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**«COSTS AND BENEFITS OF UNILATERAL
EUROISATION IN CENTRAL EASTERN EUROPE»**

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Abstract

Countries unable or unwilling to join a Monetary Union can partly replicate membership effects unilaterally through either a Currency Board or formal replacement of the domestic currency by the currency of the Union. Schemes of this kind have been introduced recently in Transition Economies. Both costs and benefits expected of such policy have probably been exaggerated. Net effects, for the country and the common currency area, are shown to be an empirical question, depending on a number of conditions and primarily on the degree of monetary, real, and institutional convergence already achieved beforehand. Positive net advantages may be expected especially by smaller countries that are either already converging, or are distant but wish to use a single currency to speed up convergence. There is no legal or economic justification for EU aversion to unilateral euroisation in accession candidate countries.

KEY WORDS: Euro, Monetary Union, dollarisation, exchange rate regimes, convergence, Transition.

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Non-Technical Summary

Countries unable or unwilling to join a Monetary Union can introduce dollarisation or, more recently in central eastern Europe, DM- or euroisation, whether in the form of a Currency Board permanently linking the national currency to the dollar/DM/euro, or in the form of formal, total replacement of the national currency by dollars/DM/euro. Schemes of this kind, familiar from Hong Kong or Argentina, have been introduced recently especially in the Transition Economies: e.g. Currency Boards in Estonia, Lithuania, Bulgaria, Bosnia & Herzegovina; use of DM as legal tender in Kosovo and in Montenegro. Euroisation schemes have been discussed also in Poland and Bulgaria; prospective euroisation has been advocated for some post-Yugoslav republics.

Potential benefits from such way of replicating membership of a currency area include: the reduction of transaction costs and the benefits of ensuing greater trade and investment integration; the lower interest rate that is expected from adopting a stronger and more credible currency; the avoidance of both the turbulence associated with floating exchange rates, and the vulnerability to capital inflows/outflows generating speculative crises in case of fixed exchange rates even if successful; the ability for a government to borrow in the same currency in which its expenditure is denominated and actually incurred. Such benefits have probably been exaggerated. Moreover, even Currency Boards do not preclude the possibility of major financial crises, for demand for foreign exchange might very well exceed the amount of primary money, which is the only component of money supply that is necessarily fully matched by the Board's reserves. Both Currency Boards and currency replacement can lead to liquidity shortages. Both regimes in practice are reversible, and the residual interest rate differential is usually significant.

The adoption of an external or common currency also has costs. Large scale currency reserves are needed both to establish Currency Boards or to formally replace a national currency. Underlying necessary trends of real revaluation, commonly observable in developing and in transition economies, may actually fuel inflation when nominal exchange rates are kept stable. A country's fundamentals may be highly specific and at odds with those of the country of area of the alternative currency, i.e. shocks can be asymmetric. There is a loss of seigniorage, though a country could arrange to share it with the Central Bank of the currency of choice. There is financial fragility from the loss of a lender of last resort, though a Currency Board can still take this role on a scale limited by its free reserves.

The net benefits from using an external or common currency, as well as the full implications for the country or area issuing that currency, require a theoretical exploration of all the relevant factors and an empirical measurement of their relative weight in specific countries at a given time. On balance, both benefits and costs are likely to be lower than expected. Both are reduced further by convergence processes – monetary and fiscal, real, institutional – within the single currency area. Net benefits from euroisation are probably highest for smaller countries, either already converging to the currency area they wish to join, thus minimising resource displacement, or so distant as to use euroisation to speed up convergence. Adversion to unilateral euroisation in Brussels and Frankfurt has no legal or economic justification.

1. Introduction

For all the present candidates to EU accession – ten central eastern European countries² plus Cyprus and Malta – eventual membership of the European Monetary Union is part of the *acquis communautaire*; its acceptance is a pre-condition of membership. Soon after accession the new Member States would have to join the Exchange Rate Mechanism II (ERM-II)³ for at least two years and achieve the Maastricht conditions for monetary and fiscal convergence before their EMU membership is examined.⁴ Once admitted by decision of the EU Council they would then replace their domestic currency with the euro at an irrevocably fixed exchange rate, confer the bulk of their reserves to the ECB and be represented in the ECB Governing Council;⁵ they will also be bound by the so-called “growth and stability” pact. There is no derogation, or opt-out clause, as in the case of Great Britain or Denmark; the only way to stay out is the persistent failure to satisfy at least one of the Maastricht conditions for EMU membership.

For accession candidates and, a fortiori, for those countries that at least for the time being are excluded from the EU, the problem is not how to stay out of EMU but on the contrary how to reap, sooner rather than later, the net benefits expected of a monetary integration which otherwise is either delayed, at best until around 2008 (DBR 2000), or denied. Greater economic integration in trade and investment, as well as greater macroeconomic stability and lower interest rates, are perceived to outweigh the costs of the single currency, such as the loss of autonomous monetary policy. Such benefits are well understood in countries that in the 1990s have witnessed and suffered the large scale recession brought about to a very great extent by monetary dis-integration – of the rouble area, of Comecon, of the Czecho-Slovak and of the Yugoslav federal republics.

The effects of negotiated and agreed membership of a single-currency monetary union – say the dollar, or the euro – can be approximated by unilateral dollarisation or euroisation, understood as a commitment to a so-called “hyper-fixed” exchange rate regime, which takes one of two forms:

(i) Dollarisation (euroisation) in a strict sense is the formal and total replacement of the domestic currency by the dollar (euro). This is to be distinguished from informal and partial replacement,

² These are the so-called Luxembourg group, Hungary, Poland, Czech Republic, Slovenia, Estonia; plus the so-called Helsinki group, Slovakia, Latvia, Lithuania, Bulgaria and Romania; both groups being named after the summits that decided to open accession negotiations.

³ The ERM to which the Maastricht Treaty refers was replaced from 1-1-1999 by ERM-II, including additional criteria such as the development of market integration, current-account balance, monitoring of unit labour costs and other price indices.

⁴ In addition to two year ERM-II membership: 1) an average rate of inflation over a period of one year before the examination, not exceeding the average of the three best performing member states by more than 1.5 per cent; 2) an average nominal long-term interest rate on government bonds, also over a period of one year before the examination, not exceeding by more than two percentage points the average of the three best performing member states in terms of price stability; 3) a government deficit of at most 3 per cent of GDP and 4) a government debt of at most 60 per cent of GDP – unless the ratio for both deficit and/or debt is close to the reference values and either has already declined substantially or exceeds the reference value only temporarily. Failure to achieve these standards delayed Greece membership of EMU until the Lisbon summit of June 2000. Before EMU admission, account will be taken also of developments in market integration, current account balances, unit labour costs and other price indices.

⁵ Probably new rules will have to limit the size of the ECB Governing Council through a rota or a constituency system, so as not to make it too unwieldy.

which is voluntary and amounts to a flexible exchange rate regime.⁶ Of course, the more an economy is dollarised informally, the closer it will come to a formally dollarised economy, without ever getting there, for those prices which are usually expressed in domestic currency – notably wages – are never instantaneously and fully indexed to the dollar exchange rate. Informal DMisation already exists on a large scale in Eastern Europe and the FSU, next to dollarisation. In 1995 the German Bundesbank estimated that about 30-40 per cent of all DM notes and coins in circulation were held abroad (Seitz 1995), which compares with a Federal Reserve estimate of 40-60 per cent for the US dollar (corresponding to \$192-288bn, Feige et al., 2000). Since then, at least in a sample of five transition economies, there appears to have been a decline in both DM and US\$ holdings and a switch from DM to US\$ (Stix 2001), probably in the attempt to avoid foreign exchange holdings surfacing in the conversion from DM to euro after January 2002.

(ii) Dollarisation (euroisation) in a broad sense is a Currency Board issuing domestic currency only in exchange for convertible currencies at a permanently fixed rate with respect to the reference currency. When this arrangement is introduced the pre-existing currency may be kept or replaced, as long as it is covered by foreign reserves at the same rate. For the sake of convenience and of psychological impact the domestic currency – whatever it is called – could also be re-denominated so as to make its unit equivalent to a unit of the reference currency, say the euro (like Argentina's peso vis-a'-vis the US dollar)..

In this paper the terms dollarisation/euroisation will be used to designate both currency replacement and currency board regimes, except when dealing with their differences when the two will be specifically indicated. These two regimes are very similar between themselves and to a Monetary Union.

A Monetary Union is currency replacement plus participation in the management of the adopted currency, pooling reserves and sharing automatically in seigniorage directly or indirectly, as well as engaging in economic policy co-ordination and supervision.

A Currency Board can switch to currency replacement at any time, at the costs of losing a sovereignty symbol and interest on the reserves used to withdraw the national currency from circulation, and the benefits of reducing further any residual risk premium on its exchange rate and of not having to manage the currency. Costs and benefits would be mirrored in a hypothetical, possible reverse move from use of a foreign currency to a Currency Board linked to it.

In post-communist transition economies Currency Boards have been established in Estonia (June 1992, 8 kroons=DM 1, i.e. EEK 15.6466=1 euro), Bosnia-Herzegovina (June 1997, with a convertible mark equal to 1 DM), Bulgaria (July 1997), all with a peg to euro following that to the DM. Latvia pegged the Lat to the SDR, de facto in February 1997, formally in 1997, followed by a peg to the euro (Korhonen 1999, 2000). Lithuania in 1994 established a Currency Board originally pegged to the dollar, then switched to the euro with effect from February 2002. Since the fall of Milosevic the Central Bank of Yugoslavia effectively has been mimicking the operation of a Currency Board linked to the DM. In Kosovo and Montenegro – though not fully sovereign states – the DM is legal tender. The move to domestic currency replacement by the euro has been seriously discussed not only in countries that already had a Currency Board linked to the euro, like Bulgaria

⁶ Sometimes this informal currency substitution is regarded as a reverse Gresham's Law, good money chasing bad money away instead of the other way round, but this is not correct. But Gresham's Law applies to disequilibrium fixed rates between the legal tenders, with preference accorded by debtors to payments in the weaker and overvalued currency; whereas with informal dollarisation both currencies are good, each better than the other in performing specific functions, their relative advantages defining a flexible exchange rate between the two. On dollarisation issues see Calvo 1999, IMF 1999, US Senate JEC 1999, Berg and Borensztein 2000.

and Estonia (see OECD 2000) but also in Poland (Bratkowski and Rostowski 2000), as well as more generally (Mundell 1998) and especially in Balkan countries (CEPS 1999, Gros 1999 and 2001). Bratkowski and Rostowski (2000) recommend an early official replacement of the Polish zloty by euro; strong reservations on these proposals have been expressed by Daviddi (1999).

This paper discusses the benefits (section 2) and costs (section 3) of these exchange rate regimes, in general and in connection with convergence processes (section 4); the EU and ECB policy vis-à-vis unilateral euroisation (section 5); conclusions are summarised in section 6.

2. Benefits from unilateral euroisation

Benefits expected of dollarisation/euroisation include some which are rather dubious, such as greater exchange rate certainty and greater policy credibility, and other which are more tangible though probably overestimated, such as lower transaction costs, lower interest rates, greater macroeconomic stability and greater economic integration through both trade and investment. There are also costs to be considered (section 3).

2.1 Greater exchange rate certainty?

The strength of a Currency Board regime is that it is a fixed exchange rate plus a monetary rule that, in normal conditions, might just be sufficient to sustain it. But there is nothing to stop demand for foreign exchange from exceeding Currency Board reserves, which are only required to cover M0, precipitating a crisis and forcing a devaluation. In theory both currency replacement and Currency Boards involve a permanent, irreversible commitment to a fixed exchange rate; as Larrain and Velasco (2001) put it, “One cannot easily devalue a currency that does not exist, or one whose exchange rate is set by law”. However they speak as devil’s advocates for, on the contrary, a currency that does not exist can always be brought back into existence and, when the exchange rate is set by law it can also be changed by law. Indeed Bratkowski and Rostowski (2000) in the same breath recommend zloty replacement by euros and contemplate a possible reversal. It remains to be demonstrated that such policy reversals would be so expensive as to stop the government from deciding them; the point may come when the government has no other choice, and the greater cost of reversal (with respect to other exchange rate regimes) may make a crisis worse. Strictly speaking there is no such a thing as a hyper-fixed exchange rate regime. Indeed even common currency areas can be split again (as in the instances given above), while in the case of currency replacement and especially of Currency Boards there remains always a non negligible residual risk of devaluation, clearly visible in the interest rate premium almost invariably prevailing for debtors of equivalent ratings. It is significant that in Bosnia in 2001 the DM should continue to circulate as a parallel currency next to a DM-linked currency (though to a rapidly diminishing extent), showing that even the adoption of a Currency Board can be ineffective unless it is preceded by extensive economic and political reforms.

2.2 Credibility?

It is often argued, even for a fixed exchange rate policy (Bruno 1992) and, a fortiori, for a hyper-fixed regime like those considered here, that a government lacking policy credibility and a track record can “borrow” credibility by anchoring the national currency to a strong and credible currency. However, it is questionable whether credibility can be borrowed, for the strength of a chain cannot be greater than the strength of its weakest link, which here is the credibility of the national government commitment to such a policy. Thus a promise to pay in gold is not more

credible than a promise to pay in labour, or in bananas – as long as the equilibrium market price for labour or bananas in terms of gold is used for converting the amounts involved in the comparison. Suppose Russia had adopted a Currency Board at the end of August 1998, after defaulting on over \$40bn worth of government dollar debt, plus an even larger public debt denominated in roubles; it seems naïve to believe that a commitment to a permanently fixed parity to hard currencies would have been judged as credible by international financial markets.

2.3 Lower transaction costs

Undoubtedly the use of a common currency as both measure of value and medium of exchange leads to lower transaction costs, though these savings have probably been exaggerated. It is true that anybody switching from one of the 12 currencies of the Eurozone into each other in succession and back to the initial currency would lose most of its initial stake in commission charges; for a modest 2 per cent commission charge on each transaction one would lose almost one quarter of the initial amount. However nobody in his right mind would be so inefficient as not to gear the composition of one's currency portfolio to the likely pattern of actual expenditure. As a result the total gain in the circumstances is unlikely to be much higher than 2 per cent even if total expenditures are 100 per cent mismatched with total revenues. Such complete mismatching is totally implausible, so that the gains in transaction costs are more likely to be of the order of 1 per cent of the value of transactions or less.

The use of a single unit of account makes prices more transparent, but we do not seem to have much difficulty in comparing relative prices (domestic/foreign) when travelling in foreign countries using different currencies. Hence the suggestion that transaction costs gain are undoubtedly there but probably overestimated.

2.4 Lower interest rates

Lower nominal interest rates in terms of the reference currency are likely, thus promoting investment and growth. The country risk premium, however, especially with a Currency Board, in practice is never completely eliminated and can remain substantial. In Argentina, for instance, after ten years of a Currency Board successfully linking the peso to the dollar at parity, in November 2001 with a serious financial crisis threatening the economy with default, a crippling interest rate premium of the order of 25 per cent prevailed over the dollar rate. In all probability interest premiums will be lower than with alternative exchange rate regimes, but not necessarily zero even in the case of total currency replacement. Besides, over and above a country risk there remains a premium covering borrower's default risk, even on sovereign borrowing.

Undoubtedly both the government and private investors benefit from a common currency through their ability to borrow internationally in their domestic currency, the same in which expenditure is denominated and actually incurred (Hausmann 1999, Hausmann et al. 2000). Again, such benefit is probably exaggerated in economic discussions.

2.5 Greater stability

A reassuring aspect of both currency replacement and Currency Board is the presence of automatic, self-regulating adjustments in money supply, determined by changes in domestically held foreign assets, similar to those occurring under a gold standard. The speed and intensity of such self-regulating adjustments are unlikely – as under a gold standard – to be sufficient to ensure complete

stability, but they are also incapable of doing any damage. Again, there is a small but probably exaggerated benefit from a Currency Board or currency replacement.⁷

A more significant contribution to stability may come by both regimes by avoiding the vulnerability to capital inflows/outflows and the associated speculative crises in case of fixed exchange rates even if successful. Indeed often speculative crises may occur especially if a fixed (not-hyper-fixed) exchange rate is successful, when the firming up of the currency encourages capital inflows that in turn strengthen the exchange rate further to the point of non sustainability, through loss of competitiveness and deterioration of market sentiment, reversing capital flows and causing panic and collapse. Hence the recently established “bipolar” orthodoxy, favouring other fully floating or hyper-fixed rates rather than intermediate regimes (see Fisher 2001). Nevertheless, floating rates may also be associated with inflationary bias, volatility and recurring turbulence, which places hyper-fixed exchange rate regime in a good light (Mundell 2000).⁸

Bratkowski and Rostowski (2000) see the rise of current account deficits as the inevitable consequence of consumption-smoothing in countries experiencing or expecting growth acceleration, and regard the elimination of currency crises risk as a major benefit of euroisation. But a common currency does not really eliminate the risks of current account deficits arising in a domestic currency, it simply transforms them into risks of regional under-development, especially without the provisions for transfers from the EU budgets which would only benefit EU members. Such risks may be potentially more difficult to deal with, and span over a longer run, than a temporary currency crisis.

2.6 Greater trade and Foreign Direct Investment

Until recently empirical work has failed to find a reliable empirical connection between monetary arrangement and trade flows. Andrew Rose (2000), on the contrary, claimed a dramatic effect of currency unions on trade; he found that countries that use a common currency trade almost 300 per cent more with each other than similar countries with similar currencies, though he could not indicate the source of the incredibly large effect that he measured and warned readers from drawing dramatic policy implications from his results in connection with EMU and other actual currency unions. Torsten Persson (2001), however, qualified substantially and cut to size Rose’s conclusions. He supposed that countries that adopt a common currency are a self-selected group, in that they are also those for which a common currency has the largest effect on trade, and considered other possible determinants of trade intensity. As a result the impact of a common currency appears to be considerably smaller at about 40 per cent, and much less precise. Rose’s rejoinder renews claims of a large and precise estimate of the impact of a common currency on trade, but discussant Patrick Honohan and the Economic Policy Panel at which these papers were presented concluded that “the apparent trade effects of currency unions – whether large or small” may really be due to the simultaneous adoption of other policies by the countries concerned” (Editors’ Introduction, *Economic Policy*, October 2001, p. 260).

⁷ In an economy which is already extensively euroised, moving to total and official currency replacement would eliminate the complications of dual components in money supply, in setting intermediate targets of monetary policy.

⁸ Irrevocably fixed rates, unlike pegs subject to intermittent adjustments, do not encourage speculation – as demonstrated by the experience of EMU members since May 1998 as opposed to the September 1992 ERM crisis and its abandonment by the UK and Italy (a difference neglected by Larrain and Sachs, 1999, in their rehearsal of arguments against dollarisation).

In medical research the effectiveness of a particular treatment for those treated cannot necessarily be generalised to all untreated patients. By the same token the effect estimated for existing currency unions or currency areas, whatever its size, cannot be confidently extrapolated to a group of central and east European countries whose only common feature is a fairly similar former communist economic regime, and whose main common feature with the Eurozone it wishes to join is proximity. Moreover, the Eurozone's already high share in their foreign trade weakens rather than strengthening expectations of further growth.

A positive impact on trade may have, indirectly, an adverse impact on Foreign Direct Investment, which at least to some extent is a substitute for direct trade (see Bevan and Estrin 2001); for a common currency to have a positive net overall impact on FDI such an adverse impact would have to be more than compensated by positive effects that a common currency may have on general business climate and re-exports prospects. At the same time the lower interest rate expected of the adoption of a common currency must dampen inflows of financial capital.

3. Cost of unilateral euroisation

The benefits expected of unilateral euroisation/dollarisation are associated with costs, such as loss of seigniorage, loss of a lender of last resort and more generally of monetary policy. These losses – like most of the benefits discussed above, also appear to be fairly certain but not as large as it is often made out. Other costs, due to the extensive use of other currencies in trade invoicing and in debt denomination, are tangible but can be countered by specific measures offsetting exposure to currency risks.

3.1. Loss of Seigniorage

euroisation involves some loss of seigniorage – the revenue obtained from issuing domestic currency – usually defined as the increase in real value of base money.⁹ In the Currency Board case some of the seigniorage otherwise accruing to a Central Bank is preserved through the interest earned on reserves. Under currency replacement the loss of seigniorage on the mass of foreign exchange in domestic circulation is total, except that a seigniorage sharing arrangement could be agreed with the Central Bank that governs the chosen currency (Calvo 1999, Daviddi 1999); such an arrangement is contemplated for dollarised countries by the International Monetary Stability Act of 2000, introduced in the US Senate by the Chairman of the Joint Economic Committee Senator Connie Mack, and now shelved. According to Larry Summers “In the long term, finding ways of bribing people to dollarise, or at least give back the extra currency that is earned when dollarisation takes place, ought to be an international priority ...” (Quoted in US-Senate Joint Economic Committee, 1999): the same argument would apply to euroisation. Seigniorage loss resulting from euroisation is sometimes under-estimated (for instance Bratkowski and Rostowski, 2000, neglect the loss of likely increases in seigniorage after shedding the domestic currency) but it can also be over-played (e.g. by Larrain and Sachs 1999)..

In transition economies seigniorage is usually fairly low, of the probable order of 1-2 per cent of GDP (Schobert, 2001) with a few exceptions such as Albania (where it is of the order of 10 per cent of fiscal revenues, followed by Belarus and Romania, confirming the view that the loss is probably

⁹ There are also other definitions, such as the nominal interest rate on real base money, or net revenues from central bank operations related to the creation and management of base money (which are one component of central bank transfers to the state budget). For a discussion and estimates for central eastern Europe see Schobert 2001.

greater for countries with weak fiscal collection or low central bank independence). Low seigniorage, however, is due primarily to large scale losses – largely unnecessary – from sterilisation operations by central banks. The potential loss remains.

3.2. Loss of Lender of Last Resort

The mythical advantage of a Currency Board is that the domestic currency is “fully backed” by foreign exchange (e.g. see *The Economist* 29-1-2000)..

Unfortunately all that is backed up by foreign exchange is primary money, i.e. M0, whereas in a currency crisis there is absolutely nothing to prevent the public from wishing to convert into foreign exchange more than M0, up to their entire liquid assets, i.e. anything up to M2. In this case limits would have to be introduced – whether de facto or de jure – on the convertibility of bank money into cash, thus re-instating a monetary segmentation which was one of the typical features of the old-style centrally planned economy.

In a “normal” monetary economy this occurrence is prevented – short of a total melt-down – by the national Central Bank acting as a lender of last resort, in principle standing-by to provide unlimited liquidity at a penal interest rate against good quality securities. A Currency Board can act as Lender of Last Resort (LLR) only within the bounds of excess reserves over and above M0 coverage; under total and formal currency replacement the central bank can equally continue to act as lender of last resort within the bounds of its residual foreign exchange reserves left over after the currency change. In Poland such reserves would be substantial, equivalent roughly to half the money supply, but nowhere else in the area. In a liquidity crisis these margins may be insufficient to maintain an orderly monetary circulation. Some liquidity may be provided by foreign banks, (Calvo, 1999), but the LLR function is still defective. A cash shortage may ensue, and interest rates will have to rise in order to attract foreign exchange and to induce the public to reduce their demand for money. Banks could be bankrupted as a result, not for straight insolvency, which might be regarded as a necessary and even desirable development in most transition economies, but for sheer illiquidity artificially created by the Currency Board rules of monetary issue.

In principle the LLR function could be partly fulfilled by the Central Bank of the common currency, even without membership of the currency union. But there is no statutory provision for such a role; indeed the International Monetary Stability Act cited above specifically states that “The Federal Reserve System has no obligation to act as a lender of last resort to the financial systems of dollarised countries” (Section 2.b). A formal arrangement for the ECB to act as LLR to countries that lacked convergence even by the Maastricht criteria would expose the euro to a very great risk; without such an arrangement, financial fragility would ensue. The problem would be aggravated by the fact that the ECB could not take on any responsibility for the supervision of financial institutions in euroised countries (a provision to that effect is included in the US International Monetary Stability Act for the Federal Reserve System).

3.3 Loss of national monetary policy

A fixed exchange rate regime necessarily restricts the scope for domestic monetary policy. The permanent adoption of a common currency, in any form, necessarily delegates monetary policy to the Central Bank responsible for the maintenance of price stability. Of course the stabilisation needs of transition economies may not leave much margin for an autonomous monetary policy, but the instant abatement of inflation may not necessarily be the best policy, as confirmed by the dominant success of the Polish economy which for all the talk of shock therapy has been dis-inflated at an

excruciatingly gradual rate. Moreover, all central eastern European transition economy are facing extremely challenging issues of social welfare reform, on a greater scale than the rest of Europe (see Eatwell et al., 2000), which may require country-specific approaches to macroeconomic management.

The policy followed by such Central Bank may be at odds with the country's fundamentals. The probability of asymmetric shocks within EMU is being reduced by adherence to the Maastricht criteria and by the "stability and growth" pact, but cannot be eliminated. A fortiori, euroised countries who are not in EMU will be more likely to suffer from asymmetric shocks.

The loss of a domestic monetary policy resulting from euroisation is clear but should not be exaggerated. A Currency Board may be unable to conduct any monetary policy, but is still fully "independent" with respect to political authorities. Once a government has delegated to a fully independent Central Bank the maintenance of price stability, it has already abdicated from monetary policy. Then it matters little whether a National Central Bank or an equally single-minded and independent super-national or foreign Central Bank manages the currency used.

3.4. Invoicing and external debt denomination

The effectiveness of euroisation is influenced by some minor problems which are not difficult to tackle, though not automatically and at a cost. For instance, the euro may not be the preferred currency in the country's invoicing practices in foreign trade, which may be difficult to change. External debt may be denominated in other currencies (mostly dollars) and would have to be re-denominated or offset by operations in forward markets.

Settlement practices are often regarded as relevant but they are immaterial. For instance, Helmut Aancans, head of monetary policy at the Latvian central bank, is quoted as saying that "Our structure of settlement currencies reflects the SDR basket ... When the euro goes down the dollar goes up and there is no net instability" (Financial Times 16 February 2000). But such stability only obtains if the SDR is the currency in which contracts are denominated. The Lithuanian Lita, then pegged to the US dollar, appreciated instead in real terms with respect to other currencies used in its pricing and invoicing, thus incurring a large scale current account deficit. "Trade in euro is not as big as trade in dollars" (Lithuanian CB deputy governor Arvidas Krejzde, *ibidem*), but 40 per cent of their foreign trade is with the EU and appreciation was therefore a non-negligible problem.

A number of countries have raised a very large part of their external debt in US dollars: in 1997 the share of dollar-denominated external debt was 77.9 per cent in the Czech Republic, 75.1 per cent in Bulgaria, 61.6 per cent in Lithuania, 46 per cent in Poland, against DM shares respectively of 4.7 per cent, 4.7 per cent, 6.2 per cent, 9.9 per cent, (DBR, 2000). For such countries any euro devaluation with respect to the dollar, such as it has occurred in the first eighteen months of euro's life in 1999-2000, would raise the domestic burden of foreign debt service; a significant re-denomination of external debt would have to accompany their euroisation, or offsetting transactions in foreign exchange forward markets would have to be entered on a vast scale.

3.5 Initial reserves

Large scale foreign currency reserves are needed to establish Currency Boards or to formally replace a national currency. At birth a Currency Board must be endowed with sufficient foreign exchange reserves to back the entire currency in circulation (whether new or unchanged) at the permanently fixed exchange rate pre-selected by the government. Estonia benefited from the return of 11 tonnes of gold which had been sent to the West before 1940; Lithuania also benefited from the

return of 6 tonnes of gold as well as purchases from the IMF (OECD 2000). Other countries might be less fortunate: Bratkowski and Rostowski claim that Poland (with US\$ 26bn, i.e. twice the reserves necessary to back or replace the domestic currency), the Czech Republic and Slovenia certainly could afford euroisation, while Slovakia and Hungary are classed as “possible”. Gros (1999) suggests that the resources necessary to introduce a Currency Board (which he estimates at \$269mn for the Former Yugoslav republics, probably an under-estimate) could be borrowed, but this would undermine credibility and lead to expectations that the exchange rate would not be permanent but would only last as long as the loan and its subsequent renewals. Instead reserves must be instantly and permanently available against possible requests for conversion, therefore a Currency Board cannot be run on borrowed money, or it would become indistinguishable from an ordinary fixed exchange rate regime subject to occasional adjustments. Unless, as in Bulgaria, finance is being provided only partly by Bretton Woods institutions, and on a long term basis, in which case foreign lending amounts to assistance and really might as well take the form not of a loan but a gift.

3.6. Inflationary impact of real revaluation

All transition economies have introduced convertibility at a significantly undervalued exchange rate; invariably they all have undergone real revaluation falling gradually to a position of around twice the ratio between the Purchasing Power Parity (PPP) exchange rate and the actual rate. Real revaluation is usually associated with the so-called Harrod-Balassa-Samuelson effect, of faster productivity in tradables driving up wages and prices in non-tradables (see Coricelli 2001), but this effect can easily be overplayed: after all, tradables are both inputs in non-tradable goods, and substitutes for non-tradables. Regardless of this effect, or in addition to it, any exchange rate (whether fixed or floating) at which convertibility is introduced in inflationary and troubled times is bound to be undervalued in real terms.

For any fixed nominal exchange rate, subsequent unavoidable real revaluation necessarily involves a positive inflationary differential with respect to the peg currency. Far from aiding the control of inflation, in such circumstances any fixed exchange rate regime can turn into an inexorable inflationary machine. The necessary real revaluation could be only be achieved without inflation through a nominal revaluation.

Any transition country that had linked its currency to the euro from its birth in 1999 would have improved its competitiveness through the euro’s subsequent nominal depreciation against the dollar in 1999-2001; in order to undertake the necessary real revaluation such country would have had to accept additional differential inflation, whereas for instance Albania was able to revalue the lek in real terms by nominal revaluation with respect to the euro over the same period, with zero or negative inflation. This however is an exception; normally inflation in transition economies is higher than required to achieve the necessary real revaluation at a fixed nominal rate; therefore a fixed rate not only is not inflationary but acts as an anti-inflationary anchor. A possible (and widely expected) strengthening of the euro vis-a’vis the US dollar would assist any real revaluation still necessary in transition economies with currencies linked to the euro – unless the euro strengthened too much, as it happened to the dollar in the case of Argentina’s Currency Board, which played a significant role in its financial crisis of November 2001.

Of course a real revaluation can be inconsistent with the parallel commitments to price stability and nominal exchange rate stability involved by Maastricht criteria (Rollo 2001), and unilateral euroisation can be seen (Bratkowski and Rostowski, 2000) as a way to evade those constraints. However the very broad fluctuation margins envisaged by ERM II (+/- 15 per cent) and the applicability of the Maastricht inflation limits only in the run up to EMU membership – for just one

year before examination – should still allow EMU candidates accommodate the necessary real revaluation without having to euroise unilaterally. After EMU membership they could – like Ireland – continue to inflate as needed only subject to fiscal constraints.

4. Convergence to an Optimum Currency Area

De Grauwe and Aksoy (1997, see also De Grauwe and Lavra 1997) argue that central eastern European countries are not part of a European optimum currency area (OCA), as theorised by Mundell in his classic 1961 article, i.e. as a fairly homogeneous region with synchronized cycles and symmetric response, flexible prices and factor mobility. McKinnon (2001) notes that in a lesser known contribution to OCA literature Mundell (1971) stresses the advantages of some diversity for the sake of risk diversification within the area. Moreover it has been suggested that close trade links may actually promote economic convergence, thereby making OCA criteria endogenous (Frankel and Rose, 1997 and 1998).¹⁰ Arguably the diversity exhibited by transition economies in the 1990s exceeds the degree of diversity that might actually be good for an OCA, and which may set in motion endogenous convergence. There can be no doubt that the disadvantages discussed above would be considerably reduced with the convergence of transition economies to the euro, not only for the monetary and fiscal parameters but also for real and institutional ones:

(i) Monetary and fiscal convergence as represented by the Maastricht criteria has received a great deal of attention. The basic idea is that convergence can be realised not endogenously through trade links but as a result of deliberate policy measures; indeed most of the accession candidates seem to have made significant progress towards fulfilling those criteria, which appear well within their reach (see table 1). The share of government deficit and debt in GDP are below or near the Maastricht parameters; the deficit can be reduced below the limit of 3 per cent of GDP by drastic measures rather fast, if there is political will, and the debt is allowed to exceed the limit as long as it is falling. Inflation and interest rates are much higher but still within striking distance of Maastricht targets in most cases. But Maastricht criteria ignore essential and worrying features of transition economies such as quasi-fiscal deficits and debt, due to extra-budgetary, delayed and/or contingent public expenditure and commitments, including hidden subsidies and non-performing loans in the balance sheets of state banks. Those criteria do not include the low share of credit to the private sector, the low capitalisation and/or low liquidity of financial markets throughout transition economies, as well as the extra-ordinary volatility of their rates of return (see EBRD, 2000). Once quasi-fiscal items are taken into account, even seemingly virtuous candidates such as the Czech Republic lose much of their attraction (see Drabek, 2000). The share of credit to the private sector appears to be inversely related to the share of bad loans (EBRD, 1997). Transition economies seem to have either low market capitalisation or low ratio of value traded to market capitalisation (i.e. illiquidity) of their stock markets – e.g. respectively 2.6 and 36.3 per cent of GDP in Romania, 39.7 and 3.9 per cent in Russia – or both, e.g. 5.8 and 7.6 per cent in Bulgaria and 6.2 and 11.6 per cent in Latvia (EBRD, 2000). Further progress in approaching Maastricht inflation targets may come expensive.¹¹

¹⁰ Kenen (2000) shows that trade links do not ensure business cycles convergence, unless countries are already sufficiently similar, but Fidrmuc (2001) includes the impact of intraindustry trade thus confirming the endogeneity hypothesis.

¹¹ In October 2001 in Warsaw the ECB Vice-President Christian Noyer said that “Central and eastern European countries should not try to qualify for euro-zone membership by suppressing inflation so quickly that they hinder the growth of people’s real incomes” (*Financial Times*, 16 October).

(ii) Real convergence, in the view of some observers, is not a meaningful concept (Gros 2000) but can be easily identified as convergence of real incomes per capita – a process of catching-up which is already labelled “real convergence” by the ECOFIN Report of November 2000 (p. 2) and therefore of labour productivity and wage rates; of real interest rates, rates of unemployment, capacity utilisation. Accession candidates have an income per capita ranging from 7 per cent of the EU in Bulgaria to nearly 50 per cent in Slovenia; even at PPP exchange rates those differences are lower respectively at 23 per cent and 70 per cent but still large (EC-DG II, 2001). With sustained differences in income per capita the cost of cohesion policies is bound to be large, and it is not clear whether it can be contained within current limits of 4 per cent of the recipient country’s GDP. Such re-distribution policies would be enhanced if the EU supported national farmers, whose share in employment and GDP in accession candidates exhibits extreme diversity both within the group of new members and with respect to the Union of 15. Growth rates are bound to be much faster in the central-eastern accession countries, engaged in a catching up process which is probably more inflationary and requires a more accommodating monetary policy than that which suits the present Eurozone of 12. Apart from their almost instant convergence to EU unemployment average and variance – not requested by any treaty but promptly achieved already in the early 1990s – real convergence appears to be a much slower and more protracted process than anticipated (see Kolodko, 2000; see also Salvatore, 2000). For a country like Serbia, contemplating euroisation, reconstruction (IMF and World Bank, 1999) would have to be undertaken before real convergence can be attempted.

(iii) Institutional convergence also would appear to have been making rapid progress, at least for the front-runners lined up for accession, judging from EBRD assessment of systemic transition achievements in the scoreboard published yearly since 1994 in the Transition Reports (see table 2). Especially in areas such as privatisation and foreign trade, transition scores are impressive. However, the EBRD indicators suffer from an over-optimistic bias, not least because of the adoption of scores ranging from 1 to 4+ instead of starting from zero, which therefore credit even transition non-starters with an achievement of over 20 per cent of the road to a full-fledged market economy. In Table 3 the original scores are adjusted by turning (+) and (-) into +/- 0.5, then re-scaled on a 0-4.5 basis; private sector shares are converted to the same scale; naturally transition achievements now are lower on average, much lower for the more backward economies, and much more diverse. Moreover the EBRD approach neglects any notion of minimum requisites for a country to operate as a market economy, or of possible weights to be attached to their different indicators, or of the relative difficulty of making progress at different points of their scores and in different fields. In particular, banking systems, financial markets and regulatory regimes are not yet sufficiently developed, for the very good reason that they had to be set up *ex novo* instead of being re-structured as the other production sectors. Economic relations between advanced market economies like the EU-15 and economies with an incomplete market system are similar to those previously entertained with centrally planned Soviet-type systems; they can appear – and at the microeconomic level they can be – mutually advantageous but are not a good foundation for efficient economic and monetary integration.

These considerations invite greater caution in assessing the progress of new members’ convergence to single European Union standard – and therefore in evaluating the gross and net advantages to be obtained from both their membership of the EMU and from possible EMU membership surrogates.

Habib (2001) argues that, on balance, the case for unilateral currency replacement is weak in the Czech Republic and Hungary, because although converging they do not need to import monetary stability and credibility, are not highly euroised and would not gain a significant reduction in risk premia. In Poland, as a medium size relatively closed economy, an autonomous monetary policy could smooth the economic cycle; but the country could gain from a reduction in interest rate and

risk premium by replacing the zloty by the euro – as long as labour market rigidities were tackled. Bulgaria presents all the favourable conditions for an early adoption of the euro (though Roussanova 2001 is much more cautious in her assessment). A strong case for euroisation is also made for Estonia by Sulling (2001); basically the move from Currency Board to currency replacement is less traumatic than a move from other exchange rate regimes.

5. EU policy towards euroisation

In the run up to accession, accession candidates are free to adopt any exchange rate regime they choose, including a Currency Board as confirmed by the acceptance of those of Bulgaria, Estonia and Lithuania. Some time after accession the new Member States will be expected to join ERM-II, which is incompatible with fully floating rates, and with pegs (whether fixed or crawling) against anchors other than the euro. But euroisation in a strict sense, understood as domestic currency replacement by the euro, on the contrary is strictly ruled out by the EU until not only accession but also full convergence and negotiated acceptance into EMU:

“Any unilateral adoption of the single currency by means of “euroisation” would run counter the underlying economic reasoning of EMU in the Treaty, which foresees the eventual adoption of the euro as the endpoint of a structured convergence process within a multilateral framework. Therefore, unilateral “euroisation” would not be a way to circumvent the stages foreseen by the Treaty for the adoption of the euro.” (EC 2001a, p. 21, emphasis added; see also EC-DG-II 2001 on the ECOFIN Report to the Nice summit of November 2000).

This is an extraordinary combination of bad logic and bad policy. The Treaty sets conditions for EMU full membership, including provisions for domestic reserve transfer to ECB and representation in ECB organs, which would not apply to unilateral euroisation, and says nothing to stop any country, whether or not an accession candidate, from adopting the euro as domestic currency. No stage is being “circumvented”, for full EMU membership would still be subject to the standard criteria. Indeed, by adopting the euro as domestic currency, a country renounces completely the 15 per cent margin fluctuation either way vis-a’-vis the euro envisaged ERM-II; such a greater commitment to a stable exchange rate should be rewarded, not penalised. Moreover the only force of such prohibition is possible EU retaliation in slowing down or making harder the accession process or, after accession, behaving in a punitive fashion towards countries that have disobeyed and euroised unilaterally. Countries excluded from accession cannot be stopped from euroising – other than by possible discriminatory penalties or bribes.

EU aversion to unilateral euroisation is probably induced by three considerations:

First, the fear that participation in the euro-area (though not in EMU) by weaker countries might destabilise the euro. Indeed many believe that the weakness of the euro after its launch may have had something to do with the enlargement process, neglecting that the central eastern candidates represent under 6 per cent of the enlarged Union’s income and 3 per cent of its money supply. Moreover, paradoxically any possible threat to Eurozone stability would come from the unilateral euroisation not of accession candidates but of outsiders, in view of their lesser degree of convergence to EU parameters. Apart from providing liquidity to euroised countries in exchange for foreign currencies, the ECB would have no obligation to consider their particular needs; just as, in the US draft International Monetary Stability Act quoted above, “the Federal Reserve System has no obligation to consider the economic conditions of dollarised countries when formulating or implementing monetary policy” (Section 2.b).¹²

¹² Moreover, unilateral euroisation of countries outside EMU would involve advantages for ECB and EMU members as well as potential disadvantages. The main advantage would be seigniorage, net of the possible net cost of ECB

Second, the fear that unilateral euroisation might complicate the introduction of euro banknotes and coins in EMU countries on 1-1-2002, and the management of euro issues after that. But in any case central-east European economies have contributed to the weakness of the euro by getting out of euro-zone currencies into dollars in order to avoid the surfacing of their holdings (see above, section 1). Euroisation would have added to demand for Eurozone currencies if implemented before such date, and to demand for euro if implemented after that date.

Third, the fear that the exchange rate at which a country unilaterally euroises might be excessively undervalued, thus undermining the competitiveness of EU exports. These fears are not justified, in view of (i) the large scale current account deficits, in general and especially towards the EU, of all accession candidates and especially those that have adopted a currency board, which justify an element of under-valuation when a hyper-fixed rate is selected; and (ii) the higher inflationary pressure in economies that grow significantly faster than current EU members, which is bound to erode any initial gain in competitiveness from undervaluation.

It is not clear is what conceivable gain might come from candidates running a Currency Board, in order to satisfy EMU criteria according to EU documents on enlargement (such as ECOFIN 2000), first moving from their long-standing fixed exchange rate to a presumably stronger rate negotiated with EMU countries, then floating for two years within a 15 per cent band of variation with respect to the euro, then locking their exchange rate irrevocably on EMU membership. This appears to be the kind of perverse scenario beloved by currency speculators, who with this rules of the game may succeed in destabilising the best behaved and most solid candidate economy.

The only justification for not treating two years successful euroisation as a substitute for two years in the much looser ERM-II, and allowing accession candidates to apply to join ERM-II only after accession, presumably is the potential progress in convergence to EU and EMU standards in the intervening time. This concern, however, would be much better served if convergence requirements were spelled out and specified in detail, rather than simply holding up EMU membership pending what is basically a purely administrative rather than a fundamental requirement.

6. Conclusions

To a visitor from outer space the arrangements of the present EMU-area and those of the wider euro-area enlarged to include strict euroisation and/or euro-backed local currency would be absolutely indistinguishable.¹³ The advantages of the arrangement would be the same, in terms of exchange rate certainty, policy credibility, lower transaction costs, lower interest rates, greater macroeconomic stability and greater economic integration and investment. But there would be an immensely important difference, in the different role of the ECB, which in a strictly euroised country would not act as a central bank. Namely, the ECB would not a lender of last resort; it would act – by definition – as an institute of issue obtaining some or all of the seigniorage otherwise accruing to the euroised country, but would not have any responsibility towards that country in deciding its monetary policy or its exchange rate policy towards the rest of the world. The euroised country would lose not only seigniorage but also the function of a Lender of Last resort and more generally of monetary policy. Some minor problems, like possible extensive use of other currencies

sterilisation of the Currency Board country's euro bonds and deposits if their effects on euro monetary expansion were judged to be excessive. In addition unilateral euroisation would avoiding the complications generated by the growth in membership of the ECB Governing Council.

¹³ As long as, without loss of generality, a Currency Board managed a domestic currency with a one to one parity with the euro.

in trade invoicing and in external debt denomination, could be met at a relatively small cost. There are also inflationary implications of any fixed exchange rate policy for currencies initially undervalued and experiencing sustained real revaluation. Other, more significant costs would be the initial cost of backing up or replacing domestic currency with foreign exchange.

Both costs and benefits from currency replacement and Currency Boards have probably been over-estimated. Neither a Currency Board nor a formal currency replacement are irreversible; a residual uncertainty remains and is reflected in interest rate premia. Credibility cannot be raised to that of the euro because it cannot exceed that of the link to the euro. Gains in transaction costs are likely but probably smaller than anticipated. Macroeconomic stability may be gained at the cost of regional imbalances. The same can be said of costs: in transition economies seigniorage is usually small; for currency replacement it could also be shared out by the ECB by agreement. A function of Lender of Last Resort could be retained to the extent that it was backed by surplus reserves. The loss of national monetary policy is not a big deal for countries that have already delegated that policy entirely to an independent Central Bank responsible for the maintenance of price stability. Issues of invoicing and external debt denomination can be resolved at a reasonable cost. The need for initial foreign exchange reserves could be met by long term official loans, or by aid. The inflationary impact of real revaluation under a fixed exchange rate need not involve a loss in competitiveness and is no great obstacle to satisfying apparent inconsistency with Maastricht criteria, which only apply in the year before examination and within broad margins for manoeuvre.

Gross benefits and costs are bound to be reduced with the progress of a process of convergence to EU and EMU standards. Monetary and fiscal convergence criteria appear close to be satisfied, at least in the accession frontrunners, but there are skeletons in the closet (quasi fiscal operations, weakness of banking institutions, underdevelopment of financial markets, etcetera). Real convergence – of real income per head, real interest rates, capacity utilisation, unemployment – is a slower and more protracted process than anticipated. Institutional convergence is also slower and more diverse than usually believed (e.g. by the EBRD). Paradoxically, the further away an area is from satisfying convergence criteria the greater are the potential net benefits from trade integration – but then displacement costs in terms of capital utilisation and labour employment are also higher, and require international, interregional and inter-temporal re-distribution from gainers to losers on a scale much larger than is contemplated at present.

Positive net benefits from unilateral euroisation cannot be taken for granted but are subject to empirical verification in each country at any given time. Net benefits are probably highest for smaller countries, either already converging to the currency area they wish to join, thus minimising resource displacement, or so distant as to use euroisation to speed up convergence. Adversion to unilateral euroisation in Brussels and Frankfurt has no legal or economic justification.

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Table 1. EMU Convergence Criteria: Central and East European accession candidates in comparison (January 2000).

	Inflation rate %			Budget Deficit % of GDP (1)			Govt. Debt % of GDP (1)			Interest rates (2)	Exchange rate regime
	1999	2000	2001F	1999	2000	2001F	1999	2000	2001F	November 2000	November 2000
Ref. Value	2.0	2.8	3.2	-3.0	-3.0	-3.0	60.0	60.0	60.0	7.4	ERM II
BG	0.3	8.9	6.6	-1.0	-1.5	-1.5	93.6	95.5	97.5	5.0	Currency Board (EUR)
CZ	2.1	4.1	5.1	-4.2	-5.2	-6.1	29.0	29.0	28.5	7.6	Managed Floating (EUR)
EE	3.3	4.9	4.8	-4.7	-1.1	-0.9	11.0	11.4	12.6	7.1	Currency Board (EUR)
HU	10.10	9.8	6.6	-3.8	-3.0	-3.0	72.7	70.5	63.3	9.3	Fluctuation Band (EUR)
LT	0.8	1.5	3.2	-8.6	-2.9	-2.5	28.6	28.3	26.6	8.2	Currency Board (EUR)
LV	2.4	3.4	4.1	-3.8	-1.9	-1.6	10.6	10.6	10.4	10.4	Peg (SDR)
PL	7.0	10.8	7.4	-3.7	-2.4	-2.5	43.0	43.7	42.5	13.1	Flexible
RO	44.8	44.2	22.9	-4.0	-3.5	-3.0	32.3	31.3	30.4	43.4	Managed Floating (EUR)
SI	6.1	9.0	7.6	-0.7	-1.0	-1.0	24.3	25.0	25.5	n.a	Managed Floating (EUR)
SK	10.6	12.1	6.7	-3.9	-5.5	-5.6	25.3	27.0	26.7	7.7	Managed Floating (EUR)

F = Forecast; n.a. = non available.

Definitions may differ from those of the EU

10-year government bonds where available, in p.c. per annum. Shorter maturities for BU, EE, LT, LV, RO, SK.

Sources: ECB, IMF, DBR.

From: Deutsche Bank Research, Euro Watch n. 88, December 2000.

Table 2. Progress in transition in Central and Eastern Europe, the Baltic states and the CIS

	Private sector share in % of GDP, mid-2000 (EBRD estimate) *	Enterprises			Markets and trade			Financial institutions	
		Large-scale privatisation	Small-scale privatisation	Governance & enterprise restructuring	Price liberalisation	Trade & foreign exchange system	Competition policy	Banking reform & interest rate liberalisation	Securities markets & non-bank financial institutions
Albania	75	2	4	2	3	4+	2-	2+	2-
Armenia	60	3	3+	2	3	4	1	2+	2
Azerbaijan	45	2-	3+	2	3	3+	2	2	2-
Belarus	20	1	2	1	2-	2-	2	1	2
Bosnia & Herzegovina	35	2	2+	2-	3	3	1	2+	1
Bulgaria	70	4-	4-	2+	3	4+	2+	3	2
Croatia	60	3	4+	3-	3	4+	2+	3+	2+
Czech Republic	80	4	4+	3+	3	4+	3-	3+	3
Estonia	75	4	4+	3	3	4	3-	4-	3
FYR Macedonia	55	3	4	2+	3	4	2	3	2-
Georgia	60	3+	4	2	3+	4+	2	2+	2-
Hungary	80	4	4+	3+	3+	4+	3	4	4-
Kazakhstan	60	3	4	2	3	3+	2	2+	2+
Kyrgyzstan	60	3	4	2	3	4	2	2+	2
Latvia	65	3	4+	3-	3	4+	2+	3	2+
Lithuania	70	3	4+	3-	3	4	3-	3	3
Moldova	50	3	3+	2	3+	4	2	2+	2
Poland	70	3+	4+	3	3+	4+	3	3+	4-
Romania	60	3	4-	2	3	4	2+	3-	2
Russian Federation	70	3+	4	2	3	2+	2+	2-	2-
Slovak Republic	75	4	4+	3	3	4+	3	3	2+
Slovenia	55	3	4+	3-	3	4+	3-	3+	3-
Tajikistan	40	2+	3+	2-	3	3+	2-	1	1
Turkmenistan	25	2-	2	1	2	1	1	1	1
Ukraine	60	3-	3+	2	3	3	2+	2	2
Uzbekistan	45	3-	3	2-	2	1	2	2-	2

* The "private sector shares" of GDP represent rough EBRD estimates, based on available statistics from both official (government) sources and unofficial sources. The underlying concept of private sector value added includes income generated by the activity of private registered companies as well as by private entities engaged in informal activity in those cases where reliable information on informal activity is available. Here the term "private companies" refers to all enterprises in which a majority of the shares are owned by private individuals or entities. The roughness of the EBRD estimates reflects data limitations, particularly with respect to the scale of informal activity. The EBRD estimates may in some cases differ markedly from available data from official sources on the contribution to GDP made by the "private sector" or by the "non-state sector". This is in most cases because the definition of the EBRD concept differs from that of the official estimates. Specifically for the CIS countries, official data in most cases refer to value added in the "non-state sector", a broad concept which incorporates collective farms as well as companies in which only a minority stake has been privatised.

From EBRD Transition Report 2000, November, London.

Large-scale privatisation

- 1 Little private ownership.
- 2 Comprehensive scheme almost ready for implementation; some sales completed.
- 3 More than 25 per cent of large-scale enterprise assets in private hands or in the process of being privatised (with the process having reached a stage at which the state has effectively ceded its ownership rights), but possibly with major unresolved issues regarding corporate governance.
- 4 More than 50 per cent of state-owned enterprise and farm assets in private ownership and significant progress on corporate governance of these enterprises.

Small-scale privatisation

- 2 Substantial share privatised.
- 3 Nearly comprehensive programme implemented.
- 4 Complete privatisation of small companies with tradable ownership rights.
- 4+ Standards and performance typical of advanced industrial economies: no state ownership of SMEs; effective tradability of land.

Governance & enterprise restructuring

- 1 Soft budget constraints (lax credit and subsidy policies weakening financial discipline at the enterprise level); few other reforms to promote corporate governance.
- 2 Moderately tight credit and subsidy policy but weak enforcement of bankruptcy legislation and little action taken to strengthen competition and corporate governance.
- 3 Significant and sustained actions to harden budget constraints and to promote corporate governance effectively (e.g. through privatisation combined with tight credit and subsidy policies and/or enforcement of bankruptcy legislation).

Price liberalisation

- 2 Price controls for several important product categories, state procurement at non-market prices remains substantial.
- 3 Substantial progress on price liberalisation: state procurement at non-market prices largely phased out.

Trade & foreign exchange system

- 1 Widespread import and/or export controls or very limited legitimate access to foreign exchange.
- 2 Some liberalisation of import and/or export controls; almost full current account convertibility in principle but with a foreign exchange regime that is not fully transparent (possibly with multiple exchange rates).
- 3 Removal of almost all quantitative and administrative import and export restrictions; almost full current account convertibility.
- 4 Removal of all quantitative and administrative import and export restrictions (apart from agriculture) and all significant export tariffs; insignificant direct involvement in exports and imports by ministries and state-owned trading companies; no major non-uniformity of custom duties for non-agricultural goods and services; full current account convertibility.
- 4+ Standards and performance norms of advanced industrial economies: removal of most tariff barriers; WTO membership.

Competition policy

- 1 No competition legislation or institutions.
- 2 Competition policy legislation and institutions set up; some reduction of entry restrictions or enforcement action on dominant firms.
- 3 Some enforcement actions to reduce abuse of market power and to promote a competitive environment, including break-ups of dominant conglomerates; substantial reduction of entry restrictions.

Banking reform & interest rate liberalisation

- 1 Little progress beyond establishment of a two-tier system.
- 2 Significant liberalisation of interest rates and credit allocation; limited use of direct credit or interest rate liberalisation ceilings.
- 3 Substantial progress in establishment of bank solvency and of a framework for prudential supervision and regulation; full interest rate liberalisation with little preferential access to cheap refinancing; significant lending to private enterprises and significant presence of private banks.
- 4 Significant movement of banking laws and regulation towards BIS standards; well-functioning banking competition and effective prudential supervision; significant term lending to private enterprises; substantial financial deepening.

Securities markets & non-bank financial institutions

- 1 Little progress.
- 2 Formation of securities exchanges, market-makers and brokers; some trading in government paper and/or securities; rudimentary legal and regulatory framework for the issuance and trading of securities.
- 3 Substantial issuance of securities by private enterprises; establishment of independent share registries, secure clearance and settlement procedures, and some protection of minority shareholders; emergence of non-bank financial institutions (e.g. investment funds, private insurance and pension funds, leasing companies) and associated regulatory framework.
- 4 Securities laws and regulations approaching IOSCO standards; substantial market liquidity and capitalisation; well functioning non-bank financial institutions and effective regulation.

Table 3. Summary Transition Scoreboard: Means and Standard Deviations (mid-2000; calculated from the EBRD Transition Report, 2000)

	Country Average excluding private sector score			Country Average including private sector score				Country Standard Deviation excluding private sector score			Country Standard Deviation including private sector score		
	EBRD Scores	Corrected Scores 1	Diff.	EBRD Scores 2	Corrected Scores 1, 3	Diff.		EBRD Scores	Corrected Scores 1	Diff.	EBRD Scores 2	Corrected Scores 1, 3	Diff.
	Range: 1 to 4.5	Range: 0 to 4.5		Range: 1 to 4.5	Range: 0 to 4.5			Range: 1 to 4.5	Range: 0 to 4.5		Range: 1 to 4.5	Range: 0 to 4.5	
	(A)	(B)	(A) - (B)	(C)	(D)	(C) - (D)		(E)	(F)	(E) - (F)	(G)	(H)	(G) - (H)
Albania	2.63	2.09	0.54	2.74	2.23	0.50	Albania	1.13	1.45	-0.32	1.04	1.42	-0.38
Armenia	2.63	2.09	0.54	2.68	2.16	0.52	Armenia	0.95	1.23	-0.27	0.85	1.17	-0.31
Azerbaijan	2.38	1.77	0.61	2.40	1.80	0.60	Azerbaijan	0.83	1.07	-0.24	0.74	1.01	-0.27
Belarus	1.50	0.64	0.86	1.52	0.67	0.85	Belarus	0.46	0.60	-0.13	0.41	0.56	-0.15
Bosnia & Herzeg. Bulgaria	2.06	1.37	0.70	2.08	1.39	0.69	Bosnia & Herzeg. Bulgaria	0.82	1.06	-0.23	0.73	0.99	-0.26
Croatia	3.06	2.65	0.41	3.11	2.71	0.40	Croatia	0.78	1.00	-0.22	0.70	0.95	-0.25
Czech Republic	3.25	2.89	0.36	3.23	2.87	0.36	Czech Republic	0.85	1.09	-0.24	0.75	1.02	-0.27
Estonia	3.56	3.29	0.27	3.59	3.33	0.26	Estonia	0.73	0.94	-0.21	0.65	0.88	-0.24
FYR Macedonia	3.44	3.13	0.30	3.46	3.16	0.30	FYR Macedonia	0.68	0.87	-0.19	0.60	0.82	-0.22
Georgia	2.88	2.41	0.46	2.88	2.42	0.46	Georgia	0.88	1.13	-0.25	0.77	1.05	-0.28
Hungary	2.94	2.49	0.45	2.96	2.51	0.44	Hungary	1.08	1.39	-0.31	0.96	1.31	-0.35
	3.81	3.62	0.20	3.81	3.61	0.20		0.53	0.68	-0.15	0.47	0.64	-0.17

COSTS AND BENEFITS OF UNILATERAL EUROISATION IN CENTRAL EASTERN EUROPE

Kazakhstan	2.81	2.33	0.48	2.84	2.37	0.47	Kazakhstan	0.70	0.91	-0.20	0.63	0.86	-0.23
Kyrgyzstan	2.81	2.33	0.48	2.84	2.37	0.47	Kyrgyzstan	0.84	1.08	-0.24	0.75	1.02	-0.27
Latvia	3.19	2.81	0.38	3.20	2.83	0.37	Latvia	0.84	1.08	-0.24	0.74	1.01	-0.27
Lithuania	3.19	2.81	0.38	3.22	2.85	0.37	Lithuania	0.70	0.91	-0.20	0.63	0.85	-0.23
Moldova	2.81	2.33	0.48	2.81	2.32	0.48	Moldova	0.80	1.03	-0.23	0.70	0.96	-0.26
Poland	3.63	3.38	0.25	3.61	3.35	0.26	Poland	0.58	0.75	-0.17	0.52	0.70	-0.19
Romania	2.81	2.33	0.48	2.84	2.37	0.47	Romania	0.70	0.91	-0.20	0.63	0.86	-0.23
Russian Fed.	2.56	2.01	0.55	2.66	2.14	0.53	Russian Fed.	0.90	1.16	-0.26	0.84	1.15	-0.31
Slovak Republic	3.44	3.13	0.30	3.46	3.16	0.30	Slovak Republic	0.78	1.00	-0.22	0.69	0.94	-0.25
Slovenia	3.25	2.89	0.36	3.21	2.85	0.37	Slovenia	0.85	1.09	-0.24	0.75	1.03	-0.27
Tajikistan	2.19	1.53	0.66	2.21	1.56	0.65	Tajikistan	1.07	1.37	-0.30	0.94	1.29	-0.34
Turkmenistan	1.31	0.40	0.91	1.38	0.48	0.89	Turkmenistan	0.46	0.59	-0.13	0.44	0.60	-0.16
Ukraine	2.56	2.01	0.55	2.62	2.09	0.54	Ukraine	0.56	0.72	-0.16	0.52	0.72	-0.19
Uzbekistan	1.94	1.21	0.73	2.01	1.30	0.71	Uzbekistan	0.62	0.80	-0.18	0.58	0.80	-0.21
AVERAGE	2.79	2.31	0.49	2.82	2.34	0.48							
STD. DEV. of the MEANS	0.63	0.81	-0.18	0.61	0.79	-0.17	STD. DEV. of the POPULATION	0.97	1.24	-0.27	0.93	1.20	-0.27

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