

## TWO SUGGESTIONS FOR THE FUTURE OF THE EUROZONE

RICCARDO ROVELLI\*

The world economy is slowly moving into recovery, but the EU is still struggling and hoping to avoid a sovereign debt crisis, or to hinder that it develops into a full second round of the financial crisis. Amidst a grave uncertainty, important decisions, which will have profound repercussions either for the good or the bad, are still waiting to be taken or enacted. While these decisions are related mainly to the sovereign debt crises, to the pending reforms in the fields of financial supervision and prudential regulation, and to a new framework for fiscal policy and discipline in the euro area, I think that it is also an appropriate time to reappraise the framework and conduct of monetary policy in this area.

In this note I would like to examine two of the challenges facing the common monetary policy of the euro area. These challenges emerge as we try to respond to some broad questions posed by the crisis:

1. *The ECB monetary policy strategy*: has it performed adequately during the crisis? Has the strategy been adequately motivated and communicated?
2. *The future enlargement of the euro area*: should new adoptions of the euro be expected or recommended? Does the fulfillment of the convergence criteria provide an appropriate metric for the appropriateness and desirability of euro adhesion? Are these criteria suitable when it comes to assessing whether an appropriate degree of sustainable convergence has been achieved?

### The ECB monetary policy strategy

On several occasions the ECB has been keen to stress that its monetary policy strategy “has been effective both in turbulent times and during quieter periods”

(ECB 2011, 9). But is this really so? A central point of an effective strategy is that “monetary policy must be forward-looking and pre-emptive” (ECB 2011, 63). The main characterization of being forward-looking is a focus on the medium term: the ECB aims at maintaining inflation rates below, but close to, 2 per cent over the medium term. This has two ancillary implications:

- First, monetary policy decisions must be taken with the understanding that “owing to the lags and stochastic uncertainty in the transmission process, changes in monetary policy today will only affect the price level after a number of quarters or years” (ECB 2011, 63). This in turn implies that current policy decisions will be based on an assessment of forecasts about future inflation rates.
- Second, the strategy leading to such decisions must be communicated to the public in such a way as to firmly anchor inflation expectations: “well-anchored inflation expectations act as automatic stabilizers in conditions of heightened macroeconomic uncertainty and amplify the potency of monetary policy in those conditions in which the transmission mechanism is perturbed” (ECB 2011, 63).

Both aspects of this strategy thus require the support of reliable conditional medium-term inflation forecasts (that is, forecasts about where inflation will be heading if the current policy stance is maintained or if it is changed in either direction).

At the outset of the crisis, however, something has been going wrong with these forecasting exercises. On re-reading the press statements and communiqués of central banks (the ECB, the FED, the Bank of England) until the end of September 2008, well after the collapse of Lehmann Brothers and the rescue of AIG and all the rest, one gets the clear picture that to most central bankers the upside risks to inflation and the downside risks of lower growth were at best still balanced. The growth outlook for 2009 was still presented as one of merely ‘slowing growth’.

In early September 2008, the ECB was convinced that: “to sum up, a cross-check of the outcome of the eco-



\* University of Bologna.

conomic analysis with that of the monetary analysis clearly confirms the assessment of upside risks to price stability over the medium term. The information that has become available since the last meeting of the Governing Council has confirmed that annual inflation rates are likely to remain well above the levels consistent with price stability for a protracted period of time. Against this background, it remains imperative to avoid broad-based second-round effects in wage and price-setting” (ECB Monthly Bulletin – September 2008, Editorial, 7). With a different emphasis, but equally out of tune with what was about to happen, on 24 September 2008 the Chairman of the Fed was still stating before the US Congress Joint Economic Committee that real gross domestic product is likely to expand at a pace appreciably below its potential rate in the second half of the same year and then to gradually pick up as financial markets return to more-normal functioning and the housing contraction runs its course.

On 2 October 2008, the main stated preoccupation of the ECB was still about the emergence of broad-based second-round effects in price and wage-setting behavior that could add significantly to inflationary pressures. The Governing Council was especially keen to stress “its concern about the existence of schemes in which nominal wages are indexed to consumer prices. Such schemes involve the risk of upward shocks in inflation leading to a wage-price spiral, which would be detrimental to employment and competitiveness in the countries concerned. The Governing Council therefore calls for these schemes to be abolished” (ECB Monthly Bulletin – October 2008, Editorial, 5).<sup>1</sup> No other policy recommendation or action was then deemed necessary.

Then, on 8 October 2008, the ECB suddenly informed the public that inflationary pressures have started to moderate in a number of countries, partly reflecting a marked decline in energy and other commodity prices. Inflation expectations are diminishing and remain anchored to price stability. The recent intensification of the financial crisis has augmented the downside risks to growth and thus has diminished further the upside risks to price stability. Some easing of global monetary conditions is therefore warranted. This understanding paved the way for a historic decision, jointly taken by several central banks, to announce reductions in their policy interest rates.<sup>2</sup> This was the

<sup>1</sup> This Editorial was finalised on 6 October 2008.

<sup>2</sup> The decision was shared with the Bank of Canada, the Bank of England, the Federal Reserve, Sveriges Riksbank and the Swiss National Bank, and with the strong support of the Bank of Japan.

first in a dramatic series of interest rate cuts (together with other, more unconventional measures). In the euro area, during the seven months until May 2009, rates on the Main Refinancing Operations were slashed from 4.25 percent to 1 percent. Nevertheless, in the revised editorial published on 9 October, the most recurring significant phrase (5 times) was still about the need to avoid ‘second-round effects in price and wage-setting’. As this was stated on the eve of the Great Recession, a naïve reader might have taken that statement as an indication of some cognitive problem. Someone more familiar with the ECB language would instead suggest that it was only a symptom of the central bank’s anxiety about its mission of anchoring inflationary expectations.

Be that as it may, the sequence of decisions taken from 8 October 2008 onwards was surely unavoidable. The decision of the day, taken by the ECB together with other central banks, testifies a radical change of views (in particular concerning the inflation outlook) which had been finalized over the course of two days, between 6 and 8 October. This change should probably be interpreted as an honest, even if belated, acknowledgment. And surely not many forecasters or policy analysts are in the position of those who, being without sin, may cast the first stone.

But the point remains that, in those circumstances, the ECB was not anchoring, or leading, the markets’ expectations: it was struggling to follow them. This was probably unavoidable, as neither recent memories nor accepted analytical frameworks had been conducive to expect events, such as those that were unfolding during those days. But precisely for this reason, errors of judgment should have been clearly acknowledged, and capitalized upon. Instead, no real explanation was ever given of that sudden turn around. Reading the account of the sequence of ECB policy decisions during 2008 (ECB 2009) gives the impression as if something ineffable was going on, as if the central bank was trying to keep anchored the public’s inflation expectations, while being itself in a sort of forecasting fog.

The point is not simply that I would have wanted the ECB to play an intellectually fairer game. That sort of fairness is perhaps of best use among academics, not necessarily central bankers. The point is that to preserve a reputation of credibility it is necessary to properly account for past actions. The ECB is careful to state that “the medium-term orientation implies that the policy relevant horizon, defined as the horizon at which the

ECB pursues the sustainable alignment of consumer price inflation with its price stability objective, can be of variable length over time, taking into account the fact that transmission lags are not only long but also variable and uncertain. Furthermore, the inflationary or deflationary impact associated with the accumulation of financial imbalances may go beyond the standard horizon of two to three years commonly used in inflation projections” (ECB 2011, 69). But the questions are still there: how could it be that a month before the beginning of the largest deflation in the last 60 years, the central bank was almost unilaterally focused on avoiding the upside risks to inflation? And how did it happen that the policy relevant horizon suddenly shrunk to only a few months, as what were evaluated upside risks to price stability in September 2008 turned into a realized inflation rate of *minus* 0.6 percent in May 2009? Perhaps some more naïve truth-telling could support the quest for central bank credibility.

This is all the more necessary, I think, as we see that the phraseology the ECB uses in its current commentaries is still the same as before the crisis. For instance, in the latest Bulletin to date we read that “in the Governing Council’s assessment, the risks to this economic outlook remain broadly balanced in an environment of elevated uncertainty. [...] It is of paramount importance that the rise in HICP inflation does not translate into second-round effects in price and wage-setting behaviour and lead to broad-based inflationary pressures” (ECB Monthly Bulletin – May 2011, Editorial, 5–6). Taken literally, and as we have been given only rather vague explanations of what was wrong with the outlook foreseen in September 2008, the statement of May 2011 reflects a more deflationary assessment than that of September 2008. Should we then get ready for a renewed, or perhaps even a worse deflationary bout? Probably or hopefully not, but then this implies that we are no longer taking the ECB at face value for what it says: credibility has been damaged.

### The future enlargement of the euro area

While the ECB has often expressed approval or disapproval in respect of different policies adopted by

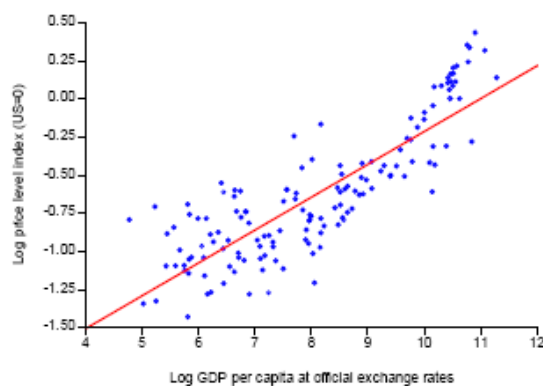
<sup>3</sup> Article 141(1) of the Treaty on the Functioning of the European Union (TFEU) and Article 1 of Protocol 13, both refer to ‘the three best performing member states’ of the EU as providing the reference benchmark for assessing price stability of other member states. Clearly the Treaty admits that the benchmark countries could be non-members of the euro area (this of course was inevitable until 1998): for instance, Estonia was acting as a benchmark for itself in the convergence report of 2010; Denmark was part of the benchmark in 2008; and Poland and Sweden in 2007 – see also the discussions in Buiter and Sibert (2006); Lewis and Staehr (2010).

the EU, on the issues of the criteria for euro membership it has been keeping, at least publicly, a low profile. One reason is probably that it would be a different thing to express disagreement or criticism with respect to the EU treaties, than it is with respect to the policies proposed or adopted by the European Commission or the European Parliament. Nevertheless the issue remains that – beyond its anachronistic formulation<sup>3</sup> – the conceptual formulation of the criterion for price stability is profoundly inadequate. The latest Convergence Report of the ECB does pay some limited notice to “the further convergence of income levels in most Member States covered in this report, which may put additional upward pressure on prices or nominal exchange rates (or both) [and to the fact that] many countries need to shift resources from the non-tradable sector to the tradable sector in order to achieve a more balanced convergence, implying a stronger growth contribution from the export sector” (ECB Convergence Report – May 2010, 31–32). However, the wider implications of this acknowledgement are not discussed anywhere. In the following I would like to sketch out some of these far reaching implications.

First, it is useful to be reminded of the importance of the so-called ‘Penn effect’, which is portrayed in Figure 1. The Penn effect is about a stylized fact: the price level index (GDP deflator) tends to be higher in richer countries, or – which amount to the same – the real exchange rate (RER) is lower in poorer countries. This fact may be rationalized in different ways (see below), but also leads to another observable implication, named the dynamic Penn effect: in growing economies, the RER will appreciate; that is, (more) rapidly growing economies will experience (more) steep increases in their price level index.

Figure 1

### STATIC PENN EFFECT, 2005



Source: Ravallion (2010).

To put it in simpler terms, this fact states that real economic convergence brings about a certain dose of inflation. But if this is so, then countries undergoing real convergence would be unable to keep their inflation rate at par with that of other, richer countries. Alternatively, if those catching-up countries wanted to fulfill the Maastricht inflation criterion, in order to achieve that goal their central banks would be forced to impose high interest rates, in the attempt to curb inflationary pressures which are, however, structural;<sup>4</sup> but this would unduly penalize growth and thus the speed of convergence.

Do these arguments point against rich and poor countries being part of the same monetary union? Or more simply, would poor and growing countries be unable to respect the Maastricht inflation criteria, as long as the benchmark inflation rate is that of the rich and slower growing countries? My conclusions with respect to the Maastricht inflation criterion will be that, even if we assume that the other convergence criteria are satisfied, *the inflation criterion is neither necessary nor sufficient* to assess whether a 'member state with a derogation' has come to 'fulfill the necessary conditions for the adoption of the euro' (Article 139 of the TFEU), which are meant to ascertain whether it has achieved the 'high degree of sustainable convergence' requested by Article 140(1). In addition, as argued above, struggle to comply with the inflation criterion *may even unduly slow down the process of real convergence*. To understand these conclusions, we first need to understand what lies behind the Penn effect and its dynamic counterpart.

The relative poverty of a country, which is revealed by a low GDP per capita, is a consequence, for given rates of employment and labor force participation, of low labor productivity. However, productivity may be distributed differently across sectors. If it is low in the tradable sector (T), which is exposed to international competition, then wages in that sector will be low (to make sure that prices of traded goods can stay close to the law of one price). If those wages also prevail (given the hypothesis of a homogenous labor market within that country) in the sector producing non-traded goods (N), then (assuming productivity in this sector being not too much different across countries) the prices of non-traded goods will be accordingly lower

<sup>4</sup> Structural inflation is defined as inflation which arises not as a consequence of a too high rate of monetary expansion, but as a consequence of relative price adjustments between sectors, for reasons to be explained below.

in the poor country. Let us assume (only for simplicity) that the nominal exchange rate is unity. Then what we have said can be summarized as:

- $P_T^L = P_T^H$ , the price of traded goods ( $P_T$ ) is the same in low (L) and high (H) income countries;
- $W_T^L < W_T^H$ , the corresponding wages are lower in the low income country (due to lower productivity); and
- $W_N^L = W_T^L$ , wages in the low income country are equal across sectors (and similarly in high income countries).

Then, as a consequence:

- $P_N^L < P_N^H$ , prices of non-traded goods are lower in low income countries.

From which it also follows that the GDP deflator (a weighted average of prices) is lower in low income country.

We may now ask what happens when a low income country begins to converge towards the rich ones. Assuming convergence to be defined as labor productivity approaching that in the rich country, our hypotheses imply that:

- $P_T^L$ , the price of traded goods, remains unchanged;
- $W_T^L$ , the wage earned by workers in the low income but growing country increase at the same rate as labor productivity; and
- This is transmitted also to workers in the non-traded sector, whose wages increase at the same rate.

Consequently:

- $P_N^L$ , the price of non-traded goods in low income countries, will grow at the same rate as the growth of productivity in the traded sector (or more precisely, at the difference between the growth rates of productivity in the two sectors); and
- The GDP deflator will grow at a rate equal to the growth rate of  $P_N^L$  times the share of non traded goods in the GDP basket.

Thus, if productivity growth in the traded goods sector is 6 percent per year, and non-traded goods (produced under constant productivity) are  $\frac{2}{3}$  of GDP, then the GDP deflator will increase by 4 percent annually.



So it is very unlikely that such a country will be able to meet the Maastricht inflation criterion<sup>5</sup> but the point is that no harm will come to this country (nor to its partners) if it fixes its exchange rate, or even if it adopts the euro: as the differential inflation is entirely coming from the sector producing non traded goods, it will not be a signal of deteriorating competitiveness. This argument implies:

- Proposition 1: *if a monetary union is established between two countries with different productivity levels, and if convergence of price levels takes place as a consequence of the convergence of productivity levels in the traded goods sector, then: (a) the poor country will have a higher inflation rate; (b) the difference in inflation rates will not affect the competitiveness of the poor country.*

It is then easy to show that, under the conditions of Proposition 1, it follows that:

- Corollary 1.1: *the Maastricht inflation criterion is not necessary to ascertain whether an EU Member State has achieved a 'high degree of sustainable convergence' required for euro adoption.*

In addition consider that, if a catching-up country is able to fulfill the Maastricht criteria and is accepted, if its initial price level is too low, then that country will experience most of the price convergence after joining the monetary union. Therefore, on average, its inflation rate will be higher than the rest of the euro area. As a result, given the single monetary policy of the euro area, the country will be 'enjoying' comparatively low real interest rates (measured in reference to domestic inflation). That, in turn, may further inflate domestic demand, especially in those sectors, like construction, that are highly sensitive to real interest rates, and also deteriorate the current account balance.<sup>6</sup> We may thus also state:

- Corollary 1.2: *if a catching-up country, with low initial income and price levels, is however able to fulfill for a sufficient time the Maastricht inflation criterion and is accepted into the monetary union, it will then be subject to abnormally low real interest rates,*

*which will have negative consequences on its domestic financial flows and external balance.*

Corollary 1.2 points to one reason why compliance with the Maastricht inflation criterion (and the other convergence criteria) should not be taken as sufficient, in the case of a catching-up country, to warrant admission in the monetary union.

The above arguments run well, I believe, under conditions that ensure that nominal convergence takes place as a consequence of real convergence.<sup>7</sup> These conditions (which I summarized previously) constitute the well-known Balassa-Samuelson (B-S) model, independently outlined by the two authors in 1964.<sup>8</sup>

However, the B-S model is empirically very fragile, as it rests upon hypotheses, which may very well be factually unverified. Several things may go wrong with the B-S hypotheses, but one is of particular interest here. This is the case when nominal convergence precedes real convergence, which happens whenever, in the low income country, the process of wage setting is lead by those sectors that are not exposed to international competition.

*A priori* I believe that the following factors might be empirically relevant: (1) relatively larger output share of the sector producing non-traded goods; (2) larger and strongly unionized public sector; (3) more rigid labor market; and (4) faster growth of labor productivity in the non-traded goods sector vs. the traded goods sector.<sup>9</sup>

In addition, it may also be the case that prices and wages converge as a consequence of being part of the single market, or of the same exchange rate arrangement or monetary union: in particular, if credibly fixing the exchange rate fosters faster nominal than real convergence (for example, by making international prices more comparable) the process of catching up may be accompanied by loss of competitiveness and rising international imbalances.<sup>10</sup>

<sup>7</sup> It can still be argued that, if inflation exhibits some hysteresis at the country level, then an inflation criterion may be appropriate. This may well be true although, as Buiter and Sibert (2006) observe, that for a small country joining a large common currency area, prior inflation convergence is helpful but not essential.

<sup>8</sup> See Balassa (1964) and Samuelson (1964). A more recent statement is made in Froot and Rogoff (1995).

<sup>9</sup> Strictly speaking, although this last case may well lead to a deterioration of competitiveness, it cannot be described as a prevailing of nominal over real convergence.

<sup>10</sup> Whether different exchange rate regimes might affect differently the process of convergence, is an issue which has been disregarded by the literature on the B-S effect so far. This is surprising because exchange rate regimes have been shown to affect growth (see Levy-Yeyati and Sturzenegger 2003), and, on the other hand, given the emphasis that the Treaties (and the European Commission) place on the temporary status of all 'member states with a derogation'.

<sup>5</sup> To keep the exposition simple, I disregard possible differences between the GDP deflator and the HICP (which is the index considered in the convergence indicators).

<sup>6</sup> The recent experience of peripheral euro area countries (Spain and Ireland in particular) shows how a similar argument about inappropriately low domestic real interest rates may also apply to countries that have completed the process of real convergence.

In all these cases, whenever nominal convergence proceeds faster than the growth of productivity in the traded goods sector, we will then observe that: (a) the real exchange rate will appreciate and, more importantly, also competitiveness will deteriorate at the same time; and (b) a current account deficit will accordingly develop.

And possibly, to the extent that the initial increase in wages was initially funded with deficit spending by the government, we would also observe a version of the ‘twin deficits’ syndrome.

Moreover in such cases, when the tool of the exchange rate to correct these imbalances is no longer available (as in the case of an irrevocable parity or of a monetary union), adjustment has to come through a domestic deflation, which is likely to be all the more painful absent the monetary instrument.

Empirically, indirect evidence of the relevance of explanations of nominal convergence alternative to the B-S hypotheses is provided by the paucity of results confirming the relevance of the B-S model. For instance, Égert (2010) observes that the estimated size of the Balassa-Samuelson effect is below 2 percentage points per annum and is often close to zero, a result which he comments as ‘puzzlingly low’. More direct evidence is given by D’Adamo (2010), who finds that for some transition countries (Czech Republic, Latvia, Poland, Romania) wages in the non-traded sector have been leading the process of wage determination. Also some causal empiricism suggests that several rounds of public sector wage increases both in Greece and in Hungary in the last decade took place under similar conditions.

Of the countries just mentioned, only Latvia is a member of the ERM-II, and Greece of the euro area. As the Greek case is well known, let us focus on Latvia. Appropriately the latest Convergence Report of the ECB notes in its respect that “rapid wage growth in this period, which consistently exceeded gains in labour productivity, led to an erosion of competitiveness. However, as these macroeconomic developments proved unsustainable, the Latvian economy experienced a deep crisis” (ECB Convergence Report – May 2010, 44).

In this respect, the ECB also noted that “to sum up, although the 12-month average rate of HICP inflation in Latvia is currently well below the reference value –

mainly as a result of temporary factors, including the severe economic adjustment process – there are considerable concerns regarding the sustainability of inflation convergence in Latvia” (ECB Convergence Report – May 2010, 45). This statement stresses the fact that a point-in-time fulfillment of the inflation criterion may well be compatible with a resurgence of inflation in the long run: in fact (in strict correlation with the excessive growth of wages) the HICP in Latvia had been growing from 6.2 percent in 2004 to 15.3 percent in 2008.

But a stronger case can also be made that even constant fulfillment of the inflation criterion is compatible with a fast deterioration of competitiveness. For instance, consider a case where wage and price inflation are 3 percent across the whole economy, but there is no productivity growth in the traded goods sector. Then this would have satisfied the ECB inflation benchmark as it had been set (according to the Treaties) for the convergence assessments of both 2007 and 2008. But this would also have been compatible with a deterioration of competitiveness of the same magnitude, unless the country could compensate it with an equivalent devaluation. Over the course of, say 9 years, that could lead to a cumulative loss of competitiveness in the order of 30 percent, which would probably be unsustainable.

Hence we may wrap up our argument by stating:

- Proposition 2: *if a monetary union is established between two countries with different productivity levels, and if nominal convergence proceeds in the absence of real (productivity) convergence in the traded goods sector, then competitiveness will deteriorate and a current account deficit will emerge, even with moderate levels of domestic inflation.*
- Corollary 2: *as the convergence criteria is not considered under whether, after a catching-up country has joined the monetary union, nominal convergence will take place independently or as a consequence of real convergence, compliance with those criteria is not sufficient to ensure that a EU member state has achieved a ‘high degree of sustainable convergence’ required for euro adoption.*

Although these considerations will need to be further supported by forthcoming research, they already point to a clear normative conclusion: while the inflation criterion is generally irrelevant, the other criteria for convergence must be supplemented with different, more stringent, ones, especially in reference to EU

Table 1

## GDP per capita in Purchasing Power Standards (PPS) (EU27 = 100)

	2004	2005	2006	2007	2008	2009
EU27	100	100	100	100	100	100
Euro area	109	109	109	109	108	109
Transition countries which have adopted the euro						
Estonia	57	62	66	69	68	64
Slovenia	86	87	88	88	91	88
Slovakia	57	60	63	68	72	73
Transition countries which are member states with a derogation						
Bulgaria	35	37	38	40	44	44
Czech Rep.	75	76	77	80	80	82
Latvia	46	49	52	56	56	52
Lithuania	50	53	55	59	61	55
Hungary	63	63	63	62	64	65
Poland	51	51	52	54	56	61
Romania	34	35	38	42	47	46

Source: Eurostat.

member states with lower per capita incomes (see Table 1). In these cases, it is of the utmost importance to ensure that a process of real convergence in the traded goods sector dominates the domestic process of nominal convergence, and will be continued after the eventual euro adoption, until full real convergence is achieved. Moreover, it is important that, after euro adoption and because of the structural inflation that is brought about by real convergence, domestic real rates become too low and thus may fuel current account imbalances. If appropriate additional criteria cannot be formulated or adopted, then it will be better to postpone euro introduction.

As a last thought, it is worth noting that competitiveness may gravely deteriorate even when a large part of real convergence has been achieved: as the story of Greece exemplifies, even a country with a GDP per capita equal to 86 percent of the EU27 in 2001 (year of euro introduction) and 96 percent in 2009 can experience the unsustainability of the single money, with negative repercussions both for itself and for the fellow members. But this is clearly another story, which however should only make us even more cautious when examining future requests for euro adoption.

## Conclusion

I have argued two points. One is that the ECB has been placing undue confidence in its ability to anchor inflation expectations by simply iterating its commitment

to price stability. The public's confidence in the resolve of the ECB to maintain price stability will only be heightened if the ECB will responsibly acknowledge and capitalize upon its difficulties to analyze the outlook for inflation at the outset of the Great Recession. Similar remarks can be made for other issues in the ECB portfolio: in several dimensions, one senses that the central bank is not always fully acknowledging all the risks to financial (and hence also monetary) stability embodied in the present situation and in its own policies. It must be realized that ultimately the confidence in price stability and in the soundness of the currency will not be based on the quasi-religious repetition of propositions of faith on the central bank's commitment, but rather on a frank disclosure of cost and benefits of alternative actions. The reputation and credibility of a central bank will be better nourished on the basis of such arguments.

The second point is related to the first one: it is time to abandon the mantra that euro adoption is always the best solution, once the Maastricht inflation criteria are satisfied: these convergence criteria, which some commentators thought to define 'a mess – badly drafted, at times inconsistent, and at times pure gobbledegook' (Buiter and Sibert 2006) are in part irrelevant and in part misleading as regards the sustainability of having adopted the euro, and can even be damaging. It is time not only, but especially for the ECB to speak more clearly about the inadequacy of the Maastricht criteria. After all, the Treaty itself solicits (for once) such open talk. Article 6 of Protocol 13 (on the convergence criteria) precisely recites:

“The Council shall, acting unanimously on a proposal from the Commission and after consulting the European Parliament, the ECB as the case may be, and the Economic and Financial Committee, adopt appropriate provisions to lay down the details of the convergence criteria referred to in Article 140(1) of the said Treaty, which shall then replace this Protocol”.

It is now the time to follow up constructively on this suggestion.

## References

- Balassa, B. (1964), “The Purchasing-Power Parity Doctrine: A Reappraisal”, *Journal of Political Economy* 72, 584–596.
- Buiter, W. and A. Sibert (2006), *Beauties and the Beast: When Will the New EU Members from Central and Eastern Europe Join the Eurozone?*, <http://www.nber.org/~wbuiter/beauties.pdf>.
- D’Adamo, G. (2010), *Wage Spillovers across Sectors in Eastern Europe*, [http://sites.google.com/site/gdadamosite/internal-resume/research/WageSpillovers\\_Draft.pdf?attredirects=0&d=1](http://sites.google.com/site/gdadamosite/internal-resume/research/WageSpillovers_Draft.pdf?attredirects=0&d=1).
- ECB (2009), *Annual Report 2008*, Frankfurt.
- ECB (2011), *The Monetary Policy of the ECB 2011*, Frankfurt.
- ECB, *Convergence Report*, Frankfurt, various issues.
- ECB, *Monthly Bulletin*, various issues.
- Égert, B. (2010), *Catching-Up and Inflation in Europe: Balassa-Samuelson, Engel’s Law and Other Culprits*, CESifo Working Paper 3110.
- Froot, K. and Rogoff, K. (1995), “Perspectives on PPP and Long-Run Real Exchange Rates”, in: Grossman, G. and K. Rogoff (eds.), *Handbook of International Economics* 3, Amsterdam: Elsevier, 1647–1688.
- Levy-Yeyati, E. and Sturzenegger, F. (2003), “To Float or to Fix: Evidence on the Impact of Exchange Rate Regimes on Growth”, *American Economic Review* 93, 1173–1193.
- Lewis, J. and Staehr, K. (2010), “The Maastricht Inflation Criterion: What Is the Effect of European Union Enlargement?”, *Journal of Common Market Studies* 48, 687–708.
- Ravallion, M. (2010), *Price Levels and Economic Growth: Making Sense of the PPP Changes between ICP Rounds*, World Bank Policy Research Working Paper 5229.
- Samuelson P.A. (1964), “Theoretical Notes on Trade Problems”, *The Review of Economics and Statistics* 46, 145–154.