "border" trade), in $ mln

[g] As of 1995 current account includes non-classified current account transactions ("unregistered trade" balance)

Source: National statistics and UN ECE (1999).

Table 3.2 Hungary - Balances, debts, and FDI as percent of GDP

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Gen. government balance budget[a]	-2,9	-2,4	-7,0	-6,7	-9,6	-7,4	-4,6	-4,8	-4.6*
Gen. government balance primary	-1,0	-0,1	0,3	-2,4	-1,6	1,7	4,5	3,1	1.8*
Operational balance					-5,5	-2,1	0,6	-0,4	
Gen. government debt		75,2	79,2	90,0	87,6	87,7	75,4	62,9	60,0
Trade balance	1,0	0,6	-0,6	-8,4	-8,7	-5,6	-5,6	-3,8	-4,5
Current account	0,4	0,8	0,9	-9,0	-9,4	-5,5	-3,7	-2,1	-4,8
FDI	0,9	4,4	3,9	6,1	2,8	10,2	4,1	2,7	5,0
Gross external debt	64,3	67,8	57,6	63,7	68,4	70,9	61,0	51,9	56,3
Net external debt	48,2	43,6	35,4	38,7	45,4	36,6	31,4	24,4	26,0

Source: Halpern and Wyplosz (1998) and own calculations.

[a] With accrual registration of interest payments

* Without the special measures carried out to solve Postabank Rt's difficulties including financial settlement of MFB Rt. (Hungarian
 'Development Bank, Inc.), and provisions to compensate local governments for their shares in gas utilities
 'privatised (altogether HUF 200 billion additional expenditure).

Table 4.1 Long-term growth projections for CEECs, based on Barro (1991) and Levine and Renelt (1992).

	Per capita income in $ PPP-based (IMF, 1995)	**Barro equation** Projected growth rate p.capita, %.	Years to converge a)	**Levine-Renelt equation** Projected growth rate p.capita, %	Years to converge a)
Bulgaria	5132	4,92	29	5,01	28
Czech R.	8173	5,44	11	4,40	15
Estonia	7203	5,23	16	4,93	17
Hungary	6211	5,28	20	5,02	22
Latvia	5002	5,50	25	5,79	23
Lithuania	3035	6,10	34	6,22	33
Poland	6364	5,42	18	4,75	23
Romania	3542	5,47	36	5,64	34
Slovakia	6671	5,86	15	5,00	19
Slovenia	6342	5,31	19	4,58	24
European Union, a)	11690	2,00	-	2,00	-

a) Average for the three lowest income countries in the EU (Greece, Portugal and Spain), assumed to achieve
   per capita GDP growth at 2 percent p.a.

Source: Fischer et al., (1998b).

Table 4.2 Projected growth rates of per capita GDP by variations of a growth equation

Equation of Levine-Renelt (1992) applied by Fischer et al. (1998)

y= - 0.083 - 0.35 Y1960 - 0.38 POP + 3.17 SEC + 17.5 INV

	1	2	3	4	5	6	7
	INV=30 Fischer et al.	INV=25	INV=20	INV=1994-97 (WDI, 1998)	POP=1994-97 (WDI, 1998)	SEC=1994-1996 (UNESCO, 1998)	Y1960=1960 level,1996-97 ratio (EBRD, 1997, WDI, 1998)
Bulgaria	5,01	4,13	3,26	2,37	2,50	2,59	4,01
Czech Rep.	4,40	3,53	2,65	4,37	4,38	4,31	6,23
Estonia	4,93	4,06	3,18	4,51	4,99	4,71	6,78
Hungary	5,02	4,14	3,27	3,70	3,61	3,80	5,34
Latvia	5,79	4,91	4,04	4,56	4,79	4,38	5,79
Lithuania	6,22	5,34	4,47	4,83	4,91	4,53	5,22
Poland	4,75	3,87	3,00	2,68	2,84	2,87	4,52
Romania	5,64	4,77	3,89	5,00	5,22	5,00	5,84
Slovakia	5,00	4,12	3,25	5,08	5,12	4,86	6,50
Slovenia	4,58	3,71	2,83	2,92	3,11	3,33	4,50
Average	5,13	4,26	3,38	4,00	4,15	4,04	5,47
				INV Diff	POP Diff	SEC Diff	Y1960 Diff
							%
Bulgaria				-15,11	-0,35	0,03	-79,16
Czech Rep.				-0,17	-0,02	-0,02	-67,02
Estonia				-2,43	-0,75	-0,09	-82,24
Hungary				-7,55	0,24	0,06	-70,82
Latvia				-6,95	-0,60	-0,13	-80,42
Lithuania				-7,92	-0,20	-0,12	-65,06
Poland				-11,75	0,00	0,01	-74,40
Romania				-3,70	-0,59	-0,07	-67,55
Slovakia				0,47	-0,09	-0,08	-70,25
Slovenia				-9,55	-0,50	0,07	-52,94

Source: Fischer et al. (1998), World Development Indicators (1998), Unesco Statistical Yearbook (1998), own calculations.

Table 4.3 Determinants of Economic Growth in Transition

	1990-1998	t-stats	1990-1993	t-stats	1994-1998	t-stats
Constant	-18,744	-5,2	-18,246	-3,08	-20,279	-4,66
Liberalization Index	12,952	5,86	9,055	2,56	15,98	5,09
Distance from Brussels [km]	-0,001	-3,07	0	0,02	-0,0013	-2,66
Conflict Dummy	0,341	0,42	-7,83	-3,49	5,752	3,42
Population Growth	0,462	1,63	0,991	1,08	-0,441	-0,87
Sec. School Enroll.	0,191	4,03	0,113	1,89	0,252	4,54
1989 GNP p.c. [US$ at PPP]	-0,0005	-2,69	-0,0004	-1,24	-0,0006	-1,66
R^2	0,76		0,55		0,7	
Adj.R^2	0,67		0,4		0,6	

Notes: Estimated with OLS, t-statistics are heteroscedasticity robust. See Table 4.4 for description of explanatory variables. The 1991 liberalization index reported by de Melo et al. (1996b) is used in the regression for 1990-93, the EBRD 1994 liberalization index is used for the other regressions. The conflict dummy equals one for Croatia, Macedonia, Armenia, Azerbaijan, Georgia and Tajikistan. The initial per capita GNP is in purchasing power parity terms, in US dollars.

Table 4.4 Growth equation calculation with both transition and long term growth factors

	Avg. Growth 1990-1998	Avg. Growth 1994-1998	Fitted Growth 1994-1998	Forecast Growth 1999-2004	EBRD Index 1994	EBRD Index 1998	Dist. fr. Brussel [km]	Pop Growth 1990-94	Sec.Sch Enrlmnt 1993	GNP p.c.PPP 1989
Bulgaria	-4,39	-1,98	-3,16	-2,17	0,38	0,44	2175	-0,8	66	5000
Czech Rep.	-0,26	2,46	4,64	5,14	0,63	0,66	913	-0,1	85	8600
Estonia	-2,58	4,34	2,77	3,44	0,58	0,63	2508	-1,2	87	8900
Hungary	-0,42	3,06	3,05	4,71	0,58	0,69	1412	-0,3	79	6810
Latvia	-4,88	2,68	0,60	1,77	0,46	0,53	2197	-1,2	84	8590
Lithuania	-4,43	1,66	0,60	0,60	0,50	0,50	1785	0,0	76	6430
Poland	1,98	6,00	4,67	5,34	0,58	0,63	1338	0,3	82	5150
Romania	-2,56	0,56	3,30	3,13	0,42	0,41	2234	-0,5	86	3470
Slovakia	0,22	5,86	4,54	5,21	0,58	0,63	1223	0,3	87	7600
Slovenia	0,43	4,04	3,14	3,97	0,54	0,59	1352	-0,1	88	9200
CEEC Average		2,87	2,42	3,11						
Albania	-0,77	5,68	1,96	2,46	0,38	0,41	2427	-0,6	79	1400
Armenia	-7,24	5,34	-0,35	2,81	0,21	0,41	4167	1,4	80	5530
Azerbaijan	-8,06	-2,88	0,47	4,13	0,08	0,31	4321	1,0	89	4620
Belarus	-2,54	-0,30	-2,03	-2,69	0,17	0,13	1881	0,2	89	7010
Croatia	-2,42	5,52	8,67	8,50	0,54	0,53	1399	0,0	80	6171
Georgia	-9,63	3,30	-1,38	3,78	0,08	0,41	4193	-0,2	n.a.[1]	5590
Kazakhstan	-5,14	-4,16	-5,98	-1,66	0,17	0,44	6000 [2]	0,1	89	5130
Kyrgyzstan	-5,20	-1,96	-2,17	-2,00	0,46	0,47	6000 [2]	0,4	n.a.[1]	3180
Macedonia	-5,32	0,86	0,84	0,50	0,46	0,44	2225	0,9	53	3394
Moldova	-10,58	-9,18	-4,42	-2,59	0,29	0,41	2233	-0,1	67	4670
Russia	-6,17	-4,86	-0,56	-1,23	0,42	0,38	2607	0,0	84	7720
Tajikistan	-8,61	-5,76	2,53	3,36	0,17	0,22	6000 [2]	2,0	98	3010
Turkmnen.	-8,28	-11,30	-11,34	-10,01	0,04	0,13	6000 [2]	4,6	n.a.[1]	4230
Ukraine	-10,29	-10,02	-8,91	-4,74	0,08	0,34	2215	0,0	65	5680
Uzbekistan	-1,18	0,34	-2,32	-1,32	0,25	0,31	6000 [2]	2,2	96	2740
Total average	-4,33	-0,03	-0,03	1,22	0,36	0,44	2992	0,33	81,32	5593

Data source: EBRD   EBRD (1998)   EBRD (1994) Ebrd98 Shell   WDR (1996) WDR (1996) de Melo et al. (1997b)

Notes: Fitted values and forecasted growth rates based on the recovery regression in Table 4.3. Conflict dummy equals one for Croatia, Macedonia, Armenia, Azerbaijan, Georgia and Tajikistan. CEE dummy equals one for the Czech Republic, Hungary, Poland, Slovakia and Slovenia. EBRD Liberalization Index is based on the average of the progress in transition indicators reported by the EBRD and normalized so that it ranges between zero and one. Population growth and secondary school enrollment are in percent, secondary school enrollment is only for males. Sources: EBRD Transition Reports 1994 and 1998, World Development Report (1996), De Melo, M., Denizer, C., Gelb, A., and Tenev, S. (1997), and the Shell Route Planner (http://shell.route66.nl/shell/routenl.html).

[1] To compute the fitted and forecasted growth rates for Georgia, Kyrgyzstan and Turkmenistan, we used the sample average school enrollment.
[2] Distances between Brussels and the capitals of Central Asian republics were not available, instead, we used an estimate of 6000 km for each. Eliminating these countries from the regression does not significantly affect the results

Table 5.1.1 The share of exports in total exports to EU 15 and CEEC 10, percent

	EU15			CEEC10			Total		
	1990	1995	1998	1990*	1995	1998	1990*	1995	1998
Bulgaria	5,6	37,7	49,7	12,1	3,2	4,9	17,7	40,9	54,6
Czech R.	38,4	60,9	64,2	12,6	21,1	19,8	51,0	82,0	84,0
Estonia		55,0	69,0		13,1	11,5	0,0	68,1	80,5
Hungary	42,1	62,7	73,0	7,9	9,5	8,0	50,0	72,2	81,0
Latvia		44,0	57,0		12,5	10,6	0,0	56,5	67,6
Lithuania		36,4	46,0		14,7	12,4	0,0	51,1	58,4
Poland	52,7	70,0	68,3	6,4	7,1	9,5	59,1	77,1	77,8
Romania	33,9	54,2	64,5	9,1	4,1	5,0	43,0	58,3	69,5
Slovak R.	40,8	37,4	55,8	13,8	45,2	31,6	54,6	82,6	87,4
Slovenia	64,8	67,0	65,5	5,5	5,5	6,9	70,3	72,5	72,4
CEEC 10 A	39,8	52,5	61,3	9,6	13,6	12,0	49,4	66,1	73,3
Austria			62,8			15,6			78,4
Belg./Lux.			75,8			2,6			78,4
Denmark			67,3			4,3			71,7
Finland			55,9			8,1			64,0
France			62,3			2,7			65,1
Germany			56,4			8,7			65,0
Greece			49,4			15,1			64,6
Ireland			69,9			1,0			70,9
Italy			56,2			6,4			62,6
Netherlands			78,8			2,6			81,4
Portugal			81,5			0,9			82,4
Spain			70,5			2,2			72,8
Sweden			58,0			4,2			62,2
UK			57,9			2,1			59,9
EU 15 average			64,5			5,5			70,0

Source: WIIW (1999), IMF Direction of Trade Statistics, Eurostatistics (1999), and own calculations

* Without trade with Estonia, Latvia and Lithuania

Table 5.1.2 Average annual FDI inflows to new EU member countries, values in US$ mln, and shares in total FDI inflows to the EU and to OECD countries, three-year periods before and after accession, US$ mln

Country, Accession year	6-4 years before	1-3 years before	0-2 years after	3-5 years after	6-8 years after	Factor	Factor	Factor
	1	2	3	4	5	2/1	3/2	4/3
Denmark, 1973								
Value	...	131	240	-8	102	--	1,8	--
share in EU, %	...	2,5	2,5	-0,1	0,7			
share in OECD, %	..	1,4	1,5	-0,05	0,3			
Ireland, 1973								
Value	...	29	87	228	275	--	3	2,62
share in EU, %	...	0,6	0,9	2,4	1,8			
share in OECD, %	..	0,3	0,6	1,3	0,7			
UK, 1973								
Value	...	1490	3470	3743	7490	--	2,33	2,51
share in EU, %	...	28,5	35,7	39,2	48,6			
share in OECD, %	..	15,7	22,2	21,9	20,3			
Greece, 1981								
Value	239	571	465	468	781	2,39	0,81	1,01
share in EU, %	2,7	3,7	3,6	3,8	1,6			
share in OECD, %	1,6	1,9	1,3	0,9	0,6			
Portugal, 1986								
Value	158	205	542	2265	1559	1,3	2,64	4,18
share in EU, %	0,9	1,6	1,4	2,8	2,1			
share in OECD, %	0,4	0,5	0,5	1,5	1,1			
Spain, 1986								
Value	1661	1787	5014	11635	10260	1,08	2,81	2,32
share in EU, %	9,9	13,9	13	14,3	14			
share in OECD, %	4,4	4,6	4,7	7,7	7,2			
Austria, 1995								
Value	533	1079	2055	...	...	2,02	1,9	--
share in EU, %	0,6	1,4	1,9	...	...			
share in OECD, %	0,4	0,8	0,9	...	...			
Finland, 1995								
Value	343	950	1238	...	...	2,77	1,3	--
share in EU, %	0,4	1,2	1,2					
share in OECD, %	0,4	0,8	0,9					
Sweden, 1995								
Value	3382	3323	10030	...	...	0,98	3,02	--
share in EU, %	3,9	4,2	9,5					
share in OECD, %	2,2	2,3	4,5					
Average						**1,76**	**2,18**	**2,24**

Source: Zimny (1998)

Table 5.1.3
Pre-accession aid and funds for new members in the EU budget for 2000-2006, (appropriations for commitments, million 1999 EUR)

		2000	2001	2002	2003	2004	2005	2006
Pre-accession aid		3120	3120	3120	3120	3120	3120	3120
of which:	agriculture	520	520	520	520	520	520	520
	structural funds	1040	1040	1040	1040	1040	1040	1040
	PHARE	1560	1560	1560	1560	1560	1560	1560
Total available for new members		-	-	**6450**	**9030**	**11610**	**14200**	**16780**
of which:	agriculture	-	-	1600	2030	2450	2930	3400
	structural funds	-	-	3750	5830	7920	10000	12080
	domestic policies	-	-	730	760	790	820	850
	administration	-	-	370	410	450	450	450
Net transfer for new members		-	-	**4140**	**6710**	**8890**	**11440**	**14220**
(net of contributions of new members)								
Contributions by new members				2310	2320	2720	2760	2560
% change					0,4	17,2	1,5	-7,2

Source: Presidency conclusions – Berlin European Council, 24-25 March 1999, D/99/1; Financial Times, 26-27 March, 1999, p.2., own calculations

Table 5.1.4 Calculated contributions and transfers for 6 new members, million 1999 EUR and %

	Avergage	2002	2003	2004	2005	2006
Contribution	2534	2310	2320	2720	2760	2560
Contribution as% of GDP	0,71	0,70	0,68	0,76	0,75	0,67
Net transfer	7302	4140	6710	8890	11440	14220
Net transfer as % of GDP	3,08	2,04	2,60	3,22	3,84	3,70

Source: Table 5.1.3 and own calculations

Note: Calculations based on an average GDP growth of 4% p.a. from 1999 on for the new members.

Table 5.2.1.1 EU income elasticity of demand for imports, 1995-1999

	1995	1996	1997	1998	**Average**
Income elasticity, all imports	3.1	2.0	3.4	3.1	**2.9**
Income elasticity, imports from Poland	7.1	3.2	4.4	5.7	**5.1**
Ratio	2.3	1.6	1.3	1.7	**1.7**

Source: Own calculations

Table 5.2.1.2 Poland: Non-accession scenario I:
Export-dependent growth, 1999-2010, annual changes in exports and GDP, in %
(unless otherwise indicated)

Year	EU imports (total) a)	Exports to EU b)	Other exports	Total exports c)	GDP growth
1999	4.1	7.0	10.0	8.0	4.94
2000	5.9	10.1	10.0	10.1	5.32
2001	6.0	10.2	10.0	10.1	5.32
2002	5.8	9.9	10.0	9.9	5.28
2003	5.5	8.7	10.0	9.1	5.14
2004	4.5	7.6	10.0	8.4	5.01
2005	4.5	7.6	10.0	8.4	5.01
2006	4.5	7.6	10.0	8.4	5.01
2007	4.5	7.6	10.0	8.4	5.01
2008	4.5	7.6	10.0	8.4	5.01
2009	4.3	7.2	10.0	8.2	4.98
2010	4.3	7.2	10.0	8.2	4.98

a)   For 1999-2003, EU import growth rates taken from Oxford Economic Forecasting Ltd.; for 2004-2010, EU import growth rates calculated as weighted averages of forecasted import growth rates for four largest EU economies (weight 0.4 for Germany and 0.2 for France, Italy and the United Kingdom). Forecasted national import growth rates taken form WEFA World Economic Outlook, March 1999.
b)   EU import growth figures multiplied by 1.7 up to 2010.
c)   Figures obtained as weighted averages of exports to EU and other exports.

Source: Own calculations

TABLE 5.2.1.3
POLAND: NON-ACCESSION SCENARIO I: higher consumption and higher CA deficit
r(GDP) = 3.5 + 0.18 r(EXP)

Year	EU imports growth %	Exp. to EU growth %	Other exp. growth %	Exports value EU	Exports value other	Exports, total mln $	Exports, total growth %	Export value mln zl	GDP bn zl	GDP rate, %	Delta GDP bn zl	Consumption bn zl	Consumption growth rate	Investment bn zl	Investment growth rate	Imports bn zl	CA ba bn zl
1998				19270	8959	28229		98,6	551,1			436,0		140,0		123,5	-24,9
1999	4,1	6,97	10	20613	9855	30468	7,93	106,4	578,3	4,93	27,2	453,4	1,04	151,2	1,08	132,8	-26,4
2000	5,9	10,03	10	22681	10840	33521	10,02	117,1	608,9	5,30	30,7	471,6	1,04	163,3	1,08	143,0	-25,9
2001	6	10,2	10	24994	11924	36918	10,14	128,9	641,3	5,32	32,4	490,4	1,04	174,7	1,07	152,8	-23,8
2002	5,8	9,86	10	27458	13117	40575	9,91	141,7	675,2	5,28	33,9	512,5	1,045	187,0	1,07	166,0	-24,2
2003	5,5	9,35	10	30026	14429	44454	9,56	155,3	710,5	5,22	35,3	535,6	1,045	200,0	1,07	180,4	-25,1
2004	4,5	7,65	10	32323	15871	48194	8,41	168,3	746,1	5,01	35,6	559,7	1,045	212,0	1,06	193,9	-25,6
2005	4,5	7,65	10	34795	17459	52254	8,42	182,5	783,5	5,02	37,4	587,7	1,05	224,8	1,06	211,4	-28,9
2006	4,5	7,65	10	37457	19204	56662	8,44	197,9	822,9	5,02	39,3	617,0	1,05	238,3	1,06	230,3	-32,4
2007	4,5	7,65	10	40323	21125	61448	8,45	214,6	864,2	5,02	41,3	647,9	1,05	252,6	1,06	250,9	-36,3
2008	4,5	7,65	10	43408	23237	66645	8,46	232,8	907,6	5,02	43,4	680,3	1,05	267,7	1,06	273,2	-40,4
2009	4,3	7,31	10	46581	25561	72142	8,25	252,0	952,8	4,98	45,2	714,3	1,05	283,8	1,06	297,2	-45,3
2010	4,3	7,31	10	49986	28117	78103	8,26	272,8	1000,3	4,99	47,5	750,0	1,05	300,8	1,06	323,3	-50,5

Source: Own calculations

TABLE 5.2.1.4

POLAND: NON-ACCESSION SCENARIO II: lower consumption and smaller CA deficit
r(GDP) = 3.5 + 0.18 r(EXP)

Year	EU imports growth %	Exp. to EU growth %	Other exp. growth %	Exports value EU	other	Export, total mln $	growth %	Export value mln zl	GDP values bn zl	GDP growth rate, %	Delta GDP bn zl	Consumption bn zl	growth rate	Investment bn zl	rowth rate	Imports bn zl
1998				19270	8959	28229		98,6	551,1			436,0		140,0		123,5
1999	4,1	6,97	10	20613	9855	30468	7,93	106,4	578,3	4,93	27,2	453,4	1,04	151,2	1,08	132,8
2000	5,9	10,03	10	22681	10840	33521	10,02	117,1	608,9	5,30	30,7	471,6	1,04	163,3	1,08	143,0
2001	6	10,20	10	24994	11924	36918	10,14	128,9	641,3	5,32	32,4	490,4	1,04	174,7	1,07	152,8
2002	5,8	9,86	10	27458	13117	40575	9,91	141,7	675,2	5,28	33,9	510,1	1,04	187,0	1,07	163,5
2003	5,5	9,35	10	30026	14429	44454	9,56	155,3	710,5	5,22	35,3	530,5	1,04	200,0	1,07	175,3
2004	4,5	7,65	10	32323	15871	48194	8,41	168,3	746,1	5,01	35,6	551,7	1,04	212,0	1,06	185,9
2005	4,5	7,65	10	34795	17459	52254	8,42	182,5	783,5	5,02	37,4	573,7	1,04	224,8	1,06	197,5
2006	4,5	7,65	10	37457	19204	56662	8,44	197,9	822,9	5,02	39,3	596,7	1,04	238,3	1,06	210,0
2007	4,5	7,65	10	40323	21125	61448	8,45	214,6	864,2	5,02	41,3	620,6	1,04	252,6	1,06	223,6
2008	4,5	7,65	10	43408	23237	66645	8,46	232,8	907,6	5,02	43,4	645,4	1,04	267,7	1,06	238,3
2009	4,3	7,31	10	46581	25561	72142	8,25	252,0	952,8	4,98	45,2	671,2	1,04	283,8	1,06	254,1
2010	4,3	7,31	10	49986	28117	78103	8,26	272,8	1000,3	4,99	47,5	698,1	1,04	300,8	1,06	271,3

Source: own calculations

Table 5.2.1.5 Poland: Unemployment, real wages, inflation

Year	Unemployment rate, %, a)			Average real wage, growth in %				Inflation
	Non-accession	EU accession		Non-accession		EU-accession		%
	I & II	I	II	I	II	I	II	
1998	10,40	10,40	10,40	3,80	3,80	3,80	3,80	11,8
1999	10,32	10,32	10,32	4,24	4,24	4,24	4,24	7,5
2000	10,03	10,03	10,03	4,24	4,24	4,24	4,24	6,2
2001	9,73	9,73	9,73	4,24	4,24	4,24	4,24	5,1
2002	9,45	9,33	9,33	4,77	4,24	4,77	4,77	4,3
2003	9,21	8,98	8,82	4,77	4,24	4,77	4,77	3,9
2004	9,08	8,76	8,48	4,77	4,24	4,77	4,77	3,7
2005	8,94	8,45	8,09	5,30	4,24	5,30	6,75	3,5
2006	8,81	8,14	7,25	5,30	4,24	5,30	5,48	3,3
2007	8,68	7,83	6,43	5,30	4,24	5,30	5,22	3,1
2008	8,54	7,52	5,70	5,30	4,24	5,30	5,23	2,9
2009	8,43	7,24	4,74	5,30	4,24	5,30	5,23	2,7
2010	8,32	6,96	3,89	5,30	4,24	5,30	5,23	2,5

a) $dU = 2.57 - 0.55\ rGDP$

Source: Own calculations

Table 5.2.1.6 Poland: Exchange rates, GDP values

Year	Inflation in EU %	Inflation in Poland %	Price ratio	PPP-to-market rate ratio, a)	Market rate zl/$	PPP rate zl/$	GDP nominal, current prices			GDP nominal, current $			GDP, at PPP $		
							Non-access. bn zl	EU-ac. I bn zl	EU-ac. II bn zl	Non-access. bn$	EU-ac. I bn$	EU-ac. II bn$	Non-access. bn$	EU-ac. I bn$	EU-ac. II bn$
1998	1,7	11,8	1,099	0,605	3,49	2,11	551,1	551,1	551,1	157,7	157,7	157,7	260,7	260,7	260,7
1999	1,7	7,5	1,057	0,640	4,00	2,56	621,6	621,6	621,6	155,4	155,4	155,4	243,0	243,0	243,0
2000	1,7	6,2	1,044	0,668	4,06	2,71	695,2	695,2	695,2	171,2	171,2	171,2	256,4	256,4	256,4
2001	1,8	5,1	1,032	0,689	4,08	2,81	769,5	769,5	769,5	188,6	188,6	188,6	273,6	273,6	273,6
2002	1,8	4,3	1,025	0,706	4,09	2,89	845,0	846,7	846,7	206,6	207,0	207,0	292,5	293,1	293,1
2003	1,8	3,9	1,021	0,721	4,10	2,96	923,8	927,5	930,0	225,3	226,2	226,8	312,5	313,8	314,6
2004	1,8	3,7	1,019	0,734	4,10	3,01	1006,0	1011,6	1016,4	245,4	246,7	247,9	334,1	335,9	337,5
2005	1,8	3,5	1,017	0,747	4,10	3,06	1093,5	1102,9	1109,7	266,7	269,0	270,7	357,2	360,3	362,5
2006	1,8	3,3	1,015	0,758	4,10	3,11	1186,3	1200,2	1218,6	289,3	292,7	297,2	381,9	386,3	392,3
2007	1,8	3,1	1,013	0,767	4,10	3,15	1284,4	1303,5	1335,1	313,3	317,9	325,6	408,3	414,3	424,4
2008	1,8	2,9	1,011	0,776	4,10	3,18	1388,1	1413,0	1457,9	338,6	344,6	355,6	436,5	444,3	458,4
2009	1,8	2,7	1,009	0,782	4,10	3,21	1496,6	1527,8	1594,9	365,0	372,6	389,0	466,5	476,2	497,1
2010	1,8	2,5	1,007	0,788	4,10	3,23	1610,5	1648,8	1738,3	392,8	402,1	424,0	498,6	510,4	538,1

a) Each year PPP-to-market-rate ratio is computed as the previous year ratio multiplied by PL/EU price index ratio.
   The initial 1998 PPP-to-market-rate ratio calculated from 1998 per capita GDP figures in current dollars and in PPP dollars (4080/6740 = 0.605).
`

Table 5.2.1.7 Poland: GDP per capita, various units, various scenarios

Year	Poland's population 000, a)	Constant 1998 dollars			PPP $			PPP $ EU-3 c)	PPP $ EU-15 d)
		Non-accession I & II	EU-accession I	EU-accession II	Non-accession	EU-ac. I	EU-ac. II		
1998 b)	38667	4080	4080	4080	6740	6740	6740	14483	19799
1999	38706	4277	4277	4277	6278	6278	6278	14845	20274
2000	38744	4499	4499	4499	6618	6618	6618	15216	20761
2001	38783	4734	4734	4734	7054	7054	7054	15597	21259
2002	38822	4979	4989	4989	7534	7549	7549	15987	21769
2003	38861	5234	5254	5269	8042	8074	8096	16386	22292
2004	38900	5491	5521	5547	8589	8636	8677	16796	22827
2005	38938	5760	5810	5846	9173	9252	9310	17216	23375
2006	38977	6043	6114	6208	9797	9912	10065	17646	23936
2007	39016	6340	6435	6591	10464	10619	10877	18087	24510
2008	39055	6652	6772	6987	11176	11376	11738	18539	25098
2009	39094	6977	7122	7435	11932	12181	12716	19003	25701
2010	39134	7317	7491	7898	12740	13043	13751	19478	26317

a) Population number assumed to grow at 0.1% p.a.
b) 1998 PPP $ per capita figures from World Development Report 1999-2000, World Bank, Table. 1, p. 230-231.
c) Average for Greece, Portugal and Spain, assumed to grow at 2.5% p.a.
d) Assumed growth at 2.4% p.a.

Source: Own calculations

TABLE 5.2.1.8

POLAND: EU ACCESSION SCENARIO I:
1.7*r(EU imp) for 1999-2001, 2*r(EU imp) for 2002-2004, 2.3*r(EU Imp) for 2005-2010, increased export elasticity to 0.22 for 2005-2010

Year	EU imports growth %	Exp. to EU growth %	Other exp. growth %	Exports value EU	Exports value other	Total export mln $	Total export growth %	Delta Exports bn zl	GDP growth %	GDP bn zl	Consumption bn zl	Consumption growth rate	Investment bn zl	Investment growth rate	Imports bn zl	CA balance bn zl	CA balance % of GDP
1998				19270	8959	28229		0,0		551,1	436,0		140,0		123,5	-24,9	-4,52
1999	4,1	6,97	10	20613	9855	30468	7,93	0,0	4,93	578,3	453,4	1,04	151,2	1,08	132,8	-26,4	-4,56
2000	5,9	10,03	10	22681	10840	33521	10,02	0,0	5,30	608,9	471,6	1,04	163,3	1,08	143,0	-25,9	-4,26
2001	6	10,20	10	24994	11924	36918	10,14	0,0	5,32	641,3	490,4	1,04	174,7	1,07	152,8	-23,8	-3,71
2002	5,8	11,60	10	27893	13117	41010	11,08	1,5	5,49	676,6	512,5	1,045	187,0	1,07	166,1	-22,9	-3,38
2003	5,5	11,00	10	30962	14429	45390	10,68	3,3	5,42	713,3	535,6	1,045	200,0	1,07	180,9	-22,3	-3,13
2004	4,5	9,00	10	33748	15871	49620	9,32	5,0	5,18	750,2	559,7	1,045	212,0	1,06	194,8	-21,5	-2,87
2005	4,5	10,35	10	37241	17459	54700	10,24	8,5	5,34	790,3	587,7	1,05	224,8	1,06	213,2	-22,1	-2,80
2006	4,5	10,35	10	41096	19204	60300	10,24	12,7	5,34	832,5	617,0	1,05	238,3	1,06	233,4	-22,8	-2,74
2007	4,5	10,35	10	45349	21125	66474	10,24	17,6	5,34	877,0	647,9	1,05	252,6	1,06	255,6	-23,5	-2,67
2008	4,5	10,35	10	50043	23237	73280	10,24	23,2	5,34	923,8	680,3	1,05	267,7	1,06	280,1	-24,1	-2,61
2009	4,3	9,89	10	54992	25561	80553	9,92	29,4	5,29	972,7	714,3	1,05	283,8	1,06	306,7	-25,4	-2,61
2010	4,3	9,89	10	60430	28117	88548	9,92	36,5	5,29	1024,1	750,0	1,05	300,8	1,06	336,0	-26,7	-2,61

Source: Own calculations

Year	FDI inflows base	Investment base	Delta FDI inflows	Total FDI inflows	Structural transfers, net			Delta Invest.	D(DeltaGDP) ICOR=4	Old GDP	New GDP	
					total	investment	consumption					growth rate
	mln $	bn zl	mln $	mln $	mln $	mln $	mln $	bn zl	bn zl	bn zl	bn zl	%
1998	5130	140,0	0	5130	0	0	0	0,0		551,1	551,1	
1999	5381	151,2	0	5381	0	0	0	0,0	0,0	578,3	578,3	4,93
2000	5666	163,3	0	5666	0	0	0	0,0	0,0	608,9	608,9	5,30
2001	5968	174,7	0	5968	0	0	0	0,0	0,0	641,3	641,3	5,32
2002	6296	187,0	2212	8508	0	0	0	7,7	0,0	676,6	676,6	5,49
2003	6637	200,0	1871	8508	0	0	0	6,5	1,9	713,3	715,2	5,71
2004	6981	212,0	1527	8508	0	0	0	5,3	3,6	750,2	753,8	5,39
2005	7354	224,8	5408	12762	5845	3653	2192	31,7	4,9	790,3	795,2	5,49
2006	7747	238,3	5015	12762	7373	4675	2598	33,9	12,8	832,5	845,3	6,31
2007	8161	252,6	4601	12762	7373	4675	2598	32,4	21,3	877,0	898,3	6,26
2008	8597	267,7	10546	19143	7373	4675	2598	53,2	29,4	923,8	953,2	6,12
2009	9051	283,8	10092	19143	7373	4675	2598	51,6	42,7	972,7	1015,4	6,52
2010	9529	300,8	9614	19143	7373	4675	2598	49,9	55,6	1024,1	1079,7	6,33

Year	Consumption total		Investment total		Imports	FDI income repatriated	CA balance		Balance of payments	INV/DGDP ratio
	bn zl	growth rate	bn zl	growth rate	bn zl	mln $	bn zl	% of GDP	mln $	
1998	436,0		140,0		123,5	0	-24,9	-4,52	-1999	
1999	453,4	1,040	151,2	1,080	132,8	0	-26,4	-4,56	-2173	5,16
2000	471,6	1,040	163,3	1,080	143,1	0	-25,9	-4,26	-1763	4,93
2001	490,4	1,040	174,7	1,070	152,8	0	-23,8	-3,71	-852	5,04
2002	512,5	1,045	194,7	1,114	173,9	0	-30,6	-4,52	-256	4,96
2003	535,6	1,045	206,6	1,061	185,5	88	-27,3	-3,81	705	5,04
2004	559,7	1,045	217,4	1,052	196,6	163	-23,9	-3,16	1678	5,36
2005	595,3	1,064	256,4	1,180	247,7	224	-36,9	-4,64	2192	5,25
2006	626,1	1,052	272,1	1,061	263,6	440	-28,7	-3,39	4550	5,11
2007	657,0	1,049	285,0	1,047	275,9	638	-20,1	-2,24	6998	5,14
2008	689,4	1,049	320,9	1,126	313,0	819	-34,1	-3,58	9374	5,18
2009	723,4	1,049	335,4	1,045	324,8	1236	-21,9	-2,16	12863	5,16
2010	759,1	1,049	350,7	1,046	339,5	1633	-10,1	-0,93	16259	5,21

Source: Own calculations

Table 5.2.2.1C Potential Growth Forecasts: The Czech Republic

Mid-term Growth Prospects (2000-2004)

Based on Table 4.4		EBRD Index	Pop Growth	Sec. Sch. Enrollmnt	Initial GDP	Distance Brussels		**Forecast Growth**
A	Baseline	0.66	-0.10	85	8600	913		**5.14**
B	Lib.↑, Init.GDP↑	0.72	-0.10	85	10000	913		**5.32**
C	Pop.growth ↓	0.72	-0.20	85	10000	913		**5.36**

Long-term Growth Prospects (2005-2010)

Based on Fischer et al. (1998a)		Pop Growth	Prim School	Sec School	Initial GDP	Govt Cons [%]	Investmnt [% GDP]	**Forecast Growth**
E	Barro	-0.20	99	85	10000	20		**3.97**
F	Levine-Renelt	-0.20		85	10000		34	**4.40**

Table 5.2.2.1S Potential Growth Forecasts: Slovakia

Mid-term Growth Prospects (2000-2004)

Based on Table 4.4		EBRD Index	Pop Growth	Sec. Sch. Enrollmnt	Initial GDP	Distance Brussels		**Forecast Growth**
A	Baseline	0.63	0.30	87	7600	1223		**5.21**
B	Lib.↑, Init.GDP↑	0.69	0.30	87	8000	1223		**5.96**
C	Pop.growth ↓	0.69	0.10	87	8000	1223		**6.05**
D	Equal lib.	0.72	0.10	87	8000	1223		**6.59**

Long-term Growth Prospects (2005-2010)

Based on Fischer et al. (1998a)		Pop Growth	Prim School	Sec School	Initial GDP	Govt Cons [%]	Investmnt [% GDP]	**Forecast Growth**
E	Barro	0.10	101	87	8000	20		**4.26**
F	Levine-Renelt	0.10		87	8000		24	**3.33**

Table 5.2.2.2 Growth Forecasts: Different Scenarios, percent

	Forecasted Average Growth	
	2000-2004	2005-2010
Czech Republic		
No accession	5.36	4.19
EU membership from 2005	5.36	5.19
Slovakia		
No accession	6.05	3.80
EU membership from 2005	6.59	4.80

Note: The no-enlargement scenario projections are based on Tables 5.2.2.1, rows C for 2000-2004 and the average of figures reported in rows E and F for 2005-2010. The enlargement scenario assumes that Slovakia will catch up with the Czech Republic in terms of economic liberalization (row D of Table 5.2.2.1S), and the growth rates will increase by one percentage point after accession.

Table 5.2.2.3 Panel Data Estimations of Private Consumption and Capital Formation in CEECs, 1993-1997

	Private Consumption	Capital Formation
Real public consumption (first diff.)	0.085	0.425
	(1.801)	(1.847)
Real wage growth (first differences)	0.400	
	(6.442)	
Country Specific Interest Rate Effects		
CZLNR	-0.079	-1.521
	(-2.758)	(-2.799)
HULNR	-0.086	-1.924
	(-2.988)	(-3.320)
PLLNR	-0.076	1.351
	(-2.627)	(1.202)
SKLNR	-0.081	1.104
	(-2.834)	(2.499)
SILNR	-0.077	0.024
	(-2.609)	(0.760)
BGLNR	-0.078	-0.164
	(-2.578)	(-2.141)
ROLNR	-0.079	-0.226
	(-2.517)	(-2.538)
Constant	2.762	
	(8.085)	
Country Specific Fixed Effects		
HU		11.627
		(3.664)
PL		-3.443
		(-0.650)
CZ		9.732
		(3.908)
SK		-2.375
		(-1.251)
SI		2.629
		(2.373)
RO		3.645
		(3.115)
BG		3.410
		(3.701)
Adjusted R^2	0.793	0.323
Number of observations	35	35

Note: The dependent variable is the index of real private consumption and the index of real capital formation in CEECs (Bulgaria, Hungary, Poland, Romania, Slovakia, Slovenia and the Czech Republic). All dependent and explanatory variables (except for dummy variables) are in logs and in first differences. The covariance matrices of the coefficients are corrected for possible heteroscedasticity. T-values are shown in parenthesis. The data used in the regressions are from the EBRD Transition Report 1998.

Table 5.2.2.4C The Czech Republic: Basic Macroeconomic Indicators for the Scenarios: Actual Values and Forecasts

National Accounts Constant prices of 1995		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Non-Accession 2004	Non-Accession 2010	Accession 2004	Accession 2010
GDP	CZK bn	1546.9	1327.0	1239.4	1235.5	1267.6	1348.7	1401.3	1415.3	1377.1	1370.7	1403.5	1673.7	2141.1	1705.9	2267.4
Domestic Demand	CZK bn	1562.6	1240.5	1218.8	1202.2	1282.7	1408.4	1528.1	1522.0	1473.3	1445.5	1471.2	1667.3	2080.5	1755.1	2330.5
Private Consumption	CZK bn	706.0	534.8	583.6	592.5	623.9	667.6	715.0	727.2	710.4	719.0	729.7	864.7	1121.6	884.6	1181.9
Public Consumption	CZK bn	335.5	305.0	290.8	294.0	287.2	281.5	293.0	286.9	289.8	295.0	296.7	327.5	384.3	334.0	426.6
Gross Capital Formation	CZK bn	540.9	419.6	346.6	311.7	365.6	442.4	480.9	457.3	440.4	431.6	444.8	475.0	574.6	536.5	722.0
Net Exports	CZK bn	-15.7	86.5	20.6	33.3	-15.1	-59.7	-126.8	-106.7	-96.2	-74.8	-67.8	6.4	60.5	-49.1	-63.1
Exports	CZK bn	NA	NA	NA	649.7	651.0	755.8	796.2	877.7	978.2	1034.9	1104.3	1368.0	1973.7	1420.59	2292.1
Imports	CZK bn	NA	NA	NA	616.4	666.1	815.5	923.0	984.4	1074.4	1109.7	1172.0	1361.6	1913.2	1469.7	2355.3

Real Growth		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001-2004	2005-2010	2001-2004	2005-2010
GDP	%	-1.22	-14.21	-6.60	-0.32	2.60	6.40	3.90	1.00	-2.70	-0.46	2.39	4.50	4.19	5.00	5.19
Domestic Demand	%	4.55	-20.61	-1.74	-1.37	6.70	9.80	8.50	-0.40	-3.20	-1.89	1.78	2.53	4.53	3.59	6.93
Private Consumption	%	6.66	-24.25	9.12	1.53	5.30	7.00	7.10	1.70	-2.30	1.20	1.50	4.33	4.43	4.93	5.35
Public Consumption	%	0.88	-9.09	-4.68	1.12	-2.30	-2.00	4.10	-2.10	1.00	1.80	0.60	2.50	2.70	3.00	4.50
Gross Capital Formation	%	3.69	-22.43	-17.40	-10.06	17.30	21.00	8.70	-4.90	-3.70	-2.00	3.05	1.66	3.22	4.80	7.23
Exports	%	NA	NA	NA	NA	0.20	16.10	5.35	10.24	11.45	5.80	6.70	5.50	6.30	6.50	8.30
Imports	%	NA	NA	NA	NA	7.80	22.00	12.90	6.70	9.00	5.40	5.50	3.04	7.04	4.63	9.89

Table 5.2.2.4S Slovakia: Basic Macroeconomic Indicators for the Scenarios: Actual Values and Forecasts

National Accounts Constant prices of 1995		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Non-Accession 2004	Non-Accession 2010	Accession 2004	Accession 2010
GDP	SKK bn	599.2	511.9	478.5	460.8	483.4	516.8	550.8	586.8	612.7	621.9	640.5	769.7	962.8	808.7	1019.8
Domestic Demand	SKK bn	698.5	528.6	502.3	483.6	456.1	507.5	606.6	613.9	638.6	609.7	626.0	712.8	920.6	777.4	1004.5
Private Consumption	SKK bn	370.2	265.2	248.1	244.4	244.4	252.7	270.2	287.1	301.2	297.3	302.0	344.6	425.1	373.5	443.0
Public Consumption	SKK bn	133.8	110.0	120.9	118.2	105.0	108.1	130.0	130.1	130.5	131.1	129.7	146.0	179.4	148.8	195.6
Gross Capital Formation	SKK bn	194.5	153.4	133.3	121.0	106.7	146.6	206.4	196.7	206.9	181.3	194.3	222.3	316.0	255.1	365.8
Net Exports	SKK bn	-99.3	-16.7	-23.8	-22.8	27.3	9.3	-55.8	-27.1	-25.9	12.2	14.5	56.9	42.2	31.2	15.3
Exports	SKK bn							324.9	344.7	358.5	378.2	404.7	491.9	717.7	524.5	904.2
Imports	SKK bn							380.7	371.8	384.4	366.0	390.2	435.0	675.5	493.3	888.9

Real Growth		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001-2004	2005-2010	2001-2004	2005-2010
GDP	%	-2.46	-14.57	-6.52	-3.70	4.90	6.91	6.58	6.54	4.41	1.50	3.00	4.70	3.80	6.00	4.80
Domestic Demand	%	2.84	-24.32	-4.98	-3.72	-5.69	11.27	19.53	1.20	4.02	-4.53	2.68	2.63	5.25	4.43	7.10
Private Consumption	%	4.52	-28.36	-6.45	-1.49	0.00	3.40	6.93	6.25	4.90	-1.30	1.60	3.35	3.56	5.46	4.28
Public Consumption	%	0.15	-17.79	9.91	-2.23	-11.17	2.95	20.26	0.08	0.30	0.50	-1.10	3.00	3.50	3.50	5.00
Gross Capital Formation	%	1.62	-21.13	-13.10	-9.23	-11.82	37.39	40.79	-4.70	5.20	-12.40	7.20	3.42	6.04	7.04	8.66
Exports	%								6.09	4.00	5.50	7.00	5.00	6.50	6.70	9.50
Imports	%								-2.34	3.38	-4.79	6.61	2.20	9.20	4.80	12.50

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Table 5.2.3.1: Hungary: Current account and its financing from non-debt generating investments (US$ million)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Current account (A)	-807	-1437	127	267	324	-3455	-3911	-2480	-1678	-981	-2298
Net FDI (B)	14	187	311	1459	1471	2328	1097	4410	1987	1653	1453
Net non-debt generating porfolio investments (C)									343	971	508
Total non-debt generating investments D=B+C	14	187	311	1459	1471	2328	1097	4410	2330	2624	1961
Difference (A-D)	-793	-1250	438	1726	1795	-1127	-2814	1930	652	1643	-337
Net external debt with credits from the owner (year end)	13846	14025	14779	13487	12256	14239	18384	16134	14229	11157	12344

Source: National Bank of Hungary, various annual and monthly reports, own calculations

Table 5.2.3.2

Forecasts for the growth of Imprts of the EU, Hungarian Exports and GDP, percent

	EU imports	Exports Non-accesion	GDP Non-accesion	Exports Accession.	GDP Accession.
1991	4,20	-13,90	-11,89	-13,90	-11,89
1992	3,50	2,09	-3,10	2,09	-3,10
1993	-3,10	-10,13	-0,62	-10,13	-0,62
1994	7,80	13,67	2,91	13,67	2,91
1995	7,40	13,43	1,51	13,43	1,51
1996	4,20	7,40	1,29	7,40	1,29
1997	8,90	26,41	4,60	26,41	4,60
1998	7,80	16,00	5,10	16,00	5,10
1999	4,80	9,00	3,70	9,00	3,70
2000	5,00	10,00	4,00	10,00	4,00
2001	4,80	8,16	3,76	8,40	3,86
2002	4,60	7,36	3,69	7,82	3,88
2003	4,70	7,05	3,80	7,76	4,11
2004	4,80	6,72	3,89	7,68	4,33
2005	5,06	6,58	4,06	7,84	4,66
2006	5,06	6,07	4,04	7,59	4,80
2007	5,06	6,07	4,04	7,59	4,95
2008	5,06	6,07	4,04	7,59	5,10
2009	4,95	5,93	3,97	7,42	5,15
2010	4,95	5,93	3,97	7,42	5,30

Source: own calculations

Table 5.2.3.3 Hungary: Non- accession Scenario, growth rates in 1997 constant prices, percent (unless otherwise indicated)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
GDP	4,60	5,10	3,70	4,00	3,76	3,69	3,80	3,89	4,06	4,04	4,04	4,04	3,97	3,97
Private consumtion	2,00	4,30	3,80	3,70	3,60	3,50	3,70	4,50	4,50	4,40	4,00	3,80	3,80	3,80
Public consumption	1,80	2,60	1,00	2,50	2,50	2,50	2,50	2,50	2,50	2,50	2,50	2,50	2,50	2,50
Total consumption	2,30	4,05	3,80	3,53	3,45	3,36	3,54	4,23	4,23	4,15	3,81	3,64	3,64	3,64
Gross fixed cap. Form.	8,80	11,40	7,00	7,50	6,50	6,30	5,00	4,25	4,00	4,00	4,00	4,00	4,00	4,00
Gross investment	8,60	16,10	4,87	5,05	4,59	5,50	4,44	3,54	3,91	3,36	4,16	4,12	4,32	4,16
Domest. Demand	3,70	7,37	3,84	3,99	3,79	4,02	3,82	4,01	4,13	3,91	3,91	3,79	3,85	3,80
Exports (goods and NFS)	26,41	16,00	9,00	10,00	8,16	7,36	7,05	6,72	6,58	6,07	6,07	6,07	5,93	5,93
Imports (goods and NFS)	25,50	22,20	10,00	9,00	8,16	7,36	7,05	6,72	6,58	5,77	5,77	5,77	5,63	5,53
Net exports (% of GDP)	-0,46	-3,23	-3,91	-3,59	-3,74	-3,87	-3,99	-4,10	-4,20	-4,08	-3,96	-3,83	-3,69	-3,47
Balance of payments items as % of GDP														
Merch. trade and NFS	-1,22	-3,08	-3,91	-3,59	-3,74	-3,87	-3,99	-4,10	-4,20	-4,08	-3,96	-3,83	-3,69	-3,47
Incomes, net	-3,11	-3,99	-3,50	-3,50	-3,50	-3,50	-3,50	-3,50	-3,50	-3,50	-3,50	-3,50	-3,50	-3,50
Transfers, net	2,18	2,17	2,20	3,20	3,20	3,20	3,20	3,20	3,20	3,20	3,20	3,20	3,20	3,20
Current account	-2,15	-4,90	-5,21	-3,89	-4,04	-4,17	-4,29	-4,40	-4,50	-4,38	-4,26	-4,13	-3,99	-3,77
FDI, net	3,61	3,10	3,20	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50	3,50
Other variables														
CPI, %	18,3	14,3	9,9	8	7,7	6,50	5,5	4,5	4	4	3,5	3,5	3,5	3,5
Employment, % change	0	0,7	1	1	0,7	0,60	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5
Unemployment rate	10,4	9,1	9,5	8,8	8,7	8,6	8,5	8,4	8,3	8,2	8,1	8	7,9	7,8
Population, million on 1, Jan.	10,174	10,135	10,092	10,052	10,021	9,991	9,971	9,951	9,942	9,932	9,922	9,912	9,902	9,892

Source: own calculations

	Period averages			
	1998-2000	**2001-2004**	**2005-2010**	**1998-2010**
GDP				
Private consumtion	4,20	3,79	4,02	3,99
Public consumption	3,93	3,82	4,05	3,95
Total consumption	2,03	3,80	2,50	2,39
Gross fixed cap. Form.	3,66	3,64	3,85	3,74
Gross investment	8,62	5,51	4,00	5,51
Domest. Demand	8,55	4,51	4,00	5,19
Exports (goods and NFS)	5,05	3,91	3,90	4,17
Imports (goods and NFS)	11,62	7,32	6,11	7,73
Net exports (% of GDP)	13,58	7,32	5,84	8,04
	-3,58	-3,93	-3,87	-3,82

Source: own calculations

Table 5.2.3.4 Hungary: Accession Scenario, growth rates in 1997 constant prices, percent (unless otherwise indicated)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
GDP	4,60	5,10	3,70	4,00	3,86	3,88	4,11	4,33	4,66	4,80	4,95	5,10	5,15	5,30
Private consumtion	2,00	4,30	3,80	3,70	3,70	3,40	3,90	4,50	4,60	4,50	4,40	4,60	4,80	4,50
Public consumption	1,80	2,60	1,00	2,50	3,00	3,20	3,20	3,50	3,50	4,00	4,00	4,00	4,00	4,00
Total consumption	2,30	4,05	3,80	3,53	3,60	3,37	3,80	4,36	4,45	4,43	4,35	4,52	4,69	4,43
Gross fixed cap. Form.	8,80	11,40	7,00	7,50	6,80	6,50	6,50	6,30	6,30	7,50	8,00	8,50	8,70	9,00
Gross investment	8,60	16,10	4,87	5,05	4,50	6,00	5,69	5,26	6,12	7,35	7,48	7,67	7,86	8,15
Domest. Demand	3,70	7,37	3,84	3,99	3,87	4,18	4,39	4,65	4,98	5,37	5,37	5,57	5,77	5,72
Exports (goods and NFS)	26,41	16,00	9,00	10,00	8,40	7,82	7,76	7,68	7,84	7,59	7,59	7,59	7,42	7,42
Imports (goods and NFS)	25,50	22,20	10,00	9,00	8,40	8,02	7,96	7,88	8,04	8,09	8,09	8,09	7,92	7,92
Net exports (% of GDP)	-0,46	-3,23	-3,91	-3,59	-3,75	-4,01	-4,27	-4,54	-4,81	-5,28	-5,76	-6,26	-6,76	-7,28
Balance of payments items as % of GDP														
Merch. trade and NFS	-1,22	-3,08	-3,91	-3,59	-3,75	-4,01	-4,27	-4,54	-4,81	-5,28	-5,76	-6,26	-6,76	-7,28
Incomes, net	-3,11	-3,99	-3,50	-3,50	-3,50	-3,50	-3,50	-3,50	-3,60	-3,70	-3,80	-3,90	-4,00	-4,10
Transfers, net	2,18	2,17	2,20	3,20	3,20	3,20	3,20	3,20	3,60	4,00	4,80	5,20	5,20	5,20
Current account	-2,15	-4,90	-5,21	-3,89	-4,05	-4,31	-4,57	-4,84	-4,81	-4,98	-4,76	-4,96	-5,56	-6,18
FDI, net	3,61	3,10	3,20	3,50	3,50	3,50	3,60	3,80	4,00	4,00	4,00	4,50	5,00	5,00
Other variables														
CPI, %	18,3	14,3	9,9	8	7,7	6,50	5,5	4,5	4	4	3,5	3,5	3,5	3,5
Employment, % change	0	0,7	1	1	0,7	0,60	0,5	0,5	0,6	0,8	0,8	1	1	1
Unemployment rate	10,4	9,1	9,5	8,8	8,7	8,6	8,5	8,4	8,1	7,8	7,5	7,2	6,9	6,6
Population, million on 1, Jan.	10,174	10,135	10,092	10,052	10,021	9,991	9,971	9,951	9,942	9,932	9,922	9,912	9,902	9,892

Source: own calculations

	Period averages			
	1998-2000	**2001-2004**	**2005-2010**	**1998-2010**
GDP	4,20	4,05	4,99	4,52
Private consumtion	3,93	3,87	4,57	4,21
Public consumption	2,03	3,22	3,92	3,27
Total consumption	3,66	3,78	4,48	4,08
Gross fixed cap. Form.	8,62	6,52	8,00	7,68
Gross investment	8,55	5,36	7,44	7,05
Domest. Demand	5,05	4,27	5,46	5,00
Exports (goods and NFS)	11,62	7,91	7,57	8,60
Imports (goods and NFS)	13,58	8,06	8,02	9,29
Net exports (% of GDP)	-3,58	-4,14	-6,02	-4,88

Source: own calculations

Table 5.2.4.1 Slovenia: GDP per capita - Purchasing Power Parity

Accession scenario	1997	2000	2001	2002	2003	2004	2005	2010
Real GDP growth rate	4.6	3.7	4.0	4.5	5.5	6.0	5.5	4.5
of inhabitants (in 000)	1,987	1,976	1,974	1,973	1,973	1,973	1,973	1,976
National price level (in % of EU average)	62.0	70.0	71.3	72.5	73.4	73.9	74.2	76.1
Purchasing Power Parity (PPP)	111.8	138.3	143.1	146.9	150.0	151.9	152.7	156.8
GDP deflator – Slovenia	8.8	6.2	3.8	3.5	3.0	2.6	2.1	2.5
GDP deflator – EU average	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8
Exchange rate SIT/EURO	180.40	197.70	200.60	202.60	204.50	205.50	205.90	205.90
GDP per capita - PPP - EU average	18960	21498	22389	23498	24519	25585	24294	30050
GDP per capita - PPP - Slovenia	13000	14482	15115	15884	16826	18054	19539	27376
GDP per capita - in current EURO - Slovenia	8111	10133	10779	11516	12343	13348	14488	20844
GPP per capita- in current EURO-Slovenia (in % of EU av.)	43	47	48	49	50	52	60	69
GPP per capita – PPP - Slovenia (in % of EU average)	**69.0**	**67.4**	**67.5**	**67.6**	**68.6**	**70.6**	**80.4**	**91.1**
Non-accession scenario	**1997**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2010**
Real GDP growth rate	4.6	3.7	4.0	3.5	3.0	3.0	3.0	3.5
Number of inhabitants (in 000)	1,987	1,976	1,974	1,973	1,973	1,973	1,973	1,976
National price level (in % of EU average)	62.0	70.0	71.3	72.5	73.4	73.9	74.2	76.1
Purchasing Power Parity (PPP)	111.8	138.3	143.1	146.9	150.0	151.9	152.7	156.8
GDP deflator – Slovenia	8.8	6.2	3.8	3.5	3.0	2.6	2.1	2.5
GDP deflator – EU average	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8
Exchange rate SIT/EURO	180.40	197.70	200.60	202.60	204.50	205.50	205.90	205.90
GDP per capita - PPP - EU average	18960	21498	22389	23498	24519	25585	26696	33022
GDP per capita - PPP - Slovenia	13000	14482	15115	15884	16665	17458	18358	23368
GDP per capita - in current EURO - Slovenia	8111	10133	10779	11516	12225	12907	13613	17792
GPP per capita- in current EURO-Slovenia (in % of EU av.)	43	47	48	49	50	50	51	54
GPP per capita – PPP - Slovenia (in % of EU average)	**69.0**	**67.4**	**67.5**	**67.6**	**68.0**	**68.2**	**68.8**	**70.8**

Source: own calculations

Table 5.2.4.2 Slovenia: Expenditure of GDP , in % (fixed prices 1999)

Accession scenario	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
GROSS DOMESTIC PRODUCT	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
External balance of goods and services	-2.2	-2.5	-2.6	-2.7	-2.8	-3.1	**-3.2**	-3.5	-3.7	-4.0	-4.4
Final consumption and gross capital formation	102.2	102.5	102.6	102.7	102.8	103.1	103.2	103.5	103.7	104.0	104.4
- Private consumption	55.4	55.2	54.8	54.7	54.5	54.4	54.7	55.1	55.3	55.6	56.1
- Government consumption	20.7	20.6	20.5	20.3	20.1	20.0	19.9	19.9	19.9	19.9	20.0
- Gross fixed capital formation	25.6	26.2	26.8	27.2	27.4	27.8	27.9	27.9	27.9	27.9	28.0
- Changes in inventories	0.5	0.5	0.5	0.6	0.7	0.8	0.8	0.6	0.6	0.6	0.2
Non-accession scenario	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
GROSS DOMESTIC PRODUCT	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
External balance of goods and services	-2.2	-2.5	-2.6	-2.3	-2.1	-1.7	-1.4	-1.3	-1.0	-0.7	-0.7
Final consumption and gross capital formation	102.2	102.5	102.6	102.3	102.1	101.7	101.4	101.3	101.0	100.7	100.7
- Private consumption	55.4	55.2	55.1	54.9	54.6	54.2	53.9	53.9	53.9	54.1	54.1
- Government consumption	20.7	20.6	20.5	20.3	20.2	20.1	20.0	19.9	19.7	19.6	19.6
- Gross fixed capital formation	25.6	26.2	26.6	26.6	26.6	26.6	26.6	26.7	26.7	26.7	26.7
- Changes in inventories	0.5	0.5	0.5	0.4	0.7	0.8	0.9	0.8	0.7	0.2	0.2

Source of data: IMAD estimates.

Table 5.2.4.3 Slovenia: Share of investment in GDP and investment efficiency

	1999	2000	2001-05	2006-10
Accession scenario				
GDP (real growth rates in %)	3.5	3.8	5.1	5.0
Share of investment in GDP	24.6	25.6	27.1	27.9
Marginal capital coefficient	7.0	6.8	5.4	5.6
Non-accession scenario				
GDP (real growth rates in %)	3.5	3.8	3.3	3.3
Share of investment in GDP	24.6	25.6	26.5	26.7
Marginal capital coefficient	7.0	6.8	8.2	8.1

Source: IMAD estimates

Table 5.2.4.4 Slovenia: International trade – balance of payments statistics (fixed exchange rate in 1999)

Accession scenario	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Exports of goods and services (growth in %)	4.5	5.0	7.5	7.7	8.2	8.5	8.7	8.8	8.9	9.0	9.2
Exports of goods and services share in GDP	56.3	56.8	58.5	59.7	61	62.7	64.7	67	69.5	72.1	75.4
Imports of goods and services (growth in %)	4.9	5.4	7.7	7.9	8.4	8.8	8.9	9.0	9.1	9.2	9.5
Imports of goods and services share in GDP	58.5	59.3	61.1	62.4	63.8	65.8	67.9	70.5	73.2	76.1	79.8
Current account balance (millions of USD)	-190	-242	-302	-358	-424	-511	-597	-707	-836	-983	-1190
Non-accession scenario	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Exports of goods and services (growth in %)	4.5	5.0	5.3	5.4	5.5	5.6	5.5	5.2	5.5	5.5	5.5
Exports of goods and services share in GDP	56.3	56.8	57.8	59.1	60.6	62.1	63.6	65.0	66.2	67.5	68.8
Imports of goods and services (growth in %)	4.9	5.4	5.5	4.8	5.0	5.0	4.9	5.0	5.0	5.0	5.5
Imports of goods and services share in GDP	58.5	59.3	60.4	61.5	62.6	63.8	65.0	66.3	67.2	68.2	69.5
Current account balance (millions of USD)	-190	-242	-316	-259	-206	-137	-64	-44	25	106	100

Source of data: IMAD estimates.

Accession scenario	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Current account balance (millions of USD)	-190	-242	-302	-358	-424	-511	-597	-707	-836	-983	-1190
- share in GDP in %	-0.9	-1.1	-1.3	-1.5	-1.7	-1.9	-2.1	-2.4	-2.7	-3.0	-3.5
Non-accession scenario	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Current account balance (millions of USD)	-190	-242	-316	-259	-206	-137	-64	-44	25	106	100
- share in GDP in %	-0.9	-1.1	-1.4	-1.1	-0.9	-0.6	-0.2	-0.2	0.1	0.4	0.3

Source of data: IMAD estimates.

Table 5.2.4.5 Slovenia: Regional orientation of goods exports

Structure in %	1998	2005	2010
Accession scenario			
Goods exports	100.0	100.0	100.0
- EU member states	65.5	60.0	65.0
- the former Yugoslavia	15.4	20.0	17.5
- other countries	19.1	20.0	17.5
Non-accession scenario			
Goods exports	100.0	100.0	100.0
- EU member states	65.5	60.0	60.0
- the former Yugoslavia	15.4	20.0	20.0
- other countries	19.1	20.0	20.0

Source: SORS, IMAD estimates.

Table 5.2.4.6 Slovenia: Consolidated balance of public financing in the 2002-2010 period (shares in GDP in %)

Accession scenario	1998	1999	2000	2001	2002	2003	2004	2005	2010
General government revenue	43.0	43.5	44.2	44.4	44.6	45.0	45.5	46.5	46.5
General government expenditure	43.8	44.5	44.7	44.9	45.1	45.3	46.5	47.5	47.5
Surplus/deficit	-0.8	-1.0	-0.5	-0.5	-0.5	-0.3	-1.0	-1.0	-1.0
Non-accession scenario									
General government revenue	43.0	43.5	44.2	44.4	44.6	45.0	45.0	45.0	45.0
General government expenditure	43.8	44.5	44.7	44.9	45.1	45.3	45.3	45.2	46.0
Surplus/deficit	-0.8	-1.0	-0.5	-0.5	-0.5	-0.3	-0.3	-0.2	-1.0

Source of data: IMAD estimates

Table 5.2.4.7 Slovenia: Main macroeconomic indicators in the two scenarios

real growth rates in %

Accession scenario	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
GDP	3.75	4.0	4.5	5.5	6.0	5.5	5.5	5.0	5.0	5.0	4.5
Employment rate	0.8	1.0	1.5	1.5	2.0	1.5	1.5	1.0	1.0	1.0	0.5
Rate of registered employment in %	13.4	13.0	12.1	11.2	9.8	-8.8	7.6	6.9	6.0	5.2	5.1
Labour productivity	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Gross wage per employee	2.5	2.3	1.8	2.5	2.5	2.5	2.5	2.8	2.8	3.0	3.0
Exports of goods and services	4.5	5.0	7.5	7.7	8.2	8.5	8.7	8.8	8.9	9.0	9.2
- share in GDP in %	56.3	56.8	58.5	59.7	61.0	62.7	64.7	67.0	69.5	72.1	75.4
Imports of goods and services	4.9	5.4	7.7	7.9	8.4	8.8	8.9	9.0	9.1	9.2	9.5
- share in GDP in %	58.5	59.3	61.1	62.4	63.8	65.8	67.9	70.5	73.2	76.1	79.8
Current account balance (millions of USD)	-190	-242	-302	-358	-424	-511	-597	-707	-836	-983	-1190
Final consumption (private and government)	3.6	3.6	3.8	5.0	5.6	5.2	5.7	5.6	5.4	5.4	5.4
- share in GDP in %	76.1	75.8	75.3	75.0	74.7	74.4	74.5	74.9	75.2	75.5	76.2
Gross fixed capital formation	6.6	6.4	7.0	7.0	7.0	7.0	5.7	5.0	5.0	5.0	5.0
- share in GDP in %	25.6	26.2	26.8	27.2	27.4	27.8	27.9	27.9	27.9	27.9	28.0
Inflation (annual average)	6.2	3.8	3.5	3.0	2.6	2.1	2.2	2.2	2.4	2.4	2.5
USD exchange rate (annual average)	179.0	177.5	179.3	181.0	181.9	182.3	182.3	182.3	182.3	182.3	182.3
Non-Accession scenario	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
GDP	3.75	4.0	3.5	3.0	3.0	3.0	3.0	3.0	3.5	3.5	3.5
Employment rate	0.8	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
Rate of registered employment in %	13.4	13.0	13.0	13.4	13.8	14.0	14.2	14.4	14.0	13.7	13.6
Labour productivity	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Gross wage per employee	2.5	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Exports of goods and services	4.5	5.0	5.3	5.4	5.5	5.6	5.5	5.2	5.5	5.5	5.5
- share in GDP in %	56.3	56.8	57.8	59.1	60.6	62.1	63.6	65.0	66.2	67.5	66.8
Imports of goods and services	4.9	5.4	5.5	4.8	5.0	5.0	4.9	5.0	5.0	5.0	5.5
- share in GDP in %	58.5	59.3	60.4	61.5	62.6	63.8	65.0	66.3	67.2	68.2	69.5
Current account balance (millions of USD)	-190	-242	-316	-259	-206	-137	-64	-44	25	106	100
Final consumption (private and government)	3.6	3.6	3.2	2.6	2.3	2.4	2.3	2.9	3.3	3.7	3.5
- share in GDP in %	76.1	75.8	75.6	75.3	74.8	74.3	73.8	73.8	73.6	73.6	73.8
Gross fixed capital formation	6.6	6.4	5.0	3.1	3.0	3.0	3.0	3.5	3.5	3.5	3.5
- share in GDP in %	25.6	26.2	26.6	26.6	26.6	26.6	26.6	26.7	26.7	26.7	26.7
Inflation (annual average)	6.2	3.8	3.5	3.0	2.6	2.1	2.2	2.2	2.4	2.4	2.5
USD exchange rate (annual average)	179.0	177.5	179.3	181.0	181.9	182.3	182.3	182.3	182.3	182.3	182.3

Source of data: IMAD estimates.

Table 5.2.5.1 Forecasts for Romania

	1999	2000	2001	2002	2003	2004	2005-2010 average
Popul. growth (%, p.a.)	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
GDP growth (%, p.a.)	-4.5	1.0	2.0	1.0	2.0	3.0	3.0
Priv. consump. (%, p.a.)	-5.0	-2.0	3.0	0.0	1.0	2.0	2.0
Fixed invest. (%, p.a.)	-10.0	5.0	10.0	10.0	5.0	10.0	10.0
CPI inflation (eop; %)	52.0	40.0	50.0	30.0	30.0	20.0	10.0
Unempl. rate (eop; %)	12.0	13.0	12.5	12.5	12.0	11.5	11.5
Export growth (%, p.a.)	-4.0	2.0	3.0	5.0	5.0	5.0	5.0
EU (%, p.a.)	-1.0	4.0	5.0	7.0	7.0	7.0	7.0
non-EU (%, p.a.)	-12.0	1.0	1.0	2.0	2.0	2.0	2.0
Import growth (%, p.a.)	-7.0	0.0	5.0	0.0	5.0	3.0	5.0
EU (%, p.a.)	1.0	1.0	7.0	1.0	7.0	5.0	7.0
non-EU (%, p.a.)	-15.0	-2.0	2.0	-2.0	2.0	2.0	2.0
Net Export (% GDP)	-10.3	-9.0	-10.0	-7.0	-6.0	-5.0	-5.0
Current Acc. (% GDP)	-6.0	-6.0	-7.0	-6.0	-6.0	-5.0	-4.0
Annual FDI (% GDP)	5.5	5.0	4.0	4.5	5.0	5.0	5.0

Source: Hunya (1999); Creditanstalt; EBRD; PlanEcon; author's calculations

Table 5.2.5.2. Forecasts for Bulgaria

	1999	2000	2001	2002	2003	2004	2005-2010 average	
Popul. growth (%, p.a.)	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	
GDP growth (%, p.a.)	1.5	3.0	4.0	4.0	4.0	4.0	5.0	
Priv. consump. (%, p.a.)	1.5	2.0	2.5	3.0	3.0	3.0	4.0	
Fixed invest. (%, p.a.)	3.0	9.0	12.0	7.0	7.0	6.0	7.0	
CPI inflation (eop; %)	2.0	3.0	3.0	3.0	2.0	2.0	2.0	
Unempl. rate (eop; %)	13.5	13.0	12.8	12.6	12.6	12.5	12.0	
Export growth (%, p.a.)	-12.0	7.0	7.0	7.0	6.0	5.0	5.0	
EU (%, p.a.)	-0.5	9.0	9.0	9.0	8.0	7.0	6.0	
non-EU (%, p.a.)	-26.0	4.0	4.0	4.0	3.0	2.0	2.0	
Import growth (%, p.a.)	-3.0	6.0	6.0	6.0	5.0	4.0	5.0	EU
(%, p.a.)	0.0	8.0	9.0	9.0	9.0	9.0	8.0	
non-EU (%, p.a.)	-6.0	2.5	2.5	2.5	2.5	2.5	2.0	
Net Export (% GDP)	-5.5	-5.0	-4.0	-4.0	-3.0	-3.0	-3.0	
Current Acc. (% GDP)	-6.0	-6.0	-5.0	-5.0	-4.0	-4.0	-4.0	
Annual FDI (% GDP)	4.0	4.0	4.0	5.0	5.0	5.0	5.0	

Source: Angelov *et al.* (1999); PlanEcon; author's calculations

Table 5.2.5.3 Forecasts for Estonia

	1999	2000	2001	2002	2003	2004	2005-2010 average	
Popul. growth (%, p.a.)	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	
GDP growth (%, p.a.)	-0.4	4.0	5.0	5.0	5.0	5.0	5.0	
Priv. consump. (%, p.a.)	-1.0	3.0	4.0	4.0	4.0	4.0	4.0	
Fixed invest. (%, p.a.)	0.0	7.0	8.0	8.0	8.0	8.0	8.0	
CPI inflation (eop; %)	3.0	4.0	5.0	3.5	3.0	3.0	3.0	
Unempl. rate (eop; %)	10.0	9.0	8.5	8.0	7.5	7.0	6.0	
Export growth (%, p.a.)	-9.0	6.0	5.5	5.5	5.5	5.5	5.0	
EU (%, p.a.)	8.0	7.0	6.5	6.5	6.5	6.5	6.0	
non-EU (%, p.a.)	-25.0	3.0	2.0	2.0	2.0	2.0	2.0	
Import growth (%, p.a.)	-17.0	4.5	5.0	5.0	5.0	5.0	4.5	EU
(%, p.a.)	-15.0	6.0	7.0	7.0	7.0	7.0	6.5	
non-EU (%, p.a.)	-19.0	3.0	2.0	2.0	2.0	2.0	2.0	
Net Export (% GDP)	-18.0	-17.0	-14.5	-13.0	-10.0	-10.0	-10.0	
Current Acc. (% GDP)	-7.0	-5.0	-4.0	-3.0	-2.0	-2.0	-2.0	
Annual FDI (% GDP)	11.0	9.0	8.0	8.0	7.0	7.0	7.0	

Source: Ministry of Economic Affairs (Tallinn) unpublished materials; Statistical Office of Estonia; EBRD

Table 5.2.5.4 Forecasts for Latvia

	1999	2000	2001	2002	2003	2004	2005-2010 average	
Popul. growth (%, p.a.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
GDP growth (%, p.a.)	1.0	3.5	4.1	5.0	5.1	5.3	4.8	
Priv. consump. (%, p.a.)	3.1	2.8	3.1	3.8	4.1	4.5	4.0	
Fixed invest. (%, p.a.)	6.5	5.5	7.0	7.1	7.2	7.3	7.0	
CPI inflation (eop; %)	2.0	3.5	3.5	3.0	3.0	2.5	2.5	
Unempl. rate (eop; %)	9.4	9.1	8.8	8.4	8.1	7.7	7.0	
Export growth (%, p.a.)	-12.0	6.5	6.0	6.0	6.0	6.0	5.	EU
(%, p.a.)	6.5	8.5	9.0	10.0	10.5	10.5	9.0	
non-EU (%, p.a.)	-32.0	3.0	2.0	2.0	2.0	2.0	2.0	
Import growth (%, p.a.)	-14.0	4.5	5.6	5.0	5.0	5.0	4.5	
EU (%, p.a.)	-13.0	6.0	9.0	8.0	8.0	8.0	7.0	
non-EU (%, p.a.)	-15.0	3.0	2.0	2.0	2.0	2.0	2.0	
Net Export (% GDP)	-10.9	-9.7	-8.6	-7.6	-6.9	-6.4	-5.5	
Current Acc. (% GDP)	-8.9	-8.0	-7.0	-6.1	-5.5	-5.0	-5.0	
Annual FDI (% GDP)	4.0	6.0	6.0	5.0	5.0	5.0	5.0	

Source: Central Statistical Bureau of Latvia; Ministry of Economy (Rīga) unpublished materials; Ministry of Finance (Rīga) unpublished materials; EBRD

Table 5.2.5.5 Forecasts for Lithuania

1999	2000	2001	2002	2003	2004	2005-2010	average
Popul. growth (%, p.a.)	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
GDP growth (%, p.a.)	-2.0	3.8	4.9	4.2	4.5	4.5	4.5
Priv. consump. (%, p.a.)	2.0	3.0	3.5	4.0	4.0	4.0	4.0
Fixed invest. (%, p.a.)	4.0	6.0	7.5	7.5	7.5	7.5	7.5
CPI inflation (eop; %)	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Unempl. rate (eop; %)	8.5	8.0	8.0	7.5	7.5	7.0	6.5
Export growth (%, p.a.)	-20.0	7.0	6.5	6.5	6.5	6.5	6.0
EU (%, p.a.)	10.0	9.0	9.5	10.5	10.5	10.5	9.0
non-EU (%, p.a.)	-40.0	3.0	2.0	2.0	2.0	2.0	2.0
Import growth (%, p.a.)	-20.0	5.0	6.0	6.0	6.0	6.0	4.5
EU (%, p.a.)	-20.0	7.0	9.5	8.5	8.5	8.5	7.0
non-EU (%, p.a.)	-20.0	3.0	2.0	2.0	2.0	2.0	2.0
Net Export (% GDP)	-16.4	-8.8	-7.0	-6.5	-6.0	-5.5	-4.5
Current Acc. (% GDP)	-12.0	-10.3	-9.0	-8.5	-8.0	-7.5	-6.0
Annual FDI (% GDP)	6.0	6.0	5.5	5.5	5.5	5.5	5.5

Source: Ministry of Economy (Vilnius) unpublished materials; Ministry of Finance (Vilnius) unpublished materials; Statistics Lithuania; EBRD

Table 6.1-1 Export volume growth rates, past data and forecasts compared*

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Poland														
Non-accession	13,70	9,40	7,93	10,02	10,14	9,91	9,56	8,41	8,42	8,44	8,45	8,46	8,25	8,26
Accession	13,70	9,40	7,93	10,02	10,14	11,08	10,68	9,32	10,24	10,24	10,24	10,24	9,92	9,92
Czech Republic														
Non-accession	10,24	11,45	5,80	6,70	5,50	5,50	5,50	5,50	6,30	6,30	6,30	6,30	6,30	6,30
Accession	10,24	11,45	5,80	6,70	6,50	6,50	6,50	6,50	8,30	8,30	8,30	8,30	8,30	8,30
Slovak Republic														
Non-accession	6,09	4,00	5,50	7,00	5,00	5,00	5,00	5,00	6,50	6,50	6,50	6,50	6,50	6,50
Accession	6,09	4,00	5,50	7,00	6,70	6,70	6,70	6,70	9,50	9,50	9,50	9,50	9,50	9,50
Hungary														
Non-accession	26,41	16,00	9,00	10,00	8,16	7,36	7,05	6,72	6,58	6,07	6,07	6,07	5,93	5,93
Accession	26,41	16,00	9,00	10,00	8,40	7,82	7,76	7,68	7,84	7,59	7,59	7,59	7,42	7,42
Slovenia														
Non-accession	10,00	6,80	3,40	4,50	5,00	5,30	5,40	5,50	5,60	5,50	5,20	5,50	5,50	5,50
Accession	10,00	6,80	3,40	4,50	5,00	7,50	7,70	8,20	8,50	8,70	8,80	8,90	9,00	9,20
Romania														
Non-accession	4,28	-1,55	-1,00	4,00	5,00	7,00	7,00	7,00	7,00	7,00	7,00	7,00	7,00	7,00
Accession	4,28	-1,55	-1,00	4,00	5,50	7,50	7,50	7,50	>	>	>	>	>	>
Bulgaria														
Non-accession	1,02	-13,08	-12,00	7,00	7,00	7,00	6,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00
Accession	1,02	-13,08	-12,00	7,00	7,50	7,50	6,50	5,50	>	>	>	>	>	>
Estonia														
Non-accession	26,43	41,07	-9,00	6,00	5,50	5,50	5,50	5,50	5,00	5,00	5,00	5,00	5,00	5,00
Accession	26,43	41,07	-9,00	6,00	6,00	6,00	6,00	6,00	>	>	>	>	>	>
Latvia														
Non-accession	15,94	8,31	-12,00	6,50	6,00	6,00	6,00	6,00	5,50	5,50	5,50	5,50	5,50	5,50
Accession	15,94	8,31	-12,00	6,50	6,50	6,50	6,50	6,50	>	>	>	>	>	>
Lithuania														
Non-accession	15,05	-3,86	-20,00	7,00	6,50	6,50	6,50	6,50	6,00	6,00	6,00	6,00	6,00	6,00
Accession	15,05	-3,86	-20,00	7,00	7,00	7,00	7,00	7,00	>	>	>	>	>	>
Non-weighted average														
Non-accession	12,92	7,85	-2,24	6,87	6,38	6,51	6,35	6,11	6,19	6,13	6,10	6,13	6,10	6,10
Accession	12,92	7,85	-2,24	6,87	6,92	7,41	7,28	7,09	>	>	>	>	>	>

* Export of goods and non-factor services, except for Bulgaria, Romania, Estonia, Latvia and Lithuania, for which data for 1997 and 1998 are growth rates calculated
   from USD values of export of goods, and data for other years are volume indices for goods.
> Larger rate than in the other scenario.

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Table 6.1-2 Export volume growth rates, past data and forecasts compared*

	Period averages			Difference between the two scenarios	
	1997-2000	**2001-2004**	**2005-2010**	**2001-2004**	**2005-2010**
Poland					
Non-accession	10,24	9,50	8,38		
Accession	10,24	10,30	10,13	0,80	1,75
Czech Republic					
Non-accession	8,52	5,50	6,30		
Accession	8,52	6,50	8,30	1,00	2,00
Slovak Republic					
Non-accession	5,64	5,00	6,50		
Accession	5,64	6,70	9,50	1,70	3,00
Hungary					
Non-accession	15,15	7,32	6,11		
Accession	15,15	7,91	7,57	0,59	1,46
Slovenia					
Non-accession	6,15	5,30	5,47		
Accession	6,15	7,09	8,85	1,79	3,38
Romania					
Non-accession	1,40	6,50	7,00		
Accession	1,40	7,00	>	0,50	
Bulgaria					
Non-accession	-4,64	6,25	5,00		
Accession	-4,64	6,75	>	0,50	
Estonia					
Non-accession	14,53	5,50	5,00		
Accession	14,53	6,00	>	0,50	
Latvia					
Non-accession	4,16	6,00	5,50		
Accession	4,16	6,50	>	0,50	
Lithuania					
Non-accession	-1,36	6,50	6,00		
Accession	-1,36	7,00	>	0,50	
Non-weighted average					
Non-accession	5,98	6,34	7,29		
Accession	5,98	7,18	>	0,84	

Table 6.2-1 Real GDP growth rates, past data and forecasts compared, percent

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Poland														
Non-accession	6,80	4,80	4,93	5,30	5,32	5,28	5,22	5,01	5,02	5,02	5,02	5,02	4,98	4,99
Accession	6,80	4,80	4,93	5,30	5,32	5,49	5,71	5,39	5,49	6,31	6,26	6,12	6,52	6,33
Czech Republic														
Non-accession	1,00	-2,70	-0,46	2,39	4,50	4,50	4,50	4,50	4,19	4,19	4,19	4,19	4,19	4,19
Accession	1,00	-2,70	-0,46	2,39	5,00	5,00	5,00	5,00	5,19	5,19	5,19	5,19	5,19	5,19
Slovak Republic														
Non-accession	6,54	4,41	1,50	3,00	4,70	4,70	4,70	4,70	3,80	3,80	3,80	3,80	3,80	3,80
Accession	6,54	4,41	1,50	3,00	6,00	6,00	6,00	6,00	4,80	4,80	4,80	4,80	4,80	4,80
Hungary														
Non-accession	4,60	5,10	3,70	4,00	3,76	3,69	3,80	3,89	4,06	4,04	4,04	4,04	3,97	3,97
Accession	4,60	5,10	3,70	4,00	3,86	3,88	4,11	4,33	4,66	4,80	4,95	5,10	5,15	5,30
Slovenia														
Non-accession	4,56	3,94	3,45	3,75	3,95	3,50	3,00	3,00	3,00	3,00	3,00	3,50	3,50	3,50
Accession	4,56	3,94	3,45	3,75	3,95	4,50	5,50	6,00	5,50	5,50	5,00	5,00	5,00	4,50
Romania														
Non-accession	-6,60	-7,30	-4,50	1,00	2,00	1,00	2,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00
Accession	-6,60	-7,30	-4,50	1,00	2,30	1,30	2,30	3,30	4,25	4,25	4,25	4,25	4,25	4,25
Bulgaria														
Non-accession	-7,90	3,50	1,50	3,00	4,00	4,00	4,00	4,00	5,00	5,00	5,00	5,00	5,00	5,00
Accession	-7,90	3,50	1,50	3,00	4,30	4,30	4,30	4,30	6,25	6,25	6,25	6,25	6,25	6,25
Estonia														
Non-accession	11,40	4,00	-0,40	4,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00
Accession	11,40	4,00	-0,40	4,00	5,30	5,30	5,30	5,30	5,30	6,25	6,25	6,25	6,25	6,25
Latvia														
Non-accession	6,50	3,60	2,00	3,50	4,10	5,00	5,10	5,30	4,80	4,80	4,80	4,80	4,80	4,80
Accession	6,50	3,60	2,00	3,50	4,40	5,30	5,40	5,60	6,05	6,05	6,05	6,05	6,05	6,05
Lithuania														
Non-accession	6,10	5,10	-2,00	3,80	4,90	4,20	4,50	4,50	4,50	4,50	4,50	4,50	4,50	4,50
Accession	6,10	5,10	-2,00	3,80	5,20	4,50	4,80	4,80	5,75	5,75	5,75	5,75	5,75	5,75
Non-weighted average														
Non-accession	3,30	2,45	0,97	3,37	4,22	4,09	4,18	4,29	4,24	4,23	4,23	4,28	4,27	4,27
Accession	3,30	2,45	0,97	3,37	4,56	4,56	4,84	5,00	5,32	5,51	5,47	5,48	5,52	5,47

Table 6.2-2 Real GDP growth rates, past data and forecasts compared, percent

	Period averages			Difference between the two scenarios	
	1997-2000	2001-2004	2005-2010	2001-2004	2005-2010
Poland					
Non-accession	5,45	5,21	5,01		
Accession	5,45	5,48	6,17	0,27	1,16
Czech Republic					
Non-accession	0,04	4,50	4,19		
Accession	0,04	5,00	5,19	0,50	1,00
Slovak Republic					
Non-accession	3,85	4,70	3,80		
Accession	3,85	6,00	4,80	1,30	1,00
Hungary					
Non-accession	4,35	3,79	4,02		
Accession	4,35	4,05	4,99	0,26	0,98
Slovenia					
Non-accession	3,93	3,36	3,25		
Accession	3,93	4,99	5,08	1,62	1,83
Romania					
Non-accession	-4,40	2,00	3,00		
Accession	-4,40	2,30	4,25	0,30	1,25
Bulgaria					
Non-accession	-0,09	4,00	3,75		
Accession	-0,09	4,30	5,00	0,30	1,25
Estonia					
Non-accession	4,67	5,00	5,00		
Accession	4,67	5,30	6,09	0,30	1,09
Latvia					
Non-accession	3,89	4,87	4,80		
Accession	3,89	5,17	6,05	0,30	1,25
Lithuania					
Non-accession	3,20	4,52	4,50		
Accession	3,20	4,82	5,75	0,30	1,25
Non-weighted average					
Non-accession	2,49	4,20	4,13		
Accession	2,49	4,74	5,34	0,55	1,21

Figures

Figure 2.1 Annual Consumer Price Indices, percent
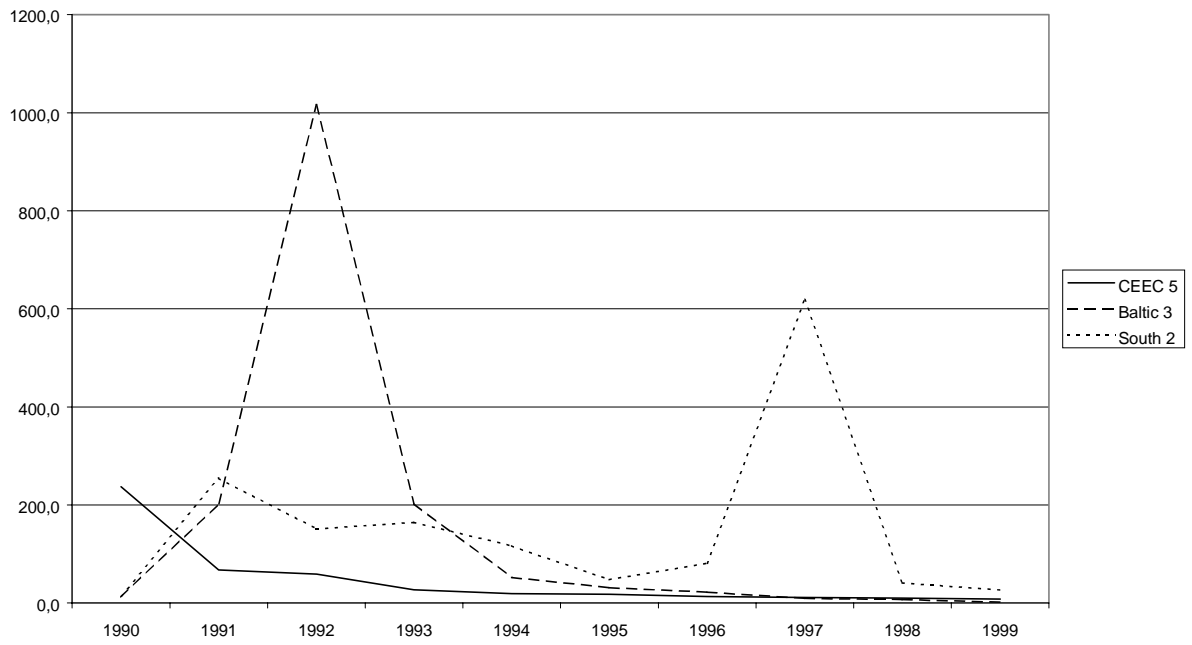
Figure 2.2 Cumulated Real GDP Growth in CEEC 10, 1989=100

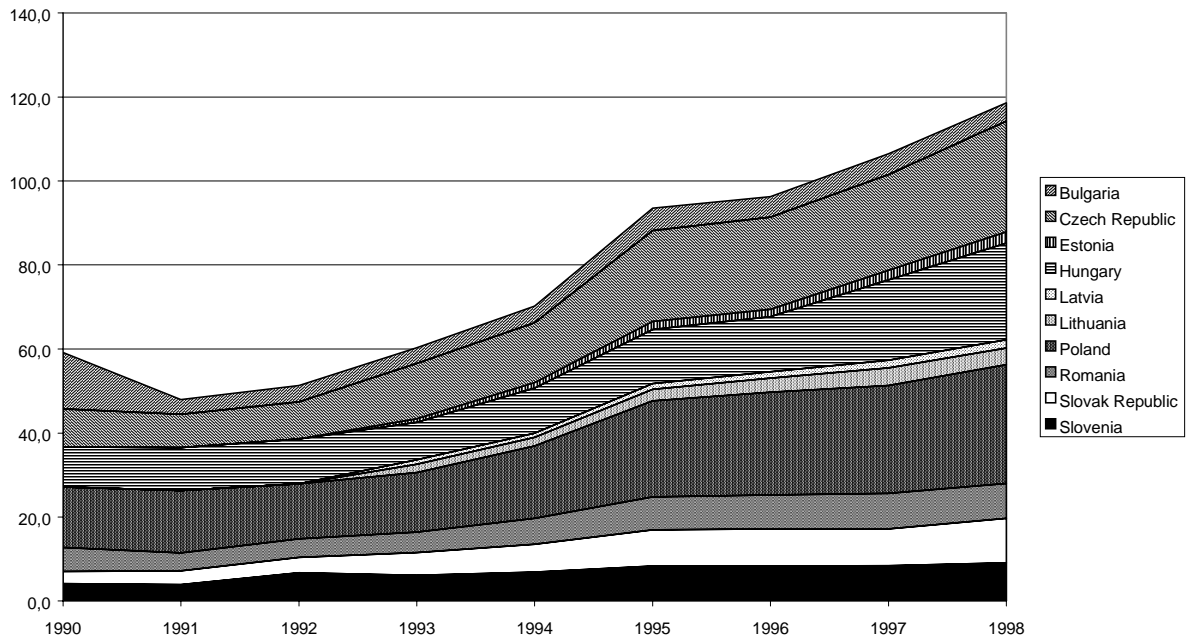**Figure 2.3 Development of Total Exports in CEEC 10, bn US$**

Figure 2.4 Growth of exports measured in USD, percent

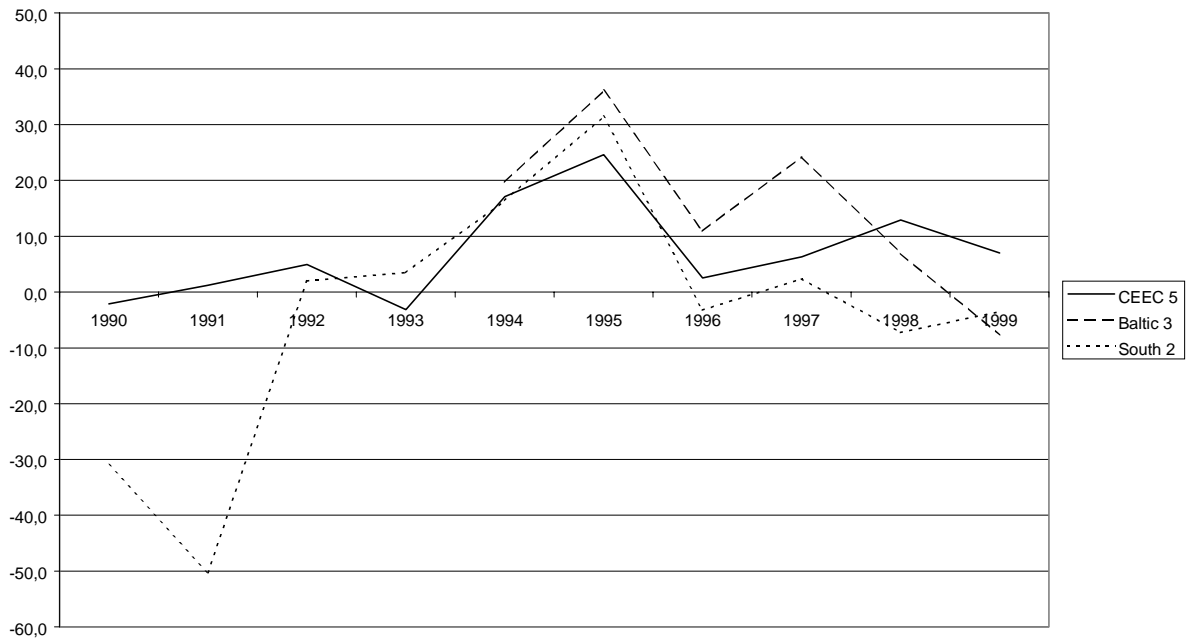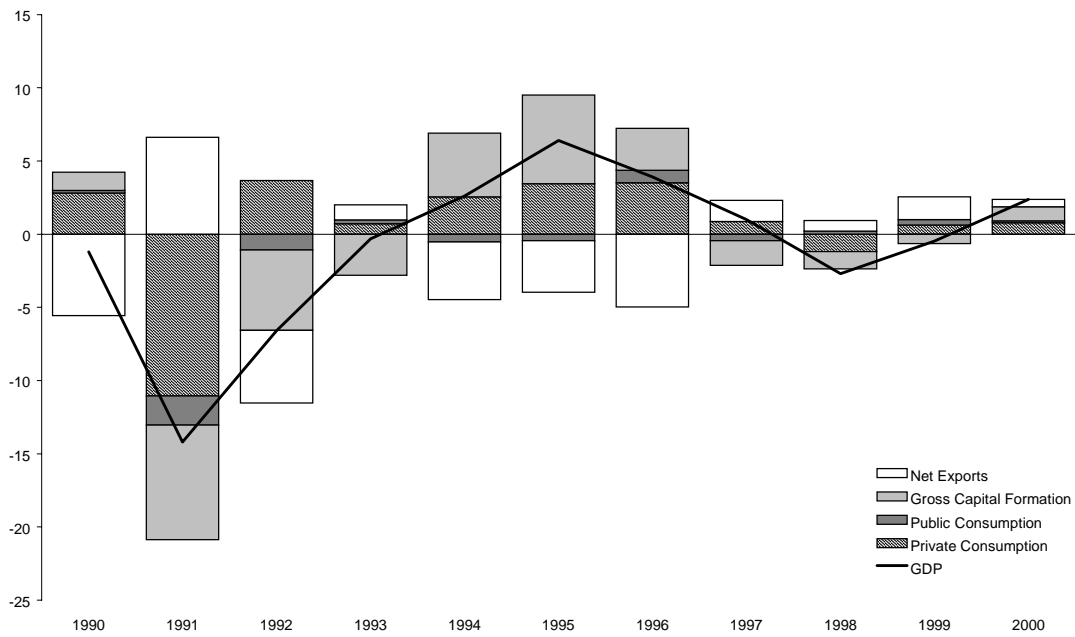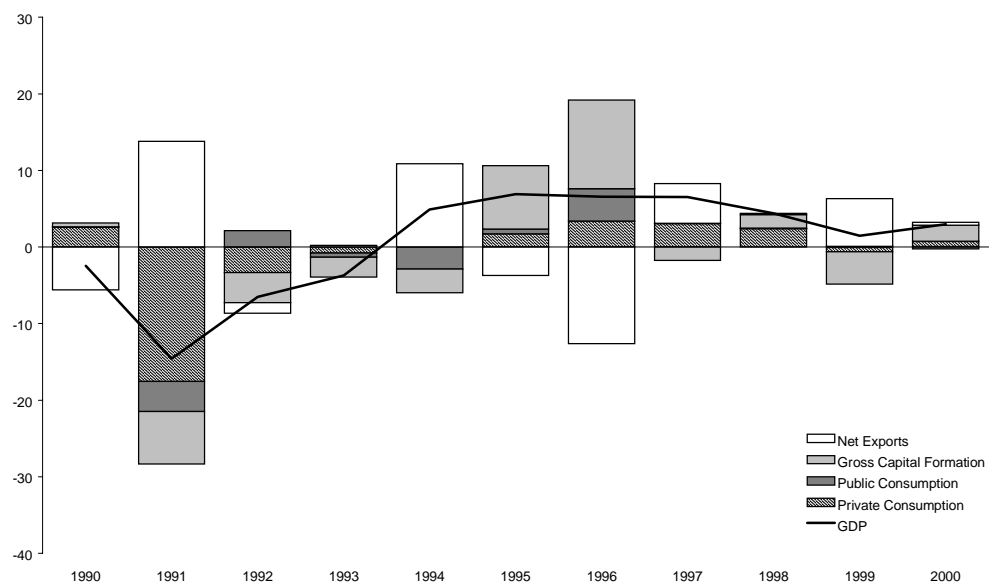Figure 2.4 Growth of exports measured in USD, percent

Figure 3.1 Growth Contributions by Components of GDP in the Czech Republic

Source: OECD Economic Outlook, June 1999 and Czech Statistical Office. Values for 1998 are preliminary estimates, values for 1999 and 2000 are forecasts.

Figure 3.2 Growth Contributions by Components of GDP in Slovakia

Source: Slovak Statistical Office and the Institute for Slovak and World Economies, Slovak Academy of Sciences. Values for 1998 are preliminary estimates, values for 1999 and 2000 are forecasts.

Figure 3.3.Slovenia: Investment and Savings, percent of GDP

Source of data: IMAD.
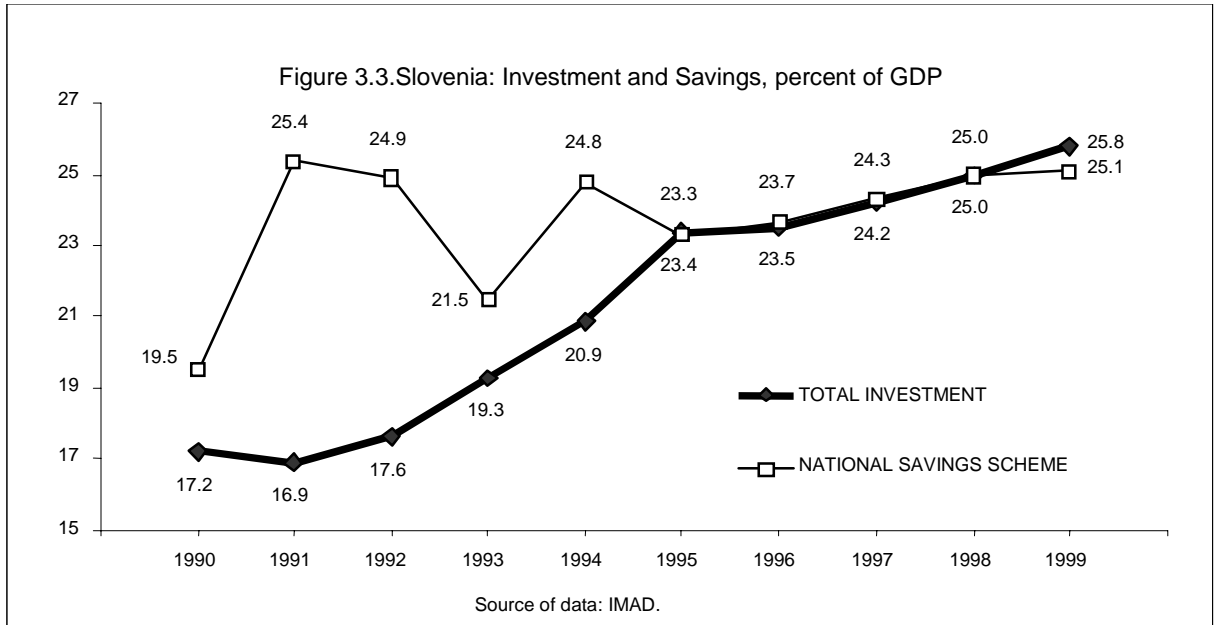
Figure 5.2.3.1 Growth of Hungarian exports and various kinds of demand for these exports (percent)