WHY UNILATERAL EUROIZATION MAKES SENSE FOR (SOME) APPLICANT COUNTRIES

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Key elements of the unilateral euroization proposal.

Andrzej Bratkowski and I first presented our proposal for unilateral euroization (UE) three and a half years ago [Bratkowski and Rostowski 1999]. Comments by some economists indicate that the details of our proposal have not always been understood clearly. This is why we wish to begin by restating the main elements of the proposal.

We propose that in transition countries applying for EU membership, the domestic currency should be replaced as quickly as is practicable by the euro. [1] This means that domestic cash in circulation and in bank vaults would be replaced by euro notes and coins, which would be bought using a country's international reserves. At the same time all domestic currency denominated bank deposits, private contracts, wages and tax obligations would be re-denominated into euro at the "conversion rate" chosen by the government of the country concerned.[2] We wish to make it absolutely clear that we are **not** proposing, and never have proposed, the introduction of a "Polish euro" or of a "Czech euro" – i.e. of a new currency which would be different from that created by the European Central Bank (ECB).
We believe that it would be most beneficial for some transition applicant countries (TACs) if unilateral euroization were implement with the acceptance of the European Union (what we call "consensual unilateral euroization"). Thus, by "unilateral euroization" we mean that euroization would be implemented by buying the necessary euros using a country's international reserves and before the country becomes a member of the Economic and Monetary Union (indeed, possibly before it becomes a member of the European Union). We do not mean that UE should be implemented without prior discussions with the EU, and without attempting to obtain EU acceptance of it. At present the EU is opposed to unilateral euroization. We believe that this EU opposition is not well grounded in EU law or in the interests of current EMU member states [on the former see Appendix 1, on the latter Bratkowski and Rostowski 2001]. It should therefore be possible to convince the EU as to the merits of unilateral euroization for both sides, and to agree terms which would obviate any well-founded concerns that the EU or the ECB might have. TACs should therefore start talks aimed at convincing the EU to change its stance, while at the same time preparing the legal and institutional basis for the change.[3] Failure in these negotiations would not mean that TACs would have to give up the idea of UE (it could still proceed with "non-consensual unilateral euroization"). However, it might be better under such circumstances to adopt a currency board arrangement instead. Such a system is very similar to UE, but would be slightly less beneficial [Rostowski, 2001a].

Finally, our proposal for UE is a response to the acute "problems of success" which face advanced transition economies as they approach EU membership. Successful market reforms in the TACs and the perspective of EU accession lead to expectations of rapid growth. This in turn means that domestic residents wish to save less so as to smooth consumption, while foreign investors are willing to provide the financing needed to bridge the gap between savings and investment. The result is high capital account surpluses and their corollary high current account deficits, which makes the TACs very susceptible to capital inflow "stops" (reversals are not necessary) leading to currency crises. In the case of Poland the current account deficit has been around 5-8% GDP over the last three years, which is usually considered well within the "danger zone" in which a currency "stop" may threaten due to fears of un-sustainability by investors.

Neither monetary nor fiscal policies can be *counted on* to keep these developments in check. Under a floating exchange rate regime, contractionary monetary policy will cause the domestic currency to appreciate, which on the traditional Mundell-Fleming view is likely to increase the CA deficit even further. Expansionary monetary policy will lead to faster inflation and will make the

[1] The technical preparations would probably take about one and a year.
[2] Whether the euro would become a country's "national currency" or whether there would cease to be a national currency in the TAC after the abolition of the złoty or crown is a legal question which we leave to the lawyers. From an economic point of view it is a secondary matter.
[3] For instance, setting up the Banking Sector Liquidity Fund which we discuss below.

achievement of the Maastricht inflation criterion impossible. Under a fixed exchange rate, monetary policy is not available as an instrument. Fiscal policy (which can be used with either floating or fixed exchange rate regimes) may also prove ineffective in improving the CA, as a tightening of the fiscal stance may simply make foreign lenders more willing to lend to domestic private sector borrowers (we know that foreign investors do nowadays look at the overall indebtedness of a country's residents, both public and private). Expansionary fiscal policy would, in the traditional way, increase aggregate demand and thus tend to increase the CA deficit.

Given the difficulty of reducing high CA deficits, many TACs are very exposed to the risk of a sharp depreciation of their currency, commonly called a currency crisis. In countries with high levels of "liability dollarization/euroization" [Calvo, 1998] such crises will lead to increases in the real debt burden and to depression (Indonesia is a recent example).

In the rest of the paper we shall not repeat the above arguments in favour of unilateral euroization *in extenso*. Those who are interested are referred to our previous papers [Bratkowski and Rostowski, 2001 and Rostowski 2002]. Sections 2 to 5 deal with some new monetary, fiscal and exchange rate *policy* considerations (including consideration of which of the TACs already constitute an optimum currency area with the EMU countries). Sections 6 to 8 deal with the fiscal and financial costs and benefits of UE. Appendix 1 deals with some of the legal and political aspects of EU opposition to UE.

2. The Effectiveness of Monetary and Fiscal Policy in the Absence of UE in the run-up to EU and EMU membership.

It cannot be denied that fiscal policy *may* be effective in limiting CA deficits. The existence of the countervailing effect we describe means that a given fiscal tightening will have that much smaller an impact on the CA. Thus the shift of the US to a fiscal surplus during the 1990s did not prevent its CA deficit from growing. We suspect that, given normally low interest rates, a very large fiscal tightening would be needed in many countries to reduce the CA deficit to a supposedly safe level of about 5% of GDP. Such a tightening (of say 4% points of GDP) might often not be politically feasible. This does not mean that we are not in favour of fiscal tightening, we are. But we wish to see it for its own sake, in order to free resources for private sector development, and not to achieve a doubtful improvement in the CA. In the meantime, CA improvement cannot wait.

Recent events in Poland suggest that monetary policy *can* be used effectively to improve the current account. Very high real interest rates during 1999-2000 (on occasion in excess of 13 percent when deflated by the CPI and of 16 percent when deflated by the PPI) have limited aggregate demand sufficiently to reduce the CA deficit to about 5% of GDP in 2001, in spite of a large nominal - and massive real - appreciation of the złoty against the euro during the period. However, the cost has been considerable, with real GDP growth decelerating from over 6% in 1997 to about 1% in 2001.[4]

Thus, the traditional path to EU and EMU accession either exposes fast growing applicant countries to a high risk of currency crisis, or forces them to grow far more slowly than they could with unilateral euroization. Since real convergence is one of the purposes of EU accession for the TACs, the orthodox path is at variance with the ultimate goal, something which cannot be desirable. This is the crux of our argument.

3. Optimum Currency Area Considerations.

Asymmetric risks are a danger if a country and the monetary union it proposes joining are not part of an optimum currency area (OCA). Our view is that many TACs satisfy the OCA conditions *to the same degree as present members of EMU*, or are very close to doing so. Since the TACs

[4] Given the size of the real appreciation of the złoty, even this lower CA deficit may turn out not to be adequate protection against a currency crisis.

are committed by their acceptance of the *acquis communautaire* to joining the EMU at some stage, what is good enough for the EMU's current members should be good enough for the TACs. Even if some of the TACs satisfy OCA conditions a little less than current EMU members, this merely exposes them to slightly higher risks from idiosyncratic shocks than current EMU members are exposed to. In making a choice on UE, these slightly higher risks must be set against the very high costs described above of keeping one's national currency in the pre-accession period.

The main reason we think that many TACs are close to satisfying OCA requirements to a similar degree as current EMU members is their very high level of trade integration with EMU countries. Trade with other members of a currency area as a share of GDP is a good indication of the extent to which idiosyncratic shocks to a country's economy are likely to be amortized by its trade with the rest of the currency area. Trade with other members of a currency area as a share of total trade is a good indication of the extent to which a country would be exposed to movements in the exchange rate of the common currency against the currencies of "third countries". Thus Table 1 shows that in 1999:

1. **All of the TACs** traded a higher share of their GDP with EMU countries than did the weighted average of EMU members in the year preceding the launching of the euro;
2. **All of the TACs** traded a higher share of their GDP with EMU countries than six of the current 12 EMU members (including the four largest Germany, France, Italy and Spain);
3. **All of the TACs** traded a higher share of their total trade with EMU countries than two EMU members, and **six** of the TACs traded a **higher** share of total trade with EMU than **all but two** current EMU members

Thus, if these ratios were the only criteria for satisfying OCA requirements, we could already conclude that many TACs satisfy them.

It is argued [e.g. Fidrmuc and Schardax, 2000] that a higher share of intra-industry (II) trade within a currency area will lead to more synchronous business cycles, because industry specific supply or demand shocks are then more likely to be symmetric across countries. We therefore measure intra-industry trade with EMU/GDP for EMU members and applicant countries, and find that seven TACs have a share of II trade with EMU/GDP which is higher than that of three EMU members.

Table 1
Degree of trade integration of TACs with EMU compared to that of EMU countries

	EMU trade/GDP	Intra-industry EMU trade/GDP(estimated)*	EMU trade/total trade
Belgium-Lux.	81.4	59	56.8
Hungary	**73.2**	**43**	**68.7**
Czech Republic	**65.1**	**43**	**61.7**
Estonia	**62.0**	**24**	**45.1**
Slovenia	**61.8**	**37**	**67.1**
Slovakia	**58.9**	**29**	**56.8**
Netherlands	48.8	38	47.9
Ireland	44.2	22	33.2
Bulgaria	**39.3**	**13**	**54.2**
Portugal	38.5	19	67.1
Austria	37.6	26	63.2
Romania	**34.7**	**10**	**66.4**
Latvia	**30.9**	**7**	**46.8**
Poland	**27.6**	**12**	**58.5**
Lithuania	**26.5**	**6**	**36.0**
Spain	25.5	17	58.3
France	21.7	18	51.9
Germany	20.8	17	43.8
Finland	20.7	10	34.0
Italy	19.5	12	49.3
Greece	17.4	5	53.4

Source: Eurostat. Data is 1999 for accession countries and 1998 for EMU countries.
* The shares of intra-industry (II) trade with EMU countries in GDP were estimated by taking the 1997 shares of II trade with the EU in Fidrmuc and Schardax [2000] and applying them to columns 2 and 4.

However, it needs to be remembered that inter-industry trade also contributes to the convergence of business cycles in a currency area. Although it need not protect a country from an asymmetry of industry-specific shocks with the rest of the area, it will nevertheless reduce the asymmetry of aggregate shocks. Thus, an increase in aggregate demand in EMU (but not in a particular TAC) will spill over to the TAC through increased demand for its exports, whatever the nature of these, and an asymmetric increase in aggregate costs (for instance as a result of increased energy prices which affects the TACs more than EMU) will be partly cushioned by the smaller fall in EMU output and therefore demand.

Thus, it is hardly surprising that studies show that business cycles are more correlated between the advanced TACs and Germany than between important EMU members. Boone and Maurel [1999], using de-trended unemployment, show that between 55% (Poland) and 86% (Hungary) of the advanced TACs' cycles are explained by German cycles, whereas only 43% of Spanish and 18% of Italian cycles can be explained in this way. Fidrmuc and Schardax [2000] find that Poland's industrial production is as closely correlated with Germany's as is Austria's, and more so than those of Switzerland or Italy. Hungary and Slovenia's industrial outputs are more closely correlated with Germany's than is that of Italy, although those of the Czech Republic and Slovakia are far less correlated.

It should be repeated, however, that synchronicity of business cycles is not in itself a requirement for a small country to adhere to a much larger currency area. Thus, *ex ante,* if shocks are mainly

demand-generated, a small country whose autonomous aggregate demand is negatively correlated with that of a large currency area may benefit from acceding to it. Downturns in domestic demand will be offset by increases in demand in the rest of the area, reducing overall output variability. Joining the currency area will increase trade with it, and may therefore increase the smoothing effect by more than the elimination of the exchange rate effect reduces it.[5] *Ex post* this would result in fluctuations becoming more correlated.

4. Inflation and Exchange Rate Misalignment after Currency Conversion.

Wójcik [2000] worries about exchange rate misalignment as a result of inflationary inertia after the domestic currency is converted into euro. Our solution is a simple up front devaluation at the moment of euroization [Rostowski, 2001b]. Wójcik claims this will make inflation "harder to control". This is clearly only the case if the "pass-through" effects of a devaluation are large.[6] But if they are then devaluation will not affect the real exchange rate much, freedom to devalue is worth little, and one may as well euroize.

Furthermore, our recommendation is based on the existence of high rates of labour productivity growth in the TACs.[7] On the one hand this generates the problem in the first place, because rapid expected GDP growth is what causes residents to wish to be large net borrowers, and foreigners to be willing to be large net lenders to (or investors in) the country. On the other hand, rapid labour productivity growth means that a mistake in initially setting the conversion rate for the domestic economy, such that a margin of output does become uncompetitive, is likely to be made up quickly.[8] Of course, this suggests that TACs with a long record of relatively slow labour productivity growth, such as the Czech Republic, may have less to gain and more to lose if they adopt UE.
The argument made by some opponents of UE, that the rate of labour productivity growth is irrelevant, because trade unions will force real wages to rise by more than productivity gains so that unit labour costs increase whatever the rate of productivity growth, is not a convincing argument for exchange rate flexibility. Unions which are strong and clever enough to appropriate more than the full amount of labour productivity growth are likely to be strong and clever enough to enforce wage increases which will compensate their members for any real depreciation!

Finally, we see no reason why the credibility of the regime should be dramatically undermined, as suggested by Wójcik, just because the euroization is *unilateral*. While we fully expect UE to be somewhat less credible than full EMU membership, we expect it to be somewhat *more* credible than a currency board arrangement, such as exists in Estonia, Lithuania or Bulgaria. And currency boards have proved very credible, far more so than soft-pegs of the ERM variety. We expect UE to be more credible than a traditional currency board in a *non-applicant* country for two reasons:
Although a domestic currency could in principle be re-created to enable depreciation, the technical preparations would be long and complicated and impossible to keep secret, giving speculators a large amount of warning. This would in itself reduce the benefits to a government contemplating such a move, and therefore speculators' expectations of such an event. In currency boards the domestic currency already exists, so all that needs to be changed are the constitutional provisions which set up the CB arrangement. Thus, with euroization the "poison pill" defense against speculation is even stronger than in the (strong) case of a currency board.

[5] The "exchange rate smoothing effect" is due to the fall in the value of the currency of the country in which demand falls relative to that of the country in which demand rises.
[6] There will, clearly, be some inflationary effect of the up-front devaluation, our point is that we do not expect it to be large.
[7] In the absence of the very tight macroeconomic policies required to contain the CA deficit within safe limits.
[8] We are grateful to Eduardo Borensztein for this point.

UE would be expected to last only a relatively short time (say five years) before the TAC concerned would join EMU as a fully-fledged member.[9] Also, it would be absurd for a country whose strategic goal is EU and EMU membership (within about 4 and 6 years respectively) to reintroduce a national currency.
Generally, the credibility of the UE regime would be reflected in the interest rates which would obtain under it. We return to this absolutely central matter in Section 6.

5. Satisfying the Maastricht Inflation Criterion.

There is considerable confusion regarding the implications of UE for TAC's ability to fulfill the Maatricht Inflation criterion (MIC). Fast growing countries such as the TACs usually exhibit the Harrod-Balssa-Samualson (H-B-S) effect, with the prices of non-tradeables rising faster than the prices of tradeables, and the rate of increase in the relative prices of non-tradeables being faster than in slower growing countries.[10] This means that if tradeables price inflation in a TAC were the same as in the EMU (as would be the case under UE), then overall inflation would be higher – possibly sufficiently higher to make it impossible for TAC to fulfill the MIC. With a flexible exchange rate inflation can be lowered to the required level by allowing the domestic currency to appreciate (at present the so-called "reference value" which defines this level is: 1.5% above the average inflation rate in the three best performing countries of the EMU). This would put downward pressure on domestic tradeable goods prices, as well as reducing domestic non-tradeable goods inflation. Since this option would not be available under UE or a currency board, their opponents claim that either of these systems would make satisfying the MIC and therefore joining the EMU impossible for many years (maybe for as long as two decades) [Gomułka 2001].

We disagree strongly with this view. In the first place all that will have to be done under UE is to reduce domestic demand sufficiently for non-tradeables' price inflation to fall sufficiently for average inflation to satisfy the present "reference value" of the MIC. In the case of Poland non-tradeables for which prices are market determined account for about 30-40% of the CPI basket. Thus, if inflation in the three best performers in EMU were to be 1.5% (see fn.11), then the reference value would be 3%, and if tradeables' and non-tradeables' inflation were the same within the EMU, then the maximum level of non-tradeable goods' inflation which would still allow Poland to satisfy the present reference value of the MIC would be 5.25-6.5%. This does not seem to be an unimaginably low level to achieve through a tightening of fiscal policy. Should traded goods' inflation in the EMU (and Poland) be lower than the 1.5% assumed above, then the allowable level of non-traded goods' inflation in Poland would be even higher.

[9] *This* factor does not make UE more credible than a currency board in an advanced TAC expected to shortly join the EU and EMU.

[10] This is a result of faster growth of labour productivity in their tradeables sector than in: (1) their non-tradeables sector; and (2) the tradeables sector of slow growing countries such as the EU.

As discussed, with a floating exchange rate a temporary tightening of monetary policy will result in nominal appreciation of the currency and downward pressure on both traded and non-traded goods' inflation. In the traded goods sector this may require domestic nominal price *reductions*.[11] Under UE the non-traded (services and construction) sector would bear more of the costs of the temporary reduction in inflation below trend which the MIC requires. This could be achieved by a temporary "social pact" restraining wages in the non-traded sector and limiting the growth of administratively set prices or by a temporary tightening of fiscal policy, or by a combination of all three.[12] A reduction of domestic aggregate demand would suspend the functioning of the H-B-S effect, which operates through employers in the traded goods sector (which has rapid labour productivity growth) competing for employees from the non-traded. This pushes up wages, costs and prices in the non-traded sector. It is important to stress that in both cases (a floating exchange rate and UE) the contraction would be quite short-term (one to two years) since the reference value of the MIC needs to be satisfied for only one year. It therefore seems to us that this problem has been blown up out of all proportion.

Furthermore, we recommend that after accession to the EU, new members should argue for an adjustment of the MIC. The criterion itself merely requires "lasting and sustainable convergence of inflation rates" as defined by the reference value. However, the reference value itself can be changed by the European Council[13], and does not require changing the Treaty. Given that most new members will be affected by the H-B-S effect, and that some will have currency boards[14], a strong lobby will exist for adjusting the MIC so that it applies only to tradeable goods inflation. Such calls will be all the more persuasive since the MIC calls for "sustainable convergence". Yet because of the H-B-S effect, fast growing countries such as Ireland have only been able to satisfy the MIC reference value for a short time before entry into EMU, after which they have exceeded it by considerable margins. Like fast-growing EMU members, countries which have unilaterally euroized can have inflation in excess of the present MIC reference value only as a result of the H-B-S effect, since the prices of their tradeable goods will be the same as in the EMU.[15] Therefore, a country which has euroized, has its fiscal accounts under control and is growing fast (showing that it retains competitiveness in its traded goods sector) can be said to have satisfied the spirit of the MIC, even if it cannot satisfy the present reference value. Thus, not only is there likely to be a significant lobby in favour of changing the MIC after 2004, but there are also strong objective reasons for doing so in the case of countries which will have unilaterally euroized or which have a well-established currency board.

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[11] They would certainly need to rise less than in the three best performing EMU member states. Given that the ECB target for average inflation in the EMU is 2%, inflation in the 3 best performers is likely to be 1.5%. Even in the EMU, tradeable goods inflation will, if anything, be lower than average inflation, leaving practically no room for stable tradeable goods prices. The key question is: how large a tradeable goods recession would a country need to bring about a modest fall in domestic nominal tradeable goods prices under a flexible exchange rate? The answer might be: not a very large one. With labour productivity growth rapid, prices of tradeables could fall while wages in the tradeable goods sector continued to rise (but not quite as rapidly as before).

[12] Gotz-Kozerkiewicz [2000] as arguing that cost recovery requires remaining administrative prices to be freed, and that this may cause the real exchange rate to appreciate beyond its equilibrium level. First, "cost-recovery" can be delayed for a year or two, usefully putting downward pressure on the price index, just when a country wishes to join EMU. Second, in an economy with rapid labour productivity growth achieving "cost-recovery" prices should not be a problem for competitiveness. Third, most remaining administered prices are for non-tradeable services rather than goods, so their removal will have a small effect on competitiveness, mainly hitting households. Finally, for a given budget deficit, removing price controls removes the need for subsidies to their producers, reducing taxes on other firms and thus increasing the competitiveness of those firms. If the taxes to finance price controls are paid for by consumers, then their removal changes nothing. The real exchange rate will deteriorate only if consumers paid the taxes to finance the price controls, while firms will pay the higher free prices.

[13] Although only then current EMU members will be able to vote.

[14] At the least Estonia, Lithuania and Bulgaria (which is expected to join after 2008).

[15] They could also have high demand driven inflation in the non-tradeables sector if they had a large increase in their budget deficit. But this would likely put them in breach of the Maastricht fiscal deficit criterion, barring entry into EMU for that reason.

Of course, UE only makes sense for those TACs which are capable of maintaining basic fiscal discipline. This is (correctly!) a requirement for EMU membership. UE will reduce the costs of servicing public debt. It is our assumption that this relief would be used to reduce the fiscal deficit rather than to increase public expenditures while maintaining the deficit at an unacceptably high level. We see UE as a better (less painful) route to EMU than the traditional one. We do not see it as way of avoiding the need for EMU membership with all its constraints. The current fiscal problems of the Czech Republic, Hungary and Poland cast doubt both on their ability to achieve EMU membership and to benefit from unilateral euroization. UE can help put a country's fiscal house in order, but it cannot, and should not, be a substitute for fiscal discipline or rapid EMU membership. We are constantly reminded by the opponents of euroization that it is not a panacea, and all we can do is humbly agree.[16]

6. Will interest rates fall under unilateral euroization?

One of the most striking points in Wójcik [2000] is the claim that unilateral euroization need not lead to a reduction in medium and long term interest rates, because the abolition of the domestic currency, although it leads to the abolition of currency risk in lending by foreigners to domestic residents, may increase their default risk. This could happen because devaluation is no longer available as a tool to increase the competitiveness of domestic producers. Interest rates on loans to domestic businesses might therefore actually rise on balance, as might rates on loans to the government (whose tax revenue depends on the profitability of domestic business). This argument is illustrated using the case of Argentina. Wójcik points out that in the late 1990s real interest rates were similar in Argentina and Poland, implying that Polish rates need not fall after euroization, since Argentina had a currency board arrangement "hard-pegged" to the US dollar with many similarities to unilateral euroization. But Wójcik does not say just how exceptional the situation of Argentina is. The country exchanges only 16% of its trade and 2.7% of its GDP with the United States[17]. This contrasts with 58.7% and 27.6% respectively in the case of Poland's trade with EMU countries. In fact, Argentina is one of the countries in the whole world which *least* satisfies conventional OCA criteria for establishing a currency union with the United States.[18] It is this, together with fiscal irresponsibility, which has exposed Argentina to the problems described. However, we have seen (Table 1) that Poland and many other TACs satisfy the OCA requirements at least as well as about half of the existing EMU members. Thus, the Argentine example, while polemically useful is in practice irrelevant, unless one wishes to argue - as many US economists have - that the present EU itself is far from being an optimum currency area. If one believes this, then it may be that TACs should *never* join the EMU since they are unlikely to become even more integrated in terms of trade than they are at present.[19] However, in that case, neither should they join the EU, since ultimate EMU membership is a *requirement* of EU membership.

7. Absence of a Lender of Last Resort under Unilateral Euroization.

We have addressed this argument at length in Bratkowski and Rostowski [2000], where we made some of the following points:
Monetary expansion is, of course, inconsistent with any fixed exchange rate system (unless the expansion is very modest). Nevertheless, as Goodhart et al. [1998] point out, LOLR need not involve any monetary expansion. The central bank can lend to an affected bank, and at the same time undertake liquidity reducing open market operations, so that the money stock remains unchanged. Under euroization, although the central bank is unable to increase the money supply, LOLR can be provided by the government guaranteeing loans to the stressed bank (as long as the government itself is solvent). The money supply would remain constant, but the distribution of liquidity would be changed in the direction desired by the authorities.

[16] Nor have we ever claimed, though others have, that euroization will necessarily be a catalyst for structural reforms.
[17] Argentina even trades 60% more with the EU than with the US!
[18] There are other, non-conventional, non-trade criteria, which Argentina may satisfy better, see Mundell [1973].
[19] Except in the share of intra-industry trade to GDP.

In countries with currency board arrangements (CBAs), LOLR is in any case very limited, and this will not change as a result of euroization.
Pure LOLR activity is aimed at preventing the illiquidity of *solvent* banks. In many TACs foreign owned banks held over half of all bank assets in 1999 [EBRD 2000]. The foreign owners should know the financial condition of these banks sufficiently well to provide them with liquidity when they are illiquid but solvent.

Table 2
Foreign Bank Ownership by Assets

Albania	20.0	Hungary	56.6
Bulgaria	12.4	Lithuania	59.8
Croatia	83.2	Poland	70.0*
Czech Republic	70.0	Romania	52.6
Estonia	97.0	Slovakia	50.0

Sources: IMF World Economic and Financial Surveys and EBRD Investment Profiles (2001).
* By mid-2001 63% of deposits in Poland were held by banks with foreign majority ownership.

4. For the remaining, domestically owned, banks we have suggested the creation of a "Banking Sector Liquidity Fund" (BSLF), into which the international reserves of the National Central Bank remaining after euroization would be placed. In the case of Poland, after allowing for a modest 10% up front devaluation of the złoty at the time of conversion, we have "coverage" by the BSLF of 100% of sight deposits and 25% of total deposits (including the foreign currency deposits for which there is no LOLR or BSLF at present). What is more, in a crisis the BSLF would only need to supply liquidity to Polish controlled banks. Even at today's share of foreign ownership in Polish banks, this more then *doubles* the BSLF's "coverage" of deposits to some 270% of relevant sight deposits and almost 70% of relevant total deposits.[20][21] Finally, we should note that the share of deposits at foreign controlled banks in Poland is growing fast due to the purchase of Polish banks by foreigners. When the share reaches 100% there will be no need for a BSLF at all.
5. In countries with very high shares of foreign currency deposits (such as Croatia, where the share is about 90%), LOLR is already limited by the level of the central bank's international reserves and its ability to increase them by borrowing.
6.As for solvency (rather than liquidity) crises, these require recapitalisation rather than LOLR support. They therefore depend on the *solvency* of the government of a country (as "borrower of last resort") rather than on the *liquidity* of the central bank. Most, though not all, TACs are borrowers in good standing.

8. The Seignorage costs of euroization.

It is usual to calculate both a "flow" and a "stock" seignorage cost of adopting a foreign currency. The "flow cost" is the loss of revenue resulting from the fact that during the period of euroization (between the abolition of the domestic currency and entry into EMU as a fully-fledged member) the central bank of a euroized country will no longer receive interest on that part of its international reserves which have been exchanged for the domestic cash which has been withdrawn. This loss of seignorage revenue definitely exists, and in most TACs it varies between 0.5% ad 1% of GDP. Although it has to be reduced when the central bank engages in a policy of sterilized intervention (which introduces sterilization costs, that have to be set against seignorage revenues).

The "stock seignorage cost" of adopting a foreign currency is that which results from the need to exchange the existing stock of domestic currency notes and coins for foreign notes and coins. In the case of Poland, this would be about 6.5% of one year's GDP, a very large amount. However,

[20] Incidentally, this disposes of the worry that the absence of a national LOLR would give foreign owned banks a competitive advantage.
[21] The existence of a funded deposit insurance scheme further reduces the danger of illiquidity at solvent banks (whoever they may be owned by) - as well as reducing the ~~likley~~likely need to recapitalise insolvent ones.

this “stock” cost is not in fact borne in the case of euroization, where only the ”flow seignorage cost” is relevant. This is because upon joining EMU, a country's National Central Bank (NCB) will be obliged to transfer to the ECB all of the income from the assets which correspond to (or "back") its monetary liabilities. This revenue from all the NCBs which are members of the European System of Central Banks (ESCB) will then be redistributed to NCBs on the basis of their share in ECB capital.[22] Each NCB's share in the capital of the ECB depends in equal proportions on the population and GDP of its country, and is thus *completely independent of the NCB's monetary liabilities.*[23] A TAC which has previously euroized unilaterally, and has bought in all of its monetary liabilities in exchange for euro notes and coins,[24] will thus enter EMU *without any monetary liabilities.* As a result, it will not need to transfer *any* income to the ECB, yet it will receive the same income from its share in ECB capital as it would had it not euroized first.

This system for the redistribution of seignorage revenue is equivalent to the NCBs having to transfer to the ECB assets corresponding to their monetary base. Put even more simply, it is equivalent to the NCBs having to *buy* the euros used to replace their monetary base from the ECB.[25] A unilaterally euroizing country merely completes this transaction before joining EMU, rather than at the moment of joining. This is why no "stock seignorage cost” of euroization exists for such countries.

9. Summary.

There will be no “stock seignorage cost” for unilaterally euroizing applicant countries. The suggestion that short-term interest rates may not fall as a result of euroization is weakly grounded. The example of Argentina is not apposite, as on traditional criteria that country clearly does not form an optimal currency area with the US, to which its currency was “hard-pegged”. On traditional OCA criteria, most TACs do belong to an OCA with EMU countries to the same extent as a number of current EMU members. On some criteria they do so to a greater extent than the majority of current EMU members. The absence of an unlimited LOLR capability after euroization should not increase the risk to the banking system significantly in the majority of countries in which there is a large share of foreign ownership of banks, or in those in which there is a large share of foreign currency denominated deposits, or in countries which have currency board arrangements. For domestically owned banks with previously domestic currency denominated deposits, there is the possibility of establishing a Banking Sector Liquidity Fund.[26]

Any initial exchange rate misalignment at the time of conversion can and should be avoided by an “up-front” devaluation and will be in any case to be eroded over time if there is faster productivity growth in TACs than in the present euro zone. Monetary and fiscal policy *may* be effective as a means of limiting dangerously large current account deficits. But the question is rather whether it *will* be *reliably* effective. We believe that we have shown that one cannot count on that. As a result, without euroization TACs are at severe risk from “capital inflow stops” and currency crises.

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[22] After deduction of ECB expenditures.

[23] After the expiry of a transitional period. This period is due to end before any TAC joins EMU, be it by the traditional route or after a period of unilateral euroization.

[24] Which it buys with its international reserves.

[25] Since a monetary union occurs after this transaction, the base can be bought by the NCB from the ECB for any good quality assets including domestic ones. International reserves need not be used.

[26] As well as the existence already now of deposit insurance schemes in some countries.

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Appendix1. The Legal Aspects of Unilateral Euroization.

In the European Commission's Note [August 2000], it is claimed that the sequencing of steps to the adoption of the euro is set out in the Treaty of Amsterdam, that this sequencing is therefore part of the *acquis communautaire,* and that it must therefore be accepted by EU applicant countries as it stands. What is more, since unilateral euroization (UE) does not conform to this sequencing UE cannot be adopted by applicant countries. If this were indeed the case, then we would favour the adoption of currency boards (CBs) by those countries for which we have recommended UE. Currency boards are now accepted by the EU as a suitable path to EMU. The same arguments advanced for UE hold for a CB, only the benefits are slightly smaller. Interest rates are likely to be slightly higher under a CB than under UE, and speculation is more likely against a CB since it is easier to abandon. However, with a CB less seignorage is foregone than with UE.

Nevertheless, it is our view that on a close reading the Amsterdam Treaty does *not* set out a sequence of steps which have to be undertaken before a country adopts the euro, and that therefore such a sequence is not part of the *acquis.* Applicants will be admitted to the EU as Member States with a derogation regarding the EMU. This derogation is defined (art. 122(3) of the Treaty) as the country not being subject to articles 104(9) and (11), 105(1), (2), (3) and (5), 106, 110, and 112(2)b of the Treaty, as well as Chapter IX of the Statute of the European System of Central Banks (ESCB). These articles relate to a country's membership of the ECB, the ESCB, its liability to sanctions should it break the fiscal deficit requirements of the Treaty[27], its right to vote in the European Council on exchange regime agreements between EMU and non-Community countries and on the EMU's exchange rate policy, as well as being subject to the *requirement* that *only* euro notes be legal tender on its territory.

None of these things will happen as a result of UE. The candidate will evidently not accede to EMU institutions, nor will it have the right to vote on EMU exchange rate policy. It will not be subject to sanctions for failure to abide by the fiscal deficit limits of the Treaty, nor will it be *required* to make euro notes the only legal tender on its territory. If it *decides* to make euro notes the only legal tender on its territory, this will be a free choice, not because of the requirement of the Treaty. An applicant which unilaterally euroizes therefore fully meets the Treaty's definition of a Member State with derogation from EMU. Thus UE does *not* fail to conform to the *acquis*.

From our point of view, the biggest problem is presented by art.123(5). This states that if it is decided to abrogate a member State's derogation from EMU (i.e. to admit it to EMU institutions on the basis of it having fulfilled the Maastricht convergence criteria set out in art.121(1)), then the Council shall in agreement with the Member State[28] concerned "adopt the rate at which the euro shall be substituted for the currency of the Member State…". Clearly if a national currency does not exist then "the rate at which the euro shall be substituted" for it cannot be adopted, either by the Council or anyone else. However, the EU should accept that this paragraph applies only to those countries which actually have a national currency upon entering the EU, but that it does not apply to those which do not have such a currency. Indeed, if a country's *national* currency is already the euro, as would be the case after unilateral euroization, it would be strange - to say the least - to suggest that some rate other than 1:1 should be adopted. We believe that if the EU becomes convinced that UE is in the interests of applicants and not against the interests of Member States, then they will adopt such an interpretation of art. 123(5).

One final point needs to be mentioned. Art. 123(5) states that at the abrogation of the derogation, apart from adopting the rate at which the euro shall be substituted for the national currency of the Member State concerned, the Council will also "take the other measures necessary for the introduction of the euro as the single currency in the member State concerned." We believe that

[27] Previously the "Pact for Stability and Growth", which is now part of the Treaty.
[28] The Council acts with the unanimity of the member States, on a proposal of the Commission and after consulting the ECB.

this does not rule out UE, because UE means adopting the euro as a country's national currency. We only have the "introduction of the euro as the *single currency* [our italics] in the Member State concerned" when that State comes to participate in the common institutions which determine the EMU's monetary and exchange rate policies. This of course will not happen upon UE, but only once the derogation is abrogated.

The reasonableness of our interpretation of the Treaties is supported by the noticeably softer line on euroization which was taken by the Ecofin Council of Finance Ministers meeting on November 7 2000, and which has been subsequently confirmed by the Nice Summit of December 16 2000. Unlike the Commission's note discussed above, the Ecofin's Conclusions [Ecofin 2000] does not state that UE is illegal for applicants, merely that it "would run counter to the underlying economic reasoning of EMU in the Treaty." After stating that "participation in ERM2 before adoption of the euro[29] is a legal requirement" the Opinion continues: "The only clear incompatibilities *vis-à-vis* the ERM2 that can be identified already at this stage are fully floating exchange rates, crawling pegs and pegs against anchors other than the euro." Finis, with no mention of euroization.[30] The red herring of the supposed illegality of unilateral euroization seems to have finally been laid to rest by Pedro Solbes (the Commissioner responsible) himself, who in an interview on 13 September 2001 in Budapest stated: "We never said that unilateral euroization is illegal." [Solbes 2001].

[29] i.e. before "abrogation of the derogation" as defined above.
[30] European Commission [2000] on the other hand went on at this point to say: "Euroization is of course excluded by the Treaties."