

Exchange rate arrangements in the run-up to the EMU: some experience in currency board countries

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Since the beginning of the transition process from centrally planned to market economies, East European countries have experienced relatively high inflation and a market depreciation of their currency. Their monetary systems have gone through dramatic changes in the recent ten years, making the transition from a mono-bank to the traditional autonomous central bank. Some have adopted a currency board arrangement (CBA). Three candidate countries to the European Union (EU) - Bulgaria, Estonia and Lithuania - face the perspective of becoming a full-fledged members of the EU and after of the European Monetary Union (EMU).

This paper investigates the issues and advantages of currency board arrangements (CBAs), especially in three transition countries (Estonia, Lithuania and Bulgaria) in the context of accession to the EU and to the European Monetary Union (EMU)¹. The paper is organised as follows: the first section discusses the experience with currency board agreements in general. The second section focuses on specific characteristics and experience of the currency boards in the accession countries. The third section proposes an appropriate strategy for these countries on their way to the EU and EMU. Finally, in the fourth section some conclusions are drawn as to the suitability of CBAs in the run-up to EMU membership.

1. Currency Boards in General: Advantages and Disadvantages

1.1. Definition of CBA

A typical *currency board arrangement* (CBA) is a monetary authority, which provides at least 100% foreign currency backing to its domestic currency in circulation, and the opportunity to exchange domestic currency for the reserve currency, without any limitations, at an exchange rate fixed by law. Some of the recently adopted CBAs provide about 100% foreign currency

¹ From the current EU members only Ireland had an experience with a CBA (1928-1979) (for details see HONOHAN 1994), the country with a remarkable catching up process after the accession to the EU.

backing, not only to domestic currency in circulation but also to banks' deposits. In simple terms, therefore, the CBA prevents a central bank from 'printing money'.

The monetary base is backed by hard currency, and the credibility of this policy tends to bring inflation and interest rates down to levels consistent with those in the country of the peg currency. Theoretically, an optimal choice of an anchor currency can considerably reduce currency risk exposure. Modern international economics generally explain the choice of the anchor currency by the theory of optimum currency areas (MUNDELL 2000). According to this theory, two countries form an optimal currency area and are interested in fixing their bilateral nominal exchange rate, if they face symmetric shocks, if their bilateral trade is significant, and if factors of production are mobile between them.

1.2. Advantages

There are fundamentally three types of economic situations where the introduction of a currency board will bring important advantages (WILLIAMSON 1995):

- where the collapse of confidence in the local monetary authority has been so complete that only the renunciation of monetary sovereignty will restore it;
- where the economy is small and very open to world trade and finance, so that the cost of not being able to use the exchange rate as an instrument of adjustment is unimportant. This was the situation in most historical cases of currency boards; and
- where a country is determined to use a fixed exchange rate as a nominal anchor in stabilising inflation at any cost.

CBA's may be attractive permanent arrangements for small open economies that wish to preserve the benefits of belonging to a broader currency area, as monetary independence, in any case, does not really exist for small countries (BALINO et al. 1997). CBA's may also be attractive for high-inflation countries. The empirical studies show that inflation performance in countries with currency boards has been significantly better than in countries with floating exchange rate regimes and simple pegs (GOSH et al. 1998). Average *per capita* GDP growth was also higher in the CBA's countries than in countries with other exchange rate regimes. However, this could reflect a rebound effect because many CBA's have been established following a crisis which had sharply reduced output.

Moreover, the fiscal deficits have been significantly lower under currency boards than under other exchange rate regimes (GULDE et al. 2000). The prohibition of central bank financing of

budget deficits may force greater fiscal discipline. CBAs have provided an important tool for gaining credibility and achieving macroeconomic stabilisation and sustained growth. They have established a basis for greater investment, and especially inward foreign direct investments. However, self-selection may play an important part in explaining the results: Governments that have been prepared to accept the structures of a CBA may have more reformers and they may be more disciplined than their non-CBA peers.

1.3. Disadvantages

Nevertheless, currency boards can prove limiting, especially for countries that have weak banking systems or are prone to economic shocks (GULDE 1999). Despite the many advantages, a currency board also carries a series of important disadvantages:

- it may be difficult to gather enough foreign reserves for a 100% backing of the monetary base at the outset;
- the fixed exchange rate may quickly become overvalued if a currency board is introduced in an attempt to stop high inflation (as happened, for example, in Lithuania);
- a fixed exchange rate can make economic adjustment more costly and painful by preventing the use of an exchange rate change to facilitate the process;
- a currency board precludes the active use of monetary policy to stabilise the domestic economy;
- a currency board is unable to act as a lender of last resort when domestic financial institutions face a liquidity crisis; and
- the ability of a currency board to discipline fiscal policy is critically dependent upon the political willingness of the Government to be disciplined.

There is a cost ("seigniorage") to backing the monetary base 100% by foreign exchange, except where this persuades the public to hold domestic instead of foreign money (WILLIAMSON 1995).

A CBA might not be an appropriate instrument for countries with a very weak banking system, because the lender-of-last-resort function is not available. The risk of asymmetric shocks is also greater for countries with an economic structure different from the anchor currency country (GULDE 1999). Even if there is a risk of asymmetric shocks, a fixed exchange rate system can be

successful under following conditions: i) capital and labour are highly mobile; ii) the economy is openness and diversified; iii) prices and wages are flexible (MUNDELL 2000).

2. Recent Experience with Currency Boards in the Accession Countries

2.1. CBAs in the Accession Countries

In the 1990s the CBAs were introduced in several politically and/or economically very unstable countries, such as Estonia, Lithuania, Bulgaria and Argentina. Prior to the introduction of CBAs, all these countries had soft budget constraints and faced the prospect of continued instability. Estonia had just gained independence from the USSR and was still using the hyperinflating *Russian rouble*. Lithuania was in the grip of a collapsing real economy and very high inflation. Bulgaria had defaulted on its international debt, narrowly escaped a revolution in late 1996 and was battling hyperinflation that had virtually wiped out its banking system and send the real economy into a free fall. All countries were in a desperate need of stable money and an institution that would deliver a hard budget constraints (HANKE 2000). In such circumstances, it was indispensable to ensure financial stability in the economy.

The specific settings of the Estonian, Lithuanian and Bulgarian currency boards therefore limited the scope for free monetary policy actions. The key characteristics of the currency board arrangements in Estonia, Lithuania and Bulgaria are presented in Table 1.

Within the framework of modern currency boards, various approaches are possible concerning monetary policy operations. The orthodox currency board rules out the possibility of initiating open market operations by the central bank. The specific characteristics of the currency boards in these transition countries are designed to reduce the exposure to global crises and the risk of speculative attacks. External shocks combined with a devaluation of the anchor currency may, however, have strong destabilising effects. As an example of such effects, GDP declined significantly in Estonia and Lithuania as a result of the Russian crisis of 1998. This was caused mainly by lower exports to the CIS countries. Bulgaria experienced several external shocks, too, although it was only weakly affected by the Russian crisis. The Kosovo war, however, reduced investor confidence in the region. The blocking of the main transit routes, the financial crisis and structural reforms resulted in shrinking demand and lower export prices (KALCHEVA 2002).

Table 1: Currency Board Characteristics in Bulgaria, Estonia and Lithuania

	Bulgaria	Estonia	Lithuania
Date CBA established	July 1997	June 1992	April 1994
Supervising agency	Bulgarian National Bank	Bank of Estonia	Bank of Lithuania
Currency board liabilities	at least 100% covered by assets in foreign currencies (EUR, USD, CHF, JPY) and gold	100% covered by interest-bearing and high quality foreign currency reserves denominated in EUR	100% covered by gold and convertible foreign currency reserves
Reserve currency	1 DEM = 1 BGN 1 EUR = 1.95583 BGN (from 1.01.1999)	1 DEM = 8 EEK 1 EUR = 15.6466 EEK (from 1.01.1999)	1 USD = 4 LIT 1 EUR = 3.4528 LIT (from 2.02.2002)
Convertibility	full convertibility for national and reserve currencies and for capital account	full convertibility for current and capital account	unrestricted exchange of national currency into base currency and <i>vice versa</i> with spot buying-selling spread of 0.1%
Financial system	open financial system	open financial system	open financial system
Minimum reserve requirements	11% imposed on commercial banks	13% imposed on commercial banks	8% for the achievement of the stable liquidity of the banking system
Earns seigniorage	earns seigniorage of interests	earns seigniorage of interests	earns seigniorage of interests
Monetary policy instruments	limited use by the Ministry of Finance	limited use by the central bank	limited use by the central bank

Sources: BALINO et al. (1997), KALCHEVA (2002) and KIELYTE (2002).

2.2 Estonia

A currency board was introduced immediately after the regaining independence in June 1992. It coincided with the introduction of a new currency (the *Estonian crown - kroon, EEK*) and was supported by the return of Estonian gold reserves, held by Bank of England since the Second World War (GOSH et al. 2000). The *D-mark (DEM)* was chosen as the anchor currency because of the credibility of German monetary policy and the leading role of the German economy in the EU.

The Estonian central bank has no monetary target apart from the exchange rate target. The central bank provides commercial banks with the possibility of buying and selling foreign exchange. Such direct participation aims to isolate the domestic money market from currency speculations and external financial shocks. The volume of interventions is determined by the foreign exchange reserves and by the loans which the Government is able to obtain from abroad. This means in practice that so-called technical exchange rate deviations are precluded and no conditions are set as to the development level and the depth of the domestic market (EESTI PANK 1997).

In order to increase flexibility, a complete liberalisation of the capital movements was introduced in 1994 and the spread for *DEM* and *EEK* transactions was abolished in 1995. The legal framework of the Estonian monetary system does not ruled out *per se* a lender-of-last-resort facility. The excess reserves over those backing the currency board may be used, under strict conditions, to avoid excessive systematic risk in the financial system. Monetary policy instruments in use are required reserves, the deposit facility and the central bank certificates of deposits. The relatively high rate of required reserves (13 %) is used as an automatic source of *kroon* liquidity for the banks and it has to be fulfilled on monthly average basis (KALCHEVA 2002).

Since July 1999, the Bank of Estonia fully remunerates the reserves, which is considered as a move towards more market-based principles. The interest paid is the European central bank (ECB) deposit rate (EESTI PANK 2000). From 1 January 2001 the Bank of Estonia allows commercial banks to meet up to 25% of reserves requirements with *euro* denominated and high quality securities, which is expected to create foreign liquidity buffers and to link financial institutions with the Euro area money market.

2.3 Lithuania

A currency board was introduced in Lithuania in April 1994. As in the other Baltic countries, the transmission of the Russian crisis to the Lithuanian economy took place mainly through lower exports. The reorientation of external trade away from traditional CIS markets had progressed more slowly than in the other Baltic countries, perhaps reflecting a more gradualist approach to economic restructuring. Hence, Lithuania's trade exposure to the CIS was larger than in other two Baltic countries when the Russian crisis erupted. At the same time, Lithuania's external competitiveness suffered from the peg of the domestic currency (*litas*) to the strong *US dollar*. Lithuanian banks, on the other hand, had little direct exposure to the CIS and the indirect effects, which operated through domestic borrowers dependent on CIS markets, remained limited (ABAZORIUS 2000).

Lithuania's policy response to the Russian crisis included the adoption of a set of anti-crisis measures in September 1998, entailing import protection and other measures to support domestic enterprises, as well as a major loosening of fiscal policy. The restitution payments to individuals who had their savings because of the high inflation in the early 1990s and the lending to the Mazeikiai Oil Company in connection with its privatisation were a part of the fiscal expansion.

Privatisation proceeds from foreign investors and external borrowing to finance the fiscal expansion helped moderate the increase in interest rates.

In October 1999, the Bank of Lithuania stated its intention to start using the *euro* as the anchor currency, but not before the second half of 2001. On 2 February 2002 the Lithuanian central bank changed the *litas* peg from the *US dollar* to the *euro*. The change in the peg was intended to reflect changes in trade orientation and to prepare for post-accession EMU participation. This measure will further accelerate and deepen Lithuania's integration with the EU economy, eliminating the exchange rate risk for investment and trade with the EU. The Bank of Lithuania also reduced the reserve requirements from 10% to 8% with little apparent impact on credit expansion.

2.4 Bulgaria

In contrast to Estonia and Lithuania, Bulgaria already had developed financial sector before the introduction of the CBA in July 1997. Bank deposits amounted to 40 % of GDP prior to the hyperinflation in early 1997. Banking crises (in 1996 and early 1997) had emerged before the currency board was implemented and had revealed how important it was to stabilise the financial sector. Out of the 10 state-owned banks, which accounted for 80 % of the financial sector assets, nine had negative capital in 1996. The banking crisis was caused by non-performing loans and led to a bankruptcy of 17 banks, which represented about one third of the Bulgarian banking system (KALCHEVA 2002).

The central bank first attempted to conduct money-based stabilisation through open market operations and foreign exchange market interventions. These measures, however, resulted in a sharp increase in interest rates, which made the servicing of the domestic debt more difficult, at the same time as foreign exchange reserves were depleted. The depreciation of the domestic currency stimulated inflationary expectations, and by March 1997, inflation reached an annualised rate of over 500% (YOTZOV 2000). In order to improve credibility and to solve problems of the soft budget constraints and commercial banks financing, a currency board was established in July 1997 (KALCHEVA 2002).

The Bulgarian CBA was designed in compliance with the specific economic conditions in this country - it was adapted to the fiscal situation and the problems of the banking sector. It fully covers the monetary liabilities of the Bulgarian National Bank, including currency in circulation, the banks' and the Government's deposits with the Bulgarian National Bank, as well as the Banking Department deposit with the Issue Department. The CBA is not allowed to lend to the

Government or to any Government agency, except against purchases of Special Drawing Rights (SDRs) from the IMF. These loans may be given only with a decision of the Bulgarian National Bank Managing Board no later than seven days after the relevant SDR purchase. In case of any liquidity risk that may affect the stability of the banking system, the Banking department is expected to perform the lender-of-last-resort function and to provide refinancing within the amount of its deposit with the Issue Department (WORLD BANK 1999).

2.5 CBAs in the Times on Crisis

Could a more active use of exchange rate policy have prevented or at least mitigated the economic recession caused by the Russian crisis?

As a direct result of the very strong nominal depreciation of the *Russian rouble* after the events of August 1998, Russia's domestic producers became highly competitive, reflected in an expansion of production in Russia's industries, which are competing with import. The Russian crisis and, in particular, the sharp devaluation of the *Russian rouble* since August 1998 and the resulting shrinkage of Russian imports by half dealt a severe blow to exports of the Baltic states and to economic activity. The Russian crisis posed a policy dilemma for the Baltic states: exports to the non-CIS area were continuing to grow briskly and the current account deficits were declining, with the adjustment most pronounced in Estonia. At the same time, fairly massive nominal exchange rate adjustments would have been required to maintain the Baltic states' market share in the CIS countries and protect sectors such as agriculture, whose exports could not be easily redirected to non-CIS markets because of trade barriers or without quality improvements. The authorities chose to maintain the currency boards unchanged.

The limitation of a currency board in times of crises is the inability to use monetary policy - the adjustment of interest rates or exchange rates - to stimulate the economy. Instead, under CBAs economic adjustment has to come by way of wage and price adjustments, which can be both slower and more painful if structural rigidities, especially in the labour market, have not been removed (GULDE et al. 2000). It could therefore be argued that a devaluation of the Baltic currencies would have limited the loss of the CIS export markets. However, the key question remains: would short-term gains from a more active exchange rate policy have been offset, and possibly more than offset, by longer-term losses?

One must also remember that currency boards are not policies that can be turned on and off at will. Any changes will have lasting effects. In this regard, the adherence to fixed exchange rates and currency boards in Estonia since 1992, in Lithuania since 1994, and in Bulgaria since 1997

were central elements in the Governments' economic strategies, which aimed to provide a predictable and stable policy framework and support the credibility of the Governments' policies. Against this, the Governments' commitment to the CBAs can be interpreted as a willingness to undertake reforms decisively and predictably. Governments can proudly point in this regard to the progress made in the restructuring of the Baltic economies and the fast reorientation of their exports (KELLER 2000).

The situation of the three Baltic countries was not identical. In Estonia, the shock created by the Russian crisis was mitigated as exporters received substantial relief from the pronounced weakening of the *euro* (or *D-mark*) against the *US dollar*. The current account deficit was contracting because of a drop in domestic demand, undermining the rationale for devaluation. In contrast, Lithuania suffered an additional asymmetric shock because of the peg to the *strong US dollar*, while much of its exports were still directed towards CIS markets. With the passage of time, the strong initial depreciation of the *rouble* has been partly reversed for the Baltic countries through the real appreciation of the *rouble* as a result of substantial inflation differentials.

In small open economies with free capital movements, maintaining a fixed exchange rate limits the scope for monetary policy. Looking at the experience of countries with floating exchange rates and active monetary policies, these countries, however, do not appear to have done better in terms of achieving their growth objectives over the longer term than countries with fixed exchange rates².

2.6 Indicators for Performance of Countries with CBAs

Tables 3-5 show some basic macroeconomic and financial data before and after the introduction of the CBAs in the 1990s. For each country, Tables 3-5 contain data for annual inflation, real GDP, interest rates, fiscal balance, and foreign reserves. The time series begin two years prior to introduction of the CBAs and continue through 1999-2000. In all these accession countries, the currency board arrangements created credibility and thus contributed to faster reductions in inflation; they supported solid growth. With regard to growth it would be inappropriate to attribute all credit of the quite impressive performance to the CBA. Fast-paced structural reforms, the creation of a favourable investment climate, and the resulting large-scale foreign direct investment can be seen as the main driving force.

² see for empirical details GOSH et al. (1998).

Although these basic data speak for themselves, several points merit attention. For each of the countries, the foreign reserves increased dramatically after the CBA was introduced. Given that the monetary liabilities of the CBAs must be backed to a minimum of 100% by foreign reserves, the demand for the anchor currency, as indicated by foreign reserve levels, increased dramatically after the introduction of the CBA.

The consequences of the imposition of a hard budget constraint by the CBAs is not fully revealed by the fiscal balance data, which show fiscal balances excluding revenues from privatisation. In the years subsequent to the introduction of the CBAs, privatisation increased significantly. If these proceeds had been included in the fiscal data, the deficits after the installation of the CBAs would have been smaller (HANKE 2000).

The basic interest rate was formally preserved, but it lost virtually all administrative significance and is now merely the rate determined at the Government's weekly three month Treasury bill auctions. For instance, the return of confidence in the *Bulgarian lev* and related initial strong remonetarisation contributed to the increase in banks' reserves and the rapid decline in the basic interest rate from 66.4% in 1997 to slightly above 6.5 % in 1998. Due to the persistently low basic interest rate, all other interest rates, including those on domestic debt instruments, have remained low ever since the introduction of the CBA (KALCHEVA 2002).

3. CBAs in the run up to the EMU membership

3.1. Criteria for participation in EMU

The criteria for membership in the European Union were set up at the Copenhagen Council in 1993. The Copenhagen Council concluded that membership requires that an

"accession country has the ability to take on the obligations of membership, including adherence to the aims of political, economic and monetary union".

The EMU acquis consists mainly of Treaty provisions and protocols, as well as regulations, decisions and resolutions. In the area of legal convergence, which includes the statute of the national central bank, monetary financing and privileged access, national legislation needs to be made compatible with Treaty Articles 101, 102, 108, 109 and the Statute of the European System of Central Banks (ESCB). Any new Member State would therefore, upon accession, also assume the rights and obligations, which constitute the third stage. These so-called *EMU* or *Maastricht Convergence Criteria* aim to ensure monetary and fiscal stability in the joint currency area and are set out in Article 121(1) of the EC Treaty. The criteria force the countries wishing to

become full EMU members to converge in the monetary and fiscal sphere. Two of the criteria are monetary, one is linked to currency rate stability, and the final one is fiscal. The criteria are:

- *The Price Stability Criterion*, defined as an inflation rate not exceeding by more than 1.5 percentage points the average inflation rate of the three best-performing Member States;
- *The Interest Rate Convergence Criterion*, meaning that the average long-term nominal interest rate should not be more than 2 percentage points above the average interest rate of the three Member States with the lowest inflation rate;
- *The Exchange Rate Criterion*, which postulates that the currencies of future EMU members should have been in the ERM (Exchange Rate Mechanism) without devaluation or revaluation for at least two years prior to the decision on euro area membership³;
- *The Public Finance Criterion* is composed of an *annual budget deficit* component, which requires that a country's budget deficit should not exceed 3% of its GDP, and of a *stock of government debt* component, which requires that the stock of outstanding government debt should not exceed 60% of that country's GDP (or otherwise be in a sustainable descending trajectory towards this benchmark).

Finally, the *Central banks* of the participating Member States must be fully independent and follow a primary objective of price stability (Article 108 of the EC Treaty).

Based on the treaty, three distinct phases for the adoption of the EMU acquis can be identified, namely: i) pre-accession phase, covering the period up to accession; ii) accession phase, covering the period from accession to the adoption of the single currency; iii) final phase, with the adoption of the *euro* (Granje 1999).

The structure of ERM2 will link the currencies of non-participating Member States to the *euro*. The aim of ERM2 is to support those countries that seek future EMU membership through regulation of the foreign exchange environment.

3.2. Do the Maastricht accession criteria make sense for CBAs countries?

Entrance into the euro area is likely to depend upon achieving a high degree of real and sustainable convergence as measured by the criteria outlined in Article 121(1) of the EC Treaty. These were applied to the current EU Member States in determining the initial participants.

³ The 1992 ERM crisis made the narrow bands of the then functioning ERM of +/- 2.25% not sustainable. These bands were replaced by the current +/-15% margins, which allow major currency moves without the direct need for intervention or realignment.

Table 2 shows how the applicant countries with a CBA would currently fare regarding the Maastricht criteria.

Inflation

High inflation rates were one of the less desirable consequences of the transition to a market economy in Estonia, Lithuania, and Bulgaria. After 1990 inflation rapidly reached very high levels in all these countries (see Table 3-5). Only when the first structural reforms began to produce effects did the rates start to slow down. The CBAs in candidate countries have provided very impressive results in reducing inflation and interest rates. The fixed exchange rate, the ample foreign exchange reserves, as well as the expectations of sustainable stabilisation have contributed to the remarkable reduction in the rate of increase of consumer and producer price indices. These countries therefore have a considerable distance to go before convergence with the EU average. This was 3.2 percentage points in 2001 and 2.0% in 1999. Lithuania fulfils this criterion already since 1999, but not Estonia and Bulgaria (see Table 2).

However, the Balassa-Samuelson (BS) effect⁴, or other reasons for equilibrium real exchange rate appreciation, may make it difficult for a country with a CBA to meet the convergence criterion concerning inflation⁵. According to SZAPÁRY (2001) the solution would be to recognize the principle of the BS effect explicitly in the Maastricht convergence criteria by giving more room for manoeuvre than provided by the present rule, which does not permit to fully compensate for the estimated size of the BS effect in these countries. From a strictly economic point of view, the solution would be to link the permissible inflation deviation to the size of the productivity growth differential between the current and the new (catching-up) members, since this is the differential which determines the size of the BS effect (SZAPÁRY 2001).

Interest rates

⁴ The BS effect states that an increase in the relative productivity in the sector of tradables versus non-tradables in one country versus foreign countries raises the relative wage in both sectors in the country concerned, thus increasing its relative price of non-tradables and its relative average price, and inducing an appreciation of the real exchange rate (MACDONALD and RICCI 2001).

⁵ ECB (1999) notes that there is clear evidence that the BS effect has been at work within the euro area, though it does not provide precise estimates. Rough calculations suggest that the BS effect could be estimated at not more than the 1.5-2% per year (CORKER et al. 2000.) for certain EU Member States. Other authors estimate the BS effect for accession countries at around 3.5-4% (PELKMANS et al. 2000); at Central European Free Trade Agreement (CEFTA) countries the BS effect can be estimated at 3-4% (ÉGERT 2002).

High levels of inflation in the candidate countries have been reflected in higher interest rates, both short and long. Commercial banks' average short-term (1-3 months) lending rates were 7.4% in Estonia and 6% in Lithuania in 2001 (see Tables 3-4). The yield of the CBA accession countries 10-year bonds is roughly the same as that of euro-denominated 10-year benchmark bonds (6.9% in 2001) (see Table 2).

Government finances

Most applicant countries were able to make considerable improvements in their *budgetary positions* in the early 1990s, largely through drastic cuts in public subsidies. After the first few years, however, economic recession caused a rapid fall in tax revenues and a consequent increase in budget deficits. The situation is now once again being corrected (European Parliament 2000). Lithuania's budget deficit was reduced to well within the Maastricht criterion despite lower-than-expected revenues, the general government deficit being 2.7% of GDP in 2000, down from 7% of GDP in 1999. The Government reduced the deficit to 1.4% of GDP in 2001. Estonia's budget deficit at 1.7% in 2001 and Bulgaria's at 0.8% in 2001 were also under the 3% benchmark.

General governmental debt in percentage of GDP is not a problem in either Estonia or in Lithuania, the debt-to-GDP ratios of the two countries being 11.8% and 26.7% respectively in 2001. The situation is different in Bulgaria, with general governmental debt at 66.0% of GDP in 2001.

Exchange rate stability

The criterion by which the membership of the euro area will be assessed will be the volatility of the national currency against the *euro* itself. With the introduction of the *euro* in January 1999, both Estonia and Bulgaria changed the peg of their currencies to the *euro*. Until 2002 the Lithuanian currency *litas* was anchored to the *US dollar*, and the currency fluctuated against the euro by 8.4-8.7% per year. Lithuania changed the peg from the *US dollar* to the *euro* on 2 February 2002.

The independence of the national central bank

The *Bank of Estonia* is largely independent from the Government. The Bank of Estonia reports to the Parliament only and is not liable for the financial obligations of the State. The Chairman of the Bank Board is nominated by the President of the Republic, and appointed by the Parliament, the President of the Bank being nominated by the Chairman of the Bank Board and appointed by the Parliament without any governmental interference.

The *Bank of Lithuania* is largely independent from the Government in terms of the appointment procedure of the Governor and the conduct of monetary policy. The Law provides for the separation of the liabilities of the State of Lithuania and the Bank of Lithuania and assures the independence of the Central Bank. The Law also prohibits the combination of powers of the Central Bank and State officials. The Bank's formal objective is the stability of the currency.

The *Bulgarian National Bank* is formally independent from the Government in terms of the appointment procedure of the Governor and the conduct of monetary policy. The Governor of the Bulgarian National Bank is elected by the National Assembly, the other members of the Managing Board being appointed by the President of the Republic. According to the 1998 Banking Law, the Bulgarian National Bank shall be independent from any directions of the Council of Ministers and from other state bodies in performance of its functions.

3.3. Pre-Accession Considerations for EMU

Prior to their EU membership, candidate countries are free to adopt the exchange rate regime of their choice and they can enter the EU with their prevailing exchange rate regime. At some point after their accession to the EU, they are expected to enter ERM2. The logic of ERM2 excludes the adoption of crawling pegs, free floating without a central rate, and pegs against a currency other than the *euro*. It seems that the EU and the ECB will accept euro-based currency board arrangements if they are deemed sustainable, although the question of the exchange rate being a “*matter of common interest*” is raised if it turns out that the exchange rate under the CBA is not sustainable. According to the statement of the ECB, euro-based currency board arrangements will be permitted under ERM2 on a case-by-case basis (KIELYTE 2002).

The President of the ECB stated:

"Accession countries, which have operated an euro-based CBA, deemed to be sustainable might not be required to go through a double regime shift in their strategies to adopt the euro. Thus such countries may participate in ERM2 with a CBA as a unilateral commitment augmenting the discipline within ERM2",

meaning that the euro system is not committed to take part in any possible defence of the peg.

"However, it should be clearly understood that a common accord would have to be reached on the central parity against the euro" (DUISENBERG and NOYER 2000).

Pegs to currencies other than *euro* will, however, not be accepted under ERM2⁶.

Both the EUROPEAN COMMISSION (2001) and the ECB (DUISENBERG and NOYER 2000) have taken the view that "Euroisation", or a unilateral early adoption of the *euro*, is not compatible with ERM2 on the grounds that the adoption of the *euro* should be the final act of the convergence process and that the new member should receive a treatment equal to that of the initial members with respect to the fulfilment of the convergence criteria. According to ECB:

"An adoption of the euro outside the Treaty process would not be welcome as it runs counter to the important process of convergence prior to the adoption of the euro outlined in the Treaty" (DUISENBERG 2001).

Another serious problem with "Euroisation" or a CBA is that these arrangements take away the possibility of an appreciation of the nominal exchange rate as an instrument of disinflation, placing all the burden of meeting the Maastricht criterion on inflation on monetary and fiscal policy.

For the accession countries the goals of EU and EMU membership define a clear endpoint: the adoption of the *euro*. For the new Member States in general, it is envisaged that the process would have three stages: EU accession, participation in ERM2 and joining the euro area. The important question in the case of the Central and East European countries with CBAs is what path they should follow on their way to the eventual adoption of the *euro*.

In the pre-accession phase, therefore, a number of questions are relevant:

- Is the exchange rate regime stable? The current account position, the level of reserves, monetary aggregates, growth performance, and interest rates (interest rate convergence) provide clear indications of whether the nominal exchange rate is at the appropriate level;
- Are prices and wages sufficiently flexible? While the nominal exchange rate is fixed, other prices adjust to keep the real exchange rate at an appropriate level in response to external shocks. Flexibility is particularly important in the labour market: in addition to wage flexibility, the traditionally low rate of mobility needs to be raised and institutional rigidities reduced;
- Would an intermediate period with a more flexible exchange regime be necessary in order to allow the market to find the appropriate nominal parity at which to join the euro area?

⁶ In Lithuania the *euro* replaced the *US dollar* as the anchor currency on 2 February 2002 (BANK OF LITHUANIA 2001).

The three transition countries are relatively small and these foreign exchange markets lack depth, which was one of the reasons for these countries to choose a fixed peg (GULDE et al. 2000).

During the intermediate period with a more flexible exchange rate regime, the exchange rate could be expected to fluctuate significantly as market participants speculate about the rate for the euro area entry ("*convergence play*"). Abandoning a well-functioning and credible currency board could lead to reduced policy transparency and discipline, lower investment, as a result of greater uncertainty, and the potential for households to shy away from local currency savings (KELLER 2000). For this reason an intermediate period from the exit to the adoption of the *euro*, if such period is at all necessary, should be as short as possible.

The temporary switch to a more flexible regime during ERM2 would also create a host of legal, institutional, and practical problems for countries with boards now in place. The laws and regulations forming the legal basis for the CBAs would have to be modified (GULDE et al. 2000). With regard to the argument that an intermediate period without CBA would give the central banks concerned experience in conducting active monetary policy, one can only point to the fact that not all current EMU participants pursued independent monetary policy in the years before the creation of the euro area⁷.

Consistency between the exchange rate arrangement and other economic policies - structural reforms, price liberalisation, flexible wages, openness of economy etc. - is, obviously, most important.

Concluding remarks

The experience of CBAs in the Baltic countries and Bulgaria provides some reassurance. The CBAs have already been tested by several shocks in these countries, and have so far passed the tests. With continued determination to maintain policy discipline, these countries may be able to benefit from currency boards up until they are ready to adopt the *euro*.

CBAs are a proper policy choice for countries where a fixed exchange rate system is deemed appropriate such as small, open economies with flexible input and output markets. The choice of anchor is most important, as the anchor currency must not only enjoy the confidence of markets,

⁷ For example, Austria and Netherlands adopted a fixed peg to the *D-mark* early on. This peg required full coordination of their monetary policy with that of Germany (GULDE et al. 2000).

but also be the currency of an entity with which the CBA economy has close economic and trade relations.

During the pre-accession period, there are not restrictions on exchange rate policy; any exchange rate regime, including currency boards, is possible. At some point after accession, Member States with a CBAs must consider their participation in the ERM2, as well as conditions under which it can be successful.

Joining the ERM2 could be a convenient "exit strategy" for countries with a currency board. It would shelter their currency from the market uncertainties that such an exit could create, by making it part of a flexible, stability-oriented mechanism belonging to a large economic area. "Euroisation", a possibly unilateral early adoption of the *euro* in the pre-accession phase, was seen by both European Commission and ECB as an unacceptable exit strategy for the CBA countries.

On the other hand, there are no solid economic reasons to abandon a well-working CBA during the run-up to the EU accession or under ERM2. The ECB's indication that euro-based currency boards will be accepted under ERM2 is most welcome. All the more so as CBAs require a strong commitment to fiscal discipline, a sound financial system with proper regulation and supervision, and goods and labour markets with flexible prices and wages.

During the transition and catching-up period, there are factors tending to produce an appreciation of the real exchange rate. Among these are price liberalisation, the Balassa-Samuelson effect, and the implementation of community *acquis* having an impact on prices and price convergence to the EU level. This effect could be explicitly taken into account in the convergence criteria.

Moreover, as integration with the EU advances, the absolute price level, the relative price structure and the economic structure in the candidate countries will tend towards that of the EU Member States, thus reducing the risk of asymmetric shocks and the need for flexible exchange rates.

All in all, it is the **legal and real economic convergence** - not the exchange rate system - that should matter in evaluating the readiness of a country to participate in the EU and later in the EMU.

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Appendix

Table 2: EMU Convergence Criteria in Bulgaria, Estonia and Lithuania, 1999-2001

Country	Price stability, avg. of period, %		Fiscal balance, % of GDP			Gen. government debt, % of GDP			Interest rates, 10Y bonds Last	Exchange rate stability, deviation from parity	
	1999	2000	2001	1999	2000	2001	1999	2000		2001	Last
Reference value	2.0	2.8	3.2	-3.0	-3.0	-3.0	60.0	60.0	60.0	6.9	+/-15%
Estonia	3.1	3.9	5.6	-4.1	-0.7	-1.7	11.0	11.1	11.8	6.8	0.0
Bulgaria	2.6	10.3	7.4	-0.9	-0.7	-0.8	81.2	77.4	66.0	5.0	0.0
Lithuania	0.7	0.9	1.6	-7.0	-2.7	-1.4	28.3	25.5	26.7	6.3	8.4

Source: DB RESEARCH (2002) and EUROSTAT (2002).

Table 3: Estonia: Selected Economic Indicators 1991-2001

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Inflation (annual avg. %)	210.5	1076	89.0	47.7	29.0	19.8	9.3	8.8	3.1	3.9	5.6
Change in real GDP (%)	-13.6	-14.2	-9.0	-2.0	4.3	3.9	10.6	4.7	-1.1	6.9	4.5
Short-term average lending rates (%)	-	59.2	36.6	24.6	19.0	15.0	14.6	10.9	8.0	6.8	7.4
Fiscal balance (% of GDP)	4.7	-0.3	-0.7	1.3	-1.2	-1.5	2.2	-0.3	-4.1	-0.7	-1.7
Foreign reserves (US\$ mln)	-	196	401	418	496	564	746	753	941	1084	931

Note: Fiscal balance excludes revenues from privatisation.

Source: BANK OF ESTONIA (2002), EUROSTAT (2002), IMF (2001) and OECD (2002).

Table 4: Lithuania: Selected Economic Indicators 1992-2001

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Inflation (annual avg. %)	1175	188.8	72.2	35.5	24.7	8.8	5.0	0.7	0.9	1.6
Change in real GDP (%)	-21.3	-16.2	-9.8	3.3	4.7	7.3	5.1	-4.1	3.3	5.7
Short-term average lending rates (%)	135.2	91.6	33.0	29.5	20.0	13.0	10.4	11.1	6.8	6.0
Fiscal balance (% of GDP)	0.5	-5.3	-4.8	-4.5	-4.5	-1.8	-5.9	-7.0	-2.7	-1.4
Foreign reserves (US\$ mln)	107	412	587	631	671	963	1254	1242	1463	1895
Real effective exchange rate (1995=100)	-	-	-	-	114	132	142	160	-	-

Note: Fiscal balance excludes revenues from privatisation.

Source: BANK OF LITHUANIA (2002), EIU (2002), EUROSTAT (2002), IMF (2001) and WORLD MARKETS (2002).

Table 5: Bulgaria: Selected Economic Indicators 1995-2001

	1995	1996	1997	1998	1999	2000	2001
Inflation (annual avg. %)	32.9	310.8	578.5	18.7	2.6	10.3	7.4
Change in real GDP (%)	2.1	-10.9	-6.9	3.5	2.5	5.8	3.9
Interest rates (%)	53.1	119.9	66.4	6.5	4.7	3.9	4.6
Fiscal balance (% of GDP)	-5.6	-12.7	-2.5	0.9	-0.9	-0.7	-0.8
Foreign reserves (US\$ mln)	1185	643	2257	2619	3222	3756	4120
Real effective exchange rate (1995=100)	-	-	102.6	116.4	118.7	120	-

Note: Fiscal balance excludes revenues from privatisation.

Source: EIU (2002), EUROSTAT (2002) and WORLD MARKETS (2002).