

BULGARIAN  
EUROPEAN COMMUNITY STUDIES  
ASSOCIATION (BECSA)



**CURRENT ACCOUNT SUSTAINABILITY  
AND THE CHOICE OF EXCHANGE RATE REGIME  
ON THE ROAD TO THE EMU**

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# **Current Account Sustainability and the Choice of Exchange Rate Regime on the Road to the EMU**

## *ABSTRACT*

Current accounts have been less sustainable in the recent years in the majority of the Central and Eastern European Countries. Many analysts claim that those countries with less stable current account positions are the countries with fixed exchange rate regimes – the hard pegs and currency board arrangements. There are many theoretical reasons and recent developments seem to prove such a theory. Does it mean that soft landing to the euro area is not possible with fixed exchange rate regime? This paper makes an attempt to answer this question by analysing twenty-three indicators that influence the sustainability of the current account. There is no simple answer to such a question as there are no clear benchmarks for defining what is the level of sustainable current account deficit, especially for the fast growing and catching-up transition countries. The stability of the current account may be achieved only through appropriate policy options and adequate responses to the current sustainability problems. What matters is not the exchange rate regime choice as originally claimed. What really matters is the combined and consistent mix of appropriate policy decisions in order to sustain the external and internal balances in the economy.

**Key words:** current account sustainability, hard peg, euro area accession

**JEL classification:** E42, E50, F32

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## 1. Introduction

The countries that have joined recently the EU prepare for their accession in the European Monetary Union as well. Slovenia has already done it and Cyprus and Malta are on their final way to adopt the single currency. The other countries from Central and Eastern Europe may not join so quickly the euro area, because of the need to satisfy all the convergence criteria.

Another important obstacle for euro area accession may be some sustainability problems, especially the issue on current account sustainability.<sup>1</sup> Many analysts argue that current account sustainability depends largely on the choice of exchange rate regime. They claim that countries with hard peg and currency board arrangements are much more vulnerable to external shocks. Their fixed exchange rates against the euro prevent their national authorities from using many of the policy instruments, including monetary and exchange rate policy instruments. They argue also that current account sustainability has been one of the major reasons and source of vulnerability for the 1990s Mexican and Asian crisis.

Other analysts claim that the exchange rate regime is not the most important issue at stake and that what really matters is for example the quality and the level of capital inflows or the stability of financial institutions.

This paper aims to contribute to this debate. It looks at large set of criteria and indicators in order to define the sustainability of the current account deficits in the new EU Member States. It focuses mainly on the four Central and Eastern European countries with hard peg and currency board arrangements – Estonia, Lithuania, Latvia and Bulgaria, but the other countries are also included in the analysis.

This paper is structured as follows. The next section provides a brief definition of current account sustainability, tries to determine a benchmark for this indicator and lists the main groups and criteria that influence it. The next section analyses the different types of exchange rate regimes and the literature on their influence on current account deficits. The fourth section provides an overview on the economic and political performance of the hard peg and currency board countries, looking at each of the selected criteria that have impact on current account sustainability. The fifth section summarises the results of the study and gives recommendations for future policy options and responses. The last section concludes.

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<sup>1</sup> It shall be pointed out that the current account sustainability is not a formal convergence criterion for euro area accession (as for example the inflation or the budget deficit criteria). The Treaty establishing the European Community, however, states that when the European Commission and the European Central Bank report on the fulfillment of the convergence criteria, they shall also take account on the situation and development of the balance of payments on current account. There are even some authors that raise the necessity to introduce a formal current account deficit criterion for the new EU Member States that aim to join the euro area. Although such an inclusion of a new formal criterion is not likely, the importance of current account sustainability for the euro area accession process remains significant.

## 2. Current account sustainability

### 2.1 Definition of current account sustainability

In this section we analyse the basic definitions in relation to the topic on current account sustainability. Before explaining the notion of current account sustainability it is worth to define the meaning of “sustainability”. One possible definition of sustainability is: “Sustainability is a characteristic of a process or state that can be maintained at a certain level indefinitely”.<sup>2</sup> The definition of sustainability is generally used for issues or processes that are linked with the preservation of natural resources or the problems of the climate change.<sup>3</sup> Focusing on the environmental problems, another dictionary explains that sustainability “acknowledges the responsibility that each person has to consider the effects that his actions have on other life forms, both living and to be born”.<sup>4</sup> It is interesting to note that speaking for current account sustainability, the personal responsibility of all economic agents also matter – the current account may be sustainable or not if economic agents save more and/or moderate their own consumption.

The economic literature has been further developed recently in relation to the current account sustainability after the financial and currency crises during the 1990s in different parts of the world. Milesi-Ferretti and Razin (1996) formulate the current account sustainability as the possibility of continuation of the current policy stance and/or present private behaviour without entailing the need for a “drastic” policy shift (such as, for example, a sudden policy tightening causing a large recession), or without leading to a “crisis” (such as, for example, an exchange rate collapse leading to inability to service external obligations).

Zanghieri (2004) also analyses the sustainability of current accounts explaining that current account position is sustainable as long as foreign investors are willing to finance it.<sup>5</sup> The instruments of financing also matter as the Foreign Direct Investments are the most appropriate instrument of external financing in comparison, for instance, to short-term debt instruments. Zanghieri also points out that a deficit created by a reduction of savings is much more worrying than a deficit caused by an increase of investments. Another similar

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<sup>2</sup> This definition is provided in the Wikipedia – a multilingual, web-based, free content encyclopedia. For further information, see <http://en.wikipedia.org>.

<sup>3</sup> For instance the United Nations World Commission on Environment and Development has defined the sustainable development in a report to the General Assembly in 1987 as the development, “which implies meeting the needs of the present without compromising the ability of future generations to meet their own needs” (Report 42/187, 96<sup>th</sup> Plenary Meeting, 11 December 1987).

<sup>4</sup> See the Urban Dictionary at <http://www.urbandictionary.com/>.

<sup>5</sup> Milesi-Ferretti and Razin (1996) also point out that in order to evaluate the sustainability of external balances, one should consider not only the ability to pay (relevant for defining solvency issues) but also the willingness to pay.

assumption of current account sustainability is that the current account balance is said to be sustainable if it stabilises the stock of external debt at the current level.<sup>6</sup>

Coudert and Couharde (2002) also discuss the subject of current account sustainability with the main focus on Countries from Central and Eastern Europe (CEEC). The sustainability is related to the possibility of generation of sufficient trade surpluses in the future to repay existing debt and to the stabilisation of the external debt to GDP ratio.

Other authors that analyse the issue of current account sustainability are Reisen (1998), Mançellari and Xhepa (2003), Hansen and Hansen (2004), Aristovnik (2006). The recent literature on current account sustainability is, however, influenced the most by the above-cited analysis of Milesi-Ferretti and Razin (1996). The authors in practice define three notions in relation to the current account: solvency, sustainability and excessiveness. They define the economy as solvent if the present discounted value of future trade surpluses equals current external indebtedness. Sustainability of the current account has narrower definition and has been presented above. Unsustainable deficit is different also from excessive one, which is a deficit too large to be explained in the terms of any given model and which deviates from an “optimal” benchmark, derived under the assumption of perfect capital mobility and efficient financial markets.

## **2.2 Benchmarking the sustainability of the current account**

There are various attempts to benchmark the level of the current account above which its sustainability is seriously endangered or impossible. The main conclusions from the different analysis are that:

- there is no possibility to define a clear and single benchmark;
- the level of current account sustainability differ substantially from country to country;
- the benchmark (if any) for the countries from Central and Eastern Europe, that are already EU Member States, is higher than the average level of current account that may be considered sustainable. The reasons for such a conclusions are that:
  - ☞ these countries are in their process of catching-up to the other EU Member States and the euro area;
  - ☞ they experience high GDP growth and an increased level of foreign investments;

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<sup>6</sup> See Milesi-Ferretti and Razin (1996), Zanghieri (2004) and Aristovnik (2006).

- ☞ these countries are small and open economies that are increasingly integrated to the EU and the euro area economy.

A standard view in respect to the global developments of the current accounts suggests that a current account deficit above the level of 5% of GDP shall be closely monitored and shall activate the red light. In addition, the Benhima and Havrylchuk (2006) analysis reminds that the deficit of the current account in Mexico has been 7% in 1994 and in Thailand it has been 8% in 1996, just before the sudden stop of capital flows and the beginning of the crisis.

On the other hand, various analyses define the sustainable levels of current account for the CEEC countries with hard pegs or currency board arrangements in the magnitude of 5-9%. The Bussière, Fratzcher and Müller (2004) analysis, for example, determines the structural current account positions<sup>7</sup> for Estonia, Lithuania and Latvia in the range of 5.5% to 9.7% according to different estimation models.<sup>8</sup>

Many economists consider that the widening of the current account balance is a clear signal of eventual financial and/or currency crisis. But such a correlation is not always true as in the 1990's some of the severe banking and currency crises in CEEC have occurred without large current account deficits. A noticeable example in this respect is Bulgaria and its late 1996 – early 1997 crisis. The current account deficit in Bulgaria in 1994 and 1995 has been respectively 0.3% and 1.5% of GDP. The years when the crisis has occurred – 1996 and 1997, the country has registered current account surpluses of 1.6% and 10.3% of GDP respectively. At the same time, because of the crisis one third of the commercial banks have been closed and the foreign exchange rate has increased considerably.

On the opposite site, from 1970 to 1982 Singapore run substantial current account deficits that in the early 1970s peaked up several times at around 20% of GDP. These levels of current account deficit, however, have been accompanied by large FDI, high GDP growth and increasing saving rate.<sup>9</sup> Although Singapore has encountered such large current account deficits, it has not experienced a crisis as one may predict. Just the opposite, after 1988 it registers increasing current account surpluses, reaching extremely high level at 2003 in the range of 31% of GDP.<sup>10</sup> In 2006 the current account surplus in Singapore decreased slowly, but has reached again very high level – 25.9% of GDP. This level of current account surplus is

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<sup>7</sup> The authors define the structural current account position as the position that can be considered “normal” from a intertemporal perspective when cyclical effects have died out.

<sup>8</sup> The level for the three new EU Member States differs from country to country. According to the different estimation models, the structural current deficit for Estonia is 5.8% or 9.5% of GDP, for Lithuania 8.5% or 9.7% and for Latvia 6.0% or 5.5%.

<sup>9</sup> See Reisen (1998), p.17.

<sup>10</sup> See the analysis of the Monetary Authority of Singapore in Tay, Supaat, Tharmarathan and Robinson (2004).

even more impressive taking into account that Singapore is highly open economy with no trade and capital movement restrictions, with high GDP per capita and experiencing competition from low wage countries such as China and India.<sup>11</sup>

Although there is no clear benchmark for the sustainable levels of the current account in CEEC, especially in hard peg or currency board countries, it is agreed that the actual levels of deficit of, for example, more than 15% of GDP may become dangerous and vulnerable, especially if they are maintained for a longer period and/or they are further increasing in the coming years.

It may be concluded that the definition of current account sustainability remains a complex issue, especially for the CEECs countries. As there is no simple definition or common benchmark for determining current account sustainability, a useful exercise will be to have a look on the different criteria and factors that influence the sustainability of the current accounts. Some authors like Reisen (1998) have also concluded that what really matters is not just the *size*, but rather the *source* of the current account deficit.

### **2.3 Criteria for assessing current account sustainability**

There are different criteria for assessing current account sustainability. Some of them, as the size and composition of the capital account or the level of budget deficit, have greater importance than others. Some of the criteria are also strongly correlated between them, such as for example, budget deficit and general government debt, or trade concentration and economic developments in the main economic partners. There are no clear benchmarks for all these criteria either, but they give some room for deeper analyses and forecasts on the sustainability of the current accounts.<sup>12</sup>

In this section, the criteria are divided in five groups – balance of payments criteria, macroeconomic criteria, fiscal policy criteria, institutional and other criteria. The list of these criteria is, of course, not exhaustive, but their number and variety explain further the complexity of defining the sustainability of the current account.

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<sup>11</sup> Karlsson (2004) argues in his article that countries should not respond to current account problems, such as in the United States, with protectionist measures, but rather with measures stimulating national savings and decreasing excessive consumption.

<sup>12</sup> Some of the more detailed analyses that discuss the criteria for assessing current account sustainability are Benhima et Havrylchuk (2006), Kutos and Vogelmann (2005), Herrmann and Jochem (2005), Bussière, Fratzcher and Müller (2004), Zanghieri (2004), Doisy et Hervé (2003), Mançellari and Xhepa (2003), Roubini and Wachtel (1998), Milesi-Ferretti and Razin (1996).

### 2.3.1 Balance of payments criteria

The balance of payments criteria are some of the most important criteria in relation to the definition of current account sustainability. They are related to the composition of the current account itself as well as to the other accounts of the balance of payments.

- ***composition of the current account deficit*** – the main issue of concern is the development of the trade deficit. If the trade deficit is high or increasing, it may be a sign of decreasing competitiveness of the economy. Another factor that should be analysed is the development of the exports. If the exports are growing and the increase of current account deficit is a result of even larger growth of the imports (for instance because of the import of investment goods), the current account generally should not be considered unsustainable. What also matters is how much is the difference between imports and exports growth, i.e. the increase of the level of current account deficit.
- ***composition and size of capital flows*** – it is generally agreed that if the capital inflows that accompany a large current account deficit are mainly from FDI and not from short-term volatile capital, there is a high level of sustainability of the current account. The size of the capital flows is also important.
- ***FDI coverage of the current account*** – this criterion is in fact a sort of combination from the elements of the previous criterion, but it is presented separately as it is one of the most important criteria that is analysed in the literature and in the practice. It is also highly relevant for countries with hard pegs or currency board arrangements. If the FDI ensure 100% coverage of the current account deficit, this deficit is generally considered as sustainable.
- ***level of foreign exchange reserves*** – the level of foreign exchange reserves at the central bank demonstrates the possibility of the central bank to respond to sudden reversals in the capital inflows or sudden increase of the current account. High level of foreign exchange reserves ensure better current account sustainability over short-term period, but they are not a panacea in relation to deeper and longer reversals of capital inflows or profound increase of the current account. Another important indicator in relation to foreign exchange reserves is the stock of reserves in months of imports of goods and services – the higher this ratio is, the more sustainable is the current account.

### 2.3.2 Macroeconomic criteria

There is a large number of macroeconomic criteria that have influence over the determination of the sustainability of the current account deficit. Some of them are:

- ***level of national savings and investments*** – current account deficit that is a result of decreasing national savings is less sustainable than current account deficit that is a result of higher investments that will generate future growth and exports of the country.
- ***real exchange rate developments*** – this is one of the most important criteria in relation to the definition of current account sustainability, especially for hard peg and currency board countries. The higher is the real appreciation of the domestic currency, the higher is the risk for the sustainability of the current account.
- ***GDP growth*** – this criterion is highly relevant for catching-up countries that make an attempt to converge with the other EU Member States and with the euro area in particular. If the countries have high GDP growth, they may also register larger current account deficits.
- ***inflation*** – the level of inflation as well as the inflation differential with the euro area is significantly important for the current account sustainability, especially for hard peg and currency board countries that may not react on price developments through the exchange rate instrument.
- ***real interest rates*** – low or negative real interest rates decrease the savings rates and increase consumption, that has a negative influence on inflation and on current account deficit developments.
- ***productivity growth vis-à-vis wages growth*** – this criterion has also a significant relevance for defining sustainability of the current account, especially for hard peg and currency board countries. Generally, such countries have lost external competitiveness because of the appreciation of their real exchange rate. One of the ways to sustain the fixed exchange rate and not to endanger the current account is to achieve productivity growth higher than the growth of wages.
- ***consumption*** – increased consumption in the country leads to less savings, higher inflation, increasing imports and less sustainability for the current account
- ***credit growth*** – excessive credit growth (especially credit growth to households) make the current account deficit less sustainable.

- ***openness of the economy*** – more open economies are less vulnerable to large current account deficits because the increase of their current external debt may be more easily repaid in the future, once a reversal of current account developments is registered.
- ***share of private sector*** – it is considered that the share of the private sector is negatively correlated with the current account balance of the catching-up countries. The higher is the share of the private sector, the more liberalised and restructured is the economy. Therefore the country will attract easily foreign direct investments, will be more willing to borrow from abroad and will generate higher current account deficits.
- ***trade concentration*** – countries that have lower trade concentration are less vulnerable to large current account deficits.<sup>13</sup> This is valid, especially in cases of external shocks, such as sharp decrease of GDP in the main trade partner (decreasing substantially current export level). On the other hand, trade integration with the EU and the euro area are a positive sign for real economic and trade convergence between the new EU Member States and the EU as a whole.
- ***composition of trade*** – a country that increase the current account deficit because of an increase of the imported consumption goods instead of investment goods is more vulnerable to future current account problems. A country that rely heavily on imported resources for their production, for example, on energy resources, are more vulnerable to external shocks, especially during periods of substantial increase of their world prices. The product market integration in relation to the EU, and the euro area in particular, as well as the terms of trade developments<sup>14</sup>, are also important.

### 2.3.3 Fiscal policy criteria

The criteria that are related to the fiscal policy can be also considered as macroeconomic criteria. Because of their significant importance, especially for hard peg countries that prepare for joining the euro area, they are presented separately.

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<sup>13</sup> Analysing trade concentration one should take into account mainly the concentration of trade to one country or a small group of countries, as it was previously the case of trade patterns of CEEC with the Soviet Union (some of the Central and Eastern Europe countries have registered trade concentration in the 1970s and 1980s with the Soviet Union higher than 50-60%). The collapse of the Soviet system has dramatically changed the export markets for these countries that had an influence not only on current account developments, but also on GDP growth and other important indicators. The same argument for trade concentration with the euro area, for example, is not completely valid as the group of euro area countries is larger and more diversified and as EU trade concentration is one of the indicators for convergence to the European Union.

<sup>14</sup> The terms of trade measure the ratio on the price index of the exported goods in relation to the price index on the imported goods. The higher is the terms of trade ratio, the higher are the prices of exported goods (due to the fact that, for example, these are high added value goods) and the lower are the prices of the imported goods (because they are, for example, labour-intensive goods). When this ratio is higher, this means that fewer exports may cover (pay) large import of goods and vice-versa. The level of this indicator has close link with the current account sustainability – the higher is this ratio, the more sustainable is the current account.

- ***budget deficit*** – countries with lower budget deficits and even budget surpluses are less vulnerable to current account deficits as they stimulate public saving and decrease the overall consumption in the country. Lower budget deficit will also have impact on the future level of the government debt burden of the country. In addition, many economists defend the need for achieving high budget surpluses for hard peg catching-up countries as a necessary wisdom in relation to the sustainability of their current accounts.
- ***general government debt*** – the level of debt burden is measured by different indicators – the general government debt to GDP ratio that is also a Maastricht convergence criterion; the overall external debt to GDP ratio, including public as well as private external debt; the external debt to exports ratio and many others. The rule is that the lower is the debt burden, the more sustainable is the current account of the country.

#### 2.3.4 Institutional criteria

The stable performance of the institutional criteria has an important correlation with the sustainability of both the current account positions and the financial markets.

- ***central bank independence*** – the independence of central banks, in addition to achieving low budget deficits and low government debt to GDP ratio, is also a prerequisite for euro area entry. Independent and sound central banks may conduct a monetary policy that limit the money supply and regulate to some extent eventual excessive credit growth. The central banks under hard peg and currency board arrangements have almost lost their monetary policy instruments, but their role for the soundness of the banking system and the regulation of credit growth is still present.
- ***stability of the financial system*** – there is a strong correlation between the stability of the financial system and the sustainability of the current account. The more stable are the bank and capital markets in the country, the greater is the confidence of the foreign investors and sustainability of current account deficits.

#### 2.3.5 Other criteria

There are different other criteria that have an influence on the sustainability of the current account deficit, some of which are:

- ***political stability and country risk*** – the lack of political stability or a high country risk that reflect political and economic uncertainty, lead generally to unwillingness of

foreign investors and financial institutions to finance current account deficit, especially higher levels of current account deficits.

- *administrative burdens* – the decrease of administrative burdens may also enhance the sustainability of the current account positions.
- *economic developments in the main economic partners* – this criterion is highly correlated with the trade concentration criterion. Better economic performance in terms of GDP growth and higher consumption in the main economic partners will make the current account of the respective country more sustainable and resistant to other potential shocks.

The different criteria make the definition of sustainable current account deficit a very complex and difficult exercise. The exercise is even more difficult if we add the timeframe considerations as criteria or indicators that justify current account sustainability in medium or long run, as for example GDP and investment growth, do not guarantee a lack of sudden and deep short-term reversals that may have huge impact on economic developments.<sup>15</sup>

### **3. Exchange rate regimes and current account sustainability**

The exercise of defining current account sustainability is becoming even more complex when one decides to include in the analysis the possible choices of exchange rate regimes and their influence on current account sustainability.

This paper looks at the exchange rate regime perspective dividing the possible regimes on fixed arrangements (including hard peg and currency board arrangements) and floating regimes.<sup>16</sup> The analysis starts with a short description of the exchange rate regimes classification and then moves to the influence of the exchange rate regime choice on the sustainability of the current account.

#### **3.1 Classification of the types of exchange rate regimes**

The general classification on exchange rate regimes is on fixed and floating regimes with many variations of these types of regimes. One of the more detailed classification of exchange rate regimes is the new classification of the International Monetary Fund that is applied since

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<sup>15</sup> See also Bussière, Fratzcher and Müller (2004), p. 8.

<sup>16</sup> The ERM II may be also considered as relatively floating regime as the fluctuation margins of +/-15% vis-à-vis the euro are relatively large for the euro area accession countries that shall experience a sound convergence process.

1999. A useful characteristic of this classification is the fact that it is based on countries actual or “de facto” exchange rate arrangements.<sup>17</sup>

The classification also presents the monetary policy options that are used by the countries, illustrating the relationship between exchange rate regimes and different monetary policy frameworks. The IMF classification of the regimes is structured around the degree of flexibility of the exchange rate paths, starting with the less flexible regimes such as exchange arrangement with no separate legal tender and currency board arrangement, and ends with the more flexible regimes – managed floating and independent floating. The classification contains eight exchange rate regimes. Further information on some of the basic characteristics of those regimes is provided in Annex I.<sup>18</sup>

It is interesting to note that the Countries from Central and Eastern Europe plus Cyprus and Malta that have joined the EU in 2004 and 2007 respectively (EU-12), have very different although slightly converging regimes. This is an interesting fact, taking into account that they have passed through similar transition processes (except Cyprus and Malta), that they have reached a common goal for EU accession and have the same future target of adopting the single currency.<sup>19</sup> From the eight types of exchange rate regimes that are included in the global IMF classification, these twelve countries currently apply six of them. The only exchange rate regimes that are not currently applied by EU-12 are the crawling pegs and exchange rate within crawling bands as these regimes have been declared by the European institutions as inappropriate with ERM II participation.<sup>20</sup> Further information on the exchange rate arrangements of these countries is provided in Table 1 in Annex I.

The variety of exchange rate regimes of the euro area acceding countries is a clear proof that there is no single path to the European Monetary Union accession in relation to the exchange rate regime choice. The decision on the concrete ERM II compatible regime has

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<sup>17</sup> The actual exchange rate arrangements are defined by the IMF staff and may differ from officially announced arrangements.

<sup>18</sup> More information in relation to the IMF classification is presented in the IMF Annual Reports – see for example the IMF Annual Report (2006), p. 144-146. Except these basic exchange rate regimes, other similar or hybrid regimes may be adopted by countries, such as the exchange rate arrangement with multiple rates and/or parallel markets, but such types of regimes are not currently widely-spread on the global scene.

<sup>19</sup> This target is, however, already achieved by Slovenia that has joined the euro area on 01.01.2007 and is to a great extent achieved by Cyprus and Malta, where the decision is already taken for euro area accession by 01.01.2008.

<sup>20</sup> According to the European institutions the clear incompatibilities with ERM II participation are the cases of free floating (or managed floating without a mutually agreed central rate), crawling pegs, and pegs against anchors other than the euro. For further information, see European Commission (2001) and Council of the European Union (2000). For further discussion on the stages before the adoption of the single currency and for the exchange rate regime scenarios, see European Central Bank (2003), European Central Bank (2000), Gulde, Kähkönen and Keller (2000), European Commission (1999). Further analysis on the characteristics and importance of fixed vis-à-vis flexible exchange rate regimes is provided in Calvo and Mishkin (2003), Frankel (1999) and Edwards (1996).

implications for the economic developments and performance of the countries. The choice of exchange rate regime may have also influence on such important issues as the level of sustainability of the current account positions.

### **3.2 Influence of the exchange rate regime choice on current account sustainability**

There is a highly spread consensus in the literature, although with some nuances, that the fixed exchange rate regimes, especially hard pegs and currency board arrangements, lead to real appreciation of the domestic currency, loss of competitiveness and to a vulnerability in relation to the current account positions.

After initial real depreciation of the national currencies in the majority of the transition countries in the early 1990s, the catching up process has caused an appreciation of the real exchange rate in all the countries that has exceeded the initial depreciation. Although the increase of the real exchange rate is a common phenomenon for the euro area accession countries, the level of increase varies largely from country to country.

The statistics shows that the countries that experience the higher increase of the real exchange rate are those with the hard peg or currency board arrangements. The logic behind this fact is that although fixed exchange rates have allowed the stabilisation of price levels (generally countries introducing hard pegs aim at decreasing initially high level of inflation), these levels are above the price levels of the EU and the euro area in particular, where the primary objective is to sustain price stability. Due to inflation differentials and increase in real exchange rate, the hard peg countries loose competitiveness and register high and increasing current account deficits. These countries have no the opportunity to use the exchange rate as an instrument for aligning possible and/or actual external shocks.

According to the statistics of the central bank of Estonia, the annual average change in the real effective exchange rate of the kroon has decreased from 1994 until 2006 (with periods of higher REER: 1994-1996; 1998-1999), but the monthly data from the beginning of 2007 show an increase of the annual average change of REER. According to the latest figures from the central bank of Lithuania, the level of real effective exchange rate index of the litas as of June 2007 (June 1993 = 100) is 161.4. The real effective exchange rate of the Latvian lats in September 2007 (based on consumer price indexes) against the currencies of the developed countries is 158.4 (December 1995=100). According to the statistics of the Bulgarian National Bank, from the introduction of the currency board in mid-1997 until August 2007, the index of the real effective exchange rate of the national currency has increased to 157.7 (June 1997 = 100).

The results for the hard peg and currency board countries show substantial real appreciation of the national currency. The countries that have previously applied crawling peg regimes in the 1990s have shown moderate level of appreciation. For example, Poland real exchange rate appreciated by 44% during the crawling peg period, from January 1993 until April 2000, before introducing the floating regime. Nevertheless, even countries applying floating regimes such as Romania for example, have registered strong appreciation of their real exchange rate.<sup>21</sup>

One of the detailed analyses on the link between exchange rate policy, real exchange rate appreciation and current account developments, is provided in Roubini and Wachtel (1998). They present the two basic views on the relationship between these indicators and policies. According to the first *misalignment view*, the real appreciation is the consequence of the choice of fixed exchange rate regime as well as of the stock of capital inflows. This view strongly supports the idea that these factors cause loss of real competitiveness. The latter imply that the increasing current account imbalances are less sustainable and might be reversed through nominal or real depreciation of the national currencies. There are a number of factors, especially in the catching-up euro area accession countries, that lead to higher inflation from the euro area inflation: the increase of some administrative prices, the increase of the prices of non-tradable goods, the alignment of national excise duties to the levels that are required by the *acquis*, the inertia of nominal wage growth, etc.

The second view is called *fundamental view* and stipulates that the appreciation of the real exchange rate is not a signal of exchange rate misalignment and competitiveness loss, but it mainly represents an appreciation of the long-run equilibrium or fundamental real exchange rate. According to this theory, the worsening of the current account has not been caused by the real appreciation of the currency, but it is a result from the fundamental changes in the economy, mainly affecting national savings and investment rates. Some of these fundamental factors are the increase on the productivity growth, the technological revolution, etc.

Although Roubini and Wachtel (1998) recognise the fact that real appreciation may occur even in the case of managed float, especially in cases of large capital inflows, they do not generally agree with the fundamental view. They rather defend the theory for a strong link between the pegging of the exchange rate, the real appreciation of the national currencies and the loss of competitiveness, supporting the misalignment view for the relationship of fixed exchange rate and high current account deficits.

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<sup>21</sup> For further information on real exchange rate developments, see Coudert and Couharde (2002).

The Coudert and Couharde (2002) study the relationship between exchange rate regime and the current account developments due to loss of competitiveness from another angle. They claim that measurement of real appreciation through the consumer price index overestimate the de facto appreciation of the real exchange rate. The main reasoning behind this theory is the fact that due to the Balassa-Samuelson effect, prices and wages increase both in the tradable and the non-tradable sector. The trade of the catching-up countries with the EU and the euro area as well as the productivity growth are, however, concentrated in the tradable sector where prices are growing much slowly. Therefore, the real appreciation is much weaker for the traded goods and the real exchange rate is overestimated, including for the hard peg and currency board countries.

The economists from the hard peg and currency board countries push for a quicker accession of their countries to the euro area and adoption of the single currency. The main reason for that is the fact that generally hard peg regimes may not last for an indefinite time, especially in fast growing and catching-up countries, taking also into account the appreciation of the real exchange rate. Additional argument is the fact that the euro accession is the best exit strategy from currency board arrangement. An exit from currency board through introduction of a more flexible regime (instead of entering even harder regime of a monetary union) may cause large exchange rate alignments, speculative attacks on the national currency and even possible economic destabilisation and loss of benefits achieved during the implementation of the currency board.<sup>22</sup>

Other economists and representatives emphasise not on the speed of the euro area accession but on the need of the sustainability of the convergence process and of its smooth realisation. Herrmann and Jochem (2005), for instance, stress on the importance of finalising the necessary reforms and adopting the appropriate economic policies before joining the single currency. The reasons behind are that large alignments of the exchange rate are not possible within the ERM II, even for countries applying the fluctuation margins of +/-15% vis-à-vis the euro.<sup>23</sup> After the adoption of the euro, exchange rate alignments with the other euro area members are by definition impossible.

Zanghieri (2004) also points out that the choice of exchange rate regime is critical, notwithstanding that no regime may prevent a country with high level of capital inflows from the possibility of balance of payment crisis. An important problem, as already stated, is that

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<sup>22</sup> For further information, see for example Avramov (2000).

<sup>23</sup> It shall be reminded that even outside the ERM II and according to the Treaty establishing the European Community, European Union Member States with a derogation shall not apply competitive exchange rate devaluations and shall consider their exchange rate policy as a matter of common interest.

for hard peg and currency board countries, the alignment of external imbalances may not be done by the exchange rate instrument. Another important implication is, as stressed by Buiter and Grafe (2001), that under the convergence and catching-up process it is very difficult to achieve at the same time the Maastricht exchange rate and inflation objectives. The latter means also that the countries with hard pegs and currency boards will hardly achieve the inflation criterion for euro accession. The recent inflation developments in these countries prove that this hypothesis is true.

An importance shall be also paid when a country is fixing its exchange rate not to choose the wrong parity given the strong degree of wage and price rigidity.<sup>24</sup> It is recognised, however, that for countries that have already different forms of fixed exchange rate regimes, it will be difficult to shift to a flexible exchange rate as this process is very complex and risky for the whole economy and the financial system.<sup>25</sup> It shall be avoided, other conditions equal, double shifting for a very short time – from fixed (hard peg) to floating regime and afterwards from floating regime to the more rigid fixed regime – the accession to a monetary union.

The main conclusion from this section is that the basic question is not if the fixed exchange rate improves or decreases the current account sustainability – using the theory and the practice, the second option appeared to be the valid one for CEEC. The real questions in relation to the hard pegs and current account perspective are:

- Does the fixed exchange rate will lead not only to less sustainability of the current account but also to future currency crisis?
- How long such a hard fixing of the exchange rate may last during the convergence process?
- What is the ultimate level of current account deficit that may be sustained by the economy?

As it was already mentioned, it is not possible to give clear current account sustainability benchmarks, especially for the transition and catching-up countries. At the same time, it is not possible to predict the maximum timeframe for sustaining hard pegs<sup>26</sup> nor it is

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<sup>24</sup> It is interesting to note that from the three new EU Member States that have already joined the euro area in early 2007 or are on their final way for euro area accession from the beginning of 2008, all of them have or will officially use the exact conversion rate as the central rate to the euro within ERM II. One of these countries, namely Malta, is currently applying a conventional fixed peg arrangement.

<sup>25</sup> For further information, see Zanghieri (2004), p. 25-26.

<sup>26</sup> For example, the Czech Republic applied fixed peg for six years – from 1991 to 1997 before experiencing a crisis and attack on the Czech koruna. The currency board in Estonia functions more than fifteen years, the currency board in Lithuania more than thirteen years and in Bulgaria more than ten years. This does not mean that the risk is not present as the recent current account developments clearly show the vulnerability of the current

possible to predict if and when large current account deficit may lead to a currency crisis.<sup>27</sup> The main reasons for that are the fact that external shocks may be caused mainly by external factors, that current account sustainability depends on many other factors in addition to the choice of exchange rate regime and that euro area accession countries differ substantially one from the other. In addition, although many people refer to Estonia, Lithuania and Latvia as “the Baltic States”, analysing them as a group, these three countries also differ. Last, but not least, as it was mentioned above, euro area accession countries that apply currently more flexible exchange rate regimes, including large horizontal band within ERM II, are not prevented from risk of current account or currency crisis.

Taking into account that not only the exchange rate regime choice but all the criteria and factors on current account sustainability really matter, the paper will present some of the main economic developments in the countries with hard pegs and currency board arrangements in the next section. These data and developments will be the main basis for the conclusions on the current account sustainability and the future possible policy options.

#### **4. Economic developments in the hard peg EMU accession countries**

This section will analyse the economic developments in the hard peg and currency board countries that aim to join the euro area in the foreseeable future, namely Estonia, Lithuania, Latvia and Bulgaria (CEEC-4). The analysis does not focus on Malta's performance although the country applies currently conventional fixed peg arrangement due to two main reasons. The first reason is that this country is not a transition country as those from Central and Eastern Europe. The second reason is the fact that there is already a decision in relation to the accession of Malta in the euro area on 01.01.2008.

The statistics are presented in Annex II and focus on the CEEC-4 countries. For some of the criteria the statistics are presented for all the new EU Member States for greater comparison between fixed vis-à-vis floating exchange rate arrangements. The analysis is structured around the five groups of criteria that have been identified above.

##### **4.1 Balance of payments developments**

The level of the current account deficit of the four countries from Central and Eastern Europe with hard peg or currency board and its comparison with the level of this indicator for the

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regimes. At the same time, there is no possibility to define explicitly the maximum time for sustaining such a regime.

<sup>27</sup> Edwards (2001) also points out that although large current account deficits are a cause of concern, this does not mean that every large deficit will lead to a crisis, nor does it mean that only when there is a large current account deficit a crisis may occur.

other new EU Member States, prove the theory that countries with fixed exchange rate regimes under a catching-up process experience higher deficits. The figures for CEEC-4 are worrying as they are above 10% with Latvia reaching in 2006 the unprecedented deficit of 22.3 % from GDP.<sup>28</sup> Another factor that raises concerns for these countries is that the last years the current account deficit is growing strongly and steadily. Further information on the level of current account deficit in all the new EU Member States is provided in Table 2 below. The figures for the first half of 2007 are also worrying. Estonia has a current account deficit on yearly basis of 14% from GDP, Lithuania – 14.8% and Latvia increases further the deficit to 24.8%. Only for the first seven months of 2007 Bulgaria has registered current deficit of 11.2% from GDP and it is expected that until the end of the year the deficit will be not less than 17-18% on a yearly basis.

Table 3 in the statistical Annex clearly shows that the major part from the current account deficit in the three countries from the Baltic region is due to the even larger deficit in relation to the trade balance in goods. This shows that the economies of these countries are not sufficiently competitive during the catching-up process. Although the nominal value of exports in these countries is also growing, but less than the growth of nominal value of imports, the substantially high trade balance deficit make the overall current account vulnerable to external shocks. The other item with negative effect on the current account balance is the income balance, mainly due to the repatriation of some part of the profits that have been gained through the FDI in these countries. The balance of trade in services and the balance of current transfers are positive but they may not compensate the high deficits in terms of balance of trade in goods and income balance.

Contrary to the composition of the current account, the level and the composition of the financial and capital account lead to greater sustainability of the current account deficit. An important factor is that the financial and capital account registers a strong surplus, generally exceeding the deficit of the current account thus allowing an increase also of the official foreign exchange reserves at the central bank. Another favourable condition is the fact that the FDI still dominate the short term and more volatile capital inflows.<sup>29</sup> A positive sign is also the constant increase of the net inflows of foreign direct investments for the majority of the ten countries from Central and Eastern Europe, including for the four countries with hard peg or currency board arrangement. The figures on Table 4 in the statistical Annex should be,

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<sup>28</sup> The only country with floating regime that the last two years experiences a deficit higher than 10% from GDP is Romania.

<sup>29</sup> It should be noted, however, that the foreign exchange denominated short-term debt is increasing in the countries from the Baltic region and Bulgaria, especially in Estonia and Lithuania.

however, analysed cautiously. One of the reasons is that in many of the countries there has been at least one year with sharp, although temporary, decrease of the FDI, as for example in Hungary in 2003, in Latvia in 2001, in Estonia in 2002 and 2006, in Lithuania in 2003, in the Czech Republic in 2003-2004 and in Poland in 2005. Another interesting factor is that the most developed country from CEEC-10 – Slovenia, has registered for three years in the last four years net FDI outflows. Although FDI are very important instrument for achieving current account sustainability and possible future export growth, it is possible that in the coming years the stock of FDI will decrease and create a strong risk for the external balance of the euro area accession countries.

Another important issue in relation to the balance of payments is the level of coverage of the current account deficit by FDI. The results show that the FDI in the three countries from the Baltic region generally do not cover completely the deficit of the current account. The financing of this deficit is, however, unproblematic for the moment, because of higher intra-group bank funding, mainly from some Nordic banks.<sup>30</sup> With few exceptions, the FDI inflow in Bulgaria covers completely the level of current account deficit (100% FDI coverage), which is rendering this deficit more sustainable.

The level of official reserves in the national central banks of the currency board countries is also ensuring a greater sustainability of the current account deficit. As shown in Tables 5-7 in the statistical Annex, the three countries with currency board arrangements increase steadily and gradually the levels of their official reserves. Another positive sign is the stock of official reserves in months of imports of goods and services, showing for how long the official reserves may finance the imports in case of complete stop of net capital inflow and a lack of exports receipts. In Bulgaria for example, this indicator has been in the range of 5.0-6.3 during the period 1999-July 2007, i.e. the official reserves cover at least 5 months of imports of goods and services. This is due to the fact that for the time being the import growth goes hand in hand with the growth of official reserves, which increases the short-term sustainability of the current account balance.

#### **4.2 Macroeconomic developments**

The largest group of criteria that affect the current account sustainability is the group of the macroeconomic criteria. It is interesting to note that although CEEC countries experience similar problems and are targeting the same strategic goal for euro area accession, similar to

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<sup>30</sup> For further information, see the balance of payments sections in the European Commission Convergence Reports.

their divergence in the exchange rate regime choices, they register differences in relation to the development of the macroeconomic indicators.

The development of national savings and investments is one of the key indicators in relation to the analysis of the sustainability of the current account deficit. Table 8 presents some data in relation to the gross capital formation and the gross saving for Estonia, Lithuania and Latvia. The current account deficit widening in these countries is due to a steady increase of the gross capital formation and not to a decrease of the gross savings. The gross savings even register a slight increase.<sup>31</sup> These trends make their current account deficits more sustainable and less vulnerable to external shocks, especially if greater savings growth is registered in the future.

The developments in relation to the real exchange rate have been discussed in section three, proving that the countries with hard peg regimes register high levels of REER, thus increasing the macroeconomic misalignments and endangering the sustainability of their current account deficits.

Another crucial criterion in relation to the definition of the causes and the sustainability of the current account deficits is the real GDP growth. Tables 9 and 10 illustrate the level of the real GDP growth as well as the GDP per capita in Purchasing Power Standards for the CEEC-10, Cyprus, Malta as well as the EU-27 and euro area average. All the euro area acceding countries experience in general higher real GDP growth rates from the EU-27 and euro area average. Notwithstanding this common trend, there are significant differences from country to country. Currently, the new EU Member States that experience the highest real GDP growth rates are Latvia, Estonia, Slovakia, Lithuania, Romania, Bulgaria and Poland. Comparing these figures with the data on current account deficits, it may be stated that there is a clear correlation between the countries experiencing the highest real GDP growth and those registering the highest levels of current account deficit. This proves the catching-up theory, namely that transition countries that aim to converge with the EU as a whole and the euro area in particular, experience at the same time high GDP growth, larger FDI and imports, leading to larger current account deficits.

There is also a variety in terms of GDP per capita in Purchasing Power Standards, but all the new EU Member States have lower levels than the EU-27 average. Another conclusion from the comparison of the data is that the countries that currently experience the highest real

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<sup>31</sup> The same trends are also valid for Bulgaria – according to World Bank data, the gross capital formation for 2004 and 2005 is 23.5 and 28.0 percentage from the GDP respectively (15.7 in 1995) and the gross national savings to GDP ratio is 16.0 and 16.9 for 2004 and 2005 respectively (11.9 for 1995).

GDP growth rate are generally those that have the lowest levels of GDP per capita.<sup>32</sup> It is interesting to note also that the countries that have joined or are in their process of joining the euro area next year, are those with the highest GDP per capita ratio<sup>33</sup> even though that this is not a formal criterion for European Monetary Union accession.

The fact that the hard peg countries experience one of the highest real GDP growth ratios explains to some extent the realisation of the high current account deficits. On the other hand, the low levels of GDP per capita ratios suggest the need for further substantial GDP growth that may additionally cause problems for the current account sustainability, especially in the case of Bulgaria and to a less extent to Latvia and Lithuania.

The inflation rate presented as annual average rate of change in Harmonised Indices of Consumer Prices is an important indicator, especially in relation to hard peg countries with fixed exchange rate against the euro.<sup>34</sup> The comparison between the inflation in the euro area and the respective inflation in the hard peg countries illustrates the inflation differential and the impact for real appreciation of the national currencies that affect the current account positions. The results of the inflation rate in Table 12 demonstrates that the hard peg and currency board countries, together with Romania, Slovakia and Hungary, have relatively high level of inflation, especially if compared to the euro area inflation. The only new EU Member States in 2006 with lower inflation from the euro area are Poland and the Czech Republic. Cyprus, Malta and Slovenia have inflation equal or close to the euro area inflation in 2006.

The figures for 2007 are even much more worrying. According to an analysis by Danske Bank (2007), the inflation in Bulgaria in September 2007 is expected to be 13.9% on year-to-year basis.<sup>35</sup> For Latvia the same indicator is expected to be 10.7% and in Lithuania – 6.1%. The results of the inflation level are particularly worrying in Bulgaria and Latvia, taking into account their fixed rate against the euro and the appreciation of the national currency. This has also implications in relation not only to the sustainability of the current account, but also on the whole convergence process to the EU, taking in mind that the inflation rate is one of the key Maastricht convergence criteria.

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<sup>32</sup> The EBRD also publish interesting indicator in relation to the GDP level, namely the current level of GDP in comparison to the start of the transition process. Table 11 presents the latest data – the level of estimated GDP in 2006 compared to the GDP levels in 1989. The countries that have the lowest rate are Bulgaria (registering the same GDP level as in 1989), Lithuania, Latvia and Romania.

<sup>33</sup> The only exception in relation to this correlation is the Czech Republic that has around 80% of GDP per capita in comparison to the EU-27 average.

<sup>34</sup> It should be also pointed out that the HICP indicator is used by the European Central Bank for monitoring of the inflation in the Economic and Monetary Union and for the assessment of inflation convergence under the Maastricht Treaty.

<sup>35</sup> The official data of the National Statistical Institute in Bulgaria registered inflation for September 2007 in the range of 13.1% on year-to-year basis.

The comparative price levels that are presented in Table 13 also provide the possibility for some important conclusions. The comparative price levels are the ratio between Purchasing Power Parity and market exchange rate and are presented as a ratio on the basis of EU-27=100. The lowest is the ratio, the most likely is further convergence with the EU-27 and the euro area in particular, leading to higher future inflation rates and possible unsustainability of the current account. In this respect, the ratio in Bulgaria that is only 44.1 for 2006 is particularly worrying. The countries with the highest ratio are Slovenia, Cyprus and Malta – between 73.5 and 89.5 for 2006. These countries are euro area members or are on their final preparation for accession to the European Monetary Union. The other countries have ratio for 2006 between 58.2 and 67.0

The developments of the real interest rates in the hard peg and currency board countries are worrying the last years. In fact these countries have high negative real interest rates, that further influence the low savings and increase consumption in the country. Although low interest rates are beneficial for investments they have negative influence on inflation and may lead to problems, especially in countries with fixed exchange rate regimes. The latest results show that Bulgaria has the highest negative ratio of real interest rate among the 10 new EU Member States from Central and Eastern Europe, followed by Latvia, Estonia and Lithuania.<sup>36</sup>

The data in Table 14 for Estonia, Lithuania and Latvia on annual percentage change on nominal compensation per employee, labour productivity and nominal unit labour costs, provides for the following conclusions:

- the annual percentage changes for the three indicators generally exceed with some few exceptions the levels in the euro area. This proves again the theory on the catching-up process that experience these countries.
- the growth of nominal compensation per employee generally exceeds the level of labour productivity growth.<sup>37</sup>
- the latter conclusion explains the realisation for these three countries of higher growth of nominal unit labour costs for most of the period.

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<sup>36</sup> For further information, see Christensen and Rasmussen (2007).

<sup>37</sup> According to the Convergence Programme (2006-2009) of the Republic of Bulgaria, the labour productivity growth in the country for 2004-2005 is around 4%. According to the same document, the real wages growth for the same period is equal also around 4%. The document points out that the real wages growth is in line with the labour productivity growth, which shall not deteriorate the competitiveness of the country. It should be, however, pointed out that the real wages growth is an indicator that is lower and differs from the growth of nominal compensation per employee.

The higher growth of nominal unit labour costs leads to loss of competitiveness and possible unsustainability of the current account position. Given the fact that countries with hard pegs may not use the exchange rate instrument for regulating external competitiveness, one of the few instruments that are left for such a regulation is the realisation of productivity growth exceeding the growth of the nominal compensation per employee. Therefore, in order to achieve greater current account sustainability, further stimulation of the labour productivity growth and limitation of the wages growth (below labour productivity growth) is necessary.

Table 15 provides information on another indicator – labour productivity per person employed, taking into account EU-27 as equal to 100 (EU-27=100). The lowest levels of these indicators for 2006 are for Bulgaria, Romania, Latvia and Lithuania, the majority of them with hard peg arrangements. These data demonstrate the fact that these countries have substantial potential for future productivity growth, if national governments undertake the appropriate economic policies and decisions.

The credit growth and especially the consumer credit growth have increased steadily in the last years. The credit expansion to the private sector and to the households has been remarkable, although it starts from relatively low levels and it is necessary in relation to the catching-up process. The overall domestic credit expansion in Estonia and Latvia has reached levels of 70% annual growth and more than 60% in Lithuania. The household credit in Lithuania has reached even higher growths of more than 80% annual change. Bulgaria has also registered high credit growth, although at relatively lower levels in 2005 and 2006 due to targeted measures from the Bulgarian National Bank.<sup>38</sup> The credit growth in Bulgaria has been also initially driven mainly by private sector credit growth leading to more investments and potentials for GDP growth. The credit growth to households has also increased in the last years, having impact on both inflation pressures and current account sustainability. If the large credit growth is not moderated in the future, it may lead to medium term unsustainability, especially in the hard peg and currency board countries where the fixed rate stimulates further borrowings from abroad.<sup>39</sup>

There is also an increase on the levels of consumption. Consumption growth is high in the countries from Central and Eastern Europe, but it is especially dangerous for countries that

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<sup>38</sup> The credit growth in Bulgaria in 2003-2004 has been around 50%, for 2005 it curbed to 32% and for the beginning of 2006 it has slowed down even further. After the EU accession in January 2007, the credit growth trend start again to increase, registering around 45% growth year-on-year basis in the first half of 2007. This is due to a large extent to the accession to the EU Internal Market and further integration to the EU financial sector. For further discussion on relationship between credit growth and current account developments, see Wunner (2006).

<sup>39</sup> For further information on the credit growth in all the euro area acceding countries, see the European Commission Convergence Reports.

apply fix exchange rate regime, because of inflation pressures that may not be overcome through exchange rate alignments. What is also particularly worrying is that there is an increase in various luxury and expensive goods that are generally imported goods. Example of such imports is the increase of sales of yachts in Bulgaria in 2007.

As it was stated above, opened economies are less vulnerable to current account misalignments as they may (in cases mainly of increasing investment goods imports) easily repay or reverse the current account developments, once higher GDP and export industries growth is registered. Table 16 demonstrates the trade integration of goods, measured through the average value of imports and exports of goods divided by GDP, multiplied by 100. The four hard peg and currency board countries register for 2005 relatively high ratios in terms of goods market integration – the ratio for Estonia is 66.8, for Bulgaria – 54.3, for Lithuania – 51.7 and for Latvia it is 43.1.<sup>40</sup> An important factor is that the trend in all these countries is generally growing with few reversals during the last years. Another very important indicator is the overall trade openness of the countries, that includes not only the trade integration of goods but also the trade integration of services. Taking into consideration the trade openness indicator<sup>41</sup>, the overall degree of openness for 2005 for Estonia is 83.0, for Lithuania – 59.8, and for Latvia – 55.3. The trade openness in Bulgaria is even larger. The high trade openness of the hard peg countries, including the high trade concentration with the EU that is analysed below, increases the sustainability of the current account deficits in the new EU Member States with fixed exchange rate arrangements.

The four countries from Central and Eastern Europe with hard peg or currency board arrangements have high geographical trade concentration with the EU that is clearly demonstrated from the data on Table 17 in the statistical Annex. The data for intra-EU25 exports/imports as a percentage of total exports/imports show that Estonia is the most highly integrated country from this group with ratios in 2004-2005 of intra-EU25 trade in the range of 73-80%. Latvia is the next from the hard peg countries with intra-EU25 trade for 2004-2005 in the range of 75-77%. The same figures for Lithuania are 59-67% and for Bulgaria – 49-58%. The high trade concentration with the EU shows a high trade and economic convergence for the new EU Member States with fixed exchange rate arrangements. This is a positive sign in relation to the overall convergence process, but it may cause some current account

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<sup>40</sup> The lowest trade integration of goods is registered by Cyprus which is geographically the most distant new EU Member State, as well by Poland and Romania that are the largest new EU Member States (according to the optimum currency area theory there is a close link between the size and the degree of trade openness – the bigger is a given economy, the lower is the level of trade openness as such economy may insure domestic production for large part of the domestic needs).

<sup>41</sup> The trade openness is measured through the accumulation of exports and imports of both goods and services in percentage of gross domestic product.

sustainability problems, especially if the real GDP growth rates in the EU and the euro area remain relatively modest or even decrease in the future.

The new EU Member States with fixed exchange rate regimes have demonstrated an important structural change since the beginning of the transition process. Nevertheless, differences in terms of sectoral composition of production remain large, especially in the cases of Bulgaria, Lithuania and Latvia. The same applies for the sectoral composition of exports. These countries have larger influence on labour-intensive and low value-added industries.<sup>42</sup> The latter may create problems in relation to the current account sustainability, especially if there is no major shift in relation to high-tech and higher value added sectors, affecting also the terms of trade ratio. Another important element of the composition of trade is that although transition countries have registered initially high levels of imports of investment goods (that will possibly generate future growth in the export sectors), the relative share of consumption goods also increase substantially in the last years. This may create current account sustainability problems or at least lead to similar experience to the economic development in Portugal in the framework of its euro area accession.<sup>43</sup>

Last but not least, the gradually increasing share of the private sector has also relatively negative influence on the current account sustainability prospects. The new EU Member States from Central and Eastern Europe, including the countries with fixed exchange rate regimes, have experienced growth of the private sector share in the economy. The private sector in the catching-up countries attracts more investments, increases further the credit growth and borrows from abroad heavily than the public sector, creating further current account sustainability concerns.

### **4.3 Fiscal policy developments**

The fiscal policy developments have complex influence on the preparations for euro area entry. On the one hand, the budget deficit and the government debt ratio are formal convergence criteria for European Monetary Union accession. On the other hand, the developments of these indicators have also influence on the current account positions, thus further affecting the prospects of single currency adoption.

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<sup>42</sup> For further information on the product market integration of all the new EU Member States, see the European Commission Convergence Reports.

<sup>43</sup> Portugal prospects for joining the euro in the late 1990s led to expectations of increasing GDP growth and incomes that provoke further decrease in private savings and increase on wages growth. In reality, the investment boom after the adoption of the single currency came to an end, fast income convergence did not materialised to the extent as previously expected and at the same time current account deficits remained relatively large. For further information on Portugal economic developments in relation to the euro adoption, see Blanchard (2006).

The hard peg new EU Member States conduct the more strict fiscal policies, experience the lowest level of budget deficit and even register large budget surpluses in the last years. The data on Table 18 shows that during the last three years the largest budget surpluses have been registered by Estonia, closely followed by Bulgaria. Lithuania and Latvia have very small budget deficits for the same period, the latter even registering a small budget surplus for the last two years. The budget deficit developments largely follow the current account path and the substantial current account deficits in these countries. The appropriate budget deficit policy increases the sustainability of the current account deficits of the hard peg countries. On the other hand, the country that has the largest budget deficit in 2006 is Hungary with deficit of -9.2% from the GDP. Poland and Slovakia also register higher than the 3% budget deficit threshold.

The general government debt ratio show similar trends as the budget deficit ratio. The best performing countries in relation to general government debt are Estonia (with remarkable low level of debt to GDP ratio of 4%), Latvia, Romania, Lithuania and Bulgaria. The countries that currently do not respect the 60% general government debt to GDP ratio are Hungary, Malta and Cyprus, the last two countries with decreasing level of the indicator, approaching the 60% threshold.<sup>44</sup> The low level of general government debt of the countries with hard pegs and currency board arrangements improve the sustainability of their current account positions.

In contrast to the general government debt, the gross external debt in the hard peg and currency board countries is increasing, thus affecting the medium term sustainability of the current account positions.

#### **4.4 Institutional criteria developments**

The institutional criteria in the financial sector are not often used in relation to the determination of current account developments. They are, however, quite important as they influence the monetary policy, the credit growth, the stability of the financial system and many other indicators that have direct link to the sustainability of the current account. Calvo and Mishkin (2003), for example, point out that the choice of exchange rate regime is not of paramount importance – what really matters is the functioning of the monetary and financial institutions as well as the fiscal institutions performance.

An important institutional indicator is the central bank independence and the quality of banking and non-banking financial supervision. The European institutions have recognised that the hard peg countries have already achieved a high degree of central bank independence,

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<sup>44</sup> Further information on the general government debt statistics is provided in Table 19.

as well as continuous improvement of the financial sector supervision. These trends lead to better financial sector regulation and performance. The developments in the central bank independence and the financial sector regulation have positive impact on the current account positions.

The financial sector stability has improved further in the hard peg and currency board countries from Central and Eastern Europe in the last decade. Some of the most important trends in this area are the completion of the privatisation process; the restructuring and gradual consolidation, especially in the banking sector; as well as the share of foreign ownership from strategic institutional investors. Foreign ownership is generally from other EU Member States and brings better access to funds as well as know-how and managements skills. The foreign ownership in Latvian banking sector is nearly 60% of the total banking assets while the same figure for Lithuania and Bulgaria is around 75%. Although the financial sector in all the countries is dominated by the banking sector, the insurance, securities and pensions sectors have also began to develop.<sup>45</sup> The financial sector stability increases the foreign and national investors confidence, promotes financial intermediation that is crucial for enhancing economic activities and GDP growth. These trends influence positively other economic indicators, including current account sustainability.

#### **4.5 Developments of other criteria**

Except the large variety of balance of payments, macroeconomic, fiscal or institutional criteria, there are many other criteria that may affect the current account sustainability. This analysis lists only some of them, but other criteria or indicators may also influence the current account developments.

An important criterion is the definition of the political stability and the quality of governance in the country. One of the best set of indicators that are published in this respect is the World Bank Governance Indicators.<sup>46</sup> They represent in fact a group of six indicators that measure governance, namely:

- Voice and Accountability;
- Political Stability and Absence of Violence;
- Government Effectiveness;
- Regulatory Quality
- Rule of Law;

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<sup>45</sup> For further information on financial market integration, see the European Commission Convergence Reports.

<sup>46</sup> The data do not reflect the official views of the World Bank, its Executive Directors, or the countries they represent.

- Control of Corruption.

This is a very comprehensive set of indicators as they demonstrate different aspects and areas of country governance. Table 20 provides information on the developments in these indicators in Estonia, Lithuania, Latvia and Bulgaria. For illustrative purposes only, data is included also for Germany as one of the leading countries in the euro area, for Slovenia as one of the new members in the euro area, for Croatia as the more advanced EU candidate country and for Albania as one of the potential EU candidate countries. The latest data are for 2006 and the table shows the development trends of these indicators also for 2002 and 1998.<sup>47</sup>

Two main conclusions may be drawn from the data in Table 20. The first one is that the four countries with hard peg or currency board arrangement have relatively stable and high results in relation to the six indicators, generally exceeding the 50 percentile level, in some cases exceeding even the 75 percentile threshold and in one case – the Regulatory Quality indicator for Estonia for 1998 and 2006 exceeding even the 90 percentile threshold. Comparing to Germany and Slovenia it could be stated that the EU Member States that are already in the euro area have significantly better results. The results for Croatia and Albania are lower than the results for the new EU Member States countries with fixed exchange rate regimes<sup>48</sup>, Albania registering even substantially lower results than Croatia.

The second important conclusion from the data is that the new EU Member States with fixed exchange rate regimes experience positive trends and growing percentile levels in relation to the six Governance Indicators in the period 1998-2006. The relatively good results of this different set of Governance Indicators for the hard peg and currency board countries are also positive in relation to the confidence that these countries generate as well as for their current account positions.

Another possibility to define current account sustainability is through analysing the country risk. There are different classifications of country risk. One of these classifications is the OECD Country Risk Classification in relation to Article 23 of the Export Credit Arrangement. This Arrangement represents a “gentlemen's agreement” in relation to the export credit terms and conditions for the participants in the agreement. According to this Article the Participant countries<sup>49</sup> shall charge premium, in addition to interest charges, to cover the risk

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<sup>47</sup> Further information on the World Bank Governance Indicators as well as the results for the full set of countries is published at: <http://info.worldbank.org/governance/wgi2007/>.

<sup>48</sup> The only exception is the relatively similar results of the indicators in relation to Bulgaria and Croatia.

<sup>49</sup> The Participant countries to the Export Credit Arrangement are Australia, Canada, the European Community, Japan, Korea, New Zealand, Norway, Switzerland and the United States. Other OECD Members and non-Members may be invited to become Participants by the current Participants.

of non-repayment of export credits.<sup>50</sup> The system of assessing country credit risk classifies eight categories (categories 0-7) – the highest is the ratio, the more risky is the respective country. The result for each country is defined mainly through an assessment of the payment experience of the Participant countries, the financial and economic situation as well as the political risks or other relevant factors. The data for the twelve new EU Member States is presented in Table 21. Compared to the EU-15 that all have ranking of Category 0 as high income OECD countries, the results for the new EU Member States are different, especially for Bulgaria, Hungary, Latvia and Romania – Category 3 (higher export credit risk), as well as for Estonia, Lithuania, Cyprus, Malta and Poland with ranking of Category 2. The only country from the new EU Member States with Category 0 is Slovenia that has joined the euro area in January 2007. The results from the Country Risk Classification demonstrate that the euro area accession countries, including those with hard peg and currency board arrangement shall further decrease their vulnerability to risk.

The decrease of the administrative burdens may also influence positively the sustainability of the current account. For instance, Hristov (2006) is analysing the importance of the administrative barriers for the Bulgarian export on the basis of Djankov, Freund and Pham (2006) paper. He points out that in 2006 a Bulgarian entrepreneur needs 7 documents, 5 signatures and 26 days in average in order to export the goods from the factory to the nearest port. The same figures for Denmark, which is used as an example, are 3 documents, 2 signatures and 5 days. The author calculates that if the time that is needed in Bulgaria for the export of the goods is decreased with just one day, the increase of the physical volume of the export will be 1.5%. Djankov, Freund and Pham (2006) analysis points out that for a panel of 126 countries a decrease of the time needed to export the goods with 10% will increase the volume of exports in average with 5%. One of the Governance Indicators, discussed above and presented in Table 20, namely the regulatory quality, is also linked to the level of administrative burdens. The four new EU Member States with hard peg and currency board arrangement improve their performance. The best ranking country is Estonia, followed closely by Latvia and Lithuania. Bulgaria has the lowest level of regulatory quality indicator among these countries, but for the 1998-2006 registers the highest growth of the indicator with gradual convergence with the other countries. It may be concluded that the decrease of the administrative burdens has positive influence on the business environment in the countries as well as on their current account positions.

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<sup>50</sup> The Country Risk Classification is produced only for the purpose of the Export Credit Arrangement. The Participant countries and the OECD Secretariat do not take responsibility if the classification is used for other purposes.

As it was discussed above, the economic developments in the main economic partners have also influence on the sustainability of external positions. For the new EU Member States, including for those with fixed exchange rate regimes, the picture is relatively mixed. The EU-15, that are the main trading and economic partner of these countries register real GDP growth, but it has moderate levels between 1.2% and 3.0%. On the other hand, the trade and the economic activities of each country with the other new EU Member States is also increasing. Taking into consideration that these countries register high GDP growth rates, it could be stated that trade between new EU Member States will boost economic convergence, trade and production. If there are no major policy shifts or external shocks, the economic developments of the EU as a main economic and trade partner for each of the individual new EU Member States, has positive, but rather modest influence at the moment on the sustainability of the current account deficit.

### **5. The road towards the EMU and current account deficit – hard or soft landing**

The new EU Member States are on different stage on their landing to the euro area. Although Slovenia has finished the landing itself and has already adopted the euro, the manoeuvres within the airport (euro area) are also very important. Cyprus and Malta are on their crucial moment for euro area preparations and after the positive ECOFIN decision are just preparing for landing. The way to the euro area has a specific particularity – before landing the countries shall make at least two circles (years) around the city in the so-called ERM II. The number of circles in this waiting space is not determined and may be much more. Estonia, Lithuania, Latvia and Slovakia from the new EU Member States, as well as Denmark, are participating in the ERM II from some time. While the new EU Member States in ERM II are planning to try landing in the near future (Lithuania has already tried once but inflation foggy weather suspend the landing), Denmark currently does not have such plans in the short-term prospects. Some other countries, especially Bulgaria, are aiming to receive permission to enter in this waiting space (or waiting room).

The question that we will try to answer is: Weather euro area accession will be hard or soft landing for peg and currency board countries? It shall be not forgotten, that the accession to the European Monetary Union is taking place after common decision of the interested players. The EU institutions and the EU Member States that are already members of the euro

area will look and decide on such accession very carefully in order not to damage the airplane as well as the airport.<sup>51</sup>

## **5.1 Red light alerts**

Before answering the question above, we will summarise the results from a recent study that was also inspired by transport symbols related to the road towards European Monetary Union accession. Christensen and Rasmussen (2007) analysis, published by Danske Bank in February 2007, is one of the analyses on new EU Member States economic developments that has been widely discussed among economists and academics this year. It highlights the increasing risk of hard landing in a large number of Countries from Central and Eastern Europe, especially in Estonia, Lithuania, Latvia, Bulgaria, Romania and Slovakia. It also recommends increased hedging of exposures in these countries in order to minimise the risks. Summary of the results of this analysis is presented in Table 22 and 23.

The authors analyse 11 criteria that they call “vulnerability indicators”, namely GDP growth, inflation, current account balance, REER, credit to GDP per capita ratio, credit growth, foreign exchange reserves to imports ratio, exports growth to imports growth ratio, short-term debt, real interest rates and the public finances. The results for these 11 indicators for the 10 Countries from Central and Eastern Europe that have joined the EU recently, are grouped in three categories. The “red light” category is for indicator that for a given country poses a significant threat to economic and financial stability. The “yellow light” category is when the indicator gives reason for some concern. The “green light” category is for indicator that for a given country shows a sustainable and stable development.

The results of the Christensen and Rasmussen (2007) analysis show that Estonia, Romania and Latvia are the countries with 7 out of 11 red lights, closely followed by Bulgaria and Lithuania with 6. All these countries are in the so-called by the authors “danger zone”. Slovakia with 5 red lights also raises reasons for concerns. The only countries that are in the so-called “sustainable zone” are Poland, Czech Republic, Slovenia and Hungary.

The authors stress also that some of the vulnerability indicators raise serious concerns mainly for the hard peg and currency board countries or for countries where the monetary authorities tried to fight appreciation of local currencies (Romania and Slovakia). These are indicators such as the GDP growth, inflation, current account balance, credit growth, real interest rates and exports growth to imports growth ratio.

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<sup>51</sup> Another problem is that the airplane (respective country) may have serious damages also during the flight and may experience a serious crisis, but in such a case the airport (euro area) will have far less damages.

The problem again is that although the traffic lights highlight where the main problems of sustainability are, they may not draw a clear line, the crossing of which will lead to “point of no return” and to financial and/or currency crisis. Drawing such a line is not an easy task because of the specificities of the catching-up process, the lack of common benchmarks for sustainability indicators as well as the timeframe issue – for instance while some indicators may lead to short-term sustainability problems, others may cause medium to long-term sustainability problems.

## **5.2 Are the green lights working?**

The green lights seem at first glance not to work properly for the hard peg and currency board countries that aim to join soon the euro area. There are two issues, however, that shall be taken into consideration.

The first one is that Christensen and Rasmussen (2007) have analysed only the indicators that they consider vulnerable to external or internal shocks. There are, however, other indicators and criteria that may lead to vulnerability or sustainability of the current account and that may influence the economic trends in the country. In this section we will summarise the results from the current study, providing an assessment of 23 selected criteria, divided in 5 groups and influencing the current account deficits.

The second issue is the possibility for policy performance and instruments to change the traffic lights to yellow or even green lights. The last section will analyse the policy options for softer planning and landing in the euro area with focus on the hard peg and currency board countries.

The larger set of criteria and the room for some policy options do not aim to decrease the alert that shall be raised to the countries from the Baltic region and Bulgaria. Just the opposite, it aims to provide some light in order to better define the necessary steps for crossing the road safely.

The results of the assessment of all the selected criteria are summarised in Table 24 (see Annex III). The listing of the criteria in the table is according to the five groups of criteria that have been presented above. The results are divided in six categories from 0 to 5. The Category 0 is for cases where the assessment leads to the conclusion that the given criteria or indicators currently do not raise any concerns. The Category 5 means that the given criteria or indicators raise serious concerns in relation to the current account sustainability.

All the categories are grouped in three groups. The assessment of the criteria as entering in the first so-called “dangers for storm” group (Categories 5 and 4) means that

immediate policy actions shall be taken from the government and/or the national central bank in order to try to prevent the storm. The storm or the financial and currency crisis may affect seriously and profoundly the whole economy, the macroeconomic stability as well as many of the positive results and convergence progress that have been achieved so far.

The second group of assessments entering in the so-called “foggy weather” group (Categories 3 and 2) contains criteria that also need policy actions in order to decrease the vulnerability of the current account. Although the current account does not seem largely unsustainable in relation to these criteria, especially in short-term, the policy actions shall be also strong and decisive. With today’s technologies, airplane may land even in foggy weather, but further cautious and preventive measures shall be undertaken in such bad conditions. The same applies for the current account deficit sustainability that shall be closely monitored.

The last group of assessments is the so-called “sunny weather” group (Categories 1 and 0). This group contains criteria that do not show immediate concerns for the current account deficit, but that shall be also monitored in the future.

The main reasons and principles for selecting and assessing the six categories are:

- relevance of the criteria for the current account sustainability problems;
- current statistics and developments of the criteria that are presented in the text above and in the tables in Annex II.
- prospects for further developments of the selected indicators, taking into account the current levels, trends and forecasts.

The results that are summarised in the table below in Annex III are relatively more positive than the Christensen and Rasmussen (2007). The majority of the worrying indicators are, however, the same from both analyses: the level of the current account deficit and its composition, the GDP growth and the dangers for overheating, the inflation and real interest rates, the credit growth and the growth of consumption, the increasing borrowing from abroad by the private sector. Additional worrying criteria have been also identified such as the real exchange rate developments as well as the composition of trade.

The current analysis shows also that there are many criteria or indicators that do not raise serious concerns at the moment in relation to the current account position for Estonia, Lithuania, Latvia and Bulgaria. Some of these indicators are level of foreign exchange reserves, the openness of the economy, the trade concentration with the EU, the budget deficit, the general government debt, the central bank independence, the stability of the financial

system, the political stability and the country risk as well as the decrease of the administrative burdens.

Some other criteria have provoked somewhat mixed results and will require decisive actions from national authorities such as the FDI coverage of the current account for the Baltic countries, the levels of national savings and investments, the relation between productivity growth vis-à-vis wages growth.

There are some important conclusions that may be drawn from the assessment of the criteria. One of them is that there are some differences across the countries and the assessment of each criterion depends on the individual country performance. On the other hand, there are also many similarities across the hard peg and currency board arrangement countries. The similarities among the four countries prevail over the differences that further endanger the system risk, namely the risk of crisis in one of the countries to spread easily in the other countries too.

It should be also taken into account that the storm will not necessarily arrive if there are more criteria and indicators that are assessed with Categories 4 or 5. Even the negative developments of only one or two important indicators may provoke substantial shocks in the economy and cause a tornado that will affect quickly the other criteria as well. For instance, further significant increase in only one indicator – consumption, may lead to even further inflation pressures, that will appreciate the real effective exchange rate and will have negative impact on the real interest rates. All these developments may seriously jeopardise the confidence of foreign investors, decreasing FDI, worsen the capital account positions and subsequently the level of foreign exchange reserves. Therefore warning indicators or good results for other indicators shall not be calculated in order to assess the most or the least vulnerable from the countries with fixed exchange rate regime. The current analysis main aim is to demonstrate where the major problems and risks are as well as to draw some recommendations for policy measures.

### **5.3 Policy options for crossing the road safely**

Frankel (1999) have pointed out that the grass is always greener on the other side of the parity as well as that there is no single exchange rate regime that is right for all countries and at all times. The same applies also for the new EU Member States that aim to join the euro area in the foreseeable future.

The analyses and the practice show that the countries that apply hard peg or currency board arrangements from more than 10 years experience greater problems in maintaining the

sustainability of their current account deficits due to the catching-up process and the fixing of the exchange rate. The danger of sudden storm or even a tornado affecting the whole economy of a specific country or possibly spreading across the countries in the region shall not be underestimated. Therefore immediate policy actions shall be undertaken or already adopted policy responses shall be further enforced in order to keep and gradually improve the sustainability of the current account and other important economic indicators. It shall be also remembered that hard peg countries have generally a smaller set of policy options in relation to countries with floating regimes. For example, external competition may not be neutralised through devaluations of the national currency; the appreciation of the real exchange rate may not be managed through exchange rate misalignments, but only through slower and longer adjustments of the inflation.

Some of the more unpopular policy actions that may be undertaken or further enforced by the hard peg and currency board countries are:

- to sustain wage growth levels at moderate pace or even try to decrease real wages growth – this will be a difficult policy action due to many reasons, including the high political and social costs for its implementation;
- to curb down consumption growth and credit to households – this is a battle that can be lost even before getting to the battlefield as the government may not easily slow down consumer expectations that the EU membership is guaranteeing their future prosperity as well as that the current GDP and income growths will remain in the future. The government and the central bank may take actions in order to curb consumption and credit to households, but because of the Internal Market rules, they may not prevent consumers from borrowing the necessary financial resources from abroad.
- to slow down inflation – this is one of the key policy areas where a set of different measures shall be implemented in order to achieve the necessary results. These measures are difficult to implement, taking into consideration the current trends of historically high inflation in some of the hard peg countries.

All these problems and difficulties raise the above mentioned questions – Is it possible to cross the road to the euro area safely or not? Is it possible to achieve soft landing in relation to the euro adoption or not? The answer clearly is yes, but the national authorities from the hard peg countries shall do at least two things. The first one is to try to slow down the negative trends as much as possible even at the cost of some eventual temporary loss of political

influence in the next elections.<sup>52</sup> The second one is to combine this first set of measures with further enhancing some of the current strengths of their economies that may also affect inflation pressures or wage problems:

- to accelerate the productivity growth – although the productivity is constantly increasing, the average labour productivity per persons employed (EU-27=100) of all the hard peg countries demonstrates that there is substantial manoeuvre for further and accelerated productivity growth;
- to continue the liberalisation of the labour market – although the government may not easily regulate wages, especially in the non-governmental sector, it may much more easily liberalise the labour market through appropriate legal amendments. The relatively low and decreasing unemployment rates in all the hard peg countries suggest that there should be not, for example, extra protection for seasonal workers.
- to sustain the sound public finances – by keeping budget deficits close to zero or even registering budget surpluses, decreasing public spending and influencing positively the current account positions. Government debt shall be also kept at the very low levels that are registered today.
- to restructure some of the sectors of the economy. This recommendation for future policy actions has two main aspects. The first one is the need of modernisation and restructuring of the health and education sectors. Better wages for these sectors may be traded with measures to improve the doctors to patients ratio or the teachers to students ratio, or for instance to take actions in order to improve the quality of health and education services. Another measure that may be implemented and is already planned by some governments is to introduce diversification in the salaries in accordance to some performance and quality indicators in the hospitals and the schools.
- to improve the overall business environment. Although the business environment is already to a great extent similar to the most developed EU Member States, further limitations on the administrative burdens, introduction of more e-government options and improvements in the judicial system may be only for the benefit of the investors' confidence and economic stability.

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<sup>52</sup> It shall not be forgotten that the loss of political influence may be dramatically higher if the current account and other important indicators are not kept sustainable and severe economic and currency crisis emerges. A clear example that governments may also take unpopular decisions for the future benefit of the people is the recent announcement by the Latvian government to freeze the salaries in the public sector in 2008. This measure may have also positive influence on the private sector wages growth, if the announcement becomes a reality the next year.

The countries with hard peg and currency board arrangements press for quicker entrance in the euro area. The major issue shall be, however, not when but how the single currency adoption will be conducted. The European institutions have already stressed and have given clear signs that the new EU Member States will join the euro area only when they are ready for that and when they achieve the necessary degree of convergence.

To end up with the issue of landing – the euro area accession may be a hard or soft landing and one could always try to blame the weather, i.e. the external shocks as oil prices, the high EU standards that shall close some companies (including some export companies), the slow GDP growth of the EU or the internal pressures for higher wages and more rigid labour market. It is always safer, however, to search for the main factor that may ensure a softer landing – the pilot of the airplane, i.e. the national authorities that take measures influencing the ways of economic performance. Therefore combined and appropriate measures shall be undertaken in order to sustain the current account positions and more importantly – not to allow a crisis to erupt as such crisis may postpone euro area accession for the undefined future.

## **6. Conclusions**

The hard peg and currency board countries from Central and Eastern Europe that have recently joined the EU experience similar problems in relation to their economic performance and the euro area accession process, although there are some substantial differences among them. One of the major concerns for these countries is the decreasing level of the current account sustainability in the recent years.

However, nor raising red flags nor imaging resting on the green grass may provide the appropriate decisions for these countries. What really matters is to find the appropriate set of tools and measures that will gradually improve the current account developments. There is no single answer or indicator that may change and improve the whole picture. Just the opposite, the policy actions shall be combined and consistent. However, taking into account the high level of unsustainability of the current account deficit, the worsening of the developments of only one or two important indicators may provoke easily a storm or tornado. In addition, the similarities across new EU Member States may spread the storm easily to the other countries.

Crossing the road to the euro area may be too dangerous for the hard peg and currency board countries, but staying on the road without doing the necessary reforms and measures will not help these countries either.

The type of landing to the euro area – soft, hard or a dangerous one, is on the hands mainly of national authorities. They have a lot of devices for navigation at the airplane – many economic indicators that may be used properly to smooth the euro area accession process. It is not too late to sustain the current account deficits in short or medium term for the hard peg countries. However, immediate actions and policy responses shall be implemented quickly and rigorously. At the end – these policies shall be also well explained to the public as the quality and safety of landing is the most important for the passengers themselves.

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## EXCHANGE RATE REGIMES

The IMF classification describes the basic characteristics of the exchange rate regimes and provides an assessment on the actual or “de facto” exchange rate arrangement of each of the current 185 member countries of the organisation. The regimes and some of their main characteristics are as follows:

- *exchange arrangements with no separate legal tender* – surrender of the domestic monetary policy within a monetary or currency union, or within a euroisation or dollarisation regime (adoption of another currency as the sole legal tender);
- *currency board arrangement* – a monetary regime that is based on explicit legal commitment for fixed exchange rate with a specified currency. Complete loss or substantial decrease of monetary policy and instruments depending on the degree of flexibility of the design of the currency board;
- *conventional fixed peg arrangements* – pegging regime within margins of +/-1% or less vis-à-vis another currency, a cooperative agreement or a basket of currencies. Monetary policy flexibility is limited but greater than from the previous two regimes;
- *pegged exchange rates within horizontal bands* – the value of the currency is maintained within certain margins of fluctuation of more than +/-1% vis-à-vis another currency, a cooperative agreement or a basket of currencies. The degree on monetary policy discretion depends on the band width. ERM II is a typical example of such a regime but with relatively large fluctuation margins of +/-15% vis-à-vis the central rate to the euro;
- *crawling pegs* – the currency is adjusted periodically in small amounts at a fixed rate or in response to changes in selective quantitative indicators, usually inflation related indicators;
- *exchange rates within crawling bands* – the currency is maintained within certain fluctuation margins of at least +/-1% vis-à-vis a central rate. The central rate or the margins are adjusted periodically in response to changes in selective quantitative indicators. The degree of exchange rate flexibility corresponds to the band width.
- *managed floating with no predetermined path for the exchange rate* – the monetary authorities attempt to influence the exchange rate without a specific or automatic exchange rate path or target.
- *independently floating* – the exchange rate is market-oriented and foreign exchange market interventions are rare and exceptional, without targeting a specific level.

Information on the exchange rate regimes that are applied in the new Member States that have joined the EU in 2004 and 2007 respectively, as well as some information on their exchange rate developments is provided in the table below.

**Table 1: Exchange rate regimes of the new EU Member States**

Member State	Exchange rate regime (IMF classification)	Further information on the exchange rate regime
<b>Bulgaria</b>	currency board	The currency board was introduced after a banking and currency crisis in 1996-1997. The fixed rate of the national currency to the euro is 1:1.95583. Before the introduction of the euro the fixed rate between the Bulgarian lev and the DEM was 1:1.
<b>Czech Rep.</b>	managed floating	Since 1998 the Czech Republic applies inflation targeting.
<b>Cyprus</b>	horizontal bands	Cyprus pound joined the ERM II on 02.05.2005 and observes a central rate of 0.585274 and standard fluctuation margins ( $\pm 15\%$ ) vis-à-vis the euro. The ECOFIN Council decided (10.07.2007) on Cyprus's joining the euro area as of 01.01.2008 with the same conversion rate.
<b>Estonia</b>	currency board	Estonia introduced the currency board in 1992. The Estonian kroon had a fixed exchange rate with the German mark (1 DEM = 8 EEK). Estonian kroon joined the ERM II on 28.06.2004 and observes a central rate of 15.6466 (equivalent of the central rate to the DEM before the introduction of the euro) and standard fluctuation margins ( $\pm 15\%$ ) vis-à-vis the euro. Estonia unilaterally maintains a euro-based currency board within ERM II.
<b>Hungary</b>	horizontal bands	Currently Hungary applies an exchange rate band. The central parity, which is pegged to the euro, is 282.36 forint/euro. The market exchange rate may deviate from the parity within the $\pm 15$ percent fluctuation band. The edges of the band are defined by the 324.71 forint/euro and 240.01 forint/euro exchange rate levels. The central bank of Hungary considers its regime as compatible with ERM II (Hungary is still not participating in ERMII).
<b>Latvia</b>	conventional fixed peg	Latvian lats joined the ERM II on 02.05.2005 and observes a central rate of 0.702804 and standard fluctuation margins ( $\pm 15\%$ ) vis-à-vis the euro. Latvia unilaterally maintains the exchange rate of the lats within a 1% fluctuation band around its central rate vis-à-vis the euro.
<b>Lithuania</b>	currency board	The Lithuanian currency board was established on 01.04.1994. Initially the litas was pegged to the dollar and on 02.02.2002 the litas was repegged to the euro with the conversion rate between the dollar and the euro. Lithuanian litas joined the ERM II on 28.06.2004 and observes a central rate of 3.45280 and standard fluctuation margins ( $\pm 15\%$ ) vis-à-vis the euro. Lithuania unilaterally maintains a euro-based currency board within ERM II.
<b>Malta</b>	conventional fixed peg	Maltese lira joined the ERM II on 02.05.2005 and observes a central rate of 0.429300 lira and standard fluctuation margins ( $\pm 15\%$ ) vis-à-vis the euro. Malta unilaterally maintains the exchange rate of the lira at the central rate vis-à-vis the euro. The ECOFIN Council decided (10.07.2007) on Malta's joining the euro area as of 01.01.2008 with the same conversion rate.
<b>Poland</b>	independently floating	Since April 2000 the zloty exchange rate has been a floating regime. The central bank does not aim to set predetermined zloty exchange rates against other currencies. The central bank reserves the right to intervene if it deems this necessary in order to achieve an inflation target.
<b>Romania</b>	managed floating	Since August 2005 Romania applies inflation targeting.
<b>Slovakia</b>	horizontal bands	Slovak koruna joined the ERM II on 28.11.2005 and observes a central rate of 38.4550 and standard fluctuation margins ( $\pm 15\%$ ) vis-à-vis the euro.
<b>Slovenia</b>	monetary union (no separate legal tender)	Slovenian tolar joined the ERM II on 28.06.2004 and has observed a central rate of 239.640 and standard fluctuation margins ( $\pm 15\%$ ) vis-à-vis the euro. Slovenia joined the euro area on 01.01.2007 with the same conversion rate.

Sources: DG ECFIN, IMF Annual Report (2006); National Central Banks web pages.

## STATISTICS

**Table 2: Current account balance (percentage of GDP)**

	2001	2002	2003	2004	2005	2006
<b>Bulgaria</b>	-5.6	-2.4	-5.5	-6.6	-12.0	-15.8
<b>Czech Republic</b>	-5.3	-5.6	-6.2	-6.1	-2.1	-4.3
<b>Cyprus</b>	-3.3	-3.7	-2.3	-5.0	-5.6	-5.9
<b>Estonia</b>	-5.6	-10.2	-12.1	-13.0	-11.0	-15.5
<b>Hungary</b>	-6.1	-7.1	-8.1	-8.5	-6.8	-5.9
<b>Latvia</b>	-7.6	-6.6	-8.2	-13.0	-12.7	-22.3
<b>Lithuania</b>	-4.7	-5.1	-6.8	-7.7	-7.0	-10.8
<b>Malta</b>	-3.8	2.4	-3.2	-6.4	-8.2	-6.3
<b>Poland</b>	-2.8	-2.6	-2.1	-4.3	-1.7	-2.6
<b>Romania</b>	-5.8	-3.4	-5.8	-8.4	-10.2	-11.3
<b>Slovakia</b>	-8.3	-7.9	-0.9	-3.4	-8.6	-8.4
<b>Slovenia</b>	0.2	1.5	-0.3	-2.1	-1.1	2.5

Source: European Commission (Convergence Reports), ECB, EBRD and Nation Central Bank web sites

**Table 3: Current account breakdown (percentage of GDP)**

	2001	2002	2003	2004	2005	H1-2006
<b>Estonia (CA balance)</b>	<b>-5.6</b>	<b>-10.2</b>	<b>-12.1</b>	<b>-13.0</b>	<b>-11.0</b>	<b>-13.1</b>
Balance of trade in goods	-13.2	-15.4	-17.0	-18.0	-14.1	-14.3
Balance of trade in services	9.7	8.3	9.0	9.6	7.7	6.0
Income balance	-4.7	-4.6	-5.8	-5.6	-5.3	-5.2
Balance of current transfers	2.5	1.6	1.7	1.1	0.8	0.4
<b>Latvia (CA balance)</b>	<b>-7.6</b>	<b>-6.6</b>	<b>-8.2</b>	<b>-13.0</b>	<b>-12.7</b>	<b>-16.4</b>
Balance of trade in goods	-16.1	-15.7	-17.8	-20.3	-19.2	-22.5
Balance of trade in services	6.1	5.8	5.2	4.4	3.8	4.8
Income balance	0.7	0.6	-0.2	-2.1	-1.2	-2.6
Balance of current transfers	1.7	2.8	4.7	5.0	3.8	3.8
<b>Lithuania (CA balance)</b>	<b>-4.7</b>	<b>-5.1</b>	<b>-6.8</b>	<b>-7.7</b>	<b>-7.0</b>	<b>:</b>
Balance of trade in goods	-9.1	-9.4	-9.1	-10.6	-11.2	:
Balance of trade in services	3.8	3.8	3.3	3.6	4.1	:
Income balance	-1.5	-1.2	-2.6	-2.7	-2.4	:
Balance of current transfers	2.1	1.6	1.6	2.0	2.5	:

Source: European Commission (Convergence Reports)

**Table 4: Foreign direct investments (in US\$ million)**  
(net inflows recorded in the balance of payments)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Bulgaria</b>	138	507	537	802	998	803	876	2 070	2 777	2 298	5 016
<b>Czech Rep.</b>	1 276	1 275	3 591	6 234	4 943	5 476	8 276	1 895	3 960	10 135	4 616
<b>Estonia</b>	111	130	574	222	324	343	153	763	781	2 250	561
<b>Hungary</b>	3 335	3 715	3 070	3 060	2 151	3 573	2 722	479	3 542	5 412	3 055
<b>Latvia</b>	379	515	303	331	400	114	250	256	596	497	840
<b>Lithuania</b>	152	328	921	478	375	439	715	142	510	680	803
<b>Poland</b>	4 445	4 863	6 049	7 239	9 327	5 804	3 901	4 284	12 097	6 578	9 656
<b>Romania</b>	415	1 267	2 079	1 025	1 051	1 154	1 080	2 156	6 368	6 587	11 430
<b>Slovakia</b>	199	84	374	701	1 897	1 520	4 130	737	1 403	1 951	3 500
<b>Slovenia</b>	167	303	221	59	71	226	1 508	-174	281	-88	-377

Source: EBRD (the figures for 2006 are an estimate)

**Table 5: Official reserve assets in Estonia**  
(in thousands Estonian kroons)

	official reserve assets
December 2000	15 522 901
December 2001	14 551 754
December 2002	14 982 576
December 2003	17 183 408
December 2004	20 604 355
December 2005	25 772 984
December 2006	33 159 740
August 2007	35 135 211

Source: the central bank of Estonia

**Table 6: Official reserve assets in Lithuania**  
(in millions of US dollars)

	official reserve assets
December 2000	1 358.6
December 2001	1 669.2
December 2002	2 412.8
December 2003	3 449.7
December 2004	3 594.0
December 2005	3 815.6
December 2006	5 772.6
August 2007	6 650.0

Source: the central bank of Lithuania

**Table 7: Official reserve assets in Bulgaria**  
(in millions of US dollars)

	official reserve assets
2000	3 718.7
2001	4 061.2
2002	4 574.8
2003	5308.6
2004	6 770.4
2005	7 370.3
2006	8 926.4
August 2007	10 326.3

Source: Bulgarian National Bank

**Table 8: Gross capital formation and gross saving**  
(percentage of GDP)

	2001	2002	2003	2004	2005
<b>Estonia</b>					
Gross capital formation	28.1	32.4	33.0	36.2	35.2
Gross saving	23.1	22.0	21.8	22.3	25.8
<b>Lithuania</b>					
Gross capital formation	20.4	21.6	22.9	24.2	25.0
Gross saving	15.8	16.8	16.1	16.2	18.1
<b>Latvia</b>					
Gross capital formation	26.6	26.7	28.8	33.1	34.2
Gross saving	19.5	20.3	20.8	20.2	21.7

Source: European Commission (Convergence Reports)

**Table 9: Real GDP growth rate**

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
<b>EU-27</b>	2.7	2.9	3.0	3.9	2.0	1.2	1.3	2.5	1.8	3.0	2.9 <sup>(f)</sup>
<b>Euro area</b>	2.5	2.8	3.0	3.8	1.9	0.9	0.8	2.0	1.5	2.8	2.6 <sup>(f)</sup>
<b>Bulgaria</b>	-5.6	4.0	2.3	5.4	4.1	4.5	5.0	6.6	6.2	6.1	6.1 <sup>(f)</sup>
<b>Czech Rep.</b>	-0.7	-0.8	1.3	3.6	2.5	1.9	3.6	4.6	6.5	6.1 <sup>(f)</sup>	4.9 <sup>(f)</sup>
<b>Cyprus</b>	2.3	5.0	4.8	5.0	4.0	2.0	1.8	4.2	3.9	3.8	3.8 <sup>(f)</sup>
<b>Estonia</b>	11.1	4.4	0.3	10.8	7.7	8.0	7.2	8.3	10.2	11.2	8.7 <sup>(f)</sup>
<b>Hungary</b>	4.6	4.9	4.2	5.2	4.1	4.4	4.2	4.8	4.1	3.9	2.4 <sup>(f)</sup>
<b>Latvia</b>	8.4	4.7	3.3	6.9	8.0	6.5	7.2	8.7	10.6	11.9	9.6 <sup>(f)</sup>
<b>Lithuania</b>	8.5	7.5	-1.5	4.1	6.6	6.9	10.3	7.3	7.6	7.5	7.3 <sup>(f)</sup>
<b>Malta</b>	:	:	:	:	-1.6	2.6	-0.3	0.1	3.1	3.2	3.0 <sup>(f)</sup>
<b>Poland</b>	7.1	5.0	4.5	4.3	1.2	1.4	3.9	5.3	3.6	6.1	6.1 <sup>(f)</sup>
<b>Romania</b>	:	:	-1.2	2.1	5.7	5.1	5.2	8.5	4.1	7.7	6.7 <sup>(f)</sup>
<b>Slovakia</b>	5.7	3.7	0.3	0.7	3.2	4.1	4.2	5.4	6.0	8.3	8.5 <sup>(f)</sup>
<b>Slovenia</b>	4.8	3.9	5.4	4.1	2.7	3.5	2.7	4.4	4.0	5.2	4.3 <sup>(f)</sup>

Source: Eurostat. Legend: (:): not available; (f) forecast

**Table 10: GDP per capita in Purchasing Power Standards (PPS) (EU-27 = 100)**

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
<b>EU-27</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0 <sup>(f)</sup>
<b>Euro area</b>	116.2	116.3	116.1	115.6	113.8	112.9	112.1	111.1	111.0	110.3	109.9 <sup>(f)</sup>
<b>Bulgaria</b>	26.6 <sup>(e)</sup>	27.1 <sup>(e)</sup>	27.1	27.9	29.4	31.1	32.6	33.6	35.2	37.1	38.7 <sup>(f)</sup>
<b>Czech Rep.</b>	73.3 <sup>(e)</sup>	70.8 <sup>(e)</sup>	69.9	68.7	70.5	70.8	73.8	76.2	77.2	79.4 <sup>(f)</sup>	81.5 <sup>(f)</sup>
<b>Cyprus</b>	86.2 <sup>(e)</sup>	87.1 <sup>(e)</sup>	87.8	89.1	91.3	89.5	89.1	91.3	93.6	93.2	92.9 <sup>(f)</sup>
<b>Estonia</b>	41.2 <sup>(e)</sup>	42.3 <sup>(e)</sup>	41.7	44.8	46.3	50.1	54.6	57.0	62.8	67.9	72.5 <sup>(f)</sup>
<b>Hungary</b>	51.7 <sup>(e)</sup>	52.9 <sup>(e)</sup>	53.8	56.3	59.1	61.7	63.6	63.9	64.8	65.3	65.7 <sup>(f)</sup>
<b>Latvia</b>	34.7 <sup>(e)</sup>	35.8 <sup>(e)</sup>	36.2	36.9	38.9	41.4	43.5	45.5	50.2	55.8	60.3 <sup>(f)</sup>
<b>Lithuania</b>	38.3 <sup>(e)</sup>	40.3 <sup>(e)</sup>	38.9	39.4	41.6	44.2	49.2	51.1	53.7	57.8	60.9 <sup>(f)</sup>
<b>Malta</b>	80.9 <sup>(e)</sup>	80.9	81.4	84.0	78.2	79.9	78.7	75.9	76.0	75.5	75.6 <sup>(f)</sup>
<b>Poland</b>	47.0 <sup>(e)</sup>	48.0 <sup>(e)</sup>	48.8	48.5	47.8	48.5	49.1	50.8	51.0	53.0	55.1 <sup>(f)</sup>
<b>Romania</b>	:	:	26.1	26.0	27.6	29.4	31.5	33.6	34.4	37.7 <sup>(f)</sup>	39.5 <sup>(f)</sup>
<b>Slovakia</b>	52.0 <sup>(e)</sup>	52.5 <sup>(e)</sup>	51.1	50.5	52.6	54.5	55.3	56.7	59.8	62.7	66.6 <sup>(f)</sup>
<b>Slovenia</b>	76.0 <sup>(e)</sup>	77.0 <sup>(e)</sup>	78.8	77.8	77.6	79.8	81.0	83.4	84.7	86.7	88.5 <sup>(f)</sup>

Source: Eurostat. Legend: (:) not available; (f) forecast; (e) estimated value

**Table 11: Level of GDP in 2006**  
(1989=100)

	level of estimated GDP in 2006 (1989=100)
<b>Bulgaria</b>	100
<b>Czech Republic</b>	129
<b>Estonia</b>	145
<b>Hungary</b>	134
<b>Latvia</b>	113
<b>Lithuania</b>	106
<b>Poland</b>	158
<b>Romania</b>	113
<b>Slovakia</b>	137
<b>Slovenia</b>	139

Source: EBRD

**Table 12: Inflation rate (HICP)**

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>EU</b>	1.7 <sup>(e)</sup>	1.3 <sup>(e)</sup>	1.2 <sup>(e)</sup>	1.9	2.2	2.1	2.0	2.0	2.2	2.2
<b>Euro area</b>	1.6 <sup>(e)</sup>	1.1	1.1	2.1	2.3	2.2	2.1	2.1	2.2	2.2
<b>Bulgaria</b>	:	18.7	2.6	10.3	7.4	5.8	2.3	6.1	6.0	7.4
<b>Czech Rep.</b>	8.0	9.7	1.8	3.9	4.5	1.4	-0.1	2.6	1.6	2.1
<b>Cyprus</b>	3.3	2.3	1.1	4.9	2.0	2.8	4.0	1.9	2.0	2.2
<b>Estonia</b>	9.3	8.8	3.1	3.9	5.6	3.6	1.4	3.0	4.1	4.4
<b>Hungary</b>	18.5	14.2	10.0	10.0	9.1	5.2	4.7	6.8	3.5	4.0
<b>Latvia</b>	8.1	4.3	2.1	2.6	2.5	2.0	2.9	6.2	6.9	6.6
<b>Lithuania</b>	10.3	5.4	1.5	1.1	1.6	0.3	-1.1	1.2	2.7	3.8
<b>Malta</b>	3.9	3.7	2.3	3.0	2.5	2.6	1.9	2.7	2.5	2.6
<b>Poland</b>	15.0 <sup>(e)</sup>	11.8 <sup>(e)</sup>	7.2 <sup>(e)</sup>	10.1	5.3	1.9	0.7	3.6	2.2	1.3
<b>Romania</b>	154.8	59.1	45.8	45.7	34.5	22.5	15.3	11.9	9.1	6.6
<b>Slovakia</b>	6.0	6.7	10.4	12.2	7.2	3.5	8.4	7.5	2.8	4.3
<b>Slovenia</b>	8.3	7.9	6.1	8.9	8.6	7.5	5.7	3.7	2.5	2.5

Source: Eurostat. Legend: (:) not available; (e) estimated value

**Table 13: Comparative price levels (EU-27=100)**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>EU-27</b>	100	100	100	100	100	100	100	100	100	100	100
<b>Euro area-13</b>	107.2	104	102.8	102.2	100.5	101	101.1	103.5	103.7	102.7	102.6
<b>Bulgaria</b>	27.3	34	37.5	37.9	38.7	41	40.8	40.7	41.7	42.4	44.1
<b>Czech Rep.</b>	43.8	44.4	47.4	46.4	48.1	50	57.1	54.5	54.9	58.1	60.7
<b>Cyprus</b>	86.2	86.6	87.1	87.4	88.1	88.9	89.1	90.9	90.6	89.1	89.5
<b>Estonia</b>	49.6	50.8	54.1	56.9	57.3	61.1	60.8	62	62.8	64.3	67
<b>Hungary</b>	44.3	46.4	45.7	47.1	49.2	52.9	57.4	58.2	61.6	63.2	60
<b>Latvia</b>	42.8	47.8	49.2	52.3	58.8	59	57	54.4	55.5	56.3	58.8
<b>Lithuania</b>	36.4	43.2	45.6	46.8	52.7	54.1	54.2	52.3	53.1	54.6	56.4
<b>Malta</b>	67	68.7	69.4	70.5	73.3	74.8	74.6	72	72.8	72.8	73.5
<b>Poland</b>	50.6	51.8	53.5	51.9	57.9	64.8	61.2	54.4	53.2	61.7	62.9
<b>Romania</b>	30	34.7	43.2	37.9	42.5	41.7	43	43.4	44.3	55.5	58.5
<b>Slovakia</b>	40.3	41.6	41.9	40.5	44.4	43.4	44.8	50.7	54.9	55.8	58.2
<b>Slovenia</b>	72.5	72.4	74.1	74.1	72.9	73.9	74.4	76.2	75.4	75.6	75.8

Source: Eurostat

**Table 14: Other inflation and cost indicators**  
(annual percentage change)

	2001	2002	2003	2004	2005
<b>Nominal compensation per employee</b>					
euro area	2.6	2.6	2.2	2.1	1.6
Estonia	9.6	9.1	13.0	12.9	11.2
Lithuania	3.8	5.1	8.9	8.2	8.7
Latvia	3.4	4.0	11.1	14.5	14.9
<b>Labour productivity</b>					
euro area	0.4	0.2	0.3	1.2	0.6
Estonia	6.8	6.6	5.5	8.1	8.3
Lithuania	10.1	2.7	8.0	7.1	4.7
Latvia	5.7	4.8	5.4	7.5	8.6
<b>Nominal unit labour costs</b>					
euro area	2.2	2.4	1.9	0.9	1.0
Estonia	2.7	2.3	7.0	4.5	2.6
Lithuania	-5.7	2.4	0.8	1.0	3.8
Latvia	-2.2	-0.8	5.5	6.6	5.8

Source: European Commission (Convergence Reports)

**Table 15: Labour productivity per person employed (EU-27=100)**

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>EU-27</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Euro area</b>	118.5	118.0	116.6	115.4	114.0	112.4	111.7	110.8	111.0	110.5
<b>Bulgaria</b>	29.4 <sup>(e)</sup>	30.1 <sup>(e)</sup>	30.8	30.6	31.6	33.0	33.4	33.5	34.1	35.3
<b>Czech Rep.</b>	61.0 <sup>(e)</sup>	60.5 <sup>(e)</sup>	62.1	62.2	63.6	62.9	66.5	68.7	69.5	71.4 <sup>(f)</sup>
<b>Cyprus</b>	81.3 <sup>(e)</sup>	82.8 <sup>(e)</sup>	83.4	85.4	87.2	84.3	82.2	83.4	84.9	85.7
<b>Estonia</b>	39.4 <sup>(e)</sup>	41.3 <sup>(e)</sup>	42.4	46.7	48.0	50.8	54.4	56.9	61.5	63.7
<b>Hungary</b>	62.0 <sup>(e)</sup>	62.9 <sup>(e)</sup>	62.1	65.0	68.4	70.8	71.7	72.7	73.9	74.8
<b>Latvia</b>	35.8 <sup>(e)</sup>	37.0 <sup>(e)</sup>	38.1	40.3	41.6	43.0	44.2	45.5	49.4	52.9
<b>Lithuania</b>	38.3 <sup>(e)</sup>	40.9 <sup>(e)</sup>	40.3	42.9	47.1	47.9	51.8	53.8	55.0	58.6
<b>Malta</b>	:	:	:	97.3	90.4	91.9	90.2	88.5	87.9	88.2
<b>Poland</b>	49.9 <sup>(e)</sup>	50.9 <sup>(e)</sup>	54.2 <sup>(e)</sup>	55.5 <sup>(e)</sup>	56.3 <sup>(e)</sup>	58.5 <sup>(e)</sup>	59.9 <sup>(e)</sup>	61.4 <sup>(e)</sup>	60.4 <sup>(e)</sup>	61.5 <sup>(e)</sup>
<b>Romania</b>	:	:	:	:	25.0	29.9	32.1	34.7	35.6 <sup>(f)</sup>	38.3 <sup>(f)</sup>
<b>Slovakia</b>	55.4 <sup>(e)</sup>	56.8 <sup>(e)</sup>	57.2	58.5	60.9	63.0	62.7	64.8	67.9	70.5
<b>Slovenia</b>	72.4 <sup>(e)</sup>	74.2 <sup>(e)</sup>	75.4	75.2	75.3	76.0	77.4	79.5	81.2	83.5

Source: Eurostat. Legend: (:): not available; (f) forecast; (e) estimated value

**Table 16: Trade integration of goods***(average value of imports and exports of goods divided by GDP, multiplied by 100)*

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>Bulgaria</b>	40.3	48.3	44.4	34.4	34.8	42.9	43.5	41.8	43.9	48.3	54.3
<b>Czech Rep.</b>	42.2	40.5	44.0	44.6	46.2	55.0	57.4	53.4	55.0	62.8	63.3
<b>Cyprus</b>	24.8	26.9	25.9	24.3	22.4	24.7	23.9	21.8	18.9	20.5	21.6
<b>Estonia</b>	54.0	50.0	57.8	58.5	52.6	67.7	62.8	57.6	58.4	61.8	66.8
<b>Hungary</b>	31.5	34.4	45.1	46.6	55.7	64.4	61.6	54.5	54.1	57.0	57.6
<b>Latvia</b>	64.1	33.8	37.0	39.0	33.1	33.3	35.1	35.1	37.2	40.8	43.1
<b>Lithuania</b>	47.7	47.9	48.4	42.6	35.6	40.3	44.9	47.1	45.7	46.7	51.7
<b>Malta</b>	:	:	54.1	54.9	58.2	73.2	58.7	59.1	58.1	57.6	54.8
<b>Poland</b>	18.6	19.9	22.7	22.6	22.4	24.6	23.9	25.4	29.4	33.5	32.2
<b>Romania</b>	:	:	:	22.9	25.7	30.3	32.0	33.1	33.4	35.5	33.0
<b>Slovakia</b>	44.8	47.9	50.4	53.7	52.8	60.4	64.9	63.0	67.2	67.8	66.3
<b>Slovenia</b>	43.4	42.9	44.6	45.0	42.9	48.6	48.9	47.4	47.0	51.4	54.9

Source: Eurostat

**Table 17: Trade integration with the EU**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>Estonia</b>										
Intra-EU exports	71.9	70.6	75.1	85.5	88.1	81.3	81.6	82.4	80.3	77.9
Intra-EU imports	75.5	77.3	79.8	73.1	70.4	66.2	68.6	64.8	73.6	75.9
<b>Lithuania</b>										
Intra-EU exports	54.5	50.8	58.8	73.5	74.6	73.4	69.2	62.5	66.9	65.3
Intra-EU imports	53.6	57.7	60.7	60.0	54.5	54.8	56.5	55.8	63.3	59.0
<b>Latvia</b>										
Intra-EU exports	58.2	63.0	72.1	77.6	80.7	78.6	77.7	79.3	77.2	76.4
Intra-EU imports	66.0	71.1	74.3	75.4	74.0	75.8	77.2	75.4	75.5	75.2
<b>Bulgaria</b>										
Intra-EU exports	:	:	:	52.1*	51.2*	54.7*	55.6*	60.1	58.3	56.5
Intra-EU imports	:	:	:	48.4*	44.0*	49.3*	50.2*	55.3	54.0	49.7

Intra-EU exports/imports of goods are calculated as a percentage of total exports/imports (EU=EU-25)

Legend: (:) not available; (\*) intra-EU exports/imports are for EU-15.

Source: European Central Bank Convergence Reports, National Statistical Institute of Bulgaria and own calculations

**Table 18: General government balance***(Net borrowing/lending of consolidated general government sector as a percentage of GDP)*

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Bulgaria</b>	:	:	1.7	0.4	-0.5	1.9	0.1	-0.9	2.2	1.9	3.3
<b>Czech Rep.</b>	-3.3	-3.8	-5.0	-3.7	-3.7	-5.7	-6.8	-6.6	-2.9	-3.5	-2.9
<b>Cyprus</b>	:	:	-4.2	-4.4	-2.4	-2.3	-4.4	-6.3	-4.1	-2.3	-1.5
<b>Estonia</b>	:	:	:	:	-0.2	-0.3	0.4	2.0	2.3	2.3	3.8
<b>Hungary</b>	:	-5.9	-8.0	-5.5	-2.9	-3.4	-8.2	-7.2	-6.5	-7.8	-9.2
<b>Latvia</b>	-0.5	1.5	-0.6	-5.3	-2.8	-2.1	-2.3	-1.2	-0.9	0.1	0.4
<b>Lithuania</b>	-3.3	-11.9	-3.1	-2.8	-3.2	-2.1	-1.5	-1.3	-1.5	-0.5	-0.3
<b>Malta</b>	:	:	-9.7	-7.6	-6.1	-6.4	-5.5	-10.0	-5.0	-3.1	-2.6
<b>Poland</b>	-4.9	-4.6	-4.3	-1.8	-1.5	-3.7	-3.2	-6.3	-5.7	-4.3	-3.9
<b>Romania</b>	:	:	-3.2	-4.5	-4.6	-3.3	-2.0	-1.5	-1.5	-1.4	-1.9
<b>Slovakia</b>	-8.6	-6.7	-4.8	-6.4	-11.8	-6.5	-7.7	-2.7	-2.4	-2.8	-3.4
<b>Slovenia</b>	:	:	:	:	-3.9	-4.3	-2.7	-2.8	-2.3	-1.8	-1.4

Source: Eurostat. European Commission Convergence Reports. Legend: (:) not available

**Table 19: General government debt***(General government consolidated debt as a percentage of GDP)*

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Bulgaria</b>	105.1	79.6	79.3	73.6	66.2	54.0	45.9	37.9	29.2	22.8
<b>Czech Rep.</b>	12.2	12.9	13.4	18.2	26.3	28.5	30.1	30.7	30.4	30.9
<b>Cyprus</b>	:	61.6	62.0	61.6	61.9	64.7	69.1	70.3	69.2	65.3
<b>Estonia</b>	6.4	5.6	6.0	4.7	4.7	5.6	5.7	5.2	4.5	4.0
<b>Hungary</b>	64.2	61.9	61.2	55.4	52.2	54.0	58.0	59.4	61.7	67.6
<b>Latvia</b>	:	9.8	12.6	12.9	15.0	13.5	14.4	14.5	12.1	11.1
<b>Lithuania</b>	15.2	16.5	23.0	23.8	22.9	22.2	21.2	19.4	18.6	18.2
<b>Malta</b>	51.5	64.9	56.8	56.4	63.5	60.1	70.4	73.9	72.4	66.5
<b>Poland</b>	44.0	39.1	40.3	35.9	35.9	39.8	43.9	41.8	42.0	42.4
<b>Romania</b>	16.5	17.8	24.2	22.7	:	23.8	21.5	18.8	15.8	12.4
<b>Slovakia</b>	33.1	34.0	47.2	50.2	48.9	43.3	42.7	41.6	34.5	33.0
<b>Slovenia</b>	:	23.6	24.9	27.6	28.3	29.7	29.1	29.5	29.1	27.8

Source: Eurostat. European Commission Convergence Reports. Legend: (:) not available

**Table 20: Governance indicators**  
(Percentile rank: 0-100)

		Estonia	Lithuania	Latvia	Bulgaria	Germany	Slovenia	Croatia	Albania
Voice and Accountability	2006	78.8	76.0	72.6	65.4	95.7	84.6	61.1	50.0
	2002	77.9	74.0	71.6	65.9	95.7	85.1	63.9	47.1
	1998	77.9	74.5	71.2	59.1	89.4	81.3	41.8	36.5
Polit. Stability and Absence of Violence	2006	71.2	78.4	73.6	57.2	75.0	82.7	62.0	33.7
	2002	80.8	82.2	79.8	63.0	84.6	95.2	59.6	27.4
	1998	70.2	60.1	50.0	63.9	89.9	86.5	48.6	18.8
Government Effectiveness	2006	85.3	77.3	73.5	60.2	90.5	84.4	69.7	38.4
	2002	80.1	74.4	74.9	63.5	91.9	80.6	66.4	31.3
	1998	76.8	71.1	72.0	56.4	93.8	72.5	60.2	23.2
Regulatory Quality	2006	92.2	81.5	82.4	66.3	91.2	72.7	61.5	48.8
	2002	88.8	83.4	78.0	67.8	93.7	75.1	62.4	43.4
	1998	95.1	76.1	82.4	52.7	84.9	86.3	50.7	33.7
Rule of Law	2006	80.5	61.9	63.8	50.0	94.3	75.2	52.9	28.1
	2002	70.0	64.3	63.3	52.9	93.3	81.4	55.2	19.5
	1998	65.7	63.3	59.0	47.1	92.9	76.7	50.0	9.0
Control of Corruption	2006	80.1	59.7	68.4	57.3	93.2	81.1	58.3	28.2
	2002	74.3	63.6	58.7	53.4	93.7	77.7	61.7	25.7
	1998	66.5	64.1	59.7	46.1	95.6	75.2	47.1	12.1

Source: World Bank

**Legend:**

	90-100 percentile
	75-90 percentile
	50-75 percentile
	25-50 percentile
	10-25 percentile
	0-10 percentile

**Table 21: Country Risk Classification**  
(current prevailing risk rating)

	Current prevailing risk risk categories 0-7
<b>Bulgaria</b>	3
<b>Czech Republic</b>	1
<b>Cyprus</b>	2
<b>Estonia</b>	2
<b>Hungary</b>	3
<b>Latvia</b>	3
<b>Lithuania</b>	2
<b>Malta</b>	2
<b>Poland</b>	2
<b>Romania</b>	3
<b>Slovakia</b>	1
<b>Slovenia</b>	0

Latest data: 29 June 2007  
Source: OECD

**Table 22: Traffic light***(according to the February 2007 analysis, published by Danske Bank)*

	<b>Indicator</b>	<b>Estonia</b>	<b>Lithuania</b>	<b>Latvia</b>	<b>Bulgaria</b>
1.	<b>GDP growth</b> – <i>unsustainable if high growth is observed for a prolonged period</i>	R	Y	R	Y
2.	<b>Inflation</b> – <i>compared to euro area accession criteria</i>	R	R	R	R
3.	<b>Current account balance</b> – <i>CA balance as percent of the GDP</i>	R	R	R	R
4.	<b>Real effective exchange rate</b> – <i>REER index and productivity growth developments</i>	Y	G	G	Y
5.	<b>Credit to GDP per capita ratio</b> – <i>comparison between GDP per capita and credit expansion</i>	R	R	R	R
6.	<b>Credit growth</b> – <i>sustainability measured vis-à-vis year-on-year credit growth</i>	Y	R	R	R
7.	<b>FX reserves to imports ratio</b> – <i>FX reserves equivalence to number of months of imports</i>	R	Y	Y	G
8.	<b>Exports to imports ratio</b> – <i>exports growth vis-à-vis imports growth ratio</i>	R	R	R	R
9.	<b>Short-term debt</b> – <i>short-term debt relative to FX reserves</i>	Y	Y	G	G
10.	<b>Real interest rates</b> – <i>negative or positive real interest rates</i>	R	R	R	R
11.	<b>Public finances</b> – <i>budget deficits and gross government debt</i>	G	G	G	G

Source: Christensen and Rasmussen (2007)

**Table 23: Summary of traffic light results**

	<b>Red lights</b>	<b>Yellow lights</b>	<b>Green lights</b>
<b>Estonia</b>	7 lights	3 lights	1 light
<b>Latvia</b>	7 lights	2 lights	2 lights
<b>Lithuania</b>	6 lights	3 lights	2 lights
<b>Bulgaria</b>	6 lights	2 lights	3 lights

Source: Christensen and Rasmussen (2007)

**Legend:**

<b>R</b>	Red light
<b>Y</b>	Yellow light
<b>G</b>	Green light

## RESULTS FROM THE STUDY

Table 24: Assessment matrix on Current Account sustainability

	Criteria	EE	LT	LV	BG	Explanatory notes
<b>Balance of payments criteria</b>						
1.	Composition of the current account deficit	4	4	5	5	Estonia and Lithuania have lower trade deficits but all countries experience large current account as well as trade deficits.
2.	Composition and size of capital flows	2	2	1	0	Capital account generally exceeds CA deficit. Large FDI and other long-term inflows. Moderate levels of short-term debt, with higher ratios for EE and LT and lower for BG.
3.	FDI coverage of the current account	2	2	2	0	The FDI coverage of CA is higher in BG usually exceeding 100%. EE, LT and LV register lower levels but intra-group bank lending from Nordic banks brings sustainability.
4.	Level of foreign exchange reserves	2	1	1	0	FX reserves grow and bring sustainability. FX reserves to months of imports ratio is stable with BG FX covering more that 5 months and EE on the other side less than 3 months.
<b>Macroeconomic criteria</b>						
5.	Level of national savings and investments	2	2	2	2	CA deficits are due mainly to higher increase of national investments, but the national savings also grow, although at very low speed.
6.	Real exchange rate developments	4	4	4	4	There is substantial appreciation of the real exchange rate that may create sustainability problems in the long run, especially if the current trends are kept or worsened.
7.	GDP growth	4	3	5	3	The high GDP growth in LV may create problems of overheating. The same applies for EE and to a less extent to LT and BG.
8.	Inflation	4	4	5	5	The inflation is of major concern in relation to the euro area accession, especially for the peg countries. The mid-2007 shows even worse results, especially for BG and LV.
9.	Real interest rates	4	4	5	5	Negative real interest rates are also not sustainable, especially in the long-term and for BG and LV. This indicator has influence on other indicators such as savings and consumption.
10.	Productivity growth vis-à-vis wages growth	3	3	3	3	Wage increases shall be limited, taking also into consideration the unit labour costs growth. Productivity growth is high and with future potentials.
11.	Consumption	4	4	4	4	There is a high risk if consumption is not moderated in all the four countries with fix exchange rate regime.
12.	Credit growth	4	4	4	3	Due to catching up process credit growth both to private sector and households increased substantially with lower level for BG. Greater concerns raise the consumption growth.
13.	Openness of the economy	0	0	0	0	All countries have large trade integration of goods as well as high degree of openness that may influence positively CA sustainability in long-term.
14.	Share of private sector	4	4	4	4	What is worrying is not the increasing share of the private sector (showing also better business environment) but its increased borrowing from abroad in all peg countries.
15.	Trade concentration	0	0	0	1	The countries experience high trade concentration with the EU that increases further the convergence process.
16.	Composition of trade	3	4	4	4	What really matters in relation to trade is not only trade concentration with the EU, but also composition of trade. Large part of the exports are labour intensive products.

**Table 24: Assessment matrix on Current Account sustainability (continuation)**

	Criteria	EE	LT	LV	BG	Explanatory notes
<b>Fiscal policy criteria</b>						
17.	Budget deficit	0	1	1	0	Currently there are large budget surpluses in EE and BG. The budget deficit issue does not raise concerns for LT and LV either.
18.	General government debt	0	0	0	1	The general government debt shows very positive and sustainable results for all countries, including Bulgaria that keeps the trend for future lowering of the ratio.
<b>Institutional criteria</b>						
19.	Central bank independence	0	0	0	0	All the countries with hard peg and currency board arrangement have independent central banks and respond to the acquis standards.
20.	Stability of the financial system	0	0	1	0	The financial system is privatised, liberalised and stable. Further consolidation is ongoing. Foreign ownership in the banking sector is very high, especially in EE, LT and BG.
<b>Other criteria</b>						
21.	Political stability and country risk	0	1	1	2	All countries show very positive results in terms of political stability, including in relation to the six Governance indicators that are further growing.
22.	Administrative burdens	0	0	0	1	The administrative burdens are very low especially in the three countries from the Baltic region. BG also shows good results with positive trends for further improvement.
23.	Economic developments in the main economic partners	2	2	2	2	Economic trends in the EU as a whole are positive, but the GDP growth in EU-15 is moderate. The GDP growth in EU10+2 is positive that also help increasing trade relations.

Abbreviations: BG –Bulgaria; CA – Current Account; EE – Estonia; FX reserves – foreign exchange reserves; LT – Lithuania; LV – Latvia

**Legend:**

5	Dangers for storm
4	
3	Foggy weather
2	
1	Sunny weather
0	

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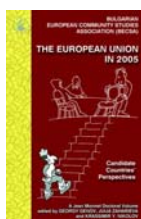
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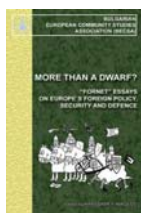
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