

In search of sustainable paths for the eurozone in the troubled post-2008 world

Jacques Mazier and Pascal Petit*

The diversity in the eurozone has costs and advantages, respectively, for countries whether they are confronted with an overvalued or undervalued euro. Rough estimations of these costs and benefits help to assess the adjustments that could lead to a sustainable eurozone. A purely financial type of federalism, set up under the pressure of financial markets, risks falling short of the objective. A budgetary federalism, if it is based on long-term investment programmes with an enlarged political support, is more likely to meet the objective. A scheme of multispeed Europe could constitute a fallback solution if the political support for a budgetary federalism is not attained.

Key words: Exchange rates, Euro, Federalism
JEL classifications: E42, H77, N24

1. Introduction

Europe, and more specifically the eurozone,¹ seems to have had a really hard time trying to survive in the rough waters of the world emerging from the 2008 financial crisis. Indeed, the eurozone construction has been astoundingly optimistic regarding how it was supposed to maintain some basic cohesion among a set of quite different countries. These countries opted for a common currency on the basis of a certain exchange-rate structure. Since then they have evolved in various ways, reacting to changes, be they internal or external. These imbalances may challenge the sustainability of the zone when faced with major changes in its environment, especially the financial environment. Current accounts can increasingly diverge between surplus and deficit countries. Similar divergences can occur with public accounts. The financing of all these deficits may become more and more difficult if no help is provided. The optimists still assume that capital flows between countries of the zone will help when needed, providing that deficit and surplus countries would alternate after a while. Realists claim that

Manuscript received 24 July 2012; final version received 15 November 2012.

Address for correspondence: Pascal Petit, CEPN UFR Sc Eco, University Paris Nord, 99 Avenue Jean Baptiste Clément, 93430 Villetaneuse, France; email: petit.pascal@univ-paris13.fr

* CEPN University of Paris (JM), CNRS and CEPN University of Paris (PP).

¹ In 2011, 17 countries out of 27 EU members had joined the eurozone, namely Belgium, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Cyprus, Luxembourg, Malta, the Netherlands, Austria, Portugal, Slovenia, Slovakia and Finland. Non-participants were Bulgaria, Czech Republic, Denmark, Latvia, Lithuania, Hungary, Poland, Romania, Sweden and the UK.

some solidarity mechanisms within the zone should help to see to a reduction of the competitiveness gaps. Ultimately, confronted with the lack of a solidarity mechanism in the zone, deficit countries try to reduce their exposure by pushing down wages and prices. Austerity plans are targeting such 'competitive internal devaluation'. The efficiency of these various adjustment mechanisms varies with the external and internal contexts. Moreover, their costs are both very different according to the country and very uncertain, as they have to be seen in a long-term perspective. The present paper aims to assess all the structural elements that should frame the ongoing debates on the policies required to set the euro on a sustainable path. We start in Section 2 with a preliminary assessment of the potential costs and benefits attached to the respective misalignments of the underlying real exchange rates that the changes in internal prices and wages imply for each member country. We then look at the experiences of internal devaluation led by severe austerity plans, to see the highly specific conditions under which they did not lead to cumulative recessions (Section 3). On this basis, we can try to assess the potentials and limits of diverse schemes of adjustments that could contribute to the overall stability of the eurozone (Sections 4–6).

2. Intra-European imbalances

The monetary union is based on a fundamentally unbalanced model. Without changes in exchange rate parity, no adjustment mechanism was retained to correct divergent economic performances of member countries. Considerable heterogeneity could occur; no federal budget or guarantee system was put in place. In effect there was no political majority to support such policies.

The idea that closer financial integration would provide sufficient stabilisation mechanisms through internal capital transfers was promoted by the European Central Bank (ECB) and the European Commission (EC) in the 2000s (Trichet, 2007; EC, 2007; Asdrubali and Kim, 2004). Intrazone credits and capital gains were supposed to ensure a sufficient stabilising role. But this assumption proved to be wrong and closer financial integration did not bring the reduction in current accounts and public deficits that stability required. The 2008 crisis showed, on the contrary, that financial integration increased the problems (Duwicquet and Mazier, 2010).

The only type of adjustment that remained available in the eurozone was eventually by means of relative price changes. Countries with recurrent deficits could only reduce prices and wages. But such austerity plans are at best only effective in reducing imbalances in the long term. They have unequal effects on different countries and result in low growth and increased unemployment. Countries applying such policies thus run the risk of opening a cumulative process of deterioration. Austerity policies are all the more ineffective that they are implemented in a group of interdependent countries. They may be more effective if they are applied in a set of small independent countries.

Such a policy of austerity was implemented in France in the second half of the 1980s, under the banner of competitive disinflation. The outcome in France's case was mediocre: lower inflation with slow growth and mass unemployment. There was no long-term effect and in 2010 France still exhibited the same structural problems of weak competitiveness. Reductions in prices and wages were also implemented in Germany in the 1990s to deal with problems arising from the German reunification. Such policy of 'internal devaluation' is now imposed in Greece and in other countries of south Europe. The results are unsurprising: reduced output, cost-cutting and

increased unemployment with at best a slow and difficult reduction in budget deficits as revenues diminish.

The eurozone as a whole has a more-or-less balanced current account and EU government deficits are somewhat lower than in other OECD countries. The euro, considered globally, is thus rather near its equilibrium parity. Devaluation of the euro might facilitate recovery in Europe, but only at the expense of other world regions. It would be a unilateral policy without any objective rationale and one that would aggravate global imbalances. Yet internal imbalances within Europe are considerable if one looks at the misalignments between the euro and what the real exchange rates of equilibrium of each country would be. Exchange rate misalignments from 1994 to 2009 have been estimated by Jeong *et al.* (2010), using fundamental equilibrium exchange rates (FEER). This approach is based on a simple multinational model for the main countries (the USA, eurozone, the UK, China, Japan and the Rest of the World). The usual trade model has then been used to estimate the corresponding exchange rate misalignments for small countries. Equilibrium exchange rates ensure full employment and respect a current account target. Table 1, where the above estimations have been extrapolated up to 2011, shows that the euro is strongly overvalued from the perspective of countries in south Europe (excluding Italy) and undervalued for countries in north Europe, in particular Germany. The degree of misalignment within the eurozone may be debated,² but there can be no doubt that in the theoretical event of a break-up, the German euro would appreciate substantially while the Spanish, Portuguese and Greek euros would depreciate strongly. Estimates of the degree of misalignment are substantial: in 2010 the Spanish euro was overvalued by 15%, the Greek euro by 19%, the Portuguese euro by 25%, the French euro by 12%, and the German euro was undervalued by 22%. These exchange rate misalignments reflect structural heterogeneity between the north (Germany, the Netherlands, Belgium, Austria and Finland) and the south (France, Italy, Spain, Portugal and Greece) of Europe, be it the degree of openness, the share of manufacturing or the capacity for innovation, all indicators of how economies are able to respond to changes in external competition. The degree of openness indicates, in particular, the importance of sheltered activities in the economy.

The misalignments have an important impact. They slow down growth and increase public and current deficits in the south while growth is boosted in the north by exports to the rest of the eurozone, facilitating the reduction of public deficits. These misalignments are equivalent, in the end, to implicit transfers from the south to the north representing considerable amounts. Considering that overall the eurozone has no misalignment (which the May 2012 estimations of FEERs by W.R. Cline and J. Williamson confirm), the problems are really internal. Table 2 shows estimates of the implicit transfers corresponding to a misalignment of 10%, depending on the degree of openness, by keeping two extreme assumptions: (i) where exports only are in competition and (ii) where national producers are also in competition with the imports (for the sake of simplification it is assumed that only half of the imports are in competition with local producers, the other half corresponding to goods that are not locally produced). An overvaluation (e) with a degree of openness $((p_x X + 0.5p_m M)/pY)$ gives an ex ante additional cost (i.e.

² Each method to measure exchange rate misalignments has its uncertainties, especially regarding the current account target in fundamental equilibrium in the case of the FEER method, but an alternative method such as the behavioural equilibrium exchange rate is less suited to study structural problems of current accounts in the euro area, as it makes the implicit hypothesis that effective real exchange rates are at equilibrium over the whole observed period (Lopez *et al.*, 2012).

Table 1. *Undervaluation (rc > 0) or overvaluation (rc < 0) for each 'national euro' in real effective terms (%)*

| rc | EU | Austria | Finland | France | Germany | Ireland | Italy | Netherlands | Portugal | Spain | Greece |
|------|------|---------|---------|--------|---------|---------|-------|-------------|----------|-------|--------|
| 1994 | -3.4 | -5.9 | -4.6 | 0.3 | -13.4 | 0.9 | 6.3 | -2.1 | 6.7 | 3.8 | 16.8 |
| 1995 | 1.2 | -5.8 | 9.7 | 3.9 | -6.9 | 6.3 | 13.7 | 3.3 | 17.1 | 13.4 | 9.0 |
| 1996 | 4.2 | -3.6 | 14.9 | 9.5 | 0.9 | 6.4 | 15.0 | 6.1 | 0.8 | 7.1 | 0.5 |
| 1997 | 3.5 | -6.5 | 19.2 | 17.4 | -1.0 | 2.8 | 10.5 | 4.0 | -13.8 | 5.5 | -5.0 |
| 1998 | 0.6 | -3.0 | 18.0 | 15.9 | -4.7 | -0.2 | 5.6 | -1.6 | -19.7 | 0.5 | -2.3 |
| 1999 | 2.0 | 0.3 | 20.7 | 22.7 | -4.9 | 3.6 | 5.0 | 2.5 | -25.0 | -4.7 | -8.6 |
| 2000 | 0.1 | 6.7 | 27.1 | 13.0 | -2.8 | 3.4 | 5.0 | 1.9 | -29.9 | -7.4 | -11.7 |
| 2001 | 6.9 | 8.6 | 34.3 | 19.6 | 8.6 | 6.6 | 10.9 | 5.6 | -28.6 | -4.6 | -5.7 |
| 2002 | 6.6 | 19.9 | 33.1 | 12.4 | 13.5 | 3.9 | 5.9 | 1.9 | -20.7 | -5.1 | -6.1 |
| 2003 | 2.2 | 8.8 | 17.9 | 2.9 | 8.1 | -0.9 | -1.0 | 3.0 | -14.5 | -9.8 | -8.1 |
| 2004 | 6.6 | 9.7 | 21.4 | 1.6 | 17.8 | 1.3 | 6.8 | 7.8 | -22.7 | -16.1 | 3.5 |
| 2005 | 1.8 | 9.2 | 11.2 | -7.0 | 17.3 | -1.8 | 4.6 | 7.4 | -36.1 | -30.3 | -5.1 |
| 2006 | 0.3 | 10.6 | 12.2 | -7.4 | 19.3 | -2.5 | 2.1 | 9.0 | -37.3 | -40.0 | -20.9 |
| 2007 | 0.1 | 15.4 | 16.7 | -9.0 | 23.6 | -6.2 | 4.9 | 8.4 | -31.5 | -48.3 | -31.4 |
| 2008 | -2.6 | 20.3 | 12.0 | -13.9 | 22.2 | -7.6 | 1.9 | 7.8 | -41.9 | -48.8 | -33.4 |
| 2009 | 0.6 | 12.2 | 4.4 | -9.6 | 21.4 | 0.3 | 2.9 | 6.3 | -30.8 | -17.1 | -20.7 |
| 2010 | 1.6 | 10.9 | 4.8 | -11.8 | 21.8 | 7.6 | -1.2 | 9.1 | -25.1 | -15.2 | -18.5 |
| 2011 | 3.3 | 14.4 | 1.5 | -13.0 | 23.1 | 7.0 | 3.1 | 11.5 | -7.9 | -5.5 | -21.8 |

Notes: Forecasts for 2011 based on IMF World Economic Outlook, April 2012; rc, exchange rate misalignments in percentage points.

See Jeong *et al.* (2010) for a complete description of the model of world trade and the methodology used to compute exchange rate misalignments.

Source: Authors' calculations.

Table 2. *Implicit transfers for a misalignment of 10%*

| Goods and services | | Degree of openness (min.) | Degree of openness (max.) | Implicit transfers (min.) | Implicit transfers (max.) |
|--------------------|-------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| north | Netherlands | 71.3 | 103.3 | 6.5 | 9.4 |
| | Austria | 52.7 | 76.9 | 4.8 | 7.0 |
| | Finland | 42.1 | 60.5 | 3.8 | 5.5 |
| | Germany | 41.6 | 60.0 | 3.8 | 5.5 |
| south | Greece | 22.3 | 38.9 | -2.5 | -4.3 |
| | Italy | 26.7 | 40.2 | -3.0 | -4.5 |
| | France | 26.7 | 40.3 | -3.0 | -4.5 |
| | Spain | 26.7 | 41.9 | -3.0 | -4.7 |
| | Portugal | 29.8 | 48.9 | -3.3 | -5.4 |
| | Ireland | 90.0 | 127.7 | -10.0 | -14.2 |

Notes: Openness ratios are averaged over the period 2000–11.

Degree of openness (min.) = X/Y ; degree of openness (max.) = $(X + 0.5M)/Y$, where X stands for exports, M for imports and Y for GDP.

a negative transfer), evaluated as a percentage of GDP, equal to $T((p_x X + 0.5p_m M)/pY)$, where T is the increase of unit cost due to the overvaluation (with $1 + T = 1/1 + e$). As an illustration, an overvaluation of 10% with a degree of openness of 30% gives an ex ante additional cost equal to $(1/9) \times 0.30 = 0.033$ (3.3% in % GDP).

To estimate the ex post effect of intra-European misalignments, a multinational European model with a distinction between intra- and extra-trade would have to be used to take into account the volume effect (overvaluation reduces exports and increases imports, with an impact on GDP growth) and the price effect (imports are cheaper and exports are priced higher). It can be recalled that an appreciation of the euro of 10% leads to a slowdown of 1.2% in large EU countries and of 2% in smaller ones, but this estimation does not take into account the intra-European appreciation effect (Mazier and Saglio, 2008).

In this context, we can estimate that 10% of overvaluation equates to a tax of about 2.5%–4% of GDP in the countries of south Europe. On the contrary, an undervaluation as in the northern European countries represents a subsidy from the south to the north of about 5% of GDP. Combined with the estimations of monetary disadjustments, this means that Spain, Portugal and Greece have been penalised by negative transfers equaling -5% to -10% of GDP per year and France by transfers of -6%, while Germany has benefited from a subsidy representing 8% of its GDP. Figure 1 shows the implicit transfers as a percentage of GDP for the northern and southern parts of the eurozone during the 2000s. It shows that the phenomenon has been lasting and important. These considerable implicit transfers should be brought into public debates on the stability of the eurozone as they could, for example, help to justify transfers between excess and deficit countries.

3. Lessons to be drawn from internal devaluations

Before considering the transfer schemes that exchange rate misalignments could legitimate, it is important to assess the specific conditions under which internal devaluation can help to finally reduce imbalances.

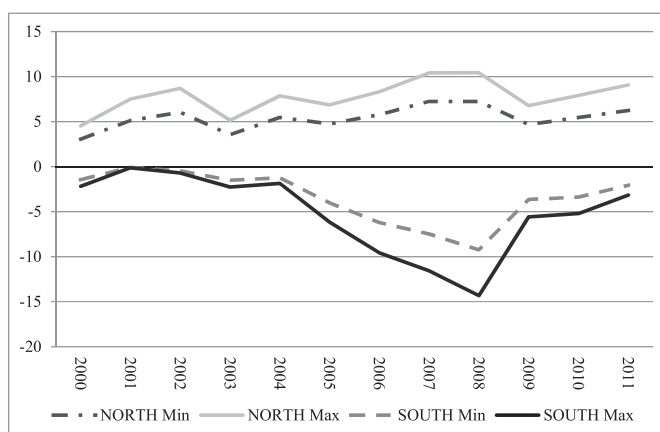


Fig. 1. *Implicit transfers as a percentage of GDP for southern and northern euro area countries.*

The Baltic countries that either entered the eurozone in January of 2011, such as Estonia, or are in currency board with the euro are often praised for their exemplary adjustment. Facing important current deficits and, to a lesser extent, public deficits, the Baltic countries have made massive internal devaluations. Their production has fallen in volume between -10% and -20% , wages and prices have dropped, unemployment has risen dramatically but the current balance has been put right and the budgetary deficit has been reduced due to budgetary cuts and the lowering of nominal wages of civil servants. In 2011 economic growth strongly picked up, driven by the growth of exports. Several specificities of the Baltic countries can explain this adjustment: the labour market is much more flexible than in the old countries of south Europe, but above all the small size of these countries which are very open to the rest of the world (47% versus 26% for Portugal) and thus forced to give a bigger response to changes in external competition and, in counterpart, the small weight of the domestic market which makes price adjustments more efficient and less expensive. Besides, the public debt inherited from the transition period has been much less important, which has considerably diminished the debt burden. To a lesser extent this chain of events has also been observed in Slovakia (67% of openness to the rest of the world).

It is thus this model that European leaders try to impose on southern European countries. But Greece, Portugal and especially Spain are less open to the rest of the world and have larger domestic markets. These economies, characterised by more complex economic and social structures, have a lesser adaptation capacity. Their banking sectors are more fragile and their public debt greater. The generalisation of austerity policies slows down growth in the whole zone and limits the possibility of recovery through exports. This is all the more true since, beyond Spain, the two other big countries of the south of Europe, Italy and France, are also impacted or threatened. The strategy of internal devaluation, combined with budgetary austerity, has a strong negative impact in terms of growth and employment and is only efficient in the long term, especially when it is implemented in large countries.

Germany, however, highlights its past experience for two reasons. The German reunification was a very costly process for the German economy during the 1990s. It resulted in a significant escalation in prices and costs, which challenged German

competitiveness yet was believed to be not very sensitive to cost effects. Between 1991 and 2001 the current balance was even sustainably in deficit. During this period, instead of making a current surplus of 5% of GDP, as during the 1980s, West Germany transferred every year to east Germany the equivalent of 5% of the West German GDP (and almost 30% of the east German GDP) to restructure and re-establish the east German economy. The latter, already in trouble before the reunification, had seen its industry literally collapse with the unrealistic conversion rate of one east mark into one West mark, chosen for essentially political reasons and against the opinion of the Bundesbank. Germany has thus used for itself, on a large scale, transfer and aid policies to compensate an internal overvalued exchange rate (large, indeed, in the east German case). The outcome is seen as mitigated. Twenty years after the reunification, infrastructures have been constructed but the eastern Länder are still characterised by higher unemployment rates and lower productivity levels.

During the 1990s, with the effects of the reunification and until the launch of the euro in 1999, the mark was overvalued, which handicapped the German economy traditionally focused on exports. It is in this context that in 2002 a set of liberal reforms was launched (the 2010 Agenda) during the second mandate of Chancellor Schröder to restore the basis of the German model. These measures even included the equivalent of a small devaluation with an increase of the VAT (value added tax) of two points to finance the lowering of social taxes on wages. The German labour market has been made more flexible with a stagnation of wages and an increase in insecure jobs. Social protection has been lowered. This austerity treatment has blocked German growth and contributed to the poor performance of Europe during the 2000s. But German costs of production have been reduced and cost competitiveness, even if not essential in the German export model, has been re-established. The latter, combined with important industrial restructuring and relocations in Eastern Europe, restored the basis of German competitiveness. It allowed Germany to face more easily the rise in the price of energy that strongly affected the current accounts of its partners, as Germany benefited significantly from the rise in income of its oil-producing customers. Germany was, in effect, much more able than its EU partners to compensate part of the supply-side shock by a significant demand feedback effect stemming from the countries that increased their revenue with the oil shock. Figure 1 shows how it placed the south of Europe in a fragile position of strong misalignments for 4 years (2004–08). The general loss of confidence brought by the 2008 financial crisis and the ensuing pressure on the financing of public deficits worsened the situation for the south European countries. Meanwhile, after having been very affected by the 2008–09 world crisis, Germany benefited as a supplier of capital goods from the continued expansion of the emerging countries. Let us notice that this advantage could be reducing with an expected slowdown of the emerging economies and their growing ability to produce their own equipment goods. One should also keep in mind that Germany is already in chronic deficit with China, Brazil and Japan. Most of its surpluses actually come from southern European countries (Spain, Italy and France) and the USA, making profit from the undervaluation of the German euro that is allowed by the functioning of the eurozone.

Moreover, to take full account of the German experience, it should be added that part of the huge cost of reunification was not accounted for as part of the public deficit, but instead registered in a fund specifically created to finance the reunification.

By and large, the ‘success’ of the adjustment of the German economy is significantly tied with both the historical background that the reunification constituted and the

imbalance that had developed between the north and south of the eurozone, for example. To conclude that internal devaluation across the board of countries in the southern part of Europe could allow a sustainable eurozone is therefore misleading for the two reasons we have just given.

Other aspects of this harsh treatment should not be forgotten: the length of the adjustment process, about a decade in a big country, shorter in countries that are more open to the rest of the world (but this is not the case for Greece or Portugal, even if they are small countries), the social cost in terms of loss of purchasing power, of reductions in the employment rate and rise in unemployment. Let us recall that all these problems are amplified if the treatment is applied simultaneously to a set of interdependent countries, as is the case for the countries of the south Eurozone.

4. Taking the eurozone out of its present deadlock: the limits of financial federalism

The European construction, and particularly the eurozone, is in deadlock.

The strategy of European governments articulates around two axes:

- (i) the generalisation of austerity policies based on internal devaluations, i.e. wages, jobs and price compression and reduction of public expenditures;
- (ii) the implementation, through successive steps and constraints, of new institutions and rules to provide the funding required by countries in big financial difficulties.

The process of institutional reform is incomplete and the way ahead narrow. Every condition contributes to limit growth, particularly in south Europe, making the management of public debt problematic, although it is precisely this which commands the most attention.

Even the European elite—taking advantage of any further implementation of liberal policies, reducing social expenditure, which increases inequality and obliges households to rely more on private insurance—have started to doubt the sustainability of such a strategy since summer 2011. First because of the development of the American debt crisis and the fragility of the American recovery and then because of the degradation of the economic situation in Europe linked with the generalisation of austerity plans, along with the assaults against the Spanish and Italian debts, to which European banks are very exposed.

This explains the measures adopted since the last trimester of 2011 to allow a temporary calming of the assaults of financial markets, but tensions reappeared in spring 2012. To face this recurring financial pressure on the weakest euro countries, some consider that Europe should move towards some kind of financial federalism, which could take various shapes.

The ECB first tried another policy by offering three-year loans at a 1% rate to European banks on two occasions (December 2011 and February 2012) for the considerable amount of €1000 billion. This policy aimed to bring back confidence in the European banking sector weakened by the return of the debt crisis during the second semester, creating an environment more favourable to the revival of credit, leading to a reduction of lending rates on public securities. This policy bought some time but confidence remained weak, even if it allowed Spanish and Italian securities to be sold at reasonable rates.

The mutualisation of European debts through the issuing of 'Eurobonds' is often proposed with different variants. An integral mutualisation would be hardly conceivable: its amount would be considerable and it would suppose the implementation of a European debt agency with a strict control of national budgetary policies. A mutualisation for the debts inferior to 60% of GDP would have a lesser scope, with quite similar consequences in terms of control on national policies. The debts over the 60% level would suffer from very high rates with evident risks of speculative assaults, a real drawback. Reversely, a last proposition would limit the mutualisation to the fraction of debts exceeding the 60% threshold. The amount would be less important. Such a mechanism would greatly help Italy, but less Spain. In a perspective of reduction of public debt in the long term, such 'Eurobonds' would be meant to disappear. To conclude, 'Eurobonds' are not a miraculous solution. They would help to finance structural imbalances without solving them. Growth would remain higher in the north than in the south of Europe. Anyway, facing the opposition of Germany, the project was abandoned in July 2012, but the concept could be used differently, as we will see below.

The European Stability Mechanism (ESM) will be implemented more rapidly. It will supply loans to countries facing difficulties at a reasonable rate of interest with, in counterpart, a strict control of the fiscal policy. The main limit is the small amount of available funds (€400 billion) compared with the potential risks.

A banking union was proposed in July 2012, in spite of German reluctance. It includes a supervision of all banks by the ECB in order to break the vicious circle between sovereign debt crisis and bank crisis. The project is largely covering the monitoring, the deposits warrant and the mode of intervention during the crisis period. It conditions the possibility of direct aid from the ESM to banks in difficulty, without passing through the public budget.

The buying back of securities of countries facing difficulties by the ECB without limit is the final and the more global response ('the nuclear weapon'). However, the experience of large-scale 'quantitative easing' of the American Federal Reserve has shown its limits in a low-growth context with an inflation of the Fed's assets increasingly affecting its balance sheet. Besides, if the ECB promises to buy back securities without limitations, the counterpart could only be a reinforced control of budgetary policies, which raises multiple problems of sovereignty. In spite of the opposition of the Bundesbank, this measure was adopted in September 2012, but in a rather restrictive manner as it is reserved to countries having concluded agreement inside the EMS.

On the whole, the underlying idea that financial initiatives (Eurobonds and mutualisation of public debt, ESM, unrestricted ECB purchases and sovereign default of the worst-affected countries) are sufficient to overcome the eurozone crisis is unconvincing. The present crisis arises from structural disequilibria linked to the heterogeneity of member countries and permanently asymmetric patterns of development. It has proved difficult or impossible to maintain countries as different as Greece, Portugal and Germany in the same currency area in the absence of adequate structural measures to reduce these divergences.

Financial federalism is an insufficient response. Even if such measures are useful, and even sometimes necessary, they do not provide a long-term answer to problems arising from the heterogeneity of the eurozone. To overcome this gap, current negotiations try to add a growth component in the stability treaty: broadening the role of the European Investment Bank (EIB) and the issuing of 'project bonds'

to finance investment programmes in infrastructure, sustainable energies and ecological transition. But such reflation by means of investment raises two issues: the delays of implementation are relatively long, whereas the blocking factors are very strong in the short term. Without programming, or even planning, on a large scale, the macroeconomic impact of such a programme to support growth could be quite limited. Still, such programming of long-term investment is far from gaining political consensus.

5. The progressive rise of a budgetary federalism

Some propositions directly target a political objective, calling for a 'European economic government' or for an explicit growth strategy, mobilising the growth potential in countries that have undervalued currency and a small public debt, with Germany in first place, in particular through increases of wages in the short term and a slightly higher inflation rate in order to avoid that internal devaluation in southern European countries bear alone the whole burden of the adjustment.

It seems that consensus could be reached around investment programmes in areas such as education, research, infrastructure for sustainable development and revitalisation of the suburbs. Such investment schemes would require the cooperation of public and private actors and could be financed partly by emissions at the European level (Eurobonds) and partly by credits from the EIB, allowed to be refinanced by the ECB.

Still, such programmes cannot depend on a coordination of member states' policies, as this has failed to be effective for decades. Indeed, institutional complexity makes such coordination difficult. 'European economic government' in the proper sense implies organised expansion and can only be implemented effectively through explicit federal institutions. This implies in the first place the creation of a relevant European budget.

A 'budgetary federalism' is a development of the EU worth considering, even if at present there is no political majority to support it. The relevance of such a development stems from the legitimacy of budgetary transfers to counterbalance the effects of the exchange rate misalignments (see Tables 1 and 2). Some federal compensation would be justified between countries, as they exist in Germany between 'Länder' or between French Regions and 'Départements'.

A modest, but realistic, rise of the European budget from the existing 1% up to 5% of GDP could be progressively achieved by 2017. This European budget would be sufficient to finance new stabilisation and redistribution instruments at a European level through an employment stabilisation fund, a European social fund to improve the harmonisation of social protection and an enlarged structural fund to act at the regional level. Associated with this European budget, increased lending facilities through Eurobonds, the enlargement of the role of the EIB or of the European Bank for Reconstruction and Development (EBRD) as well as new refinancing rules by the ECB would boost investment.

Regarding the progressive increase of the European budget in order to reach 5% of GDP by 2017, one could think of new specific resources, avoiding the delicate issue of transferring national fiscal resources to the federal level, such as taxes on financial transactions to improve financial stability and on CO₂ emissions to preserve the environment.

Let us now consider successively the three types of federal funds listed above.

5.1 *Employment Stabilisation Fund as permanent mechanism of budgetary transfer*

The EC has already desired, in the 1990s, a project of stabilisation funds based on employment performance (Italianer and Pisani-Ferry, 1992). In the case of higher-than-average growth of unemployment in a country, the latter receives a transfer (automatic or negotiated) w . This transfer is calculated as follows:

$$T_i = 0.01(dU_i - dU_{iEU}) \times GDP_i \quad \text{si } 0 < dU_i - dU_{iEU} < 2$$

$$T_i = 0.02 GDP_i \quad \text{si } dU_i - dU_{iEU} > 2$$

$$dU_i = U_i(t) - U_i(t - 12)$$

where U is the unemployment rate (as a percentage).

It has been estimated that, with transfers limited to 2% of GDP, the average cost for the European budget would be modest (around 0.23% of GDP).

The calculations have been repeated using 1996–2011 data and give relatively close results: an average cost of respectively 0.21% of GDP with transfers limited to 2% of GDP, 0.26% of GDP without limitation for the member countries of the eurozone; 0.26% and 0.28% of GDP (with or without limit) when the mechanism concerns all the countries of the EU, including the UK. Table 3 gives the calculations for the 27-member EU without limitation.³ The transfers are generally more important in southern European countries (Greece 0.75%, Portugal 0.71%, Spain 1.05%, Ireland 0.87%), except for France and Italy, as well as for Baltic countries (Ireland). Germany also gains (0.27% on average, especially at the beginning of the 2000s). For some years, unlimited transfers can lead to significant amounts of about 4%–5% of GDP.

This scheme has never been fully agreed for two reasons. First, it was thought to encourage bad practices, because the cost of continuously rising unemployment is passed on to the Union.

Second, and more importantly, such insurance can permanently favour the same countries. It then becomes a permanent transfer mechanism and no longer a budgetary insurance. This issue, in the context of the eurozone crisis, seems to apply to southern countries. But the costs incurred by the overvaluation of their national euro and the ensuing loss of competitiveness could justify the proposed transfers. Thus the transfers would reach up to 3%–5% of GDP in Greece, Spain and Ireland at the end of the 2000s, which is in line with the estimated costs of the overvaluation of their euro.⁴ Such a scheme would preserve the growth potential of the eurozone and facilitate the resolution of public debt issues. These transfers are preferable to intrazone credits (the only current type of aid within the eurozone, except the partial debt write-off of Greece), which only postpone the problems.

Still, previous experiences (the German reunification of the 1990s, the transfers to southern Italy or in favour of less advanced regions in France) show net gains for

³ Other calculations are available without limitation and for the eurozone only.

⁴ Except France and Portugal, particularly penalised by the overvaluation of their euros, but which do not benefit much from the Employment Stabilisation Fund because of an evolution of their unemployment rate closer to average, which raises the question of the type of indicator to be used.

Table 3. Estimation of transfers in the case of an insurance mechanism against above-average unemployment rate (without limitation) (as a percentage of GDP)

| T/GDP | Austria | Belgium | Cyprus | Estonia | Finland | France | Germany | Greece | Ireland |
|-----------------|---------|---------|--------|-------------|----------|----------|----------|--------|----------|
| 2001 | 0.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2002 | 0.30 | 0.60 | 0.00 | 0.00 | 0.00 | 0.00 | 0.50 | 0.00 | 0.30 |
| 2003 | 0.00 | 0.50 | 0.40 | 0.00 | 0.00 | 0.40 | 0.90 | 0.00 | 0.00 |
| 2004 | 0.50 | 0.10 | 0.40 | 0.00 | 0.00 | 0.30 | 0.60 | 0.70 | 0.00 |
| 2005 | 0.50 | 0.30 | 0.90 | 0.00 | 0.00 | 0.20 | 1.00 | 0.00 | 0.00 |
| 2006 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.80 |
| 2007 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.20 |
| 2008 | 0.00 | 0.00 | 0.00 | 0.90 | 0.00 | 0.00 | 0.00 | 0.00 | 1.80 |
| 2009 | 0.00 | 0.00 | 0.00 | 6.40 | 0.00 | 0.00 | 0.00 | 0.00 | 3.70 |
| 2010 | 0.00 | 0.00 | 0.20 | 2.40 | 0.00 | 0.00 | 0.00 | 2.40 | 1.10 |
| 2011 | 0.00 | 0.00 | 1.60 | 0.00 | 0.00 | 0.00 | 0.00 | 5.10 | 0.70 |
| Country average | 0.14 | 0.14 | 0.32 | 0.88 | 0.00 | 0.08 | 0.27 | 0.75 | 0.87 |
| T/GDP | Italy | Luxem. | Malta | Netherlands | Portugal | Slovakia | Slovenia | Spain | Bulgaria |
| 2001 | 0.00 | 0.00 | 1.10 | 0.00 | 0.30 | 0.70 | 0.00 | 0.00 | 3.30 |
| 2002 | 0.00 | 0.40 | 0.00 | 0.30 | 0.80 | 0.00 | 0.00 | 0.60 | 0.00 |
| 2003 | 0.00 | 1.00 | 0.10 | 0.90 | 1.20 | 0.00 | 0.20 | 0.00 | 0.00 |
| 2004 | 0.00 | 1.10 | 0.00 | 0.80 | 0.30 | 0.50 | 0.00 | 0.00 | 0.00 |
| 2005 | 0.00 | 0.00 | 0.30 | 0.40 | 1.30 | 0.00 | 0.40 | 0.00 | 0.00 |
| 2006 | 0.00 | 0.70 | 0.00 | 0.00 | 0.70 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2007 | 0.00 | 0.00 | 0.00 | 0.00 | 1.40 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2008 | 0.70 | 0.80 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.10 | 0.00 |
| 2009 | 0.00 | 0.00 | 0.00 | 0.00 | 0.20 | 0.60 | 0.00 | 4.80 | 0.00 |
| 2010 | 0.00 | 0.00 | 0.00 | 0.10 | 0.70 | 1.70 | 0.70 | 1.40 | 2.70 |
| 2011 | 0.00 | 0.20 | 0.00 | 0.00 | 0.90 | 0.00 | 0.90 | 1.60 | 1.00 |
| Country average | 0.06 | 0.38 | 0.14 | 0.23 | 0.71 | 0.32 | 0.20 | 1.05 | 0.64 |

Table 3. Continued

| T/GDP | Czech.R | Denmark | Hungary | latvia | Lithuania | Poland | Romania | Sweden | UK | EU-27 average |
|-----------------|---------|---------|---------|--------|-----------|--------|---------|--------|------|---------------|
| 2001 | 0.00 | 0.40 | 0.00 | 0.00 | 0.30 | 2.40 | 0.00 | 0.40 | 0.00 | 0.09 |
| 2002 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.40 | 0.60 | 0.00 | 0.00 | 0.24 |
| 2003 | 0.30 | 0.60 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.40 | 0.00 | 0.35 |
| 2004 | 0.40 | 0.00 | 0.10 | 0.00 | 0.00 | 0.00 | 1.10 | 0.70 | 0.00 | 0.27 |
| 2005 | 0.00 | 0.00 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.50 | 0.30 | 0.36 |
| 2006 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.80 | 0.00 | 1.30 | 0.25 |
| 2007 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 |
| 2008 | 0.00 | 0.00 | 0.50 | 1.60 | 1.60 | 0.00 | 0.00 | 0.20 | 0.40 | 0.46 |
| 2009 | 0.40 | 0.70 | 0.30 | 7.70 | 6.00 | 0.00 | 0.00 | 0.20 | 0.10 | 0.53 |
| 2010 | 0.00 | 0.80 | 0.50 | 0.90 | 3.40 | 0.70 | 0.00 | 0.00 | 0.00 | 0.25 |
| 2011 | 0.00 | 0.10 | 0.00 | 0.00 | 0.00 | 0.10 | 0.10 | 0.00 | 0.20 | 0.28 |
| Country average | 0.10 | 0.24 | 0.34 | 0.93 | 1.03 | 0.42 | 0.24 | 0.22 | 0.21 | 0.28 |

the beneficiaries but little resolution of the structural problems. Transfers have to be completed by structural policies in the fields of research and innovation, industry, infrastructure and regional policies, as shown in the various policy schemes listed in the two following subsections.

5.2 A European social fund to improve social protection minima

The 'European social model' combines similar features of still disparate national models, helping to differentiate them from the American or Japanese models. The coexistence of such diversity of European social models has been challenged by the liberalisation trend at work in the EU since the 1990s.

In order to strengthen the attractiveness of EU citizenship and to reduce inequality between EU citizens, it would be good to improve the general conditions of access to social services or public services (health and family aid) and to set goals in each major field (minimum wage, social protection and pension schemes). The minimum wage system is to be extended to every member state, taking into account the existing productivity gaps. More constraining procedures are considered to force the respect of minimal norms, for example regarding pension amounts as a percentage of the revenue per capita. Their levels would be negotiated periodically.

An amount varying between 0.5% and 1% of the GDP of the EU would be allocated to such a European social fund.

Conversely, some coordination of wage evolution would be desirable. It could take into account productivity differentials as well as sectoral considerations. Such agreements are hard to implement, but could follow the practices of European social democratic countries. Wage negotiation would thus appear as a component of an enlarged policy mix that would not be limited to the budgetary policy–monetary policy couple.

5.3 Rehabilitation of structural European policies

If the EU was to give a new priority to industrial policy over competition policy it could be articulated around the three following points: (i) a more active research and innovation policy; (ii) the rehabilitation of large public programmes and (iii) upscaled regional policies.

Research policies could be improved through better articulation with national policies and greater support to new instruments. The additional effort would account for about 0.4% of the GDP of the EU. The resources of the Framework Programme for R&D would thus be considerably increased. Cooperative scientific programmes would be launched. European technological agencies responsible for the coordination of action in the fields of information technology and biotechnology would be created. Public European research organisations would be created in the same spirit matching with the propositions of the Sapir report (2003).

Regarding industrial policies, large public programmes would be rehabilitated. Technology-oriented public programmes in the fields of energy, ecological transition, telecommunications or aerospace (sometimes military) would spur innovation in private firms. The development of European programming would allow the reduction of duplications at the national level and for more advantage to be taken of synergies.

Large infrastructure programmes are a driving force for growth through the externalities they create. Europe could design guiding schemes in the fields of railway transport, electricity, gas, ecological transition, telecommunications or postal services. The

funding of these investment programmes would imply an important increase of available public funds, either in the framework of the European budget, with the possibility of using European debt, or in the framework of new instruments created by the EIB, whose role would be greater. The concrete management of project implementation of would be controlled by a unique manager.

Technological and large infrastructure programmes would account, in total, for about 1% of the EU's GDP per year.

Regarding European regional policy, experiences have been diverse. In some cases the endowment has been underutilised due to problems of definition and coordination between the different participants. In other cases the utility of projects can be disputed. Moreover, the eastwards enlargement of the EU has brought new challenges. An increase of the European budget would allow the enhancement of the eligibility threshold to structural funds up to 90% of the European GDP per capita so that more regions which are less developed could benefit from it. If the transfers are limited to 4% of GDP in the eastern countries, for absorption capacity reasons, the total cost for the European budget is estimated between 0.18% and 0.38% of the GDP of the EU, whether the evaluations are done in current prices or in purchasing power parity (PPP).

Finally, the additional 4% of GDP of the European budget would be distributed as shown in Table 4.

6. Multispeed Europe as an alternative

If the reluctance of old European states to install a budgetary federalism could not be overcome, a fallback scenario could be one of a multispeed Europe with the following characteristics:

- (i) Implementation of a new monetary regime in Europe where a single external euro coexists with national euros with fixed intra-European parities, which can be adjusted according to the structural evolution of each national economy or regional block (south Europe, West Europe, east Europe and north Europe);
- (ii) A federal budget maintained at its current level to guarantee the continuation of certain European policies in the fields of agriculture and research; European budgetary transfers have no reason to exist as adjustments can be done through the modification of intra-European parities; there are no Eurobonds, nor European debt agency.
- (iii) The modification of parities made at the implementation of the new monetary regime (devaluation of the south and east euros; revaluation of the West and north

Table 4. *Distribution of the additional European budget (as a percentage of GDP)*

| | |
|-------------------------------|-----|
| Employment Stabilisation Fund | 1 |
| European Social Fund | 0.9 |
| Debt service | 0.3 |
| Research | 0.4 |
| Regional policy | 0.4 |
| Investment programmes | 1 |
| Total | 4 |

- euros) allow the re-establishment of the competitiveness in the south and in the east and to boost growth by avoiding austerity policies and allowing investment to start again.
- (iv) National structural policies, mostly industrial policies and regional policies, regain some favour in a context of weaker European competition policy; national policies have the ability to value more the specificities of each national space; public aids are less controlled by the EC and take different forms depending on the country (e.g. more at a central level in France and more at a regional level in Germany or Italy); more generally, industrial policies are organised differently in each country (national investment bank, national champions and industrialisation funds).
 - (v) 'À la carte' cooperations between some member states are developed depending on their specific advantages and their specialisation (European agencies regrouping only some states; 'à la carte' common investment programmes around large projects such as clean cars, nanotechnologies and photovoltaic cells).
 - (vi) The diversity of social models is reinforced without any institutional convergence (no European minimum wage, diversity of pension schemes, unequal weight of labour unions and collective negotiations); but a partial convergence is allowed by the economic adjustment and stronger growth.

6.1 Monetary regime in a multispeed scenario

The national euros are not convertible at an international level. For external exchanges and capital movements the national euros have to be converted into external euros, but this convertibility is not free. External convertibility holds, but there is no internal convertibility.⁵

For the country I the national euro is a fraction α_i of the external euro (1 euro _{i} = α_i euro). This external euro floats freely on international capital markets (1 dollar = x euro), but this external euro is not independent from national euros. Without an explicit dependence taking the form of a currency basket, a relation of the type (1 euro = $\sum \beta_i$ euro _{i}) exists, β_i being the weight of the country I in terms of GDP or in terms of the share of trade of the eurozone.

There is thus a relation 1 euro = $\sum \beta_i \alpha_i$ euro, thus $\sum \beta_i \alpha_i = 1$, which implies that the α_i , i.e. the intra-European parities, cannot be determined independently from one another, the coefficient β_i being observed data.

With free capital mobility the system would be unstable. In order to limit speculation on intra-European parities, several functioning modes are conceivable with an unequal 'financial repression'.

In a first configuration, only banks and non-banking financial organisations have external euro accounts. National banks have deposits and make loans in national euros. They hold bonds in national euros, but also bonds of other European countries issued in external euros and bonds in dollars. Bank accounts in national euros are freely convertible. To avoid speculation risks, reserve requirements in the central bank are imposed on deposits and assets in external euros.

⁵ It is a variant of what China wants to implement in the middle term for the convertibility of the yuan, external convertibility without internal convertibility.

National central banks make advances to the national banks and hold reserves in euros at the ECB. The ECB plays a role of clearing union, as in the current case, but up to a certain threshold of reserves. Beyond this threshold, intra-European parities must be adjusted.

Non-financial agents (households and firms) only have accounts in national euros. However, for their foreign trade and financial operations, firms can use accounts in euros of the banking system, with a threshold calculated based on the average observed amounts of external trade volume and financial needs.

In a more liberalised regime, banks and firms also have accounts in external euros freely convertible at defined fixed rates. Households have only national euro accounts and remain entirely constrained. To limit the speculation, as previously, the cost of holding external euros by non-financial residents is increased through important reserve requirements imposed on banking deposits.

Last, a more flexible monetary regime can be considered with a system of floating national euros around a reference parity (which can be adjusted) in relation to the external euro. National euros are now convertible at the international level with a large band of fluctuation. The greater flexibility has, as a counterpart, a risk of increased instability, which implies some instruments to reduce the capital mobility or increase its cost (e.g. tax on financial transactions or reserve requirements).

6.2 The transition period to a multispeed scenario and the structure of external debt

The difficulties of the transition towards such a system should not be underestimated. The implied end of the financial liberalisation is the first issue.

The second is that of the external debt in euros. The repayment of this debt implies either a loss for foreign creditors in case of repayment in national euros convertible into external euros, with a loss for countries having devaluated their national euro, or an additional cost for debtors having devaluated if they repay their debt in external euros. An international negotiation, in fact largely intra-European, should allow stakeholders to find a balance between these two extremes.

Table 5 gives some information on the repartition of the debt of southern European countries for which there is no (easily available) information on public debt only. The share of securities (except stocks) held by the rest of the world ranges between 40% and 65% for the securities of southern European countries (except for Ireland with more than 80%). Amongst these securities, public securities represent a very variable share (11% in Ireland and 91% in Greece, to take the two extremes). Amongst foreign creditors, the eurozone and, more largely the EU, accounts for a dominant share, except in France. The negotiation on the restructuring of the debt in case of devaluation of the euros of southern European countries would mostly concern other countries of the eurozone, France being somehow caught in a vice-like grip, as shown in the table on the main creditor countries (Table 5).

In the future, after the phase of restructuring the debt of countries having devaluated, the external debt will be hard to finance and countries that have been in deficit will have to rebalance their current account. The intra-European monetary adjustments and the new parity system will make this rebalancing of current accounts easier, but a restrictive policy will be necessary during the transition period before the return of growth thanks to the re-establishment of competitiveness.

Table 5a. *Debt structure of southern European countries (2010)*

| Share of public securities among the total of securities (except stocks) issued (%) | |
|---|----|
| Ireland | 11 |
| Greece | 91 |
| Spain | 35 |
| France | 37 |
| Italy | 55 |
| Portugal | 45 |
| Share of securities (except stocks) held by the rest of the world (whole economy) | |
| Ireland | 82 |
| Greece | 65 |
| Spain | 46 |
| France | 57 |
| Italy | 42 |
| Portugal | 52 |

Source: Eurostat.

Table 5b. *Distribution of debt (except stocks) by zone.*

| | Eurozone | EU | Extra-EU |
|----------|----------|----|----------|
| Ireland | 62 | 79 | 21 |
| Greece | 91 | 96 | 4 |
| Spain | 77 | 86 | 14 |
| France | 48 | 57 | 43 |
| Italy | 75 | 87 | 13 |
| Portugal | 89 | 93 | 7 |

Sources: IMF, Coordinated Portfolio Investment Survey (CPIS).

Table 5c. *Distribution by creditor country (Top 5, as a percentage of the total)*

| Ireland | Greece | | Spain | | Italy | | France | | |
|----------|--------|---------|-------|-------------|-------|------------|--------|-------------|----|
| Germany | 19 | France | 24 | France | 27 | France | 24 | Inter org | 22 |
| France | 14 | Germany | 22 | Germany | 20 | Germany | 16 | Germany | 12 |
| UK | 14 | Cyprus | 11 | Luxembourg | 7 | Luxembourg | 11 | Luxembourg | 10 |
| Japan | 7 | Spain | 6 | Inter org | 6 | UK | 9 | Netherlands | 8 |
| Portugal | 6 | Belgium | 5 | Netherlands | 6 | Ireland | 8 | UK | 7 |

Sources: IMF, CPIS.

6.3 A clearing union project

To overcome these difficulties, some authors (Amato and Fantacci, 2011) propose the implementation of a clearing union system at a European level, inspired by the ideas of Keynes. A clearing union is a monetary institution that finances the temporary imbalances of the current accounts of a group of countries. Each member state has an account at the clearing union in a specific unit of account different from national currencies (called *bancor* by Keynes). Countries in deficit have a negative account;

countries in surplus have a positive account. The clearing union is responsible for the centralisation of every account; the compensation is done multilaterally. Three rules define its functioning:

- (i) The functioning is symmetric; countries in deficit pay interest as expected, but countries in surplus also pay interest on their surplus; this mechanism favours balanced current accounts.
- (ii) There is a ceiling for surpluses and deficits, which prevents the indefinite accumulation of net debt or surplus.
- (iii) Monetary adjustments between national currencies are possible to contribute to the reduction of excessive current imbalances: devaluation for countries in deficit and revaluation for countries in surplus.

This system, initially imagined by Keynes at an international level, can be transposed at a European level. It also implies radical changes in relation to the current situation. The ECB certainly plays the role of a clearing union, but with a complete asymmetry between countries in deficit and countries in surplus, without any ceiling for surpluses or deficits and without any possibility of intra-European parity readjustments.

This clearing union project at a European level is compatible with the propositions presented above. The external single euro would be used as a common currency to finance surpluses and deficits. But it would not be a simple unit of account, because it would be freely convertible on international capital markets. The possibility of parity readjustment in case of important structural deficits is one of the core elements of the system that is proposed. These readjustments are a priority before the implementation of the new regime. The same problems regarding the end of financial liberalisation and the management of external debt for countries devaluating their currencies are faced.

Two additional points remain: the definition of the limit of current surpluses and deficits, and the definition of the symmetric functioning, as the countries in surplus must also pay charges depending on the amount of their current surplus. The beneficiaries of these interests should probably be specified (the ECB in principle), as should what will be done with these interests.

7. Conclusions

Given the costs of the structural diversity of the eurozone in terms of overvaluation of the euro for a large sample of countries, the financial federalism that seems to emerge from the ongoing negotiations under the continuing speculative attacks of financial markets may well be inoperative. Two solutions appear as sustainable paths for the euro. One is some kind of budgetary federalism, but it is conditioned by a significant rise in political support for a committing federalism. The other, which accommodates a multispeed Europe, is less demanding politically, but faces a difficult transition period and requires some restriction in the capital mobility to preserve financial stability.

Bibliography

- Asdrubali, P. and Kim, S. 2004. Dynamic risksharing in the United States and Europe, *Journal of Monetary Economics*, vol. 51, 809–36
- Amato, M. and Fantacci, L. 2011. *The End of Finance*, Cambridge, UK, Polity Press

- Clévenot, M. and Duwicquet, V. 2011. Partage du risqué interrégional, *Revue de l'OFCE*, no. 119
- Cline, W. and Williamson, J. 2012. 'Estimates of Fundamental Equilibrium Exchange Rates', Policy Brief no. PB12-14, Peterson Institution for International Economics
- Duwicquet, V. and Mazier, J. 2010. Financial integration and macroeconomic adjustments in a monetary union, *Journal of Post Keynesian Economics*
- European Commission. 2007. *Quarterly Report on the Euro Area*, no. 3, Brussels, EC
- Italianer, A. and Pisani-Ferry, J. 1992. Systèmes budgétaires et amortissement des chocs régionaux: implications pour l'Union économique et monétaire, *Économie Internationale*, no. 51, 49–69
- Jeong, S.-E., Mazier, J. and Saadaoui, J. 2010. Exchange rate misalignments at world and European level: a FEER approach, *Économie Internationale*, no. 121, 25–58
- Lopez, A., Mazier, J. and Saadaoui, J. 2012. Temporal dimension and equilibrium exchange rate: a FEER/BEER approach, *Emerging Market Review*, vol. 13, 58–77
- Mazier, J. and Saglio, S. 2008. Interdependency and adjustments in the European Union, *International Review of Applied Economics*, vol. 22, no. 1, 17–44
- Trichet, J. C. 2007. *The Process of European Economic Integration*, speech delivered 21 September at the Fondation Jean Monnet pour l'Europe, Lausanne