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To Purgatory and Beyond
When and how should the accession countries from Central and Eastern Europe become full members of the EMU?[1]

I.   Introduction

Ten countries will join the European Union (EU) on May 1, 2004. Eight of them, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, the Slovak Republic and Slovenia (these acceding countries will henceforth be referred to as the CEE8) are former centrally planned states in Central and Eastern Europe. Two more former centrally planned economies, Bulgaria and Romania, are in accession negotiations to join the EU as early as 2007. Together with the CEE8 these two accession countries will be referred to as the CEE10.[2]

For the 'class of 2004', and for all subsequent EU entrants, EU membership implies EMU membership: EMU membership is part of the 'Acquis'. Consequently, the countries that join on May 1, 2004 will be EMU members as well as EU members from that day forward. There will be no more indefinite *opt-outs* (the right not to join) of the kind accorded the UK and Denmark.

The new EU members will not be allowed to become full members of EMU (adopt the euro, become members of the European System of Central Banks (ESCB) and have a seat for the head of their central bank on the Governing Council of the ECB) until they have met all the Maastricht criteria for full EMU membership.

The macroeconomic Maastricht criteria for full membership in EMU are as follows. There is a pair of *financial criteria*, a ceiling on the general government deficit - to - GDP ratio of 3 percent and a ceiling on the gross general government debt - to - annual GDP ratio of 60 percent. There is the *interest rate criterion*: long-term (ten year) nominal interest rates on the public debt are to be within 2 percent of the average in the three countries with the lowest inflation rates for at least one year prior to the examination (the formal assessment by the ECB and the European Commission as to whether a candidate has met the EMU membership criteria). Next comes the *inflation criterion*: the annual inflation rate cannot exceed the average of the three best performing countries by more than 1.5 percent for one year prior to the examination. Then there is the *exchange rate criterion*: the exchange rate has to respect the normal fluctuation margins provided

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[2]   Cyprus and Malta are the other two acceding countries, that is, countries that will become EU members on May 1, 2004. Turkey is a candidate for EU membership, but accession negotiations have not yet been initiated. Croatia is edging closer to starting accession negotiations.

for by the exchange-rate mechanism (ERM) of the European Monetary System, without severe tensions for at least the last two years before the examination. In particular, the Member State shall not have devalued its currency on its own initiative for the same period. The current interpretation by the ECB and the European Commission of the exchange rate criterion is that EMU candidates will have to join an ERMII arrangement with ±15 percent fluctuation bands around a fixed central parity vis-à-vis the euro, for two years prior to joining EMU. There is also the institutional requirement that the central bank be independent.

It will be possible for the new EU members to have *derogations* from some of the obligations of EMU. The key derogation is that the new EU members will not be required to enter the ERMII arrangement by any date or depending on the achievement of any benchmark. Also, no date is specified by which a new EU member must adopt a mutually agreed upon irrevocably fixed conversion rate between the euro and its national currency – 'adopt the euro' or 'join the Eurozone', for short. Nor are there any conditions the new EU members must satisfy before they can enter ERMII.

When a country has a derogation from some of the obligations of full EMU membership, it does not get a seat on the Governing Council of the European Central Bank (ECB).

It follows that the new EU members can, should they so desire, postpone full EMU membership indefinitely (indeed forever) by some combination of the following two strategies. The first is to postpone ERMII entry. The second, for those already in ERMII, is to ensure that at least one of the other necessary conditions for full EMU membership is not satisfied. What this means is that while the new EU members can be kept out of the Eurozone against their wishes, they cannot be forced to join the Eurozone against their wishes.

Denmark, the only country currently in the ERM, has satisfied all EMU membership requirements, including the debt and deficit criteria, the inflation, interest rate and exchange rate criteria and the central bank independence criterion.[3] Because of its opt-out, however,

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[3]   The original inflation criterion for EMU membership, designed for the *ab initio* creation of EMU on January 1, 1999 for the 12 founding Member States - an EMU candidate has to show a price stability performance that is sustainable and an average rate of inflation, observed over a period of

it cannot be forced to join the EMU, even though it satisfies all the criteria. Sweden does not have an EMU opt-out, but has thus far evaded the obligation to join EMU by *choosing* not to satisfy the exchange rate criterion.

Granted that, in practice, the new EU members have the ability to postpone their adoption of the euro for as long as they want, when should they aim for full EMU membership? The ECB and the European Commission have recommended caution in setting a target date for the adoption of the euro (see e.g. *European Central Bank* (2003) and *Solbes* (2004)).[4] Few would oppose caution unless a course of action characterised as cautious turns out to be highly and unnecessarily risky.

The ECB and the European Commission (EC), in a recent two-day conference in Prague on euro-zone enlargement for the new entrants, interpreted caution as meaning that candidate countries should not rush for euro adoption and should finish their economic reform programmes before entering the European Exchange Rate Mechanism (ERMII). As long as a recommendation of 'not rushing for EMU/ERMII' is compatible with adopting the euro at the earliest opportunity, that is, once fiscal sustainability has been achieved (and preferably also inflation convergence, properly defined), the first part of the ECB/EC recommendation is unobjectionable. The argument that candidate countries should finish their economic reform programmes (I assume this means *structural* and *institutional* reform programmes) before entering the ERM is deeply flawed. Acting on

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one year before the examination, that does not exceed by more than 1 1/2 percentages points that of the three EU Member States with the lowest rates of inflation - is clearly inappropriate for countries joining an already functioning multi-country EMU. Indeed, since the inflation criterion refers to the three EU Member States with the lowest inflation rates rather than the three EMU Member States, it did not make much sense even for the 12 original EMU members. Presumably, for the new accession candidates, the inflation criterion will be re-interpreted to mean that the inflation candidate's rate does not exceed by more than 1½ percentage points that of the euro area as a whole. Inflation differences within the existing euro area should be of no concern whatsoever for either the candidates or the existing euro area members.

[4]   Euro Adoption in the Accession Countries-Opportunities and Challenges, Prague, Congress Hall of the Czech National Bank, February 2-3, 2004.

this recommendation could expose the new EU members to unnecessary risk of serious harm.

In what follows I shall argue that, from an economic perspective, the decision on whether and when to adopt the euro should be informed by the following five propositions:

First, adopting the euro as soon as possible is in the national interest of each of the accession countries. Even the largest among them (Poland) is too small, too open and too financially vulnerable to constitute an optimal currency area. The unavoidable vulnerability associated with unrestricted international capital mobility makes a national currency a costly and dangerous luxury for the accession countries. The full benefits from international financial integration (superior risk-sharing through international portfolio diversification, deep and liquid financial markets, a more competitive and efficient financial services sector) can only be reaped by adopting the euro.

Second, achieving fiscal sustainability prior to adopting the euro is essential. It is the only truly *necessary* condition for euro adoption. It should also be a *sufficient* condition for Eurozone membership.

Third, nominal convergence, interpreted as convergence of a candidate nation's inflation rate, prior to adopting the euro, to its *Eurozone equilibrium inflation rate* would be helpful, but not essential. The Eurozone equilibrium inflation rate is the EMU-wide inflation rate plus the Balassa-Samuelson real exchange rate appreciation premium (see Section III.C.).

Fourth, real convergence, defined as convergence of productivity levels, real per capita income, structures of production and employment, financial markets and institutions, quality of regulatory and supervisory institutions, is not necessary prior to euro adoption. Indeed, the weaker the domestic monetary and financial institutions and markets, the stronger the case for early adoption of the euro.

Fifth, ERMII is a pointless and potentially dangerous arrangement, especially if the nominal exchange rate constraint it incorporates is combined with an inflation target and a nominal interest rate target. No monetary authority should be asked to pursue more than one nominal target. The simultaneous pursuit of three nominal targets greatly enhances the likelihood that a major financial accident will happen. As soon as fiscal sustainability and inflation convergence (properly defined) are achieved, a *date* (for full EMU membership) and a *rate* (the irrevocable conversion rate of the national currency

5

and the euro) should be announced. This will give the markets the focal point they require to achieve an orderly convergence of the market exchange rate to the required conversion rate at the right time.

Candidates should be allowed to have a free floating exchange rate between the time the 'date and rate' are announced and the time the currency is locked irrevocably to the euro. If they opt to float after the announcement date, they could be required to pursue continued convergence to their Eurozone equilibrium inflation rates. If on the announcement date they choose to peg the exchange rate immediately at the level of the eventual conversion rate, they should not be given any additional nominal target.

These five propositions imply that participation in ERM II for a period of at least two years prior to (the examination date for) Eurozone membership is at best irrelevant for successful entry into and membership of the Eurozone. For most acceding countries it will bring unnecessary exposure to potentially de-stabilising international capital flows (and to unpredictable brusque capital flow reversals), to excessive exchange rate volatility and to the risk of financial instability. Such an enforced period in ERM purgatory represents a potentially costly investment without any return.

The five propositions represent the advice I would give the EU accession countries. There is the separate issue as to whether this advice should take the form of binding, externally imposed conditions, like the Maastricht Criteria for EMU membership.

There are two arguments for making these recommendations binding constraints. The first is the *externality* argument. EMU membership, and in particular EMU membership by a country this is not 'ready for it', may impose negative externalities on the other (existing and new) EMU members. There may be externalities associated with an unsustainable national fiscal-financial position. Three that come to mind are (1) possible cross-border contagion effects of sovereign default risk and actual sovereign default; (2) inflation externalities due to the response of the ECB to the unsustainable fiscal position of an EMU member and (3) excessive cyclical demand spillovers associated with the fiscally challenged country's inability to let its automatic fiscal stabilizers perform their normal role.

The possible contagion effects of national sovereign default call for a regulatory response in the EMU Member States, limiting the maximum permitted exposure by systemically important financial

institutions (e.g banks) to any sovereign. It does not call for binding constraints of the Maastricht variety. Also, the small size of the accession countries, individually and collectively, reduces the thrust of each of the externality arguments.

The second argument for an externally imposed set of criteria for EMU membership is paternalism. An appeal to paternalism could make sense if an EMU candidate is deemed either not to know what its interest is or to be incapable of acting in its own interest without the benefit of externally imposed constraints. An example would be if, in the absence of an external constraint, a country were to be unable to make credible, binding commitments about its future fiscal actions. Against this, the Principle of Subsidiarity implies that without significant externalities, there is no place for paternalism as a justification for externally imposed hurdles on the road to full EMU membership.[5]

II.   Fiscal sustainability

The central thesis of this paper is that there is one, and only one, *necessary* condition for the adoption of the euro by the new EU members: the government's fiscal-financial-programme should be sustainable following the adoption of the euro; furthermore, fiscal-financial sustainability should also be a *sufficient* condition for the adoption of the euro. The first argument supporting this view is a simple application of intertemporal public finance theory. The second argument emphasizes the importance of ensuring that the automatic fiscal stabilizers can work without encumbrances following the adoption of the euro.

As regards the classical intertemporal public finance argument, the central bank, as agent of the state, provides the state with a stream of normal revenues (the operating profits of the central bank, roughly net interest income on the central bank's portfolio minus the cost of running the central bank). In addition, it has the means of imposing,

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[5]   The Principle of Subsidiarity means that what the lesser entity can do adequately should not be done by the greater entity unless it can do it better. In EU governance and policy competence, it is used to determine when the Union is to act in areas not coming under its exclusive competence. It amounts to a legalistic way for lower-tier jurisdictions to say 'mind your own business' to higher-tier jurisdictions.

by generating unanticipated inflation, what amounts to extraordinary capital levies on holders of base money and other nominally denominated public debt. When an accession country adopts the euro, the option of unilaterally imposing an increase in the (anticipated and unanticipated) inflation tax vanishes. The state has to be able to manage without it.

Fiscal-financial sustainability means that there is widespread confidence in the government's ability to finance, now and in the future, politically mandated expenditure levels without the need for discretionary recourse to seigniorage (that is, monetary revenues). As full members of EMU, base money issuance is decided in Frankfurt by the ECB. Each national central bank in the ESCB (and through them the national Treasuries) receives a share in the aggregate profits of the ECB equal to its share in the capital of the ECB. Each national central bank will also continue to make some profit on its own financial portfolio, but the capacity to engineer a rapid and massive expansion of the national stock of base money (though loans or advances to the government (or the private sector), or through the purchase of government (or private) securities in the primary or secondary markets) on its own initiative or on the initiative of the national government of the day, is gone.

For a country with its own currency and central bank, the budget constraint of the consolidated general government and national central bank can be written in the stylized form of equation (1). M is the nominal stock of base money, B is the stock of non-monetary public debt held outside the central bank, R^{ϵ} is the stock of euro foreign exchange reserves; $R^{\$}$ is the stock of non-euro (dollar, say) foreign exchange reserves, S^{ϵ} is the nominal euro spot exchange rate, $S^{\$}$ is the nominal dollar spot exchange rate, P is the domestic general price level, G is real public spending, T is real taxes net of transfers, i is the short nominal rate of interest on domestic government debt, i^{ϵ} is the short nominal interest rate on euro foreign exchange reserves and $i^{\$}$ the short nominal interest rate on dollar foreign exchange reserves. For simplicity all non-monetary public debt is assumed to be denominated in domestic currency and to have a one-period maturity.

$$\frac{\dot{M} + \dot{B} - S^{\epsilon}\dot{R}^{\epsilon} - S^{\$}\dot{R}^{\$}}{P} \equiv G - T + \frac{iB - S^{\epsilon}i^{\epsilon}R^{\epsilon} - S^{\$}i^{\$}R^{\$}}{P} \quad (1)$$

We define seigniorage, σ, to be the real value of the change in the stock of base money, that is, $\sigma \equiv \dot{M}/P$. With the usual no-Ponzi finance solvency constraint, this implies the intertemporal budget constraint, given in equation (2), for the consolidated general government and central bank. The short domestic real interest rate r is defined by $r \equiv i - \dfrac{\dot{P}}{P}$. Also, $\varepsilon^{\text{€}} \equiv \dfrac{\dot{S}^{\text{€}}}{S^{\text{€}}}$ and $\varepsilon^{\$} \equiv \dfrac{\dot{S}^{\$}}{S^{\$}}$ are the proportional rates of depreciation of the nominal euro and dollar exchange rates, respectively.

$$\frac{B(t)-S^{\text{€}}(t)R^{\text{€}}(t)-S^{\$}(t)R^{\$}(t)}{P(t)} \leq \int_{v=t}^{\infty} e^{-\int_t^v r(u)du} \left(\begin{array}{l} T(v)-G(v)+\sigma(v)) \\[4pt] +[i^{\text{€}}(v)+\varepsilon^{\text{€}}(v)-i(v)]\dfrac{S^{\text{€}}(v)R^{\text{€}}(v)}{P(v)} \\[4pt] +[i^{\$}(v)+\varepsilon^{\$}(v)-i(v)]\dfrac{S^{\$}(v)R^{\$}(v)}{P(v)} \end{array} \right) dv \qquad (2)$$

The net financial liabilities of the state, consisting of public debt held outside the central bank net of international foreign exchange reserves, can be no greater than the present discounted value of current and future primary (non-interest) surpluses of the state, plus the present discounted value of future seigniorage (money base issuance), plus the present discounted value of the profits (or losses) the government will make in the future by holding foreign reserves instead of retiring some of its own debt.

When the national currency has been given up, the authorities effectively exchange their capacity to issue base money for a share of the profits of the ECB. Let the euro value of this flow be f^*. The euro is now the currency of the new Member State. Without loss of generality we choose the irrevocable conversion rate of the national currency and the euro to be 1. Thus, following the adoption of the euro, $S^{\$}$ is the exchange rate of the euro for the dollar. For simplicity we assume that following the adoption of the euro, $i = i^{\text{€}}$. The post-euro adoption period budget constraint of the state is

$$\frac{\dot{B}-\dot{R}^{\text{€}}-S^{\$}\dot{R}^{\$}}{P} \equiv G - T - \frac{f^{\text{€}}}{P} + \frac{i^{\text{€}}(B-R^{\text{€}})-S^{\$}R^{\$}}{P} \qquad (3)$$

9

Its intertemporal budget constraint is, after adopting the euro:

$$\frac{B(t)-R^{\epsilon}(t)-S^{\$}(t)R^{\$}(t)}{P(t)} \leq \int_{v=t}^{\infty} e^{-\int_{t}^{v} r(u)du} \left(\begin{array}{c} T(v)-G(v)+\dfrac{f^{*}(v)}{P(v)} \\[2ex] +[i^{\$}(v)+\varepsilon^{\$}(v)-i^{\epsilon}(v)]\dfrac{S^{\$}(v)R^{\$}(v)}{P(v)} \end{array} \right) dv \quad (4)$$

The Member State has given up a stream of future seigniorage revenues σ in exchange for a stream of future "dividends" or profits shares from the ECB, f^{*}/P.[6] There is no presumption that the present value of current and future σ is necessarily larger or smaller than the present value of current and future f^{*}/P. What is different is that, from the point of view of the national government, f^{*}/P is an exogenous variable. Likewise, the Eurozone short nominal interest rate, i^{ϵ}, which is set by the ECB, is exogenous to the new Eurozone member.[7]

Although the pre-EMU national central banks are all supposed to be operationally independent, it is not true, in the final analysis, that pre-EMU national σ or i are exogenous to the national government. In any case, $P\sigma$ and i both are instruments of the *state*. Of course, even if the central bank were completely subordinate to the government, σ will still be constrained by the willingness of the private sector to hold base money, that is, by the demand for *real* base money and the seigniorage Laffer curve. However, an unexpected sharp increase in nominal monetary issuance will temporarily allow the government to appropriate a large amount of real resources, until nominal prices adjust and the effect of expected inflation on the demand for real base money limits the real amount of seigniorage the government can extract. In addition to the anticipated and unanticipated inflation tax on base money, unexpected inflation, brought about by a sharp increase in the growth rate of the nominal money stock, will reduce the real value of the stock of non-monetary nominally denominated public debt. Such a capital levy can be large if

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[6] I ignore capital gains and losses associated with deviations from uncovered interest parity (UIP).

[7] Because the new Member States are small and have effectively no impact on any of the determinant of world and Eurozone interest rates, real or nominal.

there is a lot of longer maturity fixed rate nominally denominated debt outstanding.

When the member state gives up the ability to impose seigniorage levies at its discretion, now or in the future, it should be confident that the circumstances that might create a need for a large, discretionary boost to seigniorage revenues – large and unsustainable state deficits – will not arise again. If a government has thrown the discretionary seigniorage key away, an unsustainable fiscal position can be resolved only through spending cuts and/or tax increases or through default on the non-monetary debt of the state. The ECB cannot, according to the Treaty, bail out a national government that is faced with an unsustainable fiscal position.

Fiscal sustainability can never be 100 percent certain. Even if national laws or constitutions, or international treaty obligations contain clauses that, if respected, would rule out excessive public debt and deficits, it is not in general possible to prevent a determined sovereign from changing these rules or ignoring them. The recent decision to suspend the excessive deficits procedure of the EU's Stability and Growth Pact rather than initiate Treaty-conform sanctions against Germany and France is a case in point.

The fiscal conditions of the CEE8 and CEE10 countries vary widely. While public debt burdens (measured as shares of annual GDP) are not high by the standards of the existing EU and EMU members, for the larger countries that will join in May 2004 the fiscal situation ranges from worrying to very worrying. None of the four Visigrad countries can be said to have achieved fiscal sustainability.[8] Until they do, they should not even dream of entering the ERM, let alone of being viable candidates for full EMU participation. Table 1 gives a snapshot of some fiscal-financial indicators in 2002.

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[8]   Achieving fiscal sustainability is not synonymous with satisfying the two fiscal preconditions for EMU membership, a general government financial deficit of no more than 3.0 Percent of GDP and a gross general government debt to annual GDP ratio of no more than 60 percent. For a discussion of fiscal sustainability and some applications to the CEE10, see *Buiter/Grafe* (2004).

Table 1: Factoids about the Fiscal Situation in the CEE10

Fiscal data for accession countries (2002, % of GDP)									
	BUL	**CZE**	**EST**	**HUN**	**LAT**	**LTU**	**POL**	**ROM**	**SVK**	**SLO**
Total Revenues	36.5	39.9	39.6	44.2	36.1	30.5	37.4	29.7	36.2	40.8
Total Expenditures	36.6	46.6	38.5	54.0	39.1	31.6	44.1	32.2	40.5	43.7
Current Expenditures	34.3	40.9	34.6	50.8	35.0	28.4	41.2	29.0	36.2	39.7
Grants and Transfers	16.8	31.0	12.0	16.0	18.2	11.3	21.2	14.1	na	19.7
Interest Payments	2.2	0.7	0.2	4.1	0.8	1.4	3.1	3.0	2.4	1.7
Investment	3.2	5.6	3.9	3.2	4.1	3.1	2.9	3.2	4.3	4.0
Budget Balance	-0.6	-7.1	1.2	-9.8	-2.7	-1.2	-6.7	-2.6	-4.5	-2.9
Public Debt	55.1	20.0	5.2	54.3	14.6	29.5	46.0	28.9	42.7	26.9
Current Account	-4.4	-6.5	-12.3	-4.0	-7.8	-5.3	-3.6	-3.5	-8.2	1.7
Investment Rate (Gross)	20.7	34.0	31.4	26.8	29.5	22.6	19.2	23.1	32.5	26.7
National Saving Rate (Gross)	16.3	27.5	19.1	22.8	21.7	17.3	15.6	19.6	24.3	28.4

Source: EBRD.

In addition to a concern about public debt and deficits, there should be even more fundamental concerns about the ratios of total public spending to GDP. These are high, even very high (see Hungary in Table 1) for countries with the per capita income levels of the CEE8 or CEE10. With the additional future demands put on the budget by the Acquis in the areas of infrastructure and environmental investment, it is clear that a major re-prioritisation of public expenditure is overdue.

Without the need for any discretionary changes in tax rates or expenditure programmes, the automatic fiscal stabilisers cause government deficits to rise (fall) when the economy slows down (booms). This dampens the short-run demand multipliers and acts as a buffer for shocks to aggregate demand. When a country's fiscal sustainability is in doubt, a cyclical increase in the deficit that would be desirable from a low initial debt and deficit position may instead

spook the financial markets. Unfavourable asset market responses (higher long-term interest rates, weaker stock markets) may overcome the automatic fiscal stabilisers under these conditions. This is a further reason for recommending EMU candidates to put their fiscal houses in order on a lasting basis, before locking into the common currency.

III. Too open, too small and too vulnerable for monetary independence

If an economy is small in the global markets for traded goods and services, changes in the nominal exchange rate will not affect the relative price of traded goods. If there are nominal rigidities that affect the market for non-traded goods and services (including labour services), the relative price of traded and non-traded goods (that is, the real exchange rate) and the real wage can still be affected, at least in the short run, by changes in the nominal exchange rate. However, if the economy is both very open and small, it is likely that even the real exchange rate and the real wage will be invariant to the behaviour of the nominal exchange rate, because of formal or *de facto* indexation of domestic money prices and wages to the nominal exchange rate.

A. Trade

As can be seen from Tables 2 and 3, the CEE8 and the CEE10 are highly open economies: the sum of imports and exports as a share of GDP at market exchange rates for the CEE8 was 91 percent in 2002 (at PPP exchange rates it was 58 percent). Four earlier EU joiners who started from relative levels of economic development not too far from where the CEE8 are today (Greece, Ireland, Portugal and Spain) had corresponding shares of 61 percent and 36 percent in 1986).[9]

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[9]   The 'late EU joiners' refers to Ireland, Greece, Portugal and Spain, all of which were poor relative to the EU average at the time they joined. Ireland joined the EU in 1973, Greece in 1981, Portugal and Spain in 1986.

Table 2: Openness I

2002	Trade % of GDP (current prices)	Trade % of GDP (PPP)
Group 1		
CZE	133	57
EST	179	80
HUN	132	64
LAT	102	45
LIT	115	54
POL	45	22
SLO	115	69
SVK	152	56
Group 2		
BUL	112	33
ROM	77	21

Trade= Exports + Imports
Source: World Bank and Eurostat.

Table 3: Openness II

Trade (% of GDP)	% of GDP (current prices)		% of GDP (PPP)	
	1986	2002	1986	2002
Group of EU late joiners				
GRE	44	48	15	35
IRL	103	165	88	176
POR	63	68	22	49
ESP	38	59	18	48
Averages				
Average late EU joiner	62	71	36	58
Average group 1		91		43
Average group 2		86		24

Source: World Bank and Eurostat.

It is to be expected that trade openness will continue to increase in the accession countries. The trade to GDP ratios are still lower than those of the existing EU members today, as shown in Chart 1.

Chart 1: Openness of the transition economies relative to other

regions, 1995-2002

Exports plus imports, in per cent of GDP
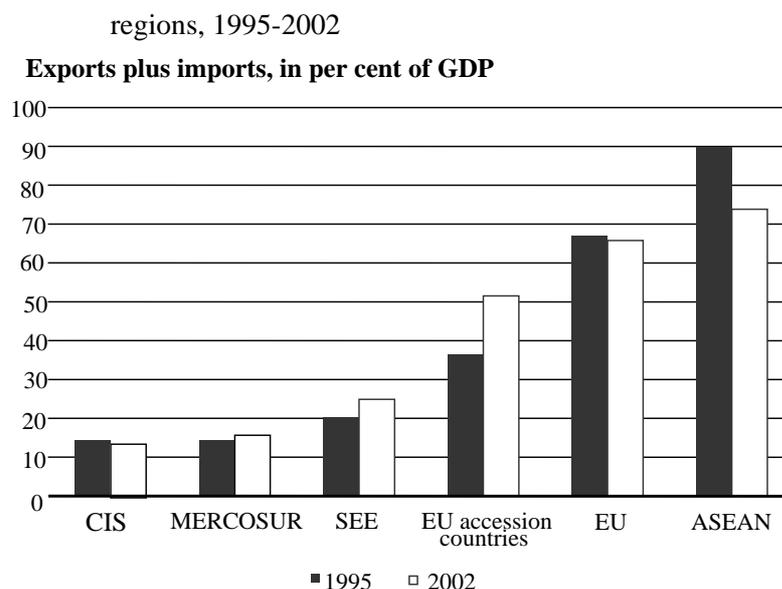
Note: Openness is defined as an unweighted average ratio of total trade to GDP in Purchasing Power Parity (ppp) for each region: (exports + imports) / GDPppp. ASEAN – Association of South East Asian Nations (six out of ten member countries are included: Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam). Mercosur – Mercado Comun del Cono Sur (Southern Cone Common Market: Argentina, Brazil, Paraguay and Uruguay). SEE includes Croatia.

Sources: IMF Direction of Trade Statistics (2003) and EBRD staff calculations.

Moreover, a family of gravity models (summarised in Table 4) never put the actual trade of the CEE8 countries at more than 75 percent of what would be predicted by these models (see *EBRD* (2003)). This probably reflects the lingering influence of between 40 and 60 years of misdirected trade under communism and central planning; the 13 years since the collapse of communist rule in the CEE8 are too short a period to re-allocate resources fully in conformity with the acceding countries' underlying comparative advantage.

Table 4: Ratio of actual to predicted gravity model results by sub-
region (in per cent)

Model	1	2	3	4	5	6
	Baseline	Baseline	Baseline	Baseline	Baseline	
		Country size	Country size	Country size	Country size	Country size
			Border	Border	Border	Border
				Infra-structure	Infra-structure	Infra-structure
					Policy	Policy
						Insti-tutions
CEE8	63	65	73	75	62	68
SEE and Croatia	24	27	30	32	30	42
CIS	28	39	47	46	55	83

Note: Figures are derived from a gravity model including regional dummies.
Columns 1-6 refer to different specifications, where additional variables have
been progressively added to the basic model. For variable definitions see text,
for details of the estimation see *Babetskii/ Koukhartchouk/Raiser* (2003).
Source: EBRD staff calculations.

The relevant metric for size in economics is market power – the
archetypical small open economy is a price taker in global markets.
Consider the three key international prices faced by the accession
countries: the static international terms of trade (the relative price of
exports in terms of imports); the global intertemporal terms of trade
(proxied by global real and nominal risk-free rates at varying
maturities and the global rate of return on equity); and global real
wages (a key determinant of international migration).

It is a safe assumption that none of the CEE10 accession countries
have significant market power in the global markets for traded goods
and services. Common indicators of financial development (e.g. M2 to
GDP, Bank Credit to GDP, stock market capitalisation to GDP ratios)
show that even the CEE8 are financially relatively underdeveloped
(see e.g. *EBRD* (2003)). There can be no real doubt that the CEE10
are price takers in the global financial markets.

GDP shares are a reasonably proxy for market power in the global
markets for goods and services. Table 5 shows that the CEE10

accession countries range from small to very small as regards their current GDPs relative to the EMU12 or EU15 GDPs.

Table 5: CEE10: Small GDPs, Larger Populations

	Relative GDPs at Market Exchange Rates	Relative GDPs at PPP Exchange Rates	Relative Population Sizes
CEE10 / EU 15	5.1%	10.8%	27.6%
CEE10 / EMU 12	6.6%	13.5%	34.3%
CEE10 / Netherlands	105.6%	226.5%	648.0%
Bulgaria / EMU 12	0.22%	0.76%	2.6%
Czech Rep. / EMU 12	0.93%	2.06%	3.4%
Estonia / EMU 12	0.09%	0.19%	0.4%
Hungary / EMU 12	0.85%	1.72%	3.3%
Latvia / EMU 12	0.12%	0.25%	0.8%
Lithuania / EMU 12	0.20%	0.40%	1.1%
Poland / EMU 12	2.89%	4.99%	12.8%
Romania / EMU 12	0.64%	1.78%	7.4%
Slovak Rep. / EMU 12	0.34%	0.88%	1.8%
Slovenia / EMU 12	0.31%	0.47%	0.7%

Sources: GDP: *World Bank* (2003); data for 2001; Population: *European Commission* (2003); data for 2002.

In 2001, the GPD of largest of the CEE10 countries, Poland, was less than 3 percent of the EMU12 GDP at current exchange rates and just 5 percent at PPP exchange rates. The ratio of Polish GDP to EU15 GDP in 2001 was 2.2 percent at market exchange rates and 4.0 percent at PPP exchange rates. The share of the CEE10 in *world* GDP is probably an even better proxy for these countries' static and intertemporal market power. In 2001, EMU12 GDP was 19.3 percent of world GDP at market exchange rates and 15.8 percent at PPP exchange rates. For the EU 15 the corresponding figures were 25.0 percent and 19.6 percent respectively. The GDP ratios in Table 3 should therefore be divided by a number between 4 or 6 in order to get the perhaps more appropriate shares of CEE10 GDP in global GDP. Even Poland barely makes it to 1 percent according to the share of world GDP metric.

The impact of the CEE10 on the EU as a competitor and as a market is not uniform across the region. The strongest effects are likely to be felt in the immediate neighbours like Germany and Austria.

B. Migration

If the CEE10 current impact on global static and intertemporal relative prices ranges from none to negligible, their potential direct influence on EU labour markets through migration is non-negligible (see Table 5). It is the EU labour market rather than the global labour market that provides the relevant denominator, since CEE8 and CEE10 workers face serious legal and administrative barriers to cross-border mobility in most potential migration destinations other than the EU. Almost all existing EU members have imposed administrative obstacles to the free entry of labour from the CEE8 countries for transitional periods of up to seven years following EU accession. The effectiveness of enforcement of such barriers in *any* existing EU member when they are not imposed or enforced by *all* existing EU members is questionable.

In 2002, the EU15 had a population of 375 million, the EMU12 had 301 million, the CEE10 had 103 million and the CEE8 had 73 million.[10] Clearly, even in the absence of man-made barriers to cross-border mobility of labour in the EU, the unavoidable costs of migration (including cultural barriers) remain significant. Most of the population aged 15-64 in the 10 countries acceding to the EU in May 2004 will therefore 'stay home', unless there is, unexpectedly, a sudden and sharp deterioration in living standards in the acceding countries (see e.g. *Barrell/Holland/Pomerantz* (2004, Chapter 4)). Again, the most significant inflows are likely to occur in Germany and Austria.

C. Real convergence

The combination of a low GDP share and a much higher population share implies that the accession countries have much lower productivity and per capita real income than the existing EU members. This is evident from Chart 2 and Table 6 below:

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[10] The population of Cyprus in 2002 was 680 thousand, that of Malta about 383 thousand.

Chart 2: Per capita GDP in PPP as % of EU GDP, 2001
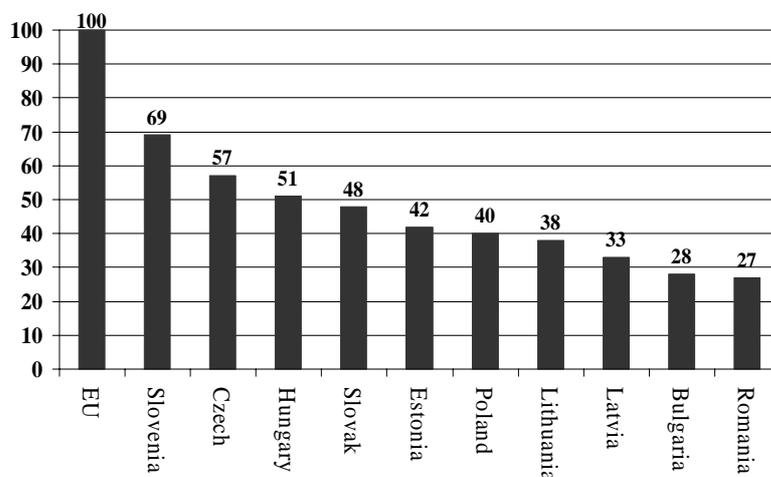
Source: World Bank.

Table 6: GDP comparisons

GDP per Capita	Share of relevant EU av. (current prices)		Share of relevant EU av. (PPP)	
	1986	2002	1986	2002
Accession (% of curr. EU)				
Czech Rep.		27		56
Estonia		18		36
Hungary		27		49
Poland		20		36
Latvia		15		29
Lithuania		16		30
Slovak Republic		18		42
Slovenia		44		66
Average		23		43
EU late joiners (% of EU85)				
Greece	46	45	62	61
Ireland	64	115	48	109
Portugal	31	44	49	62
Spain	57	59	62	74

Sources: World Bank and Eurostat.

If the real convergence or real catch-up process is successful, converge of standards of living will occur. If relative population sizes do not change significantly during this process, the CEE10 will ultimately be a significantly more important player in regional and global trade and financial relations. Real convergence is, however, bound to be a gradual process taking one to two generations for most CEE10 countries, as shown in Tables 7 and 8 below.

Table 7: How long will it take for CEE10 to converge to EU if growth differential is 3% pa? (2001)

	50%	75%	100%
Czech Republic	na	9	19
Estonia	6	20	30
Hungary	na	13	23
Latvia	14	28	38
Lithuania	10	24	34
Poland	8	22	32
Slovak Republic	2	16	26
Slovenia	na	3	13
Romania	24	37	43
Bulgaria	20	34	41

Source: World Bank

Table 8: By what rate do CEE10 need to grow for convergence to occur in 20/30 years, assuming EU15 grows at 2% pa? (2001)

	100% target		75% target		50% target	
	20	30	20	30	20	30
Czech Rep	4.9	3.9	3.4	2.9	na	na
Estonia	6.5	5.0	5.0	4.0	2.9	2.6
Hungary	5.5	4.3	3.9	3.3	na	na
Latvia	7.8	5.8	6.2	4.8	4.1	3.4
Lithuania	7.1	5.4	5.6	4.4	3.5	3.0
Poland	6.8	5.2	5.3	4.2	3.2	2.8
Slovak Rep	5.8	4.5	4.3	3.5	2.2	2.1
Slovenia	3.9	3.3	2.4	2.3	na	na
Romania	9.1	6.8	7.7	5.7	5.5	4.3
Bulgaria	9.7	6.4	7.1	5.4	5.0	4.0

Source: World Bank

1.) Real convergence and Balassa-Samuelson

Real convergence is likely to have significant implications for the future trend of the real exchange rate. Real exchange rates of transition economies have been quite volatile and subject to large medium-term swings. There can be little doubt, however, that as part of the process of real convergence and catch-up in productivity and living standards, the CEE10 should continue to expect a significant trend appreciation of their real exchange rates. The reason for this belief is the Balassa-Samuelson effect (see *Balassa* (1964), *Samuelson* (1964, 1994), *Heston/Nuxoll/Summers* (1994)).

Let π_T^A be the inflation rate of traded goods prices in the accession country, π_T^E the inflation rate of traded goods prices in Euroland and $\varepsilon^{\text{€}}$ the proportional rate of depreciation of the accession country's currency vis-à-vis the Euro. Assume that the law of one price holds for traded goods, then

$$\pi_T^A = \pi_T^E + \varepsilon^{\text{€}}.$$

The inflation rate used to define the inflation criterion for EMU membership is the inflation rate of the Harmonized Index of Consumer Prices (HICP) a broad-based consumer price index, which includes both traded and non-traded goods and services. Let π^A and π_N^A be the CPI inflation rate, respectively the non-traded goods inflation rate, in the accession country and π^E and π_N^E the CPI inflation rate, respectively the non-traded goods inflation rate, in Euroland, all expressed in terms of the local currency. The share of non-traded goods in the consumption bundle is α both in the accession country and in Euroland. It follows that

$$\pi^i = \alpha\pi_N^i + (1-\alpha)\pi_T^i \qquad\qquad i = A, E$$
.

The prices of both types of goods are determined as constant proportional mark-ups on unit labour costs. Assume the growth rate of wages within a country is the same for both sectors. The growth rate of money wages in country i is w^i and the sectoral productivity growth rates are denoted g_N^i and g_T^i, $i = A, E$. It follows that

$$\pi^A - \pi^E = \varepsilon^{\mathcal{E}} + \alpha \left[\left(g_T^A - g_N^A \right) - \left(g_T^E - g_N^E \right) \right].$$

Thus, under reasonable assumptions, the difference between the HICP rates of inflation in an accession country and Euroland equals the proportional rate of deprecation of the nominal exchange rate plus the (common) share of nontraded goods in the consumption basket, multiplied by the excess of the productivity growth differential between the traded and non-traded goods sectors in the accession country over that same sectoral productivity growth differential in Euroland. It seems likely that the differential between productivity growth in the traded goods sector and productivity growth in the non-traded goods sector is larger in the accession country than in Euroland, because productivity catch-up is likely to be faster in the traded goods sector than in the non-traded, sheltered sector. This means that the relative price of non-traded goods to traded goods will be rising faster in the accession candidate than in Euroland. This in turn implies that, at a given exchange rate, the overall inflation rate will be higher in the accession candidate than in Euroland.

Chart 2 and Tables 6, 7 and 8 are consistent with this view. They show, first, that there is a sizeable gap in real per capita incomes, and therefore also in average labour productivity levels, between the accession countries and the existing Euroland members. Aggregate productivity catch-up is therefore possible and, barring economic policy disasters, likely. Second, the real per capita GDP gap is much larger at market exchange rates than at PPP exchange rates. The relative price of non-traded goods to traded goods is therefore much lower in the accession countries than in Euroland, reflecting a larger differential between the traded sector productivity levels of Euroland and the accession countries than between their non-traded sector productivity levels.

Several authors have recently estimated the empirical magnitude of the impact of the Balassa-Samuelson effect on the real appreciation of accession countries. De Broek and Slok (2001) estimate in a panel regression that a one percentage point increase in the relative productivity levels in industry in accession countries compared to the EMU area increases the real exchange by 0.4%. Given this point estimate, they find that the catch-up of productivity in accession countries causes a real appreciation of around 1.5% per annum on average for all the accession countries. Given the dispersion of productivity growth differentials across countries, the effect is

significantly stronger for some countries. *Jakab/Kovacs* (1999) estimate the effect on Hungarian data and find about 1.9% per year for Hungary. *Rother* (2000), analysing Slovenian data, puts the effect at 2.5% per year. All these estimates have the obvious shortcoming that they are done on very short data sets that do not allow the authors to filter out some of the cyclical factors with any degree of confidence. For what it is worth, estimates of the impact of the Balassa-Samuelson effect on the real appreciation of the Eastern European currencies against the EMU appear to be in the range of 1.5% to 2.5% per annum. Thus, at constant exchange rates, this appreciation would raise annual inflation rates in accession countries by 1.5% to 2.5% compared to the EMU average, and by even more compared to the best three performing EU countries.

If, at full capacity utilisation and a fixed exchange rate, the equilibrium inflation differential were to exceed the 1.5 percent permitted by the Maastricht inflation criterion, the only way the candidate EMU member could meet the inflation criterion at a fixed exchange rate would be to have a temporary recession to depress the inflation rate for at least one year to the level required by the Maastricht treaty. Following EMU membership however, the inflation rate in the former accession country would continue to exceed that of the older EMU members by the margin implied by the Balassa-Samuelson effect, for as long as the real convergence process remains unfinished.

A more elegant solution, permitting the EMU candidate to maintain a fixed exchange rate without incurring an unnecessary recession would be to redefine the inflation criterion of the Maastricht Treaty in terms of the inflation rate of traded goods only. Without such a redefinition, only a waiver or derogation would allow a candidate accession country with a strong Balassa-Samuelson effect to qualify for EMU while maintaining a fixed exchange rate and without incurring an unnecessary recession.

If a candidate EMU member subject to the Balassa-Samuelson effect were to float its exchange rate within the ERMII band, it is most unlikely that Balassa-Samuelson real exchange rate appreciation would pose problems as regards the Maastricht criteria for both inflation and the exchange rate over a two-year period. Consider the case where monetary policy in the accession country keeps inflation at

a level no more than 1.5% per annum above the Euroland level[11], but the inflation differential warranted by the Balassa-Samuelson effect is greater than 1.5% per annum at a given exchange rate and with full capacity utilisation. The equilibrium response of the nominal exchange rate would be an appreciation. There exists no estimate of the Balassa-Samuelson effect that would make it likely that it would exhaust the 15% bands of the ERM in two years, assuming the exchange rate starts off in the middle of the band.[12] Narrower bands, such as the symmetric ±2.25% ERMI bands would, however, expose the country to the risk of violating the exchange rate criterion. While this is good news for countries that are quite happy to float within the ERMII band for a couple of years, it makes no sense to ask countries already on a fixed exchange rate with the euro (such as Estonia and Lithuania)[13] to abandon their euro peg simply to satisfy an inappropriately formulated inflation convergence criterion.

A serious design weakness of the Maastricht criteria for full EMU membership is that it specifies a number of nominal convergence criteria that jointly constrain the behaviour of real economic variables in ways that may not be desirable or, worse, not even feasible. The nominal interest rate target and the inflation target imply a real interest rate target that may not be market-conform. The inflation target and the nominal exchange rate criterion constrain the behaviour of the real exchange rate in ways that may make no sense, both from the point of view of desirable movements in key international and internal relative prices and from the point of view of asset market equilibrium.

D. Asymmetric shocks

A key argument in favour of nominal exchange rate flexibility (and therefore against any fixed exchange rate regime, including a common currency), is that nominal exchange rate flexibility provides a useful adjustment mechanism, or a useful 'buffer', when a national economy is hit by asymmetric shocks or by asymmetric transmission, due to differences between national economic structures, of a common shock. Where such nation-specific shocks call for changes in equilibrium

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[11] Or even above the average of the three EU members with the lowest inflation rates.

[12] The Treaty is not completely clear as to whether staying within the 15% bands (without any unilateral devaluation of the central rate) is sufficient for satisfying the exchange rate criterion for EMU membership.

[13] Latvia has a fixed exchange rate with the SDR.

international relative prices or costs, and when there are nominal rigidities in domestic costs and prices, it may be easier to achieve the required changes in international relative prices or costs through variations in the nominal exchange rate than through changes in relative national prices or costs at a constant nominal exchange rate.

For this argument to carry weight, three conditions must be fulfilled. *First*, there must be frequent and/or serious asymmetric shocks that are not the consequences of having an independent national currency and monetary policy. *Second*, there must be persistent nominal price or cost rigidities. *Third*, either it must be possible to manage the exchange rate to achieve the desired changes in international relative prices or costs, or a free floating exchange rate achieves this automatically - on its own.

The finding that country or (region), *X*, does a large share of its external trade with another country (or region), *Y*, is often viewed as an argument for country *X* having a fixed exchange rate with country *Y*. This argument makes sense only if the fact that country *X* has a large share of its foreign trade with country *Y* makes it less likely that there will be asymmetric shocks, that is, shocks requiring relative price or costs adjustments between these two countries.[14] For what it is worth, Table 9 shows that in 2002, the CEE8 countries had, on average 71 percent of their foreign trade with the EU23 (the existing EU15 plus the CEE8 countries). This share has grown rapidly and continues to do so.

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[14] Also, the trade shares of country X with various other countries are not exogenous and may (like openness itself) be a function of the exchange rate arrangements of X with its various potential trading partners (see (*Frankel/Rose* (1998)).

Table 9: CEE 10, Trade with E(M)U in 2002

Group 1	Trade w. EU+group 1 % of total trade	Trade with EU % of total trade	Trade with EMU % of total trade
Czech Rep.	86	72	64
Estonia	64	59	39
Hungary	73	66	58
Latvia	75	59	37
Lithuania	67	52	38
Poland	79	70	59
Slovenia	77	69	63
Slovak Rep.	87	58	50
Group 2			
Bulgaria	56	52	35
Romania	59	52	54
Average	71	60	48
Weighted Ave	87	75	64

Source: EBRD.

Differences in the sectoral composition of production and employment mean that sector-specific demand or supply shocks may also be country-specific shocks. Table 10 shows that in 1999 the share of manufacturing in GDP in the CEE8 is well below what it was for Spain and Portugal in 1986. Only the Czech Republic (27 percent) and Hungary (25 percent) are higher than the current EU average.

Table 10: Structure of Production and Employment

	Manufacturing % of value added		Agriculture % of value added		Agriculture male employment*	
	1986	1999	1986	2000	1990	1999
Average EU 85	**22**		**4**	**2****	**6**	**5**
Average EU late joiner	**23**	**18**	**9**	**6.0****	**17**	**14**
Greece	15	11	13	8.0**	20	16
Ireland		34	9	4**	21	13
Spain	26	19	7	4.0**	13	9
Portugal	29	19	6	4.0**	16	11
Average EU 95		**19**		**4.0****		**8**
Average group 1		**22**		**5**		**14**
Czech Rep.		27				
Estonia		17		6		11
Hungary		25		6		10
Poland		21		4		19
Latvia		15		4		17
Lithuania		18		8		24
Slovak Rep.		21		4		10
Slovenia		28		3		11

Source: WDI.

More surprising, the 5 percent average share of CEE8 agricultural value added in GDP in 2000 is only slightly above those of Spain, Portugal and Ireland (all at 4 percent) and well below Greece (at 8 percent) in that same year. In 1986 these four countries had considerably higher agricultural shares in GPD than the CEE8 have today. The last column of Table 10, giving agricultural male employment shares, shows both that agricultural productivity is low relative to non-agricultural productivity and that the agricultural employment shares of the CEE in 1999 were lower (on average) that those of Greece, Ireland Spain and Portugal in 1986 and at about the same level as these countries in 1999. There are no massive differences in the structure of production and employment between the existing and the new EU members that would point to a high incidence of asymmetric shocks.

By abolishing the national currency and the monetary policy function of the national central bank (other than through the single vote of its President on the Governing Council of the ECB), an important source of asymmetric shocks is eliminated. Collisions between the national Central Bank and the national Ministry of Finance have been the proximate causes of the asymmetric shocks that sent Poland into a severe slowdown during 2001 and 2002, and that in 2003 and 2004 threaten financial and macroeconomic stability in Hungary. The possibility of such clashes will be eliminated once the CEE8 or CEE10 adopt the euro. All these countries are far too small to contemplate playing a game of 'chicken' with the ECB.

In addition to removing the scope for conflict between the national monetary and fiscal authorities, the abolition of the national currency eliminates a fundamentally redundant financial asset whose continued existence can damage real economic performance, both because of its possibly capricious influence on international relative prices and costs and through the revaluation of imperfectly hedged portfolios. Since the foreign exchange markets (especially the relatively illiquid ones typical of the CEE10 currencies) are inefficient in all of the senses identified by *James Tobin* (1984)[15] (see also *Buiter* (2003)), the elimination of a number of them should be good news for all but foreign exchange and forex derivatives traders.

As regards the presence of significant and persistent nominal rigidities, little reliable direct evidence is available. Identifying nominal rigidities in wages and prices is extremely difficult. A money wage process that exhibits a very high degree of statistical persistence (say, any number of unit roots), can be generated by a structural model without any nominal rigidities. In view of the openness and small size of the CEE10, I would be surprised to find a great deal of nominal rigidity in any of them, although the same logic suggests that there is likely to be more nominal rigidity in Poland than in Estonia.

The asymmetric shocks or asymmetric transmission of (common) shocks argument against monetary union is not restricted to national differences in the structures of production and employment. Differences between the financial systems of the UK and the current

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[15] They are *technical efficiency* (low transactions costs, high liquidity, competitive behavior); *information arbitrage efficiency* (weak, semi-strong and strong); *fundamental valuation efficiency*; *functional efficiency* and *Arrow-Debreu full insurance efficiency*.

EMU members have been argued (see e.g. *Muelbauer* (2003)) to be a reason for not subjecting the UK to an interest rate regime that would be designed for an (enlarged) EMU of which the UK would be a rather small and unrepresentative part. Frequently mentioned examples of differences between the UK and continental European transmission mechanisms of monetary policy are the dominant role played in the UK housing market by variable rate mortgage finance (fixed rate mortgages are more common on the continent) and the greater role of variable rate bank credit for the corporate sector in the UK.

As regards the likelihood that either a market-determined floating exchange rate or skilful management of the exchange rate can turn the nominal exchange rate into an effective instrument for achieving necessary changes in relative prices and costs, experience teaches us that both the market fundamentalists and the policy optimists (those who believe in exchange rate fine tuning) fail to appreciate the bewildering variety of fundamental and extraneous influences that drive international capital flows and exchange rates. With unrestricted cross-border mobility of financial capital, the exchange rate is more likely to be a source of unnecessary shocks, noise, volatility and misalignment than a buffer or adjustment mechanism for achieving, with less transitional pain, international relative price and cost adjustments warranted by asymmetric fundamental shocks. The foreign exchange market is rather like a rogue elephant: unpredictable, powerful and dangerous. The best way to deal with it is to put it out of its misery.

E. The perils of ERMII

As part of the Acquis, virtually all controls on cross-border trade in financial claims have been abolished.[16] The undoubted potential benefits of complete international financial integration will not be reaped in full, however, until the accession countries adopt the euro. The considerable risks associated with 'perfect' international capital mobility cannot be effectively mitigated while the accession countries retain their own currencies.

Faced with unrestricted international mobility of financial capital, there are but two reasonable options as regards currency regimes. The

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[16] A few constraints on the foreign ownership of land still remain in most accession countries.

first is a free float, that is, a monetary regime that targets inflation (or some other nominal aggregate other than the exchange rate) and treats the exchange rate as a residual. The second is a credible fixed exchange rate regime. The only credible fixed exchange rate regime is a formally symmetric currency union or common currency.[17] Looser fixed exchange rate regimes such as currency boards may survive for a while, but should be seen as strictly temporary. A country should not enter into a currency board arrangement without a well-thought out strategy for achieving a 'strong exit' from the currency board, either into a formally symmetric monetary union or into an orderly and voluntary free float, preferably one in which the currency is not expected to depreciate sharply as soon as the exchange rate is floated.

The combination of a nominal exchange rate target zone with a 'fixed but adjustable' central parity (such as ERMII) and an inflation target is possibly the worst exchange rate regime ever designed. It is incredible that after the spectacular collapse of ERMI in 1992-93 (see e.g. Buiter, Corsetti and Pesenti (1998)), the powers that be decided to continue to impose this half-baked but wholly dangerous arrangement on future candidates for Eurozone membership.

It is not possible for the monetary authorities to make a credible commitment to defend a peg (the central parity and/or the weak edge of the band) in the face of a determined speculative attack against the currency. Faced with the transactions volumes that can materialise at little notice in the international financial markets, even the largest of the CEE10 is barely an appetiser for a speculative lunch. Official international reserves (including any and all off-balance sheet contingent reserves), even when augmented with the capacity of the Central Bank and the Ministry of Finance to borrow additional hard currency at short notice (through contingent credit lines, overdraft facilities with other monetary authorities or IFIs) are tiny compared to the financial resources private market participants can mobilise. Domestic interest rates can be increased to discourage speculators

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[17] A formally symmetric monetary union has a monetary authority that satisfies the following conditions: (1) Its mandate spans the entire monetary union; (2) it acts as lender of last resort on the same terms in every union member state; (3) central bank profits are shared fairly among all union member states; (4) it is accountable to the legitimate political representatives of the citizens of the whole union (see *Buiter/Grafe* (2002)).

(Hungary currently has 12.5 percent short-term interest rates to set against the 2.00 percent rate set by the ECB), but there are both political and economic constraints on the magnitude and the duration of such interest rate increases.

No modern central bank can credibly commit itself to make the maintenance of the external value of the currency its overriding, let alone its only concern. They may talk the talk (and every currency board in the world does just that), but they know that it is not politically possible to raise interest rates in defence of the peg to levels that threaten financial stability, do serious damage to the real economy or, worst of all, endanger the electoral prospects of the incumbent government.

ERMI was not a credible commitment device. The eleven countries that merged their monetary sovereignty in the Eurozone on January 1, 1999, managed to get to their joint destinations together only because they had been given a firm *date* and (except for Ireland, whose conversion rate into the euro represented a small appreciation relative to the central parity of its ERM band) a firm *rate* for the start of EMU. This provided the financial markets (and forward-looking goods markets and factor markets) with a clear focal point to anchor the nominal exchange rate path during the traverse to EMU.

For the current accession countries, no 'date and rate' pair is on offer. The timing of entry into ERMII is open-ended. The European Commission and the ECB keep emphasizing the fact that the central parity of the ERMII should *not* be viewed as a firm peg, but as something that can and should be changed in response to internal and external developments. This further undermines the value of ERMII as a commitment device (and specifically as a means of enforcing tighter budgetary control).

A *state-contingent* set of EMU entry criteria, such as the exchange rate criterion of ERMII, the inflation criterion and the nominal interest rate criterion, provides a veritable Petri-dish for breeding indeterminacy and multiple equilibria, if the state variables in question are to a significant 'expectational' and non-predetermined. This is clearly the case for the two financial asset prices (the nominal exchange rate and the long nominal interest rate). It is true at least in part for the inflation rate. It is essential, if the state-contingent criteria cannot be dropped completely, to add some solid *time-contingent* benchmarks to the EMU membership qualification process.

The damage done by collapsing central pegs and associated wide swings in nominal exchange rates are not in the first instance due to the swings they cause in real international competitiveness in goods and services. For reasons explained already, nominal rigidities are unlikely to be a major problem for the CEE8 or CEE10. National monetary independence is inevitably a source of financial fragility for the new EU members, because of the highly imperfect hedging of foreign currency exposures in the balance sheets of banks, other financial institutions and non-financial corporates.

Clearly, this is in part a regulatory issue. Better regulation and supervision of domestic banks, other financial institutions and capital markets can lower the risk of speculative attacks and mitigate their consequences, even if they force a sharp change in the value of the currency. Regulation and supervision of the financial sector can only achieve so much, however. The banking sector may be perfectly hedged as regards exchange risk, when hard currency borrowings are matched by hard currency loans. However, if these loans are to domestic corporates that are not fully hedged as regards their foreign currency exposure (through natural or financial hedges), a sharp reduction in the value of the domestic currency may cause the corporate borrower to default on its bank loan. Market (exchange rate) risk has been hedged by putting more credit risk on the balance sheet. The regulator/supervisor must know the hedging behaviour (natural and financial) of the non-financial borrowers in order to assess the financial health of the financial sector. Such information is simply not available.

Things are actually worse than that. There is at least one CEE10 country which believes that its currency board arrangement justifies a decision to lump domestic currency-denominated financial claims and euro-denominated claims together for reporting purposes. The result is that the central bank no longer has the information to determine the net exposure to a change in the euro peg of the banks and other financial institutions reporting to it. Unfortunately for the country in question, the statement: "the distinction between domestic currency and the euro is irrelevant because the peg to the euro is sacrosanct and will never be changed: our exit from the currency board will be the entry into the Eurozone at a conversion rate given by the existing currency board parity", calls for the retort: "and one peso still equals one US dollar?"

F. The usefulness of nominal convergence

Nominal convergence prior to the adoption of the euro could be helpful to those CEE8 or CEE10 candidates that do not intend/expect to change their nominal exchange rate with the euro between now and full EMU membership. The reason is that disinflation may be easier with a floating exchange rate than with a fixed exchange rate (or a common currency). Whatever the merits of this argument, it is clear that it is difficult to make an externalities-based case for prior nominal convergence: because of the very small size of the candidate countries in the markets for goods and services, their nominal convergence, or lack of it, would be of no appreciable significance to the existing EMU members. I define nominal convergence as convergence to the EMU candidate's equilibrium rate of inflation following the adoption of the euro and after any inertial inflation inherited from the pre-euro regime has dissipated.

Since the costs associated with a failure to achieve nominal convergence prior to EMU membership are significant, at most, only for the candidate country, the decision whether or not to strive for prior nominal convergence should be left to the EMU candidates – a straightforward application of the Principle of Subsidiarity. The main argument against requiring inflation convergence prior to EMU membership is that the adoption of a common currency is a highly effective means for achieving inflation convergence, especially for a country whose monetary policy credibility is less than that of the ECB. Investing in national monetary policy credibility in order to meet the EMU inflation criterion makes no sense, because the reputational capital thus acquired is scrapped the day the country adopts the euro.

Convergence to the EMU average HICP inflation rate plus the Balassa-Samuelson 'real convergence' premium could result in a rate of inflation for the EMU candidate's HICP index that is more than 1.5 percent per annum above the average of the three EU members with the lowest rate of inflation. This is quite likely if the candidate country wishes to traverse to Eurozone membership at a fixed nominal exchange rate. It that were to happen, the inappropriate Maastricht inflation criterion should be waved. Forcing a country to achieve an inflation rate below its Eurozone equilibrium rate would mean imposing an unnecessary temporary dose of unemployment and excess capacity on the candidate country.

33

G. The irrelevance of real convergence for monetary union

Real convergence matters only for monetary union if misguided externally or domestically imposed guidelines, targets and constraints cause them to matter. The possible conflict between Balassa-Samuelson real exchange rate appreciation and the inflation criterion for countries that would like to maintain a stable exchange rate in ERMII is an example of perverse convergence criteria causing real convergence to matter.

For the rest, even persistent structural differences between countries are no obstacle to them benefiting from monetary union. Both rich and poor people within a nation state benefit from using the same currency. No more are differences in average productivity and real income per capita between countries obstacles to these countries benefiting from membership in a monetary union. Differences in the sectoral composition of output between the EU15 and the CEE8 are small. Even if the differences that remain make asymmetric shocks possible, this would only matter for the choice of exchange rate regime if national monetary policy could be fine-tuned to facilitate the adjustment of external competitiveness through appropriate movements in the nominal exchange rate. This exchange rate fine tuning argument has been amply demonstrated to be a fallacy.

Greater convergence in regulatory and supervisory standards for financial institutions and markets (i.e. improvement in the regulatory and supervisory standards in the CEE8 and CEE10) would be most desirable, but higher standards are actually even more important when the national currency is retained than when it is allowed to disappear. With the abolition of the national currency one important source of asset-liability mismatch (unhedged net euro positions) and financial instability would disappear.

The very large current account deficits run by e.g. the Baltic EMU candidates (see Table 1) strengthen the case for these countries' earliest possible full participation in EMU. Their counterparts in the domestic accounts are mainly private sector financial deficits - corporate sector financial deficits in particular. If the foreign funds are, along with domestic funds, invested wisely the economy should be able to generate the primary external surpluses required to finance the external debt that has been incurred and to satisfy the foreign owners of local capital. If they are invested unwisely, there will be corporate default and bankruptcy.

Such a corporate crisis would undoubtedly be more dangerous

under national monetary autonomy than with the country in the Eurozone. With a national currency and monetary autonomy, there is a risk – not present if the country were part of the Eurozone - that the corporate crisis could become an exchange rate crisis and through that, a banking crisis or even a public debt crisis. Having an independent national currency would increase both the likelihood of a crisis and the severity of any crisis that does happen.

H. *The euro as parallel currency for accession countries*

One way for an accession country to give visible expression to its desire for and commitment to eventual full EMU participation, is for it to turn the euro into a parallel currency. The euro would be declared joint legal tender for all transactions under the accession country's jurisdiction, on the same terms as the national currency. Residents would be able to operate checkable euro accounts with local financial institutions.

The introduction of the euro as a parallel currency, that is, as a competing currency with legal tender status circulating alongside the fully convertible local currency, would provide additional monetary discipline. Local narrow money and the euro would become closer direct substitutes. By making the euro a better direct substitute for the local currency, any attempt at inflationary financing would be reigned in by a shift in money demand away from the local currency and towards the euro. In the limit, any non-zero anticipated depreciation of the local currency against the euro would drive the demand for the local currency to zero; likewise, any non-zero anticipated appreciation of the local currency against the euro would reduce the local demand for euros for domestic transaction purposes down to zero – a pure Kareken and Wallace world (*Kareken/Wallace* (1981)).[18]

Even under less idealized circumstances, the sensitivity of the demand for local base money to expected depreciation/appreciation of the exchange rate would be certain to increase as a result of 'creeping euroisation' if the euro were made legal tender.

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[18] Narrow or base money is assumed to be non-interest bearing. The Kareken and Wallace universe has the further interesting property that the level of the (expected) equilibrium exchange rate, while constant, is indeterminate. Nominal price and/or wage rigidities would eliminate this indeterminacy, but not the requirement that the expected equilibrium exchange rate be constant.

A variety of monetary and exchange rate regimes are consistent with such enhanced direct currency competition. At one extreme is the unilateral adoption of the euro as the only legal tender, and the abolition of the domestic currency. A currency board is consistent with the euro as parallel currency, but so are managed and floating exchange rate regimes.[19]

According to the letter of the Treaty, unilateral euroisation, is not compatible with the Maastricht criteria *if it involves the abolition of the national currency*. The argument is that, once the national currency has been abolished, there no longer is any way for the Council of Ministers to co-determine the conversion rate at which the candidate EMU member's currency eventually joins EMU. The candidate EMU member would have been able to determine its irrevocable euro conversion rate unilaterally.[20]

The ECB's position on the issue is the following *"Any unilateral adoption of the single currency by means of "euroisation" outside the Treaty framework would run counter to the economic reasoning underlying Economic and Monetary Union, which foresees the eventual adoption of the euro as the end-point of a structured convergence process within a multilateral framework. Unilateral "euroisation" cannot therefore be a way of circumventing the stages foreseen by the Treaty for the adoption of the euro"* (*European Central Bank* (2003)).

This argument is correct only if unilateral euroisation means the unilateral abolition of the domestic currency and its replacement by

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[19] Of course, if the euro and the local currency were to become perfect direct substitutes, even a floating exchange rate regime would turn out to support only constant exchange rate equilibria. Any expected depreciation or appreciation would imply the total abandonment of the currency that is expected to weaken.

[20] Note that it might be possible to respect the letter of the Treaty in this regard, while violating its spirit. Consider the case where the euro is made joint legal tender with the national currency, and the candidate EMU member's own currency is not formally abolished and remains joint legal tender with the euro. The use of the local currency as a means of payment, numéraire and store of value could be discouraged in a variety of ways. In the limit, the last domestic banknote could lead a perfunctory existence, hanging framed on the wall of the office of the Governor of the central bank. The conversion rate ultimately decided by the Council would be irrelevant if the local currency had *de facto* if not *de jure* become defunct.

the euro as the only national currency and legal tender. In contrast, there can be no objection, even on narrow legalistic grounds, to unilateral euroisation in the sense of the adoption of the euro as a parallel currency (as additional legal tender) without abolishing the domestic currency and without fixing, unilaterally, an irrevocable ultimate conversion rate of the domestic currency and the euro.

Furthermore, what the Council of Ministers (Ecofin) has taken away, it can give again. With the permission of the Council of Ministers *"consensual euroisation"* (even without the temporary retention of the domestic currency) could be made an option for all acceding and accession countries.

I.   *No investment without return*

A sufficient reason for granting an exchange rate (ERM) derogation to Eurozone candidates that have achieved fiscal sustainability is that the efforts by the new EU member to satisfy the exchange rate criterion represent an investment without any possible return – a pointless and costly exercise. Until the country joins EMU, it will forgo the full benefits from international financial integration, since these accrue only when currency risk has vanished irrevocably. It will, however, be exposed to the risk of a speculative attack against its currency. As soon as the EMU candidate country has established that it can manage its exchange rate for the requisite period of time within the assigned band, it is rewarded by having the capacity to manage the exchange rate taken away irrevocably and permanently. Reputational capital is accumulated through a costly and risky investment process. This reputational capital is scrapped the moment the country joins fully in EMU.

The same objection can also be made against the inflation criterion and the interest rate criterion: they involve up-front costs without any prospective benefits. Once a country joins EMU, its medium and longer term inflation profile is determined by the EMU-wide monetary policy set by the ECB and the operation of the Balassa-Samuelson effect. The investment in a reputation for monetary policy competence and for commitment to price stability is worth virtually nothing when monetary autonomy is given up as a country joins EMU.[21] National

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[21]   If national central bank governors continue to be voting members of the Governing Council of the ECB, the investment, prior to EMU membership, in a reputation for monetary competence and a commitment

fiscal policy can still affect national inflation rates, but only transitorily. At most, inflation concerns should therefore imply fiscal constraints (and fiscal coordination). They do not call for an inflation criterion *per se*.

With complete financial openness, the interest rates on euro-denominated government debt issued by different national authorities will differ only because of perceptions of differences in default risk. That again may argue for fiscal constraints, to address differential sovereign default risk, but not for interest targets *per se*.

The only demonstration of economic policy competence by accession candidates that is relevant to their future behaviour and performance, once EMU membership has been achieved, is the demonstration of responsible fiscal behaviour. It therefore does make sense, in principle, to encourage the EMU candidate to pass a fiscal-financial test for EMU membership.

Whether there should be an externally imposed Treaty requirement to meet the fiscal-financial norms depends on the size of the country (which determines the magnitude of any cross-border externalities), on one's attitudes towards paternalism ('we know what is good for you') and on the value of externally imposed constraints as commitment devices. Whether the two numerical fiscal-financial criteria of the Maastricht Treaty are appropriate yardsticks for national fiscal behaviour that is acceptable to the Community as a whole, is a separate issue, which is not pursued here for reasons of space (but see *Buiter/ Grafe* (2004)).

IV. Conclusion

Fiscal sustainability should be the unique necessary and sufficient condition for Eurozone membership.

Nominal convergence – defined as a candidate Eurozone member approaching what would be its underlying equilibrium rate of inflation conditional on Eurozone membership - could be helpful to candidate members. The target should be the EMU average HICP inflation rate plus the Balassa-Samuelson real exchange rate appreciation premium.

The history of exchange rate target zones under unrestricted financial capital mobility is not a happy one. A weak ERMII, which is all that is on offer, has value neither as a commitment device or

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to price stability will be seriously diluted, but it will not disappear altogether.

nominal anchor, nor as a constraint on excessively loose fiscal policy. The history of the pursuit of two or more nominal targets (or one or more nominal targets subject to a nominal constraint) is a most unhappy one. The pursuit of an inflation target (itself inappropriately specified) and *a-fortiori* of an inflation target *and* a nominal interest rate target subject to a nominal exchange rate constraint is an accident waiting to happen.

Accession candidates (or existing EU member states) wishing for early full EMU membership should not have to spend two or more years in ERMII purgatory. ERMII is at best an irrelevant distraction. At worst it offers the international financial markets free opportunities for shooting fish in a barrel.

Arriving university students ('pledges') wishing to join certain fraternities or sororities are frequently subjected to gruelling forms of *hazing* – the shaving of heads and the cleaning of pavements with toothbrushes are two of the milder forms of humiliation and abuse. When the older students (initiated members) inflicting these indignities are asked why they want the would-be new members to go through this pointless and painful process, the answer invariably is: "because *we* had to go through it". The logic behind the insistence that new EU members should satisfy the inflation, interest rate and exchange rate criteria of the Maastricht Treaty before they can become full EMU members, appears to be similar.

The only remaining argument against immediate EMU membership for all those acceding countries that have achieved fiscal sustainability is that the ECB's Governing Council would become unmanageable with an additional five or ten members. I share these concerns, but the solution is surely to reform *asp* the composition and voting procedures of the Governing Council of the ECB, rather than to delay the full EMU participation of the successful EU accession candidates.[22]

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[22] The new constitution for the ECB, currently awaiting ratification by the EU Member States has the following features. The central bank Governors of the acceding countries will become full members of the General Council of the ECB when their countries join the EU. As regards the Governing Council, the proposal is that the number of voting rights be capped at 21: six permanent voting rights for the members of the Executive Board and 15 voting rights for the Governors of national central banks, to be exercised on the basis of a rotation system. All members entitled to vote would have one vote. All members would have

Introducing the euro as a parallel currency in transition countries (conceivably even prior to formal EU accession), deserves serious consideration because it would allow accession countries to euroise gradually without violating the letter or spirit of the Maastricht conditions for Eurozone membership. Such an act also does not prejudge the details of the monetary and exchange rate regime. It could, but need not be done unilaterally. Following negotiation and agreement with the European Council and its advisers in the ECB and the European Commission, more radical forms of "consensual euroisation" which might involve the early abolition of the national currency, could also be part of the menu of options.

The sensible alternatives to a potentially disastrous resurrection of ERM II are self-evident. For those countries that have achieved fiscal-financial sustainability and that have converged to their EMU equilibrium inflation rate, immediate full EMU membership is optimal. If this is not possible for legalistic reasons (say, because the Maastricht criteria remain binding for EMU candidates even though the Stability and Growth Pact criteria are no longer binding for large existing EMU members), there are two reasonable alternatives. Both involve setting a *date* and a *rate,* that is, a date on which the candidate will become a full EMU member and the irrevocable conversion rate of the national currency and the euro on that date. Given the date and the rate, two interim regimes make sense between the announcement date and the implementation date. The first is to have the most credible fixed exchange rate regime, say a currency board. No attempt should be made in this case to achieve any nominal target other than the maintenance of the exchange rate. The second is to have a free float and a continuing inflation target (again the EMU average plus the Balassa-Samuelson inflation premium). The 'date and rate' will provide the appropriate (and essential) focal point for private sector expectations as regards the future behavior of the nominal exchange rate.

For countries that have not yet achieved fiscal-financial sustainability, the exchange rate should be an outcome, not a target or a constraint. An inflation target, aiming at convergence to the post-EMU membership equilibrium rate of inflation, and coordinated with a program for achieving fiscal-financial stability, is the appropriate focus of monetary policy.

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the right to attend and to speak.

Either the Treaty has to be amended or the accession countries have to be granted derogations from the ERM membership, if they are to avoid spending two years (or more) in ERMII purgatory. Time is of the essence.

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