

## **Annex 3 - Current Accounts Sustainability in Acceding Countries**

## 1. Introduction

The twelve Central and Eastern European Countries, which either will join the European Union in 2004 or are scheduled to do so as early as 2007<sup>1</sup>, often show high current accounts deficit, which are sometimes close or even beyond those values common wisdom and past experience associate with a high probability of a Balance of Payment crisis. A natural question therefore arises: are these deficits sustainable or do some countries require policy action? A related question is how the current account is likely to evolve in the medium term. The natural horizon to consider is up to 2007/8 when, according to the maintained intentions, Accessing countries will join EMU as well.

The aim of this paper is to provide a tentative answer, by means of an accounting exercise and a normative analysis based on an econometric estimation of the determinants of the current accounts, to be used in order to have a rough forecast of its outlook.

The paper is structured as follows. Section 2 presents some stylised facts about external balances in CEECs, and their relation between investment, savings and budget balances. Section 3 deals with the importance of the current accounts as a factor responsible for currency crises, and summarises the provisions of the Maastricht Treaty. A first assessment of the sustainable level of current accounts deficit, based on a widely known accounting framework, is presented in section 4, together with some criticism about the methodology. Section 5 summarises briefly the empirical studies on current accounts and describes the econometric estimation of the determinants of current accounts deficit in accessing countries: the simple model obtained through a panel estimation is then employed in section 6 to simulate the future (not the sustainable) path of current accounts imbalances, given some realistic assumptions on growth and fiscal policy. Section 7 is devoted to the discussion of two important policy issues, namely the savings rate in Accessing countries and the adoption of the Euro Section 8 concludes.

## 2. The definition of sustainability and some stylised facts

A very first step is the definition of current accounts sustainability.

Following Frenkel and Razin (1997) we distinguish two different, but interrelated concepts: a country's solvency and current accounts sustainability.

An economy is said to be **solvent** if the present discounted value of future trade surplus equals current external indebtedness. Such a definition is obviously difficult to apply as it relies on future events or policy decision, without giving any hint about them. This leads to the definition of sustainability. A current accounts position is **sustainable** if the continuation of the current government policy stance and private sector behaviour are not going to entail a drastic policy shift (such as a fiscal contraction) or lead to a currency or balance of payment crisis. Of course such a definition needs to be complemented by a benchmark level for the current accounts. Moreover, in order to assess the sustainability of the deficit, the source of it must be taken into accounts. A deficit created by a reduction in savings is clearly more worrying than another created by a surge in investment which increases future growth and ability to repay.

A simpler and probably more trivial, definition of sustainability is the following: a current accounts position is sustainable as long as foreign investors are willing to finance it. In

<sup>1</sup> We will analyse eight of the ten countries joining EU in 2004, i.e. Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic and Slovenia, and Bulgaria and Romania, whose scheduled accession date is 2007. We omit Cyprus and Malta due to their small size and peculiar economic structure.

the light of the recent financial crises in emerging markets it should be added that the quality of the sources of financing matters a lot: a high percentage of short term debt increases the probability of sudden capital outflows leading to a crisis. It is almost unanimously recognised that Foreign Direct Investment are by far the surest forms of external financing. Thus a very simple way to check for sustainability is to see how much of the deficit is financed by FDIs. Table 2 shows the ratio between net FDI flows and current accounts deficit for the last four available years. We can see that, seen under this angle, external sustainability does not seem an issue for most of the countries. On the contrary the situation of Estonia and Hungary has worsened rapidly. Can these inflows be kept in the medium run? A considerable part of FDI inflows has been caused by the massive privatisation process undertaken the last few years, which is due to come to an end quite soon. An obvious task for these countries will be to envisage policies capable to attract non-privatisation related FDIs.<sup>2</sup>

## 2.1 Savings and investment dynamics

Table 1 shows non overlapping three year averages of the savings, investment and current accounts as ratio to GDP.

**The Czech Republic** showed a significant deficit along the second half of the 90s, as the rapid transformation of the industrial sector required strong import of capital goods. A significant drop in total savings (due mainly to government deficit) is responsible for its deterioration in the last three years. A quick reduction of the deficit can be observed in **Hungary**, where a strong recovery in savings reduced the gap by more than a half between 1994 and 2002, while the investment ratio remained broadly constant. Given the real growth prospect, a higher level of deficit would not be problematic. The strong increase in investment at the end of the 90s is responsible for the rapid deterioration of the current accounts in **Poland**, where a drop in savings in the last three years can also be observed. The external deficit widened considerably in the **Slovak Republic** after 1997, pushed by both an increase in investment (which slowed down in the last three years) and by a smooth decline in total savings. Finally, **Slovenia** has virtually no current accounts deficit.

Turning to the Baltic states, we observe that **Estonia**'s external deficit has always been at "dangerous levels" and has recently dropped to around 12% of GDP as a consequence of one off factors but also strong domestic demand and the activity slowdown of Estonia's main trade partners. **Lithuania** shows a strong deterioration during the 1997-99 period due to a sustained fall in savings. The gap has narrowed in the most recent period due to an increase in savings (mainly public) and a dip in the investment ratio: however the likely pick up in domestic demand is likely to widen the deficit. The big surge in investment is finally the main responsible for the rapid and persistent widening of the deficit in **Latvia**. Given the strength of domestic demand such a deficit is not likely to shrink in the near future.

**Bulgaria** suffered a quick deterioration of its external balance in the last three years, as a consequence of rapid economic development following the 1996-97 banking crisis: the investment boom has been matched by a marked deterioration in total savings. On the contrary **Romania** shows a stable deficit.

<sup>2</sup> A much more positive view is the one by Boeri et al. (2002), who claim that EU entry might double FDI inflows. Of course an analysis of FDI flows to Acceding Countries is beyond the scope of this paper. Empirical analyses can be found in Bevan and Estrin (2000) Garibaldi et al. (2001), Buch et al.(2001) and Kinoshita and Campos (2003).

All in all, we can conclude this brief analysis by saying that current account positions in accession countries do not show a homogeneous pattern neither in terms of the level of the deficit neither in its dynamics and driving forces.

### **3. How important are the current accounts?**

The importance of current account imbalances as a warning signal of currency crisis has never been undisputed.

One of the most important policy implications of the intertemporal models of current accounts is that, as long as deficits are created by increasing investment, these should not be a cause of concern, as the building up of external debt will be repaid easily thanks to increased growth. The only important variable that should be in check is government deficit. Such a view of the current accounts deficit has been named Lawson's Doctrine, after the former chancellor of the Exchequer, Nigel Lawson, who first proposed it in the 80s. However, the sequence of debt and balance of payment crisis occurred in the last twenty years showed that such a theory is seriously flawed<sup>3</sup>. Anecdotal evidence shows that a widening (even though not necessarily large) of the current account deficit is almost always present before an exchange rate crisis (see for example Corsetti, Pesenti and Roubini (1998) and Radelet and Sachs (2000) on the Asian Crisis).

The importance of current accounts is witnessed by its widespread use in early warning indicators of currency crises<sup>4</sup>. For example Aziz et al (2000) try to find the macroeconomic and financial conditions common to financial crises in the 1975-97 period. They find that a large external deficit (possibly accompanied by a fiscal deficit) is closely linked to balance of payment crises, normally associated with banking crises. This result is confirmed by Kamin et al. (2001), who find that large imbalances do not contribute much to the average probability of a crisis, but contribute largely to the estimated probability during actual crisis years, suggesting that while the building up of vulnerability is mostly due to internal imbalances (e.g. inflation, credit growth, fiscal deficit), external shocks and imbalances are critical in triggering the crisis. Brüggermann and Linne (2002) estimate an early warning indicator for accession countries, Russia and Turkey. Although the current accounts are not explicitly used as an explanatory variable, they found that variables closely linked to it such as import and export growth and external debt, as well as fiscal deficit, have a strong predictive power. Using a different methodology, Edwards (2004) shows that the probability of experiencing an abrupt current accounts reversal is linked to the size of the current accounts deficit and the level of external debt.

The Maastricht Treaty (art. 3A) includes "a sustainable balance of payments" among the guiding principles that EU countries must follow in setting their economic policies. Later on (art 109j) it states that during the second stage of ERM a country experiencing a sudden balance of payment crisis, under certain conditions, can take some protective measures, provided that they "cause the least possible disturbance in the functioning of the common market". Finally, the situation and development of the balance of payments on current accounts is included as an accessory criterion to assess a country's readiness to join the economic and monetary union.

These provisions are obviously rather vague, however, a look at the various reports on accession countries (see for example European Commission, 2002) shows that external balances are one of the most closely watched variables.

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<sup>3</sup> See Reisen (1998) and Edwards (2002) for a throughout discussion of the pitfalls of the Lawson Doctrine.

<sup>4</sup> Recent surveys of these models can be found in Edson (2003) and Abiad (2003).

However, episodes of sustained and persistent current accounts deficits are not uncommon in Europe.

Figure 1 to 4 present the behaviour of savings, investment and current accounts rates for Ireland Greece, Spain and Portugal over the 1970 –2002 period. The vertical line indicates the year of accession to the EU. We can notice that in the case of Spain and Ireland the entry into the EU produced strong imbalances in the following years, due to an investment boom. Looking at the two episodes of sustained imbalances, occurred during the first half of the 90s in Spain and in the 80s in Ireland, it is easy to observe a similar pattern: a sustained increase in investment and a sizeable reduction in savings. In both cases the reabsorption of the deficit was brought about by a compression of investment, with negative consequences on growth.

Blanchard and Giavazzi (2003) present a detailed account for Portugal and Greece. The former experienced several episodes of sustained current accounts imbalances prior to its entry, as a consequence of the lost of its colonies and the 1975 revolution. It is interesting to notice that some years before the full attainment of full EU membership sustained investment and a drop in public savings provoked the biggest dip in external accounts. The years following the EU entry were characterised by balanced accounts, thanks mainly to a recover in (public) savings. A sharp deterioration is observed in the last eight years. By 2001 a continuous drop in both private and public savings pushed the level of external deficit back to its early 80s record. Greece recorded much smaller imbalances, which nevertheless are widening in the most recent years: once again, the decrease in savings is the main responsible. Blanchard and Giavazzi claim that this evidence is consistent with the view according to which integration and financial liberalisation increase external borrowing in poorer countries, with negative effects on the current accounts.

#### **4. Standard methodology: how reliable is it?**

In order to have an assessment of current account sustainability, a benchmark value is needed. The International Monetary Fund has developed over the years a methodology to arrive at a quantitative measure of sustainability, based on several Macroeconomic indicators<sup>5</sup>, which at the same time provides an indication of exchange rate misalignment. The approach consists of determining first the current position that would exist in the long run given the current level of the exchange rate once the temporary effects of past levels of activity have been absorbed by the economy, or in other words, the economy operates at a ‘normal level’ of capacity utilisation. This “underlying” measure of the current accounts is then compared with a measure of “sustainable” balance, which would be financed by nominal capital flows assuming that the country under investigation and its trade and financial partners have low inflation and operate at a reasonable rate of capacity utilisation. The following steps imply finding a level of the effective real exchange rate that equates the two definitions of balance described above, and therefore derive the necessary adjustment. However, this methodology implies too heroic assumptions about the steady state values of the main economic variables, and, given the peculiar conditions of the countries under analysis, is probably not very reliable.

Another way of testing for sustainability, borrowed from the public finance is to check if the current accounts follow a stationary process. This would mean that in the long run the intertemporal budget constraint linking savings and investment is respected. Coakley et al. (1996) apply this concept to OECD countries and link their findings to the Feldstein-Horioka

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<sup>5</sup> A more detailed description of this methodology can be found in Isard et al. (2001).

puzzle. Such an approach is obviously not feasible for the economies under analysis due to the short time span considered.

Milesi-Ferretti and Razin (1996) have developed a simple accounting methodology in order to calculate the sustainable level of current accounts deficit. They define it as the level at which external debt is stabilised at the observed level, so that the country's intertemporal budget constraint is respected.

The current accounts identity can be rewritten, recalling that the current account position corresponds to the variation in the stock of foreign assets, as

$$s_t p_t^* F_t - s_t p_{t-1}^* F_{t-1} = p_t (Y_t - C_t - G_t - I_t) + i_t^* s_t p_{t-1}^* F_{t-1} \quad (1)$$

where  $F$  is the stock of foreign assets, denominated in foreign goods,  $s$ ,  $p$  and  $p^*$  the nominal exchange rate, the domestic and foreign GDP deflator,  $Y, C, G, I$  are real GDP, private and government consumption and investment. Trade balance (TB) is the difference between GDP and expenditure.

Dividing both sides by nominal GDP and rearranging, one obtains

$$f_{t+1} - f_t = \frac{1}{(1 + g_y)(1 + e_t)} [tb_t + f_t (r^* - e_t - g_t - g_t e_t)] \quad (2)$$

where lowercase letters indicate the ratio of the variable to nominal GDP,  $\gamma$  is the rate of real growth and  $\epsilon$  the rate of real appreciation of the domestic currency. This expression states that the dynamics of foreign assets accumulation is driven by the trade balance and by a term proportional to the existing asset stock, that increases with world real rates and decreases with real appreciation and growth.

If the economy is at the steady state consumption (both public and private), investment and the stock of foreign assets are constant as a fraction of GDP. From this expression, calculated at the steady state, we can obtain the level of trade surplus a country must have in order to keep the external debt to GDP ratio constant

$$tb = 1 - i - c - g = f(r^* - e - g) \quad (3)$$

Doisy and Hervé (2003) modify this formula in order to consider the fact that a considerable part of these countries' external deficit is financed by a roughly non-debt creating instrument such as FDI.<sup>6</sup> This is not to say that this is an absolutely riskless form of financing the deficit. Although its volatility is far smaller than that of other forms of investment (Sarno and Taylor, 1999), inflows could experience abrupt stops, as in the case of Russia in the aftermath of the 1998 crisis.

<sup>6</sup> Foreign ownership of firms means that repatriated profits represents a considerable part of balance of payment liabilities. The lack of consistent data across countries makes a comparison impossible.

If FDI is taken into accounts, the sustainable current accounts as a percentage of GDP can be written as.

$$\overline{ca} = f(r^* - e - g) - fdi \quad (4)$$

where FDI is the ratio of net FDI flows to GDP, and other flows such as EU transfer.

In what follows, we apply this formula to the ten countries under analysis, extending the work of Doisy and Hervé to a larger sample of country and a longer time span. Of course a number of assumptions must be made, with heavy implications on the results.

The equilibrium level of external debt is assumed to be the average over the last three available years.

The average real external rate is the latest available figure for long rate, deflated by private consumption deflator growth.

Concerning real exchange rate behaviour, we assume that government will let the well-known Balassa Samuelson effect play its full role. In other words, no specific fiscal and monetary policies will be implemented in order to counteract the natural tendency to real appreciation, due to the sizeable differences in productivity between tradable and non tradable sectors. Such an assumption might be considered quite strong, especially if one takes into account the fact that several countries have expressed their wish to join the Euro as soon as possible and, more importantly, a quick EMU entry will almost automatically entail the accession to the second stage of the ERM, which prescribes a limited band to exchange rate fluctuation.<sup>7</sup> However we decided to follow the argument put forward by De Grauwe and Schanbl (2003) and Buiters and Grafe (2002), that is the current +/-15% fluctuation is wide enough to accommodate the effects of relative productivity gains.

In order to project the real exchange rate evolution, we did a very simple calculation of the Balassa Samuleson effect and assume no variation in the nominal exchange rate. It can be shown (see De Grauwe and Skudenly, 2002, for a recent application) that the difference in the rate of inflation between county we and country j is equal to

$$\Delta p_i - \Delta p_j = \frac{a}{1-a} (\Delta q_i - \Delta q_j) \quad (5)$$

where q is productivity growth (provided by real per capita income) and a is the share of non tradables in the economy. For the empirical implementation we computed inflation differentials *vis-à-vis* the European Union, assuming that its per capita income grows at 2% per year. WE also assume that the share of non-tradables is 70% in both CEECs and EU countries.<sup>8</sup>

<sup>7</sup> It is important to bear in mind that the constraint to inflation binds just in the ERM-II stage, and vanishes once a country has joined EMU.

<sup>8</sup> Recent papers (Halpern e Wyplosz (2001), De Broeck ans Slok (2001) and Buiters and Grafe (2002) presented some estimation of the trend in real appreciation: their estimates on the average annual rate of appreciation range between 1.5 and 4.0%. It should be stressed that these values are just a mean across countries, as they are obtained using panel or cross section methods, and therefore hide the sizeable differences in real appreciation between countries.

Growth projections for the Czech Republic, Hungary, Poland, Slovakia, Slovenia, Estonia, Latvia and Lithuania are the average over 2003-2008 period of Global Insight projections. For Bulgaria and Romania projection made by Wagner and Houlskova are used<sup>9</sup>,

Finally, in order to project future FDI inflows, We follow Doisy and Hervé (2003) and postulate two polar cases and another scenario in which FDI and EU funds are fixed at 4% of GDP. In the first case We assume that FDI are driven by privatisation only, and that the inflow is bound to dry up once the sale of state participation is over. Alternatively We assume that in the medium term, FDI flows as a ratio to GDP will stabilise at their average value of the last three years. The figures used in this section should be seen as polar opposite, and the true development, should lie somewhere in the middle. Projecting the future trends in FDI is quite a difficult task: if on the one hand the catching up process will reduce to some extent net inflows, on the other end full accession will boost for some time foreign investment: Breuss (2001) estimates that full EU membership could increase FDI into these countries by up to 1.5% of GDO per year. The assumption underlying the projection exercises are summarised in table 3

Table 4 shows the calculated sustainable level of current accounts under the three different scenarios, the average observed current accounts for the 2000-2002 period is added as a reference. In table 4a the results under the assumption of a equilibrium external debt to GDP ration equal 45% for all the countries are shown.

Taken literally, the results obtained under the (admittedly quite unrealistic) assumption of a sudden stop in FDI flows would imply that for most of the countries the current level of external deficit are not sustainable and some measures must be taken in order to avoid a crisis. More realistically they show the quantitative importance of this form of financing the deficit. If we adopt the arbitrary threshold of 4% of GDP for future FDI flows, we can notice that, the observed current account deficit appears to be sustainable, the only exception being countries such as Latvia and Poland, burdened by a quite an high real interest rate and below average growth. Finally, under the assumption that the observed level of FDI flows will be kept in the medium run, almost all the countries could optimally have a much higher level of external deficit. Anyway how sure can one be that FDI will keep flowing in at the current level, especially after the massive privatisation process comes to an end? And, equally important, even though one does not believe to fixed levels of external deficit beyond which “a red light flashes” (Milesi-Ferretti and Razin,1996), it is nevertheless difficult to believe that some countries could have no trouble financing a deficit in excess of 15% of GDP for the medium run.

All in all, this method represents a simple and theoretically consistent way of estimating a country’s sustainable level of external imbalances, and has been used several times by the IMF in its country’s assessment. However, some of its basic assumptions make it somewhat unfit to analyse the CEECs’ case.

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<sup>9</sup> They estimate growth and convergence equation for current EU members and use them to compute implied growth rates for CEECs countries. The decision not to use historical values for these countries is motivated by the fact that the widening gap in per capita income these economies experienced during the 90s is not likely to continue once they join EU, as witnessed by previous enlargement experiences. Given their limited economic size and the strength of the trade links, it is very likely that CEECs countries will converge to the EU both in economical and systemic terms. Thus the pattern of growth shown by existing EU members in previous decade offers a convincing model to project CEECs convergence. They estimate growth regression for the period 1960-1998 using a panel of fast growing EU members (Spain, Portugal, Ireland and Greece) and then plug in values for the Eastern European Countries. Several hypotheses are considered, based on different growth experiences, and the reader is referred to the original paper for details.



First of all the model assumes that the observed level of external debt is the sustainable one. This is, of course quite an heroic assumption as far as Accessing countries. A quick glance at the external debt of accessing countries (table 5) shows that these countries differ a lot in this matter: the external debt of Bulgaria is probably above its steady state value, whereas Slovenia could probably increase its debt without problems. Moreover, given their investment needs and growth prospects, it is likely that, for some countries, a further increase in their indebtedness will not trigger any crisis<sup>10</sup>. Secondly, the economy is assumed to have reached the steady state. This is obviously too strong an assumption for these economies who have experienced roughly ten years ago a “big bang” in the economic structure, and the observed investment and consumption to GDP ratio are bound to vary a lot in the medium term: the sources of growth are obviously important for current account assessment, as an investment driven growth is in principle less likely to trigger current account crises than a massive surge in consumption. However, this simple framework cannot tackle this issue. Lastly, this kind of exercise is inherently static, and therefore has nothing to say about the transition to the long run values of the deficit.

This leads to treat the results obtained with this methodology as a first approximation of what the sustainable level of current account should be.

## **5. What drives the current accounts. A quick review of the literature.**

From a theoretical point of view, the standard reference for current accounts analysis is the intertemporal approach developed in the last twenty years or so and synthesised by Obstfeld and Rogoff (1995,1996) and Razin (1995).

On the empirical front, Chinn and Prasad (2000) provide a comprehensive analysis of the medium term determinants of current accounts, using a panel of 89 industrial and developing countries over the 1977-1995 period, using panel and cross section techniques. Their aim is not to discriminate among the competing theoretical models, but rather to provide a set of stylised facts upon which a theory can be built. Their main findings are that government budget balances, initial foreign asset position and indicators of financial deepening are positively correlated with current accounts. Demographic variables such as the dependency ratio have a strong, negative impact on the current accounts. Terms of trade volatility (used as proxy of macroeconomic uncertainty) is positively correlated to the external balances in developing countries. Agents may tend to save more in order to smooth consumption in the face of volatile income flow, and the ability of a country to run a large current accounts deficit can be hampered by high terms of trade volatility making international investors unwilling to put money into its economy

Other variables such as openness to trade, measures of capital controls do not seem to have significant effects. They also find no evidence in favour of the stage of development hypothesis, i.e countries whose per capita GDP is closer to that of industrialised countries run lower external deficit. Using a similar approach Calderon et al (2002) study the determinants of current accounts deficit in 44 developing countries for the period 1966-95, focusing on the short term dynamics and employing more sophisticated econometric techniques. They find that increases in private and public savings have a moderate favourable impact on the current accounts, that domestic output growth tends to worsen the external balances (indicating that domestic growth increases investment more than savings), that trade openness tends to create

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<sup>10</sup> Moreover, as pointed out by Reinhart et al (2003), it is difficult to identify a clear cut relation between the level of the external debt and the occurrence of a crisis.

bigger deficit, probably due to the fact that a larger tradable sector indicates a better repayment capacity.

## **6. Empirical estimates for CEEC**

In this section We present the results of an econometric study of the determinants of current accounts position for the ten countries analysed. We use an unbalanced panel of annual observations. The series start between 1990 and 1994 and all ends in 2002. We employed standard panel techniques: using lagged values of the current accounts in order to capture persistency prevented me from using fixed effects estimation. Moreover, the limited number of observation made it impossible to use more advanced techniques, which can account for the potential endogeneity of the current accounts, such as panel GMM estimations.

### **6.1 Results**

The results are presented in Table 6. We can observe that the coefficient on government budget balance is positive and highly significant. Its size is broadly in line with that of the studies on current accounts mentioned above and some panel analysis of savings behaviour, such as Edwards (1995) on developing economies and Scrooten and Stephan (2002) on transition economies. A percentage point deterioration in government budget brings about nearly a 0.4 point deterioration in the deficit, as public dissavings are not fully compensated by higher private savings. The negative correlation between real per capita income and the current accounts is at odds with the catching up theory, but can be seen as a proof of consumption smoothing behaviour, and it is consistent with analogous studies on current accounts in developing countries. Increases in income, which are thought to be very persistent or permanent lead to a reduction in savings and therefore a drop in the external balance. It can be also associated with the fact that growth reduces the borrowing constraints agents face, as shown for developing countries by Milesi-Ferretti and Lane (2001), in their estimation of the determinants of the change in net foreign asset position.

As shown by Chinn and Prasaad (2000) and Blanchard and Giavazzi (2003), the negative relationship does not hold for developed countries, therefore it is safe to say that the result found for CEECs will change over time with the catching up process. However, given the time horizon considered (up to 2007) it is reasonable that the sign of the parameter will not change.

The measure of financial deepening (i.e. the ratio of M2 to GDP) has been widely used in growth regressions and in studies on savings. Edwards (1995) finds that this variable is positively correlated with savings, as a deeper and more sophisticate financial system would incentive people to save more. However, this variable might be seen as a measure of the borrowing constraints faced by private agents, and therefore be associated with lower savings (see Blanchard and Giavazzi (2003)). Moreover, it is important to recall that this estimation does not disentangle the effects of the explanatory variables on savings and investment, and that the effects of financial deepening on the latter are ambiguous. Anyway, the results seem to suggest that financial deepening, measured in this way, influences the current accounts mainly by savings: a deeper, more sophisticated financial system would incentive private savings. Anyway, the development of financial intermediation is likely to ease investment,

with negative effects on the external balances<sup>11</sup>: a more detailed discussion on the link between current accounts and financial deepening is developed in the next subsection.

The coefficient on the trade openness index is in line of what is traditionally found in the literature. According to Milesi-Ferretti and Razin (1998, 2000) a higher degree of openness would enhance a country's ability of paying off the external debt, and therefore would reduce the external borrowing constraints, allowing for a higher deficit.

## 6.2 Projections

The econometric model developed in the previous section can then be used in order to have a rough idea of the future development of these countries' external imbalances. To this end, a forecasted growth path and an estimate of the future fiscal policy stance are needed, together with further assumptions on financial deepening and trade openness.

Before turning to the assumption made and the results obtained two warnings are essential. First of all, it is important to recall that the econometric model is very simple and the fact that the panel methodology forces to "average out" countries characterised by a high heterogeneity. Second, such a model cannot give any hint about the sustainable level of current accounts, however, the simulation of the future paths of deficit can be interesting to have an idea of the main mechanisms at play.

Concerning real per capita income growth, the Global Insight projections were used where available: the results by Wagner and Houlskova (2002) were used for Bulgaria and Romania. Future values of the government deficit have been obtained from the countries' Pre Accession Plan document, for 2003 and 2004. Additional assumptions have been made for the remaining years. These targets are to be interpreted at best as a very optimistic estimates of government deficit, but since independent and fiscal projections are not available for all of the countries We preferred to use the PEP statements for the sake of homogeneity. In fact it is likely that many of the fiscal policy targets will not be met.

As Table 8 shows, CEECs countries are already quite open to trade. The degree of openness quite different across countries is in some case comparable to that of existing EU members of the same size. Moreover, openness ratio are rather volatile and extrapolate a common trend is quite difficult. However, in order to take into account the effects of the ongoing trade integration, we assume that trade openness increases by a percentage point of GDP each year for all countries with the exception of Poland and Estonia, where the degree of trade integration has already achieved that of comparable EU members. For these two countries, projected values are equal to the ones observed in 2002.

Projecting financial deepening and, above all, the impacts of the development of the financial system on the external balances is much more difficult. If, on the one side, the regression shows that the ratio of M2 over GDP has a positive effect on the external balance, hinting at this aggregate having a stronger effect on savings rather than investment, the same conclusion probably does not hold true if other, broader, monetary aggregates are considered<sup>12</sup>. With the development of a sounder banking system, the opportunities for investment are bound to increase. At the same time, stronger banks will be more capable of borrowing abroad, worsening thereby external imbalances. Given the potential ambiguities in the relationship, developments in the level of financial deepening have not been considered in

<sup>11</sup> Actually the ratio of net domestic credit to GDP was tried as an explanatory variable, but it turned out to be non significant.

<sup>12</sup> Using M3 instead was not feasible due to the lack of homogeneous data.

the projection, and the ratio of M2 to GDP has been kept at its 2002 level. The whole set of assumption can be found in table 8.

Figures 5 to 14 plots the current accounts to GDP ratio, using actual values until 2002 and the simulated ones afterwards. A common feature is that, if one believes in this crude model of the current accounts, external imbalances are going to widen quickly, as the budget consolidation countries are planning to implement will not be enough to offset the reduction in savings and the surge in investment catching up is likely to produce. The results obtained are to be viewed as the manifestation of a trend, rather than to be taken at face values. Indeed it is very unlikely that all of the countries show such high levels of imbalances without any policy being taken.

Starting with the projections, the implied levels of external debt can be easily derived, using GDP growth forecasts and specific assumptions for FDI. More specifically, one can think as the accumulation of external debt as the part of current accounts deficit not financed by FDI flows.

Table 9 shows the results for 2007, under the same assumptions used in Section 2, namely no FDI flows, FDI equal to 4% of GDP and equal to the last five years average.

According to the simulations, external debt is going to increase in most of the countries regardless of the assumptions made on FDI flows<sup>13</sup>, which in part contradicts the results of the Milesi-Ferretti-Razin methodology employed in section 3. As said before, the results should be viewed as showing a trend. Moreover the range of the debt level is quite wide across countries, reflecting the differences in the current levels of debt.

The main implications of this simple simulation exercise are twofold. First of all, widening deficits are a natural product of the transition process, that can be seen as an idiosyncratic productivity shock (see Glick and Rogoff (1995) for the consequences of country specific versus world wide productivity shocks on the current accounts), and therefore the usual criteria used to assess sustainability ought to be amended in order to allow for the peculiar situation of these countries.

Secondly, Accessing countries have committed themselves to a quick reduction of the budget deficit. According to the simulations, these measures (provided that they are really implemented and yield the expected outcome) would not suffice to avoid a deterioration of the external imbalances. Moreover, keeping FDI inflows at the observed level would not be enough to stabilise debt.

The implication for countries willing to join ERM II as soon as possible is that, if the government is keen on targeting the current accounts by means of the fiscal policy only, it will be obliged to take much harsher measures, with possibly negative consequences on growth.<sup>14</sup>

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<sup>13</sup> The odd results for Czech Republic and Slovakia are driven by the massive inflows of FDI recorder in the last years, which are unlikely to be maintained in the medium run.

<sup>14</sup> A very contractionary fiscal policy could be also used to offset the real depreciation brought about by the Balassa-Samuelson effect, in that a contraction in demand (and especially the demand addressed to non tradables) would dampen the inflationary pressures stemming from the differences in sectoral productivity. See De Grauwe and Schabl (2003) for an assessment of the pros and cons of such a policy.

## 7. Policy issues:

### 7.1 Increasing the savings rate?

The prospects of large and possibly widening deficit raise almost naturally some question about the current level of the savings rate and the possible options to increase it.

Table 10 shows the figures for the countries under analysis and for two European countries: Portugal, a natural benchmark for the CEECs, and Germany. We reported the averages over the 1993-97 and 1998-2002 period. As series on personal savings are not available for most of the accessing countries, we derive it by subtracting government budget from total savings. It is, admittedly, quite a crude approximation, but it is widely used in the empirical literature (see Loyaza, et al. (2000)).

We can see that both total and private savings rate are mostly in line with those of current EU members, and in many cases they have increased in the second sub-period. Schrooten and Stephan (2002) carry out an econometric analysis of the determinant of savings in these countries, using data ranging from 1990 to 1999. They find that the driving forces are basically the same as in western countries and that they do not change by very much from total to private savings: income level and growth have a positive influence, as well as better institutions, lower barriers to international borrowing lowers savings. Public savings partially crowd out private ones. The obvious policy implication is that promoting growth will have a beneficial effect on private savings.

Concerning government savings, they could be used by government as a (limited) insurance against too wide external deficits and the related risks. A larger surplus or a smaller deficit would act as a buffer and probably increase market confidence. Of course one can question the feasibility of even tighter fiscal policies, over and above the quite successful programs of fiscal restraint carried out by CEECs in recent years<sup>15</sup>. As pointed out by Sapir et al. (2003) fiscal consolidation might at some point clash with real convergence targets, in that the overall poor level of public capital, which is critical in order to make long term growth sustainable, need strong investment effort by the government. A somewhat similar argument is made by Coricelli and Ercolani (2002): they find that almost all the budget deficit in accessing countries is structural. Moreover the expenditure for investment is much higher than in existing EU members. This should warn against the application to these countries of the Maastricht deficit Criteria as they might risk hampering the development of badly needed infrastructure, and raises, according to the authors, the issue of the relevance of the “golden rule”.

### 7.2 Early adoption of the Euro : is it wise ?

Another obvious implication is that CEECs countries will need substantial capital inflows, in a period in which some hard decisions about the choice of the exchange rate regime will be taken. At the same time abiding to the *acquis communautaire* implies the complete scrapping of the system of capital controls some countries still have in place.

Recent episodes of crisis show that full capital accounts liberalisation, large current accounts and the “wrong” exchange rate regime can create a lethal mix leading to painful financial crisis. Concerning CEECs, it is known that full EMU membership will be attained at

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<sup>15</sup> An recent exposition of the state of public finances in CEECs can be found in European Commission (2002) Detailed description of fiscal policies can be found in Purfield (2003)

some point: the most pressing problems therefore relate to the interim period. The whole issue boils down to a single question. Which regime should be adopted before the adoption the Euro? <sup>16</sup>

There is a lively ongoing debate on this subject. Historical experience has shown that intermediate regimes are too dangerous. The choice remains between the two polar opposites: a fixed exchange rate (in the form of hard peg, currency board or currency substitution) or a fully flexible regime, possibly backed by a credible inflation targeting mechanism. Almost all the debate has been centred on the consequences of the marked real appreciation trend shown by these countries (due to the Balassa Samuelson effect) and how to accommodate it within the premises of the Maastricht Treaty. According to Begg et al. (2001), unilateral euroisation would be by far the first best option, for it would isolate Accessing countries from turbulence in the years preceding EMU membership and solving almost automatically the problems related to large financial inflows, provided that the requirements of a high fiscal responsibility, price stability and a sound banking system are met.

However, such an option is apparently ruled out by the Maastricht Treaty. Three other viable options are left: the first one is to adopt a fixed regime in the hardest possible form, such as the currency board: a crucial prerequisite is a sound fiscal discipline to keep external balance on track and to dampen the inflationary effects of the surge in demand stemming from high capital flows. This is a highly risky option, if the regime is not fully credible, as the case of Argentina shows. A crisis would undermine the credibility of the country's monetary authorities, delaying EMU entry for a long period. The second option is to adopt what they call a "British style" float, basically a full-fledged flexible exchange rate, then move to ERM-II and finally adopt the Euro. This would let the working of real convergence operates smoothly, while at the same time minimising the risk of financial crisis<sup>17</sup>. The third option, brought forward by Poland, is to maintain a fully flexible exchange rate regime until real convergence has taken place and the exchange rate vis-à-vis the Euro is at its equilibrium value and then join directly EMU.

Buiter and Grafe (2002) have a more outspoken style and suggest that the current treaty should be amended in order to allow CEECs to euroise at a negotiated parity as soon as possible (even before EU accession). Moreover, as the Balassa-Samuelson effect would generate inflation rate well above current EMU members' one once the exchange rate is fixed, different (and somehow looser) inflation criteria should be envisaged for accessing countries.

However, these studies seem to concentrate overly on the pure Balassa-Samuelson effect, and overlook the impact of the massive capital flows CEECs are receiving.

Capital scarcity in these countries translates into a high marginal productivity of capital, which normally attracts foreign capital. Monetary authorities are faced with a dilemma: if they set nominal rates in order to have real rate mirroring the high productivity, foreign capitals will pour into the economies, leading to a large deficit<sup>18</sup> and an appreciating real exchange rate. On the contrary, if monetary authorities try to dampen these flows by means of interest rates much below the marginal productivity of capital, they are likely to depress

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<sup>16</sup> A discussion of whether the exchange rate regime spelled out in the Maastricht Treaty is suitable for Accessing Countries is clearly beyond the scope of this paper.

<sup>17</sup> Provided obviously that the ERM-II period is not too long.

<sup>18</sup> How large is a difficult question. Fernandez de Cordoba and Kehoe (2000) calibrate a Real Business Cycle model on Spanish data in order to gauge the effect of EU entry on capital flows, obtaining values for the current account deficit which far in excess of the observed ones.

private savings. The following gap with respect to investment would translate into a current accounts deficit<sup>19</sup>.

Capital scarcity being financed by foreign investment is a real phenomenon, whose order of magnitude is likely to be quite high relative to the observed capital flows within current EU members, given that the difference in economic structure between accessing countries and current EU members is much greater than that between richer and poorer EU countries.

Moreover, real convergence would occur regardless of the exchange rate regime chosen. If monetary authorities aim at keeping a fixed exchange rate regime, they will try to fight exchange rate appreciation by sterilising incoming capital flows. The increase in the supply of domestic currency will lead to a drop in interest rate, which would depress savings and stimulate investment, leading to a current accounts deficit. Moreover an increase in money supply would translate into a higher inflation. Under a flexible exchange rate regime, the exchange rate appreciation would harm external competitiveness, worsening the trade balance and therefore the current accounts.

However, the choice of the exchange regime is critical, even though, no regime would insulate a capital importing country from the risk of a balance of payment crisis.

With long lasting fixed exchange regime, agents might tend to borrow heavily in the foreign currency, making the costs of adjusting the exchange rate very ( in the case of Argentina unbearably) high.

On the contrary, a flexible exchange rate would act as a partial disincentive to have big foreign exchange open positions, making the system as a whole less vulnerable. In this case however the mismatching of banks' asset and liability can become sizeable, and big swings in the exchange rate can cause relevant problems of non performing loans.

In this sense the quality of the financial system in accessing countries plays a critical role. Calvo and Mishkin (2003) argue that in order to have successful macroeconomic policies in developing countries, the development of good fiscal, financial and monetary institutions is even more important than the choice of the exchange rate regime. Their argument is that, as shown by almost all the recent examples of exchange rate crisis, weak institutions amplify the effects of external shocks, as in the case of the banking crisis occurred in Asia in 1997, or greatly reduces the possibility of economic authority to react to external shocks.

The recent survey on the subject (see the chapter on the banking system in accessing countries in this report, for example) and the regular reports produced by the European Commission, show that the adequacy of financial institutions is quite diverse.

Given the speed of the transition, it is very likely that accessing countries will still have relevant external imbalances even after they enter to the Euro. Moreover, as emphasised by Blanchard and Giavazzi (2003), the single currency, by reducing transaction costs and the currency risk, is likely to deliver a more efficient allocation of savings and investment across countries, possibly widening the external imbalances according to the differences in capital intensity and growth prospects. The observed increased variance between current accounts positions in EU member states is cited as evidence of this process. They conclude that this is a natural phenomenon and that benign neglect is the most appropriate form of policy response. However, their conclusion is probably too optimistic: a widening deficit might also originate to a less than optimal intertemporal allocation of resources which could translate into a persistent slowdown in long term growth, exacerbating the deficit problem.

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<sup>19</sup> Lipschitz et al. (2002) present a similar argument in a more formalised way.

## 8 Conclusions

The objective of this paper was to analyse accession countries' external balances, in order to shed some light about their future perspectives and their medium run sustainability. The estimates given should be taken with caution as they derive from highly stylised models of the economies.

The main conclusions that can be drawn are the following:

- While some countries are showing large external deficit, no country seems to have unsustainable positions, according to standard accounting methods. Long term solvency on external debt seems to be assured given the bright growth prospects. However, the methodology employed suffers from several drawbacks, and its results must be taken with caution. It must be borne in mind that the key hypothesis that the observed value of the debt is taken as the sustainable one is far from innocuous, and is probably quite heroic if applied to countries such as Bulgaria, Latvia and Hungary, whose external debt is quite high for international standards. At the same time it is reasonable to assume that other countries could increase their external debt without prejudice to their financial stability.
- However, during the catching up process it is likely that imbalances are likely to widen for a while, leading to a quick accumulation of foreign liabilities. This is to some extent a natural outcome of convergence, but given the absence of any restriction on capital flows and the lessons drawn from recent balance of payment crisis, current accounts deficit must be carefully monitored. In particular, it is fundamental to consider whether the main driving force is the dynamic of savings or investment. On the savings side, fiscal policy could play an important role, avoiding too big budget deficit, even though the task is not at all simple given the need of public investment these countries have.
- Another essential challenge for these countries is to guarantee that external deficit continues to be financed by relatively sure sources such as FDI. This will contribute to keep external debt to manageable levels. As privatisations have ended or are close to the end in most of the country, microeconomic reforms securing the interest of foreign investors are essential.
- However, it is likely that over time FDI will be replaced by more volatile sources of flows. This would necessitate a strong attention to the state of the financial system.
- Concerning the accession to EMU, the relevant size of external imbalances (and therefore of the capital inflows financing it) should be taken into account in the design of the transition path leading to the adoption of the Euro. A tentative conclusion is that countries still having flexible exchange rates should maintain them as long as convergence has (among the other things) reduced the size of the deficit. This must be complemented by strong and credible commitments to keep inflation in check and to an improvement in financial institutions in order to have monetary policies transmitted to the real sector in the most powerful way. Adopting a fixed exchange rate agreement and choosing the wrong parity would shift the burden of the adjustment to domestic demand, being devaluation



impossible (in the case of euroisation) or extremely difficult or painful, in the case of pegged rate or currency board and given the strong degree of wage and price rigidity<sup>20</sup>. The correction of imbalances would then entail a compression in demand or a marked reduction in nominal wages.

On the other hand, countries already having various forms of fixed exchange rate arrangements, would find shifting to a flexible exchange rates, too costly, in terms of turbulence in the financial system. Their economic authorities will have to put even more attention in checking current accounts imbalances, using demand policies, and at the same time guaranteeing that deficit are financed in a relatively safe way, and managed by sound financial institutions.

<sup>20</sup> In a recent study Edwards and Levy Yeyati (2003) show that the adverse impact of terms of trade shocks on growth is much milder for countries having floating exchange rate. For a discussion of the possible terms of trade effects following accession see Bchir et al. (2003)

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## DATA APPENDIX

Variable	Source
Current Account	IFS
Government deficit	IFS, AMECO
Real per Capita Income	AMECO
Money and quasi Money (M2)	IFS
Population	WDI
Foreign direct investment	IFS, EBRD
GDP	AMECO
Export	IFS
Import	IFS
Saving	AMECO
Investment	AMECO

AMECO: European Commission Annual Macroeconomic Database, available at [http://europa.eu.int/comm/economy\\_finance/indicators/annual\\_macro\\_economic\\_database/ameco\\_en.htm](http://europa.eu.int/comm/economy_finance/indicators/annual_macro_economic_database/ameco_en.htm)

EBRD: European Bank for Reconstruction and Development, Transition Report, various issues

IFS: International Monetary Fund, International Financial Statistics July 2003

WDI: World Bank World Development Indicators, 2002 Edition

## Tables

	1994--1996	1997-1999	2000-2002
<b>Czech Republic</b>			
Investment	30.90	29.17	27.45
Saving	26.98	25.24	21.60
Current Account	-3.93	-3.93	-5.85
<b>Hungary</b>			
Investment	20.53	23.26	23.36
Saving	14.14	19.45	20.36
Current Account	-6.39	-3.81	-2.99
<b>Poland</b>			
Investment	19.10	24.70	21.32
Saving	18.89	19.23	17.03
Current Account	-0.21	-5.46	-4.29
<b>Slovak Republic</b>			
Investment	28.04	33.59	30.19
Saving	27.30	25.97	22.95
Current Account	-0.73	-7.62	-7.24
<b>Slovenia</b>			
Investment	21.32	25.12	24.16
Saving	22.45	23.57	23.83
Current Account	1.13	-1.55	-0.32
<b>Estonia</b>			
Investment	26.46	27.52	26.80
Saving	19.54	18.82	18.73
Current Account	-6.93	-8.70	-8.07
<b>Lithuania</b>			
Investment	22.34	23.56	20.43
Saving	15.18	12.39	15.37
Current Account	-7.16	-11.17	-5.06
<b>Latvia</b>			
Investment	16.13	23.74	26.61
Saving	16.00	14.91	18.56
Current Account	-0.13	-8.83	-8.05
<b>Bulgaria</b>			
Investment	14.19	13.04	17.36
Saving	14.07	12.49	11.99
Current Account	-0.12	-0.56	-5.37
<b>Romania</b>			
Investment	21.54	19.02	20.83
Saving	16.93	13.47	16.60
Current Account	-4.61	-5.54	-4.22

Source: European Commission AMECO Database, Author's Calculations

Table 1 : Saving, Investment and Current Account to GDP ratio, three year non overlapping averages

	1999	2000	2001	2002
Czech Republic	424.5	183.8	184.0	217.6
Estonia	75.4	110.2	100.2	23.0
Hungary	71.6	39.6	128.6	22.3
Latvia	50.5	81.0	20.7	58.8
Lithuania	40.0	55.6	76.5	96.4
Poland	58.0	93.3	108.3	54.9
Slovak Republic	63.2	292.5	83.1	196.7
Slovenia	8.4	12.9	-1199.1	-466.5
Bulgaria	115.3	143.1	95.4	66.5
Romania	79.0	77.3	52.7	69.3

Sources: IFS and EBRD Transition Report 2003

Table 2: Net FDI flows as a percentage of current account deficit

Note: a negative value indicates a current account surplus

	External debt to GDP Ratio	Real interest rate	Real exchange rate trend	Real GDP growth rate	Net FDI to GDP ratio
Bulgaria	76.6	5.4	-7.2	5.2	5.6
Czech Republic	37.1	4.4	-4.4	3.8	13.7
Estonia	63.7	4.9	-4.4	5.5	9.0
Hungary	66.5	4.2	-3.5	3.3	5.3
Latvia	73.7	8.7	-4.2	6.1	6.5
Lithuania	44.4	8.0	-4.0	6.2	6.0
Poland	40.8	11.0	-4.0	4.4	6.4
Romania	31.1	6.1	-6.8	5.1	3.9
Slovakia	55.3	6.6	-3.5	4.8	15.7
Slovenia	36.2	6.4	-4.4	3.5	6.2

Table 3: Sustainable current account calculation using the Milesi-Ferretti Razin method. Assumptions

	No FDI	Stable FDI	Baseline	Average (2000-2002)
Bulgaria	-0.2	-4.2	-5.8	-5.5
Czech Republic	-0.2	-4.2	-14.0	-5.5
Estonia	0.4	-3.6	-8.6	-8.0
Hungary	-0.6	-4.6	-5.9	-3.0
Latvia	-1.9	-5.9	-8.4	-5.1
Lithuania	-0.8	-4.8	-6.8	-8.1
Poland	-2.7	-6.7	-9.1	-4.3
Romania	-0.3	-4.3	-4.2	-4.3
Slovakia	-1.0	-5.0	-16.7	-7.0
Slovenia	-1.1	-5.1	-7.2	-0.4

Table 4: Sustainable current account calculation using the Milesi-Ferretti Razin method. Results.



	No FDI	Stable FDI	Baseline	Average (2000-2002)
Bulgaria	-0.1	-4.1	-5.7	-5.5
Czech Republic	-0.3	-4.3	-14.0	-5.5
Estonia	0.3	-3.7	-8.7	-8.0
Hungary	-0.4	-4.4	-5.7	-3.0
Latvia	-1.2	-5.2	-7.6	-5.1
Lithuania	-0.8	-4.8	-6.8	-8.1
Poland	-3.0	-7.0	-9.3	-4.3
Romania	-0.5	-4.5	-4.4	-4.3
Slovakia	-0.8	-4.8	-16.5	-7.0
Slovenia	-1.3	-5.3	-7.5	-0.4

Table 4a Sustainable current account calculation using the Milesi-Ferretti Razin method. Results with the assumption of a 45% debt to GDP ratio

	1994-97	1998-2001
Bulgaria	93.44	76.70
Czech Republic	33.84	41.03
Estonia	23.73	49.75
Latvia	22.30	63.92
Hungary	63.27	61.07
Lithuania	17.64	41.02
Poland	35.62	37.42
Romania	23.40	27.68
Slovak Republic	36.37	59.66
Slovenia	NA	NA

Source: World Bank, WDI

Table 5: External Debt to GDP ratio

**Dependent variable Current account to GDP Ratio**

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Lagged current account	0.36
t-stat	6.58
Govt. Budget Balance	0.36
t-stat	2.99
Real Per Capita GDP	-0.02
t-stat	-2.11
Financial deepening (M2 to GDP ratio)	0.08
	4.59
Openness Ratio	-0.03
t-stat	-3.65
Time dummies	93,94

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Rsquared	0.63
Number of observations	102

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Table 6: Determinant of current account balance.

**Trade Openness (1998-2002)**

Czech Rep.	132.2
Hungary	115.5
Poland	62.7
Slovakia	142.0
Slovenia	114.1
Estonia	177.1
Latvia	102.3
Lithuania	101.1
Bulgaria	107.4
Romania	67.7
Belgium	157.5
Spain	58.6
Ireland	170.7

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Source: AMECO

Table 7: Trade openness in CEEC and Selected EU members  
Trade openness is defined as the sum of import and export over GDP

**Per Capita GDP Growth**

	<b>2003</b>	<b>2004</b>	<b>2005-2007</b>
Czech Republic	1.8	3.6	4.1
Hungary	2.8	3.2	3.3
Poland	3.6	4.6	4.5
Slovakia	4.0	4.6	5.3
Slovenia	2.3	3.9	3.7
Estonia	4.4	5.6	5.7
Latvia	7.4	6.1	5.8
Lithuania	8.3	6.1	5.5
Bulgaria	7.3	7.2	5.1
Romania	2.4	5.3	4.9

**Government deficit**

	<b>2003</b>	<b>2004</b>	<b>2005-2007</b>
Czech Republic	-6.0	-5.7	-5.0
Hungary	-4.5	-3.0	-2.7
Poland	-3.6	-3.3	-1.6
Slovakia	-4.1	-3.1	-1.8
Slovenia	-1.3	-1.0	-0.8
Estonia	0.0	0.0	0.0
Latvia	-2.5	-2.2	-1.5
Lithuania	-1.7	-1.6	-1.2
Bulgaria	-0.7	-0.5	0.0
Romania	-2.4	-2.4	-1.7

**Financial Deepening**

Czech Republic	74.5
Hungary	46.9
Poland	46.9
Slovakia	68.0
Slovenia	57.3
Estonia	42.3
Latvia	33.0
Lithuania	25.7
Bulgaria	40.9
Romania	23.4

Table 8. Current account simulations. Assumptions.

	<b>No FDI</b>	<b>Stable FDI 4% of GDP</b>	<b>Baseline FDI at 1999-2002 average</b>	<b>Debt in 2001</b>
Bulgaria	102.3	78.3	69.3	70.9
Czech Rep.	70.4	46.4	-7.6	38.2
Estonia	114.5	90.5	60.5	51.6
Hungary	95.8	71.8	87.2	58.3
Latvia	121.3	97.3	83.6	75.6
Lithuania	92.7	68.7	56.8	43.8
Poland	61.0	37.0	43.4	35.4
Romania	63.5	39.5	40.1	30.1
Slovakia	95.0	71.0	0.8	54.4

Table 9. Implied Debt to GDP ratio in 2007, under different assumptions on FDI

	1993-1997	1998-2002
<b>Czech Republic</b>		
Total Saving	26.9	23.3
Private Saving	24.1	23.8
<b>Hungary</b>		
Total Saving	14.1	19.9
Private Saving	15.8	23.0
<b>Poland</b>		
Total Saving	17.1	17.9
Private Saving	20.8	20.8
<b>Slovak Republic</b>		
Total Saving	26.6	24.2
Private Saving	26.6	25.6
<b>Slovenia</b>		
Total Saving	22.4	23.8
Private Saving	22.4	23.8
<b>Estonia</b>		
Total Saving	20.0	19.4
Private Saving	25.4	23.3
<b>Latvia</b>		
Total Saving	18.8	17.6
Private Saving	21.1	20.8
<b>Lithuania</b>		
Total Saving	14.7	14.0
Private Saving	15.4	16.6
<b>Bulgaria</b>		
Total Saving	11.8	11.7
Private Saving	16.6	16.3
<b>Romania</b>		
Total Saving	15.8	15.0
Private Saving	20.2	18.5
<b>Portugal</b>		
Total Saving	20.3	19.1
Private Saving	22.4	18.5
<b>Germany</b>		
Total Saving	21.7	20.7
Private Saving	21.1	20.2

Table 10: Total and Private Saving Ratios.

## Figures

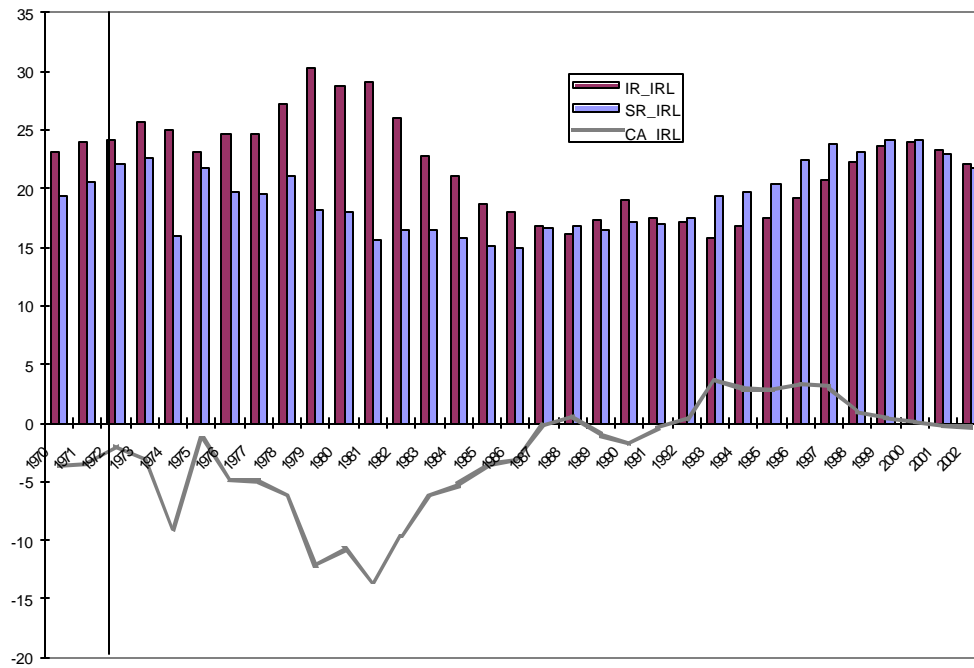


Figure 1. Ireland: investment (IR), Savings (SR) and current account (CA) ratios

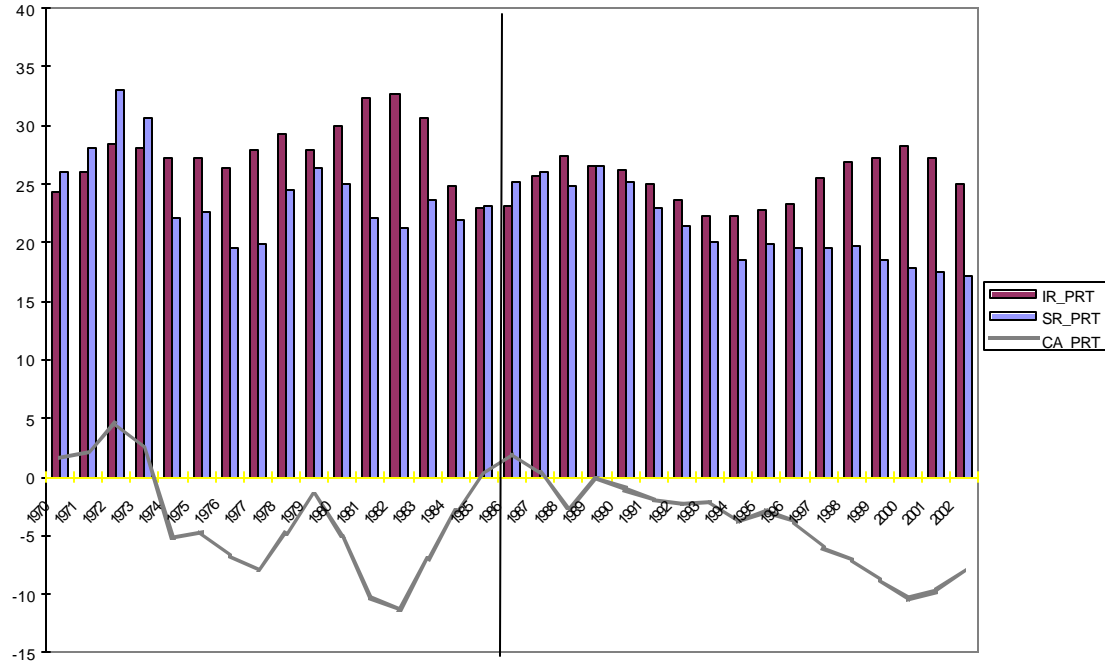


Figure 2. Portugal: investment (IR), Savings (SR) and current account (CA) ratios

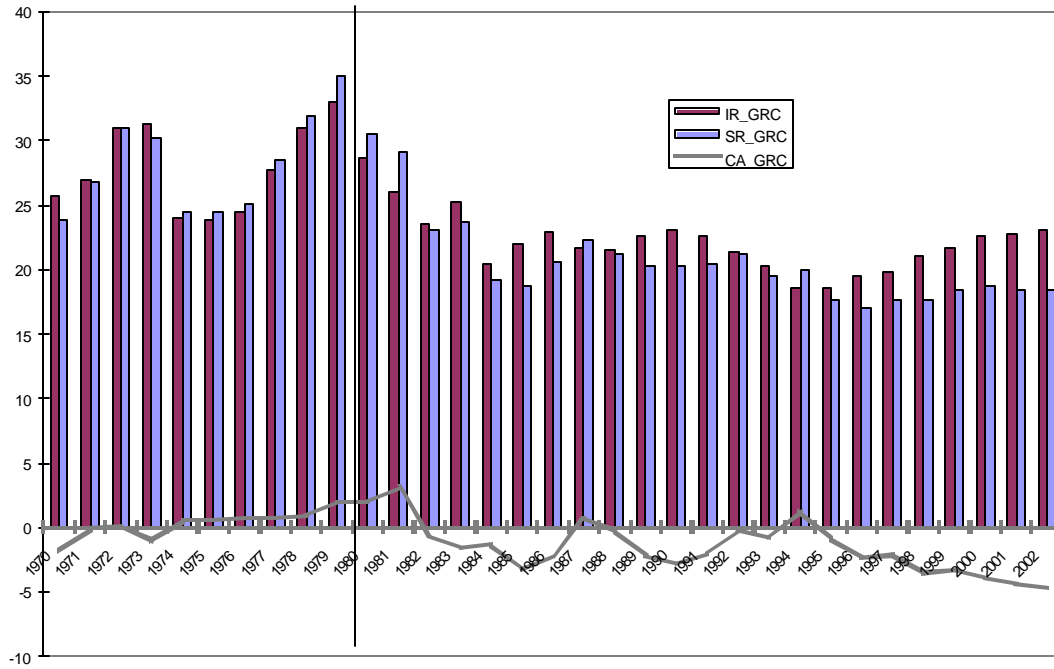


Figure 3. Greece: investment (IR), Savings (SR) and current account (CA) ratios

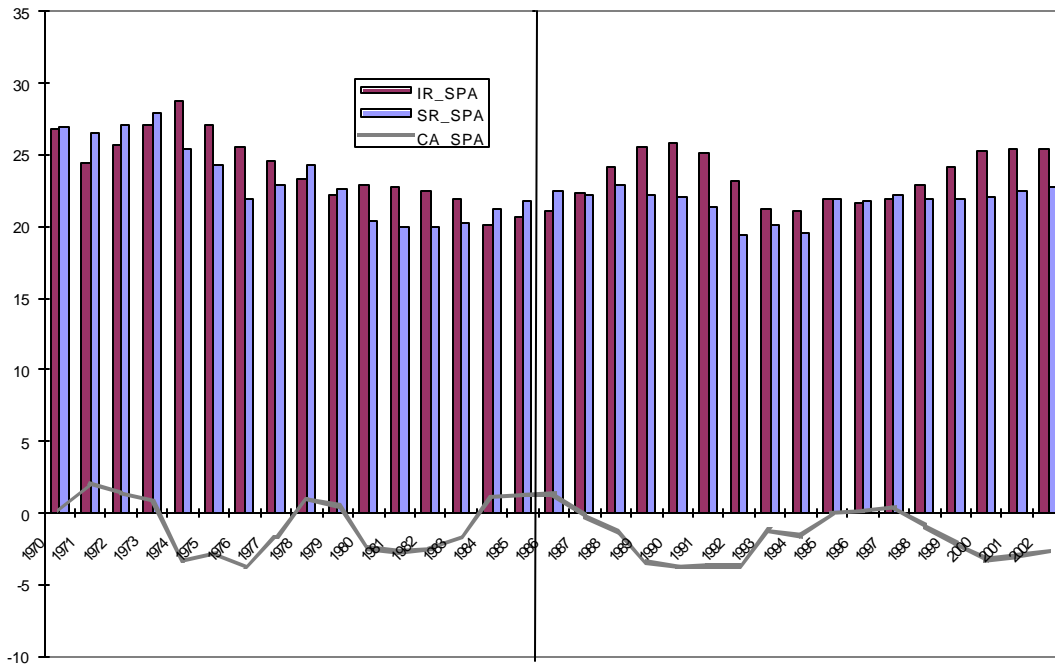


Figure 4. Spain: investment (IR), Savings (SR) and current account (CA) ratios

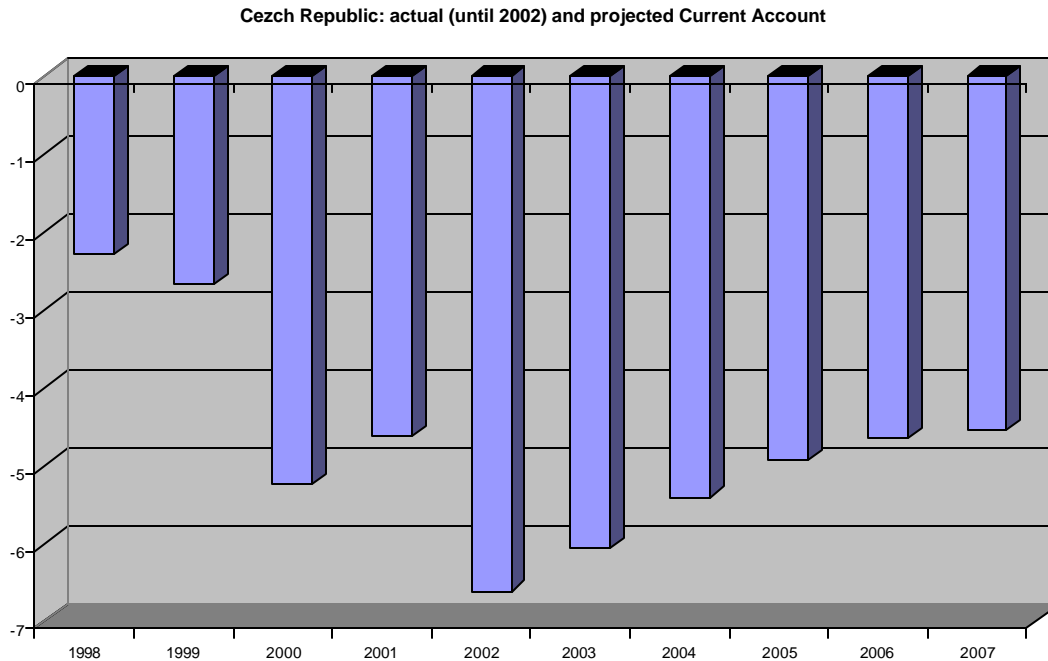


Figure 5. Czech Republic: Actual and Projected current account to GDP ratio

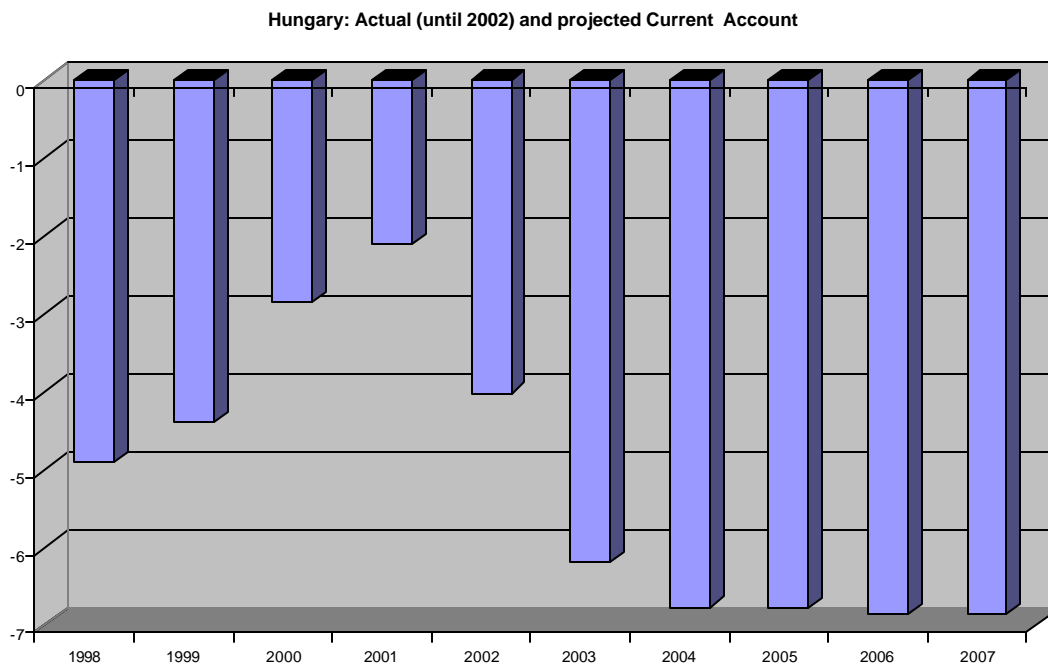


Figure 6. Hungary: Actual and Projected current account to GDP ratio



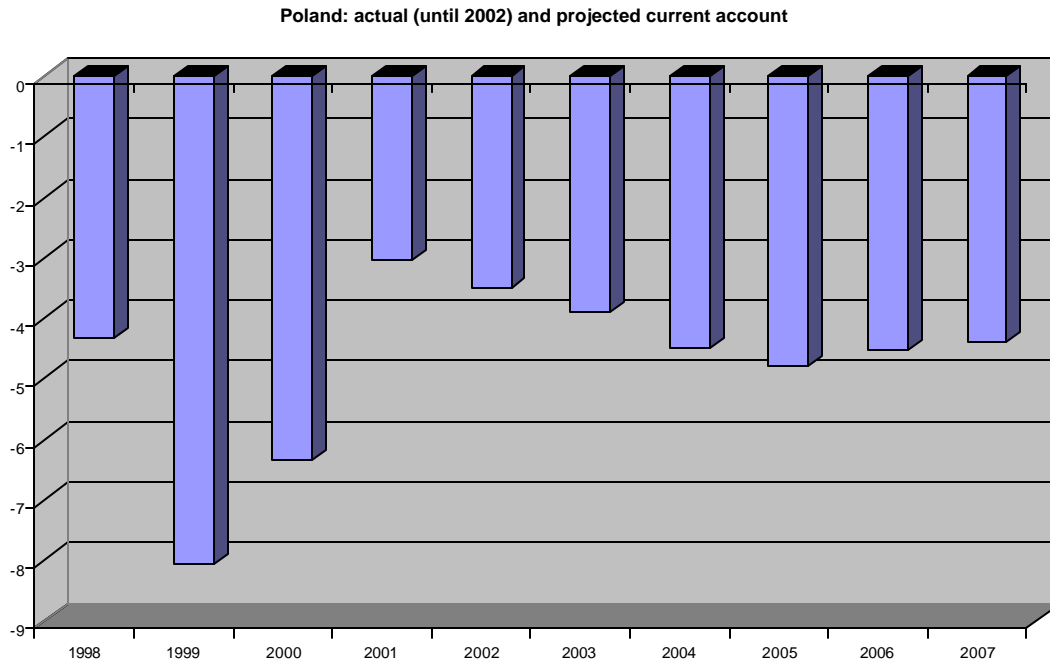


Figure 7. Poland : Actual and Projected current account to GDP ratio

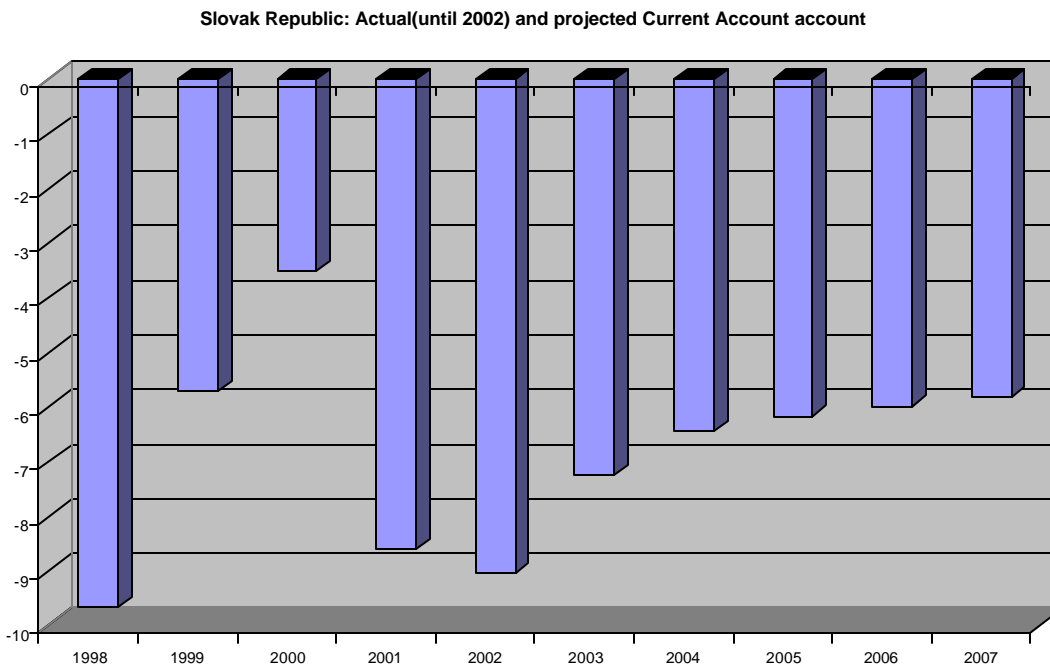


Figure 8. Slovak Republic: Actual and Projected current account to GDP ratio

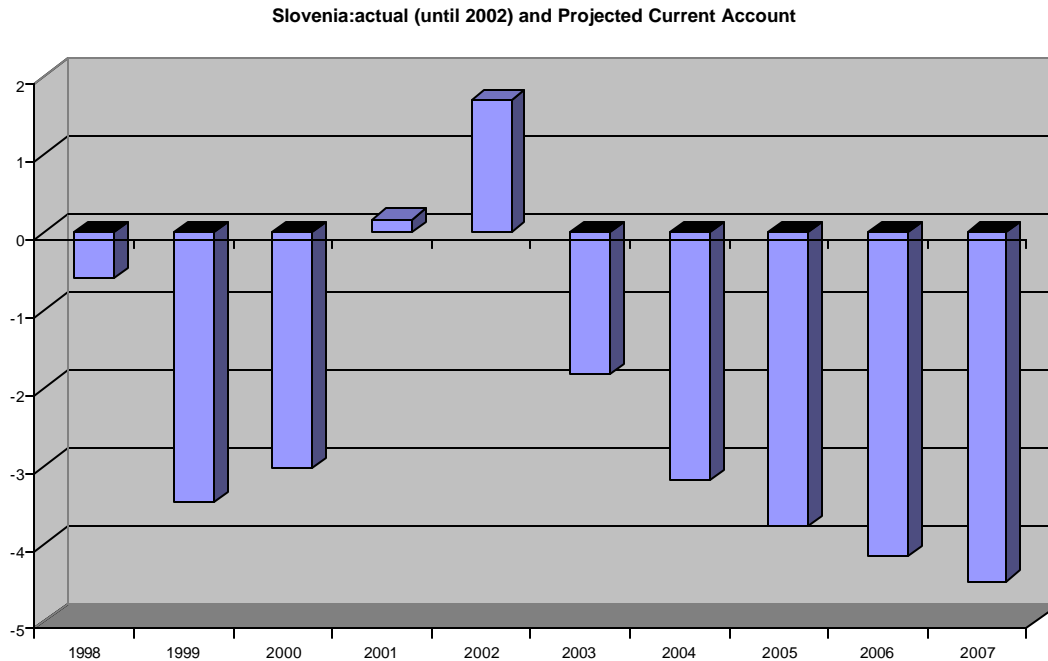


Figure 9. Slovenia: Actual and Projected current account to GDP ratio

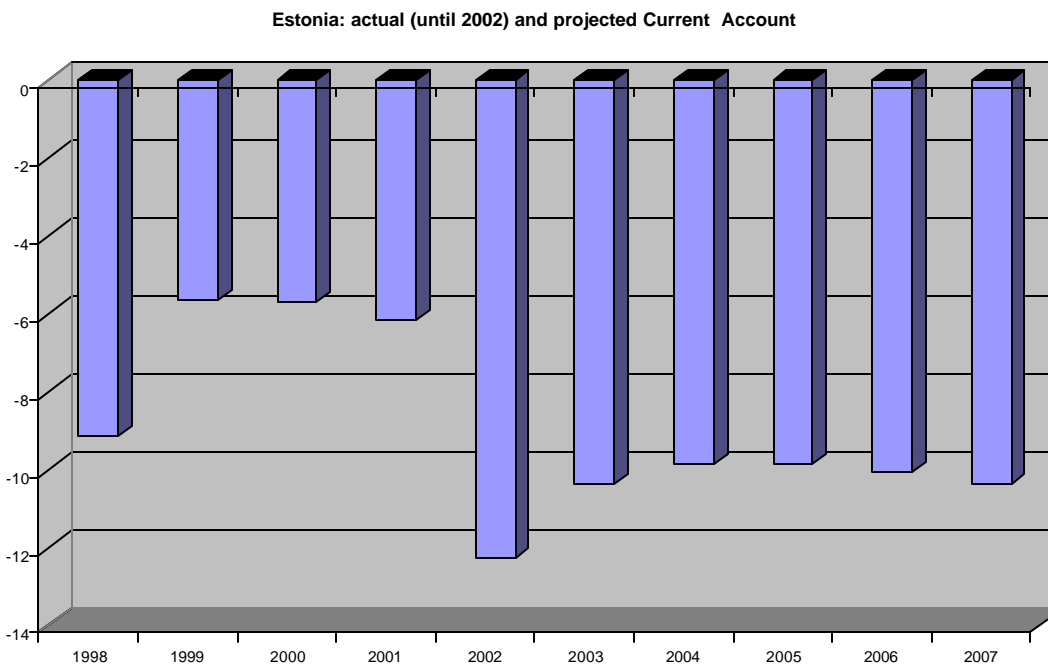


Figure 10. Estonia: Actual and Projected current account to GDP ratio

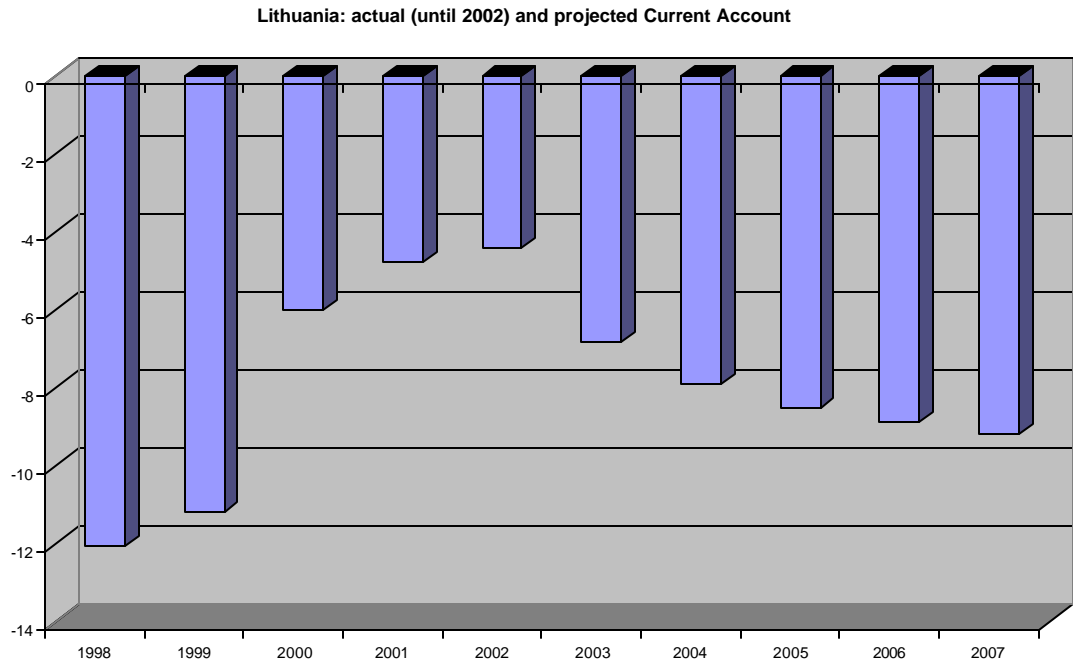


Figure 11. Lithuania: Actual and Projected current account to GDP ratio

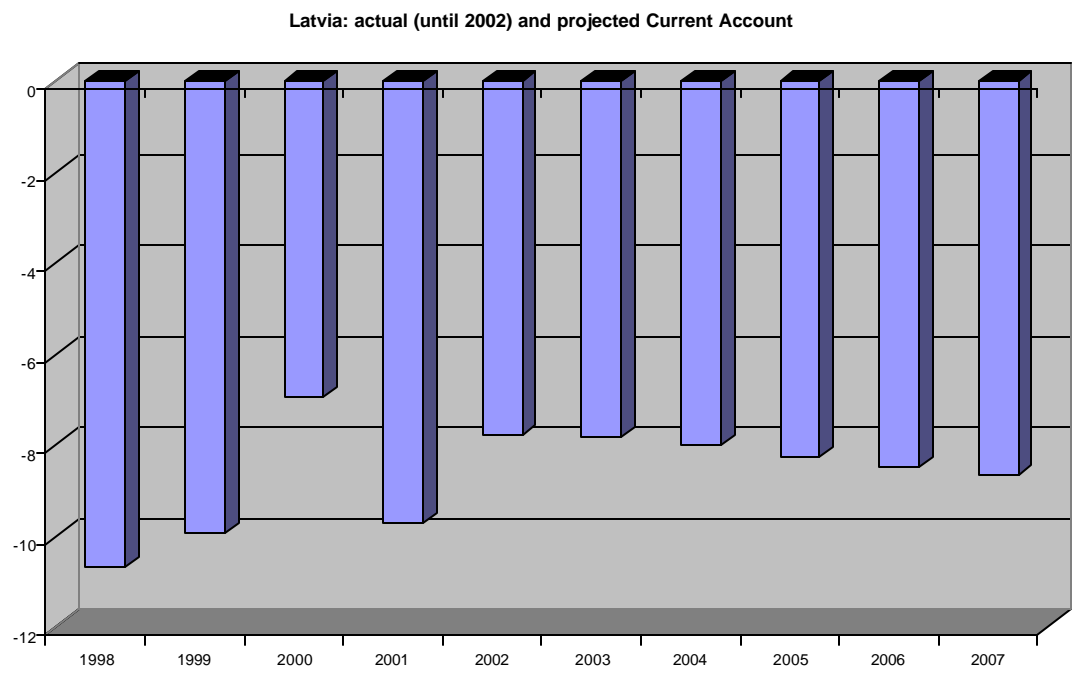


Figure 12. Latvia: Actual and Projected current account to GDP ratio

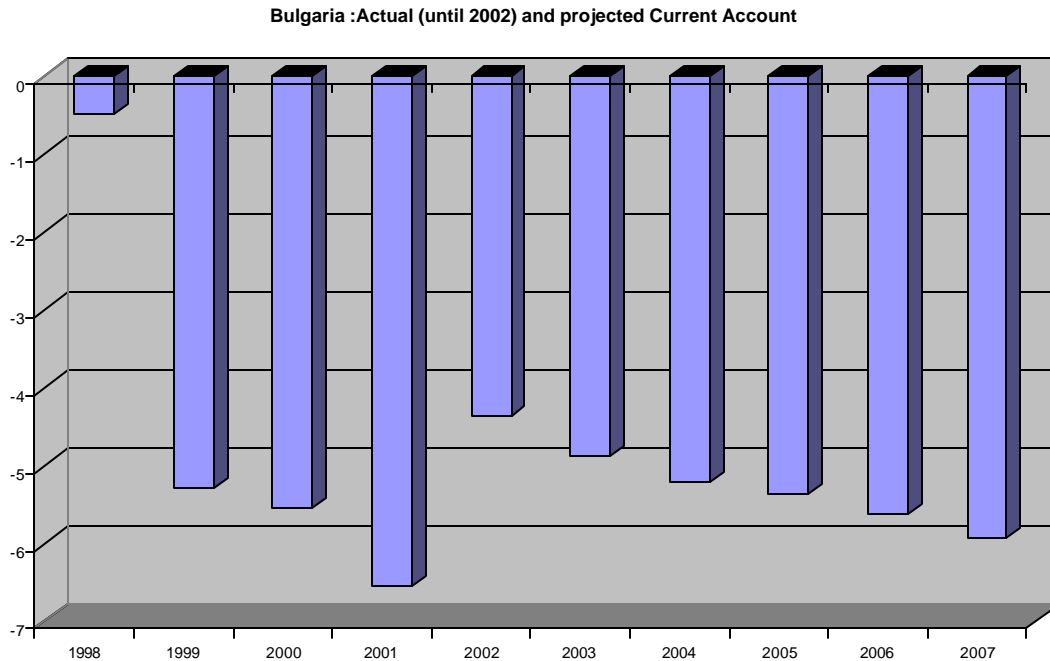


Figure 13. Bulgaria: Actual and Projected current account to GDP ratio

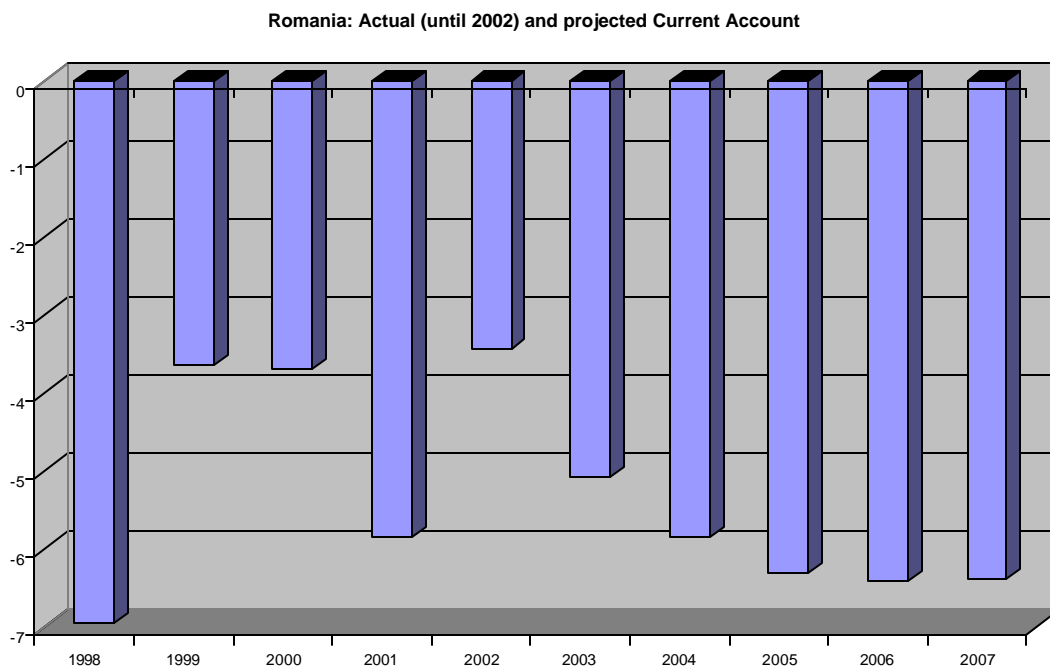


Figure 14. Romania: Actual and Projected current account to GDP ratio