

Economic Convergence and EMU membership

Jacek Rostowski

Part 1: Should rapid catch-up disqualify central and east European countries from EMU membership?

Prominent ESCB officials have argued that not just nominal but also “real” convergence should be required of central and east European countries CEECs before they join EMU. Thus Hans Reckers, a Bundesbank Board member, has argued that CEECs should not be allowed to join EMU before they had achieved GDP per capita levels equivalent to 70% of the EU average [Financial Times, 26 Sept. 2000]. In fact, the value or stability of a currency has nothing to do with the income of the people who use it. Were this the case, West European currencies would have been much more stable in the 1970s than in the 1870s, whereas the opposite was the case.¹

One argument that has been made is that the Harrod-Balassa-Samuelson (H-B-S) effect means that CEECs are likely to have inflation rates 0%-2% above the average of the present EMU. On top of this there may be a demand effect resulting from the demand for non-tradeables being more income elastic than the demand for tradeables. As incomes rise, demand for non-tradeables rises faster, and unless productivity in the sector rises faster than in the whole economy (which is unlikely) non-tradeable prices will rise faster than tradeable prices. This phenomenon of “growth related relative price changes” also happens in current EMU members, but with faster income growth, it would presumably happen faster in CEECs. Adding faster growing countries with higher H-B-S and “demand effect” inflation to EMU must increase EMU inflation for any given degree of tightness of monetary policy it is argued. This seems to confront the EMU with an unpleasant dilemma: if the 2% ceiling on inflation is to be maintained for the EMU as a whole, interest rates will have to be higher and inflation in slow growing countries will need to be lower than at present. On the other hand, abandoning the 2% ceiling on inflation and allowing CEECs to have inflation rates well above the average of present EMU members (without reducing inflation in the current member states) would, it is claimed, undermine price stability in the whole zone.

¹ It may be the case that a certain minimum level of income is required for a society to be able to support various sophisticated institutions, such as advanced forms of banking supervision, which may be helpful in protecting the political system from demands for inflationary finance. However, the more advanced CEECs already have such institutions in place.

However, we have to take a number of other considerations into account.

First, both the H-B-S effect proper and the demand effect, are as likely to occur in *any rapidly growing economy* as in a CEEC. Indeed, these effects have appeared quite strongly in Ireland, and to a lesser extent in Spain. They are not particularly the effect of *catch-up*, but simply of *faster growth* in the country concerned than the EMU on average. Thus, in order to prevent these effects from raising the average inflation rate in the EMU, members should not only refuse to accept CEECs, but *they should also prevent current members from unilaterally undertaking structural reforms which would accelerate their growth.*² Indeed, such a moratorium on reform would be particularly important since the CEECs represent only about 6.5% of EMU GDP. Thus, structural reforms that increased the growth rate by half in France and Italy (which together account for about 40% of EMU GDP) would be likely to have a much larger effect on EMU inflation than the accession of the CEECs.

Therefore, unless the EMU wishes to remain a low growth zone, there can be no argument for excluding CEECs on such a basis. Indeed, it may be in recognition of this fact, that the Maastricht inflation criterion only needs to be fulfilled for one year. Although the reduction in inflation does need to be sustainable to satisfy the MIC, it is hard to imagine that expectations of “growth generated relative price changes” of the kind we are discussing after the conclusion of the “reference period”, could be held to violate this condition.³

Second, the CEECs are so small economically that their accession to EMU would not in fact require any change in the ECB’s inflation target, even if their “growth inflation” were relatively high. Thus, if CEEC inflation were an improbably high 3 percentage points above the average of current EMU members, this would mean an increase in enlarged EMU inflation of 0.2%, on the assumption that there were no offsetting effects. If France and Italy increased their long-term growth rate by half, the effect could be twice as large (if we assume that the inflation effect of a growth acceleration

² This would be particularly vital if countries are to avoid the “demand effect”.

³ The “reference period” is that for which the conformity of a country with the criteria is assessed. What **could be** targeted by the sustainability requirement, would be various tricks such as “delaying” administered price or negotiated wage increases into “post-examination” years, or the fulfilment of the criterion thanks to an unsustainable nominal appreciation.

would be about half of the acceleration).⁴ Of course, *even if the EMU-wide inflation target were adjusted upwards* to take “growth inflation” in parts of the zone into account, there would not be any need to adjust the ECB’s monetary policy, and therefore *there should not be any effect on the inflation rate in slow growing countries*.

Third, it is not in fact clear that either the H-B-S effect or the demand effect on non-tradeables prices in the faster growing countries, would in fact increase the inflation rate in EMU as a whole, once we take the impact of the higher growth on the nominal exchange rate of the euro into account.

To see this, let us imagine that all EMU countries increase their growth rates by half. Would this lead to higher inflation within EMU? Assuming a stability- oriented monetary policy there are four ways of thinking about what would happen:

- To the extent that the higher growth was mainly generated by productivity increases in the traded sector (leading to an H-B-S effect), it would lead to a nominal appreciation of the euro against other currencies (we assume that the growth acceleration would be limited to the EMU). Domestic EMU prices of tradeables would fall (or fall more rapidly than they are in any case doing before the acceleration), compensating for the increase in the prices of non-tradeables and overall inflation would remain roughly constant.⁵
- To the extent to which the productivity growth occurred in non-tradeables, prices in this sector would not rise in the first place.⁶
- To the extent to which we have a shift in the structure of demand from tradeables to non-tradeables, the euro zone’s balance of payments will improve *ceteris paribus*, leading to nominal appreciation of the euro, reducing the euro price of tradeables and thus compensating for the increase in non-tradeables

⁴ The same assumption applied to an excess of CEEC inflation of 3 percentage points above the EMU average inflation during 2000-2002 of 2.5%, would imply improbably high CEEC-wide growth rates of 7-8% per annum.

⁵ As long as the domestic price elasticity of demand for both categories of goods (tradeables and non-tradeables) were the same.

⁶ As long as the “structure of demand” effect on the demand for non-tradeables, resulting from the higher income the accelerated growth brings, is not larger than the growth in productivity in non-tradeables.

prices.⁷ The nominal appreciation also increases the marginal costs of producing tradeables in the EMU relative to their world price (in dollars) and leads to resources being transferred inside the euro area to non-tradeables production.

- To the extent to which higher growth is balanced across sectors and there is no “demand effect”, prices of non-tradeables would not rise. However, higher growth would lead to pressure for higher real interest rates, which would also lead to nominal appreciation of the euro, which would cause the price of tradeables to decline, and overall inflation actually to *fall*.

We can now consider what happens when the increase in growth is not EMU-wide. In the case when it is limited only to France and Italy, we would have weaker H-B-S or “demand effect” impacts on EMU-wide non-tradeables prices, more or less compensated by an equivalently weaker nominal appreciation of the euro. In the last case above, of “fully balanced” growth acceleration⁸ in France and Italy, the real interest rate effect on tradeables prices would also be weaker than in the case of an equally large EMU-wide growth acceleration.

In all of these scenarios the impact of such a “geographically unbalanced” growth acceleration on slower growing countries within EMU could nevertheless be quite unpleasant. Nominal appreciation of the euro would make some part of their tradeables output non-competitive at previously expected wages. We can see this if we initially assume the existence a single homogeneous tradeable good, for which world demand and world supply are perfectly elastic. This good is produced in different currency areas of the world according to production functions which differ between areas in the short term, and which generate increasing marginal costs in production. Area output is determined at the level at which the world price $P_T = MC_T$ (domestic marginal cost). Resources (at least two factors) used in the production of the tradeable good are also used in the production of each area’s non-tradeable good. An increase in productivity in the production of the tradeable good in an area leads to an increase in area income and therefore to a change in the structure of demand. Assuming that this causes a greater

⁷ The shift is in the structure of demand, so euro zone demand for tradeables is likely to grow in *absolute* terms. This is because the shift itself results from overall growth in the economy.

⁸ Fully balanced on both the demand and supply sides **in both sectors**.

increase in demand for the non-tradeable good in the area than for the tradeable, the price of the non-tradeable good will rise. This implies a real appreciation of the area's currency, and in a non-inflationary environment, a nominal appreciation of the currency as well. Resources are then transferred from production of the tradeable to the non-tradeable good, which will additionally benefit the suppliers of the factors of production which are used more intensively in the production of the non-tradeable good (by the Rybczyński Theorem).

“Regions” within the currency area (in the EMU case these could be countries such as Germany) in which productivity in the production of the tradeable good does **not** increase, will find that with nominal appreciation, domestic P_T will fall. If domestic factor prices are flexible in such a region, this may cause a fall in nominal returns to factors of production which are relatively immobile out of the region (labour). If domestic factor prices are downwardly sticky, it will cause a fall in the *output* of the tradeable good in the region, and a reduction in *employment*. Thus, in order to avoid an increase in unemployment, expected wage increases might have to be foregone, or in the case of a relatively strong effect, real (or even nominal) wages might have to fall. This latter case is made the more likely by the low level of the ECB's inflation target.

Of course, on average even the inhabitants of slow growing EMU-members will benefit from faster growth anywhere in EMU (or indeed in the world). But these gains are likely to be unevenly distributed, with consumers of tradeable goods benefiting more than their producers. Thus, if we assume **two** tradeable goods are produced in the world, the currency area and the region we have been considering, and that productivity increases in the production of only **one** of the two tradeable goods in one of the regions of our area (but not in the other region or the rest of the world) then we get the following effects: (1) the area's currency still appreciates; (2) in the region in which productivity has increased, resources are transferred from the production of the **both** tradeable goods to the non-tradeable good; (3) in the region in which productivity has **not** increased, there are two rounds of effects. The first round involves, as before, a reduction in the profit maximizing level of output of **both** tradeable goods at given factor prices. This requires either a fall in output and an increase in unemployment, or a fall in regional factor prices (relative to other regions and in nominal terms in a non-inflationary environment). The second round is a consequence of the overall currency

area growth which has resulted from the increased productivity in the production of one of the tradeable goods in the other region of the area. This increases area demand for the other tradeable good (in whose production productivity has not increased), which increases demand for the factors used intensively in the production of this second tradeable good. The non-growing region should benefit from this, as it can increase exports of the second tradeable good to the growing region. Which of these two (first or second round) effects will predominate depends on the size of the slow growing region relative to the area and on the various elasticities involved. If factor prices are highly flexible downwards, then the region will **not loose** from the first round effect and will gain (albeit maybe only slightly) from the second round effect.

In the case of CEEC accession and subsequent catch up, the direction of the effects on EMU slow growers would be the same as in the two cases examined above, but their magnitude is likely to be far smaller.⁹ Thus, to summarise, the problem with CEEC accession to EMU is *not* that it will cause *higher inflation* in the whole euro zone, but rather that it may cause *higher unemployment* in slow growing countries such as Germany *if they fail to increase the flexibility of their labour markets*.

Part 2: Is there a trade-off between Real and Nominal Convergence?

However, even if an uneven growth acceleration in a monetary union does not, as has been claimed, cause higher inflation, and if it causes higher unemployment in slow growing member countries only in the presence of rigid labour markets in those countries, it may nevertheless be the case that membership of EMU would act to slow down economic convergence by poor, and therefore potentially fast-growing EU member states. This claim has also been made, and we now examine it.

⁹ Throughout the analysis we assume that the EMU does not face a downward sloping demand curve for its products. If it does, then productivity growth in the tradeables sector will lead to a nominal **depreciation** of the euro rather than an appreciation, whether it is balanced by equal productivity growth in non-tradeables or not. Nominal depreciation will put upward pressure on EMU inflation, which would need to be offset by higher nominal interest rates. If the tradeable goods produced by all EMU countries were homogeneous, producers in countries with slow productivity growth would be hit by competition from their neighbours and by higher real interest rates. To the extent to which the tradeables produced by different countries differed, producers in slower growing EMU countries would face only the second problem of higher real exchange rates. However, only areas with largely undiversified exports (such as raw materials producers) are likely to face demand curves which are downward sloping in the medium to long term (the time horizon which concerns us, as we are considering issues of differential growth rates).

It is clear that if countries were able to use national monetary policy to mitigate the effects of demand shocks (both negative and positive) and to use exchange rate policy to mitigate the effects of negative supply shocks, the path of GDP would be smoother (which would increase welfare somewhat), and the trend rate of growth might even be somewhat higher (less risk could encourage higher investment).

Nevertheless, in general, catch-up is a pretty long-term phenomenon. Convergence between similar regions (US states, Japanese prefectures, European regions) proceeds at between 2% and 4% of the initial gap per annum [Barro and Sala-i-Martin, 1998], which implies a half-life for the productivity gap of between 18 and 36 years. This is not a period over which the availability or otherwise of tools for flexible macro policy is likely to be decisive, even if one were to assume that macro policy smoothes fluctuations rather than augmenting them.

But this is exactly where the “rub” lies. Monetary policy in robust young democracies with strong populist movements and limited human capital at the central bank can easily be pro-cyclical rather than anti-cyclical. Exchange rate movements can also be more of a “shock generator” than a shock absorber. A recent study [Habib 2002] finds that emerging market risk premia had a significant impact on exchange rates in the Czech Republic, Hungary and Poland during the period mid-1997 – mid- 2001, and on interest rates in the Czech Republic and Hungary. The volatility of the Czech and Polish exchange rates was also affected by “volatility contagion” coming from the emerging markets and there was also some “volatility contagion” of Czech interest rates. Csermely and Vonnak [2002] show that in Hungary the main reason for exchange rate and real interest rate movements has been changes in the risk premium Hungary has had to pay. These changes were due to world market increases in the premium required of emerging markets, an effect which would very largely disappear after EMU accession.

Thus, I would argue that a monetary union which eliminated the risk of “emerging market contagion” and made a higher level of capital inflow safe, while at the same time providing a strong, externally guaranteed anti-inflationary framework (which might in turn encourage a higher level of domestic savings), might be expected to increase the long term rate of growth of the CEECs, rather than reduce it.

Another argument which has been put forward is that CEECs need to run fiscal deficits in excess of the limit set by the Maastricht criterion and of the requirements of the Stability and Growth Pact. One justification for this view is that CEECs have poor physical infrastructures, that infrastructural investment can often boost economic growth, and that therefore a higher level of borrowing for public investment needs is justified in the case of CEECs [European Economy, 2002, Part V]. This is an argument for a certain kind of public expenditure rather than for financing that expenditure through borrowing. Such investment can also be financed by reducing other expenditure or increasing taxation. However, **if** we were to accept that borrowing was the best way of financing under the special circumstances which CEECs face, then rather than require that they choose between EMU membership and an optimal investment/financing mix, it is the Maastricht fiscal deficit criterion which should be altered.¹⁰ Finally, it needs to be remembered that the requirements for fiscal prudence in the Treaties apply to non-EMU-participating EU member states as well.¹¹

Conclusion

Thus, it seems likely that we can reject the idea that an uneven growth acceleration within EMU will cause higher inflation, that it will be bad for the slow growing countries (unless they have very rigid labour markets). Nor need we worry that CEEC entry into EMU will have similar effects on the union as a whole or on slow growing incumbents, or that it will slow down growth in the CEECs themselves (except for a short while when they might reduce growth to achieve the inflation criterion in the face of the H-B-S effect).

¹⁰ A variant of this argument is that the EU itself requires various expenditures (for instance on environmental protection). These can be thought of as the “admission price” to the EU, which is worth paying because other aspects of accession will boost growth in such a way as to more than compensate for it. **If** the optimal method of financing these expenditures were borrowing, then rather than excluding the CEECs from EMU or forcing them to finance the admission price in a sub-optimal way, it would again be better to adjust the fiscal deficit criterion appropriately.

¹¹ **All** EU members are obliged to avoid excessive deficits (defined as those in excess of 3% of GDP) under the Maastricht Treaty, whether they are EMU members or not (the sole exception is once again the UK, which is only obliged to “attempt to avoid” an excessive deficit). Only EMU members can be fined for failing, but the legal requirement nevertheless remains. Furthermore, any member state which has an excessive deficit should be unable to obtain financing for any new projects under the EU Cohesion Fund, something which is of great importance for some CEECs, such as Poland [Ecofin 1999, Art 2, Para 4 and Art 6, Para 1]. Finally, **all** EU members are obliged to achieve “a fiscal position close to balance or in surplus” in accordance with the Stability and Growth Pact. Neither EMU nor non-EMU members can be fined for failing to fulfil this requirement either, although again both will lose access to the Cohesion Fund if they are found by the Council to be in breach of the Pact [Ecofin 1999, Art 1, Para 1].

References

Barro, R. and X.Sala-i-Martin [1998] *Economic Growth*, MIT Press, Cambridge Mass., pp. 583.

Csermely, A. and B.Vonnak [2002] “The role of the exchange rate in the transmission mechanism in Hungary”, paper presented at the research meeting on *Monetary Policy Transmission in the Euro Area and the Accession Countries*, 3 October 2002, National Bank of Hungary, Budapest.

European Economy [June 2002] “Public Finances in EMU 2002”,
http://europa.eu.int/comm/economy_finance/publications/european_economy/2002/ee402en.pdf

Financial Times, 26 September 2000, “EU hopefuls likely to suffer if Danes vote ‘no’”.

Habib, M. [2002] “Financial contagion, interest rates and the role of the exchange rate as a shock absorber in Central and Eastern Europe”, *Discussion Paper No. 7*, pp. 42, Bank of Finland Institute for Economies in Transition, BOFIT.