The future of the euro

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February 2015

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Book Chapter in "The Economic Crisis in Social and Institutional Context: Theories, Policies and Exit Strategies" (Editors S. Fadda and P. Tridico), Routledge Advances in Heterodox Economics, 2015.

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1. Introduction

The euro crisis illustrates the deficiencies of adjustment mechanisms in a monetary union characterized by a large heterogeneity. Exchange rate adjustments being impossible, few alternative mechanisms are available. Nevertheless, fiscal policy could play an active role. In a federal state like the USA its stabilization coefficient is around 20% (Italianer and Pisani-Ferry, 1992). But there is no equivalent in the European case. Well integrated capital markets, with portfolio diversification and intra-zone credit, have been proposed as a powerful adjustment mechanism by the "international risk sharing" approach. Intra-zone credit and capital income from international portfolio would have stabilization coefficients around 20-30% each (Asdrubali and Kim, 2004). These results have been used during the 2000 by proponents of liberal economic policies in the EU to promote deeper financial integration without having to develop a federal budget (European Commission, 2007; Trichet, 2007). However, the theoretical basis and the results appear highly questionable (Clévenot and Duwicquet, 2011).

Consequently, relative wage and price flexibility are proposed in order to take place, at least partially, of exchange rate adjustments. Actually these mechanisms allow only a very slow and partial return to equilibrium with an important cost in terms of growth and employment and with large differences between countries, due to huge structural specificities. They are more

inefficient when they are implemented simultaneously in interdependent countries, as it is the case in the eurozone, especially in the Southern European countries (Mazier and Saglio, 2008). This situation reflects a simple diagnosis. At the level of the whole eurozone, the current account is close to equilibrium and the fiscal deficit is smaller than in many other OECD countries. The euro is close to its equilibrium parity. But intra-European imbalances are huge. The euro is strongly overvalued for Southern European countries, France included, and largely undervalued for Northern European countries, especially Germany (Jeong *et al.*, 2010). These overvaluations slow growth and induce fiscal and current deficits in the South while undervaluations boost growth in the North via exports, especially towards the rest of the eurozone, and deficits are reduced. This situation is equivalent to implicit positive transfers in favor on the North and negative transfers at the detriment of the South, which are largely ignored in the public debate.

The paper is organized as follow. In a first part, we give a new evaluation of these exchange rate misalignments inside the euro zone, using a FEER approach, and we discuss the structural character of these misalignments. In a second part, we analyze the deadlock of the actual European institutional framework and propose two alternative exit strategies, a first step towards a fiscal federalism or, on the opposite, a new monetary regime based on a multi-euros system.

2. Intra-European exchange rates misalignments

2.1. A structural heterogeneity

Since the beginning of the 2000s, we observe a surge of current account imbalances inside the Euro zone in spite of a rather balanced current account for the whole area. On the one side, Northern European countries have accumulated huge current account surpluses and on the other side, Southern European countries have run important current account deficits. These evolutions reflect, at least partially, the increasing heterogeneity of exchange rate misalignments inside the

Euro zone. After 2009, current account deficits of Southern European countries have been reduced because of restrictive policies and internal devaluations. In this section, we give new estimations of Fundamental Equilibrium Exchange Rates (FEERs) based on the methodology introduced by Williamson (1983) for ten European countries over the period 1994-2012 (see table 1). The FEER is defined as the exchange rate prevailing when the economy simultaneously reaches the external equilibrium and the internal equilibrium for all the trading partners. This measure was derived from a standard world trade model in which all the variables are endogenous except the external equilibrium (sustainable current account) and the internal equilibrium (full utilization of the productive potential). The external equilibrium is estimated with panel regression techniques. The internal equilibrium is reached when the output gap is closed (see Jeong et al. (2010) for further details). In this new estimation the underlying current account is obtained by taking into account the delayed effects of past exchange rate variations (in *t-1* and *t-2*), as it was done in the previous estimations, but also the effects of domestic output gap on imports and foreign output gap on exports, as it has been proposed by Bayoumi and Faruqee (1998). This second correction is more significant in the present period due to the size of the output gaps since 2008.

Since the early 2000s, we have assisted to a sharp increase of the heterogeneity of misalignments in the Euro zone (table 1) with a split within the euro zone between some countries increasingly undervalued (like Germany, Austria, Netherlands and Finland) and others increasingly overvalued (like Greece, Portugal, Spain and France). On average between 2005 and 2010, Germany, Austria, Netherlands and Finland have been undervalued by 13% while Greece, Portugal, Spain and France have been overvalued by 23%. These intra-European exchange rate misalignments reflect a strong structural heterogeneity between European countries at almost all the levels (nature of the international specialization, size and productivity

of the firms, R&D effort, and qualification of the labor force). They are at the heart of the current problems of the Euro zone.

Table 1: Misalignments in real effective terms (in %)

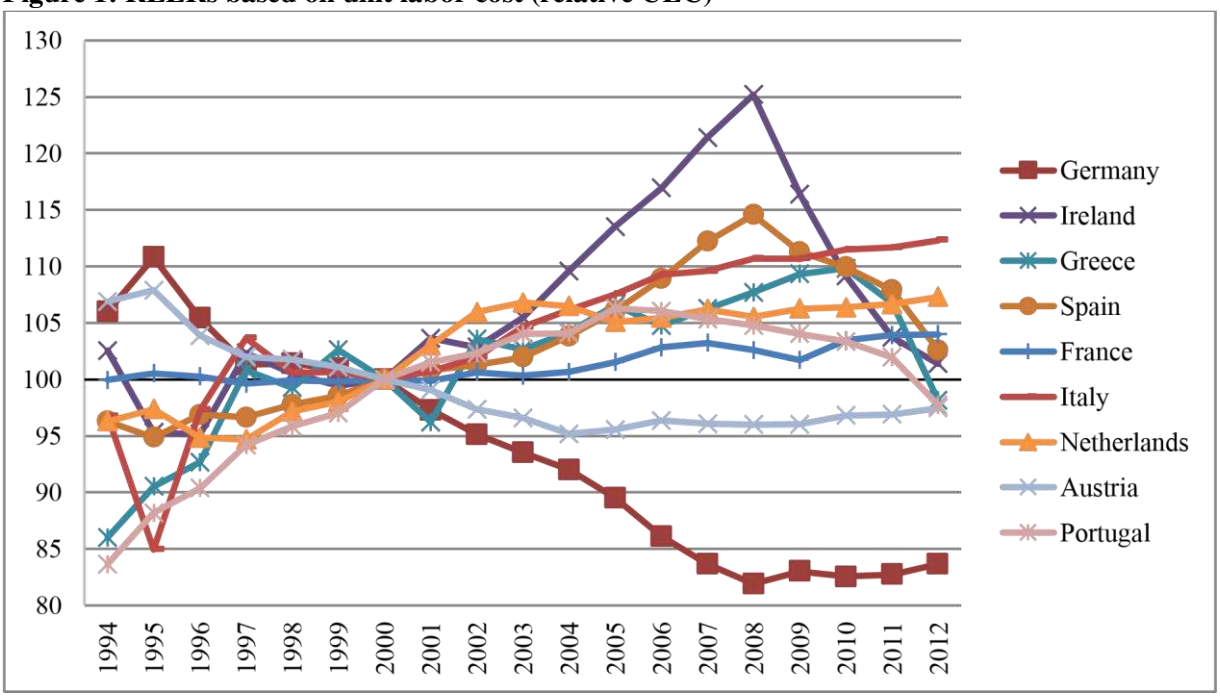
	EU	FRA	GER	ITA	SPA	AUT	FIN	IRL	NLD	PRT	GRC
1994	-3.4	3.1	-10.5	9.2	0.6	-3.1	-1.7	3.8	0.8	4.3	13.9
1995	1.2	1.4	-9.4	11.2	8.8	-8.3	7.2	3.8	0.8	7.0	1.3
1996	4.2	3.9	-4.8	9.4	-4.6	-9.2	9.3	0.8	0.4	-11.3	-12.5
1997	3.5	15.2	-3.2	8.2	-0.8	-8.8	16.9	0.6	1.8	-19.3	-12.7
1998	0.6	15.4	-5.2	5.1	-1.4	-3.5	17.4	-0.8	-2.2	-18.5	-8.4
1999	2.0	19.5	-8.1	1.8	-6.9	-2.9	17.6	0.4	-0.7	-23.7	-17.8
2000	0.1	7.4	-8.4	-0.7	-10.0	1.1	21.4	-2.2	-3.7	-28.7	-25.2
2001	6.9	7.6	-3.5	-1.2	-13.0	-3.5	22.2	-5.4	-6.4	-34.3	-24.3
2002	6.6	2.4	3.5	-4.2	-12.9	9.8	23.0	-6.2	-8.2	-27.4	-22.4
2003	2.2	-3.0	2.2	-6.9	-13.6	2.9	12.0	-6.8	-3.0	-23.8	-11.8
2004	6.6	-5.7	9.0	-1.9	-22.0	1.2	12.7	-7.2	-1.1	-33.8	1.0
2005	1.8	-11.2	11.6	-1.2	-30.7	3.8	5.5	-7.3	1.6	-44.2	-4.6
2006	0.3	-8.8	16.5	-0.7	-34.0	7.9	9.4	-5.1	6.1	-42.5	-5.1
2007	0.1	-12.8	18.4	-0.3	-42.0	10.4	11.5	-11.1	3.1	-33.8	-7.4
2008	-2.6	-19.8	14.3	-5.7	-46.7	12.6	4.5	-14.1	0.0	-45.9	-10.1
2009	0.6	-11.6	16.3	-2.0	-21.4	7.2	-0.4	-2.5	2.1	-35.4	-0.4
2010	1.6	-8.9	20.2	-3.2	-21.5	9.8	3.4	8.1	8.4	-26.8	-11.5
2011	8.2	-15.4	16.9	-4.1	-19.5	6.9	-7.3	3.9	6.6	-22.1	-46.2
2012	14.1	-14.1	19.9	4.3	-1.3	7.8	-5.2	13.0	7.1	2.7	-15.9

Note: Forecasts for 2012 based on IMF WEO October 2013; See Jeong *et al.* (2010) for a complete description of the model of world trade and the methodology used to compute ERMs. Source: authors' calculations. A positive (negative) number indicates an undervaluation (overvaluation) expressed in percent of the observed value.

However, since the beginning of the euro zone crisis in 2010, a reduction of misalignments is observed for most of the Southern European countries. Irish, Spanish, Italian and even Portuguese euros seem no more overvalued in 2012. But Greek and French euros remain

overvalued around 15% and German euro undervalued around 20%. These movements have been mainly driven by large real effective devaluations in Ireland, Spain, Portugal and Greece, as shown in figure 1 with the evolutions of the relative unit labor cost (ULC), i.e. real effective exchange rates based on ULC. These politics of internal devaluation are very painful and has led to a deep recession in Greece, as in other Southern European countries, with a reduction of current deficits mainly due to the shrink of imports, but with limited improvement of public finance.

Figure 1: REERs based on unit labor cost (relative ULC)

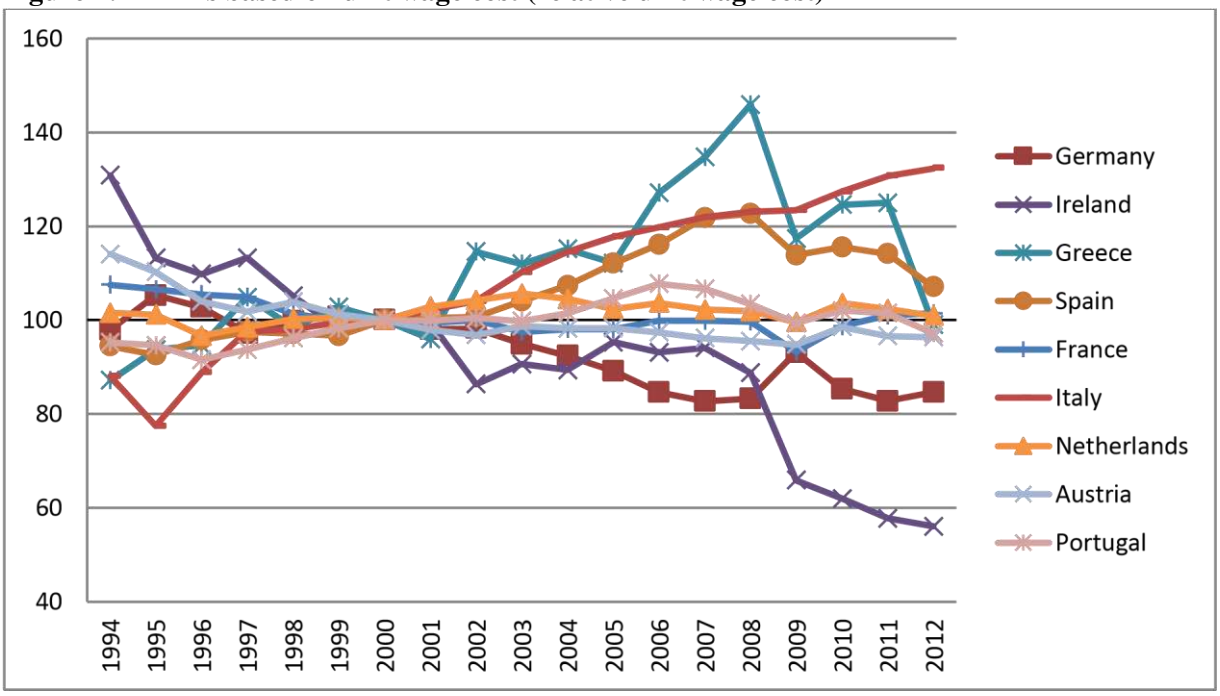


Source: authors' calculations based on European Commission data, basis 100 in 2000.

These evolutions can be analyzed in more details using other indicators of real effective exchange rates based on nominal unit wage cost (figure 2) and export price deflator (figure 3). In spite of large wage cut adjustment in Greece, the Greek euro remains overvalued and the export price competitiveness very deteriorated. This implies that the Greek export firms have used the wage cuts mainly to increase their margins without improving their price competitiveness. To a less extent the Portuguese and Spanish firms have implemented the same strategy, but with more success on the export shares for Spain, which can be explained by non

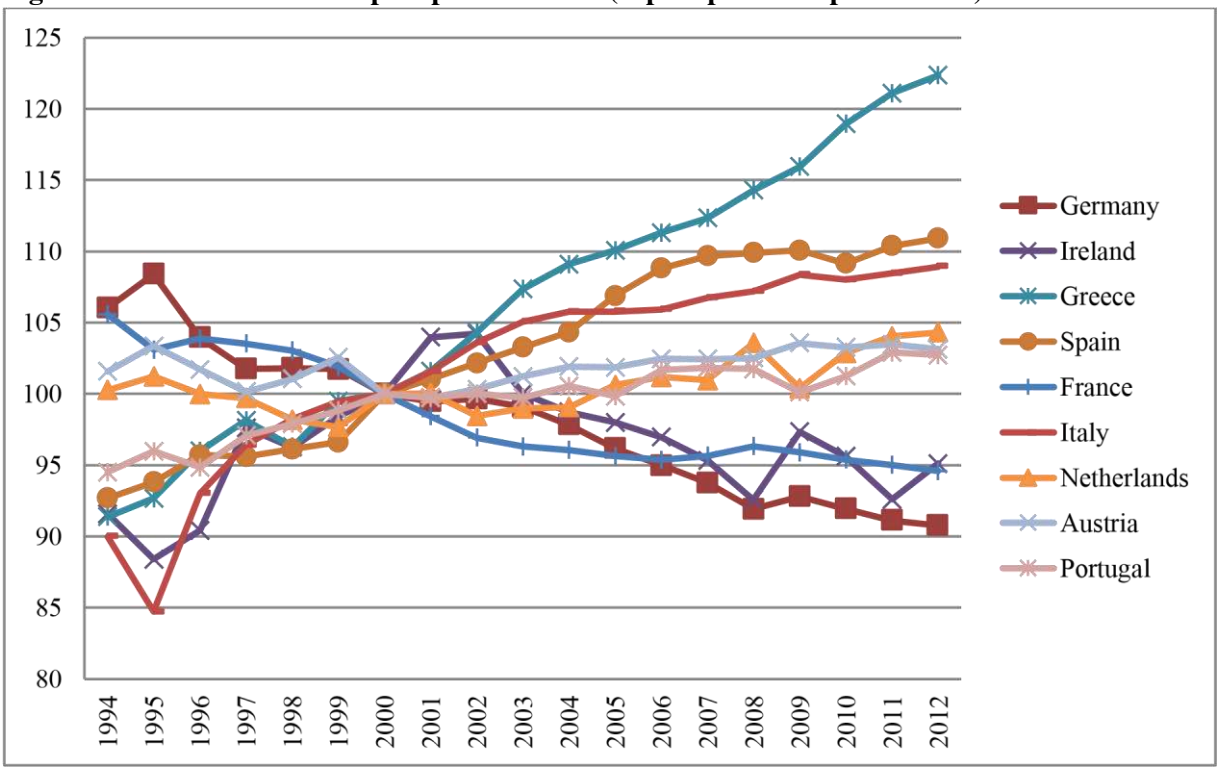
price competitiveness factors. On the opposite wage and employment adjustments have been very large in Ireland and have been accompanied by an improvement of export price competitiveness which is reflected in a slight undervaluation. Italy has faced a drift of its relative ULC and export price competitiveness without any attempt to adjust it in the recent period. The limited overvaluation of the Italian euro reflects non price competitiveness factors. Apart the French case which will be analyzed more in detail below, Germany is the last country to examine. From 2000 to 2008 sharp wage and productivity adjustments have led to a large reduction of the German relative unit labor cost which has been preserved during the crisis. Export price competitiveness has also been improved, although to a lesser extent than the relative ULC which has allowed a consolidation of the export margin of the German firms.

Figure 2: REERs based on unit wage cost (relative unit wage cost)



Source: authors' calculations based on European Commission data, basis 100 in 2000.

Figure 3: REERs based on export price deflator (export price competitiveness)

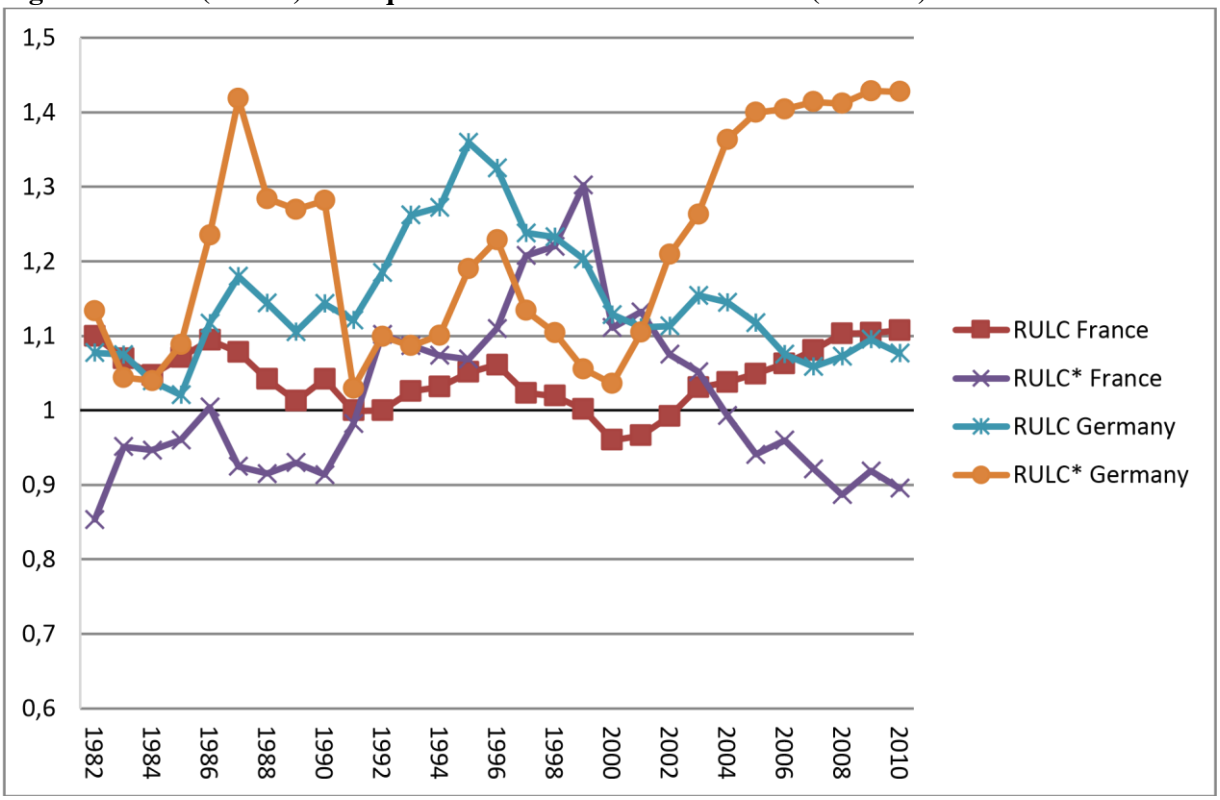


Source: authors' calculations based on European Commission data, basis 100 in 2000.

The French case is interesting. French relative ULC and unit wage cost have followed an intermediate path without large drift, but without cost adjustments. Facing this evolution, export margins have been regularly reduced to preserve, and even improve, export price competitiveness. This has not been sufficient to avoid an increasing overvaluation of the French euro, due to the weakness of non price competitiveness.

Another way to illustrate these issues is to compare two estimations of the relative ULC, one measured in level using purchasing power parity (RULC), the other measured with the equilibrium exchange rate (FEER) and corresponding to an equilibrium value of the ULC (RULC*). These indicators have been estimated for France and Germany (figure 4). They show that the French RULC has remained during almost thirty years close to one, i.e. that the French unit labor cost was in level close to the ULC of the main partners. In that sense it could be said that there was no problem of cost competitiveness, in spite of a slight drift during the 2000s.

Figure 4: Level (RULC) and equilibrium relative unit labor cost (RULC*)



A more precise analysis leads to a different diagnosis. At the end of the 2000s the French RULC was very close to the German one, in contrast with what was observed during the 1990s when the German RULC was quite higher than the French one. The French firms had at that time a cost advantage in contrast with the German firms which suffered of a cost disadvantage. It helped the French firms to survive and compensate their insufficiency in matter of non price competitiveness while the German firms partly compensated their cost disadvantage by non price competitiveness advantage. Consequently, the overvaluation of the deutschmark (changed in German euro in 1999) remained limited. At the end of the 1990s the French RULC was under its equilibrium value, which illustrated the undervaluation of the Franc (changed in French euro in 1999). During the 1980s and 1990s the equilibrium value of the French ULC has appreciated progressively, which was reflecting some effort to re-structure the manufacturing sector, but also the declining position of our main competitor, the German economy which was engaged during the 1990s in a painful reunification.

During the 2000s the reverse has been complete. The German equilibrium (RULC*) has appreciated, thanks to industrial restructuration (mainly with delocalization in Eastern Europe) and cost adjustments, which has led to a large undervaluation of the German euro. In sharp contrast, the French equilibrium (RULC*) has experienced a depreciation because of a deindustrialization process and declining investment and R&D. Without cost adjustments, as it has been seen, and, in spite of the reduction of the export margins, a structural overvaluation of the French euro has appeared.

The French economy is clearly in an impasse. There are three alternative issues. Like in other Southern European countries, cost adjustments through wage cut and productivity gains could be used. But the social cost is high, their efficiency is limited, they are a long lasting process, they will perpetuate the recession in France and in other European countries. They are not in the agenda of the present government.

The parity of the euro franc could be depreciated. This would mean a complete change in the European monetary regime, which is not impossible but raises many problems[1]. It is not also in the agenda of the present government.

The third solution, which has been adopted, is the "employment-competitiveness credit tax" (20 billion of euros, around 1% of GDP) followed by the "responsibility pact" in January 2014 (10 billions more of reduction of social contributions). Costs are reduced through tax cuts. This raises, at least, two questions. The target is not clear. If it is improving the competitiveness, the measure is not well calibrated as all the firms, including those of the non tradable sector like banks and retailers can benefit of the tax cuts. Consequently, the transfer in favor of the tradable sector is too limited, compared with the cost disadvantage which prevails actually. A larger transfer would be necessary but could not be supported by the public finance. If the target is to

[1] This is discussed in other papers (Mazier, 2013; Mazier and Valdecantos, 2014).

improve employment, as it seems to be more the case with the "responsibility pact", the past experiences show that efficiency is not warranted and the problem of cost-competitiveness, which cannot be ignored, is not solved. The government is aware of these limits and has completed his "tools box" by re-launching industrial policy measures (major industrial projects, innovation policy, etc) to improve non-price competitiveness. This is welcome but takes time (around 10 years) to be operational.

The risk is therefore that any target can be reached. The competitiveness problem will remain and financing the current deficit might become more difficult. Tax reduction could have a limited impact on employment, all the more as the profit margins have been reduced during the crisis, especially for the export sector. The financing of the tax reduction will imply public expenditures cuts with a negative impact on activity. The more likely will be a long lasting period of stagnation.

2.2. Divergence of ERM inside the euro area

In other approaches of equilibrium exchange rate like the Behavioral Equilibrium Exchange Rate approach (BEER), the misalignments are necessarily stationary on the studied period. They correspond to residuals of a long run relationship between the real effective exchange rates and its long term determinants. Thus the misalignment is stationary, by definition. In the case of European countries during the period 1982-2011, the hypothesis of exchange rates on average in equilibrium on the studied period (i.e. the misalignment is stationary) seems to be unrealistic since these countries have experienced diverging path concerning their competitiveness, as evidenced by the evolution of current account imbalances (figure 1).

In the long run and at the world level, the FEERs and the REERs are integrated and cointegrated. In other words, the misalignments are stationary for a large panel of industrialized and emerging countries over the period 1982 to 2007 (Saadaoui, 2011). Nevertheless for European countries over the period 1982 to 2011, it seems highly doubtful that the misalignments have been stationary.

In table 2, we implement panel unit root tests proposed by Carrion-i-Silvestre *et al.* (2005) on the series of misalignments of eight European countries over the period 1982 to 2011. These third generation panel unit root tests take into account structural breaks. The tests give clear cut results. We reject the null of stationarity at the 1% level. The intra-European ERM are not stationary over the period 1982 to 2011.

In order to impose any value on the cointegrating vector, we also implement panel cointegration tests proposed by Westerlund (2008). These tests allow for cross-sectional dependence and eventually stationary regressors. In table 3, we can see that we cannot reject null of noncointegration at the 1% level in all tests. The REERs and FEERs are not cointegrated. These results are in line with those of Duwicquet *et al.* (2013) and reflect unsustainable evolutions of competitiveness in the eurozone over the studied period.

Table 2. Panel unit root test with structural breaks

Country	Break dates	
FRA	1996	
GER	1990	2000
ITA	1992	
SPA	1992	2006
FIN	1992	2002
IRL	1986	2006
NLD	1985	
GRC	1990	
	Quadratic Test (p-value)	
Breaks (homogeneous)	12.428 (0.000)	
Breaks (heterogeneous)	20.657 (0.000)	

Notes: The number of break points has been estimated using the LWZ information criteria allowing for a maximum of m^{max}= 2 structural breaks. The long-run variance is estimated using the Quadratic spectral kernel with automatic spectral window bandwidth selection as in Andrews (1991), Andrews and Monahan (1992) and Sul *et al.* (2003). We exclude Austria and Portugal in reason of missing observations. P-values in parentheses. Source: authors' calculations.

Table 3. Panel cointegration tests

DHg	1.565 (0.058)
DHp	1.813 (0.034)

Notes: All tests are based on an intercept and the Newey and West (1994) procedure for selecting the bandwidth order. In implementing the Durbin-Hausman tests, the maximum for the estimation of the number of common factors is set to 5. The p-values are based on the asymptotic normal distribution. P-values in parentheses. Source: authors' calculations.

2.3. What about fundamental equilibrium exchange rates from a Post Keynesian perspective?

As pointed by Officer (2012), the Purchasing Parity Power (PPP) approach, introduced by Cassel (1918), is indeed a monetarist approach as changes in relative prices (a nominal variable) affect the nominal exchange rate but not the real exchange rate. In the long run, nominal variables do not affect real variables in this approach. Thus, we have a dichotomy between the real sphere and the monetary sphere.

We can classify the different approaches of equilibrium exchange rates thanks to the criteria of Officer (2012). Approaches in which real variables are not affected by nominal variables can be labelled as monetarist and approaches in which nominal variables affect persistently real variables can be regarded as non-monetarist.

In the case of the FEER approach, the current account expressed in nominal terms affect persistently the real effective exchange rate. An increasing current account deficit will induce downward pressures on the real effective exchange rate. Thus the FEER approach can be regarded as a non-monetarist approach.

Furthermore, Cline and Williamson (2012) indicates that the FEER approach may be characterized as "path dependent". An increasing depreciation will produce an undervalued currency only in the case where the fundamental rate does not observe a stronger depreciation. Path dependency can be defined in this way: the initial situation will affect the evolution of exchange rate misalignments in the following periods (Cline and Williamson, 2012).

In the light of the Post Keynesian tradition, the FEER approach has two important features. The FEER approach is non-monetarist (absence of dichotomy between the real sphere and the monetary sphere) and admits hysteresis (this approach requires any assumption on the stationarity of misalignments, the exchange rate can or cannot revert to its fundamental value as in Duwicquet et al. (2013)).

Davidson (2004) argues that the only analytical difference between Williamson's FEER and market fundamentalist is the speed of adjustment of the real exchange rate towards its fundamental value. According to Davidson, market forces are not able to reach this equilibrium rate. Our empirical results are in line with the point of Davidson. They indicate a huge divergence in the eurozone. Some countries are increasingly undervalued and other countries are increasingly overvalued. The case of the eurozone is very interesting as it illustrates in a very striking way the failure of market forces to reach the FEER.

As market forces are unable to reach FEERs, we need a new economic and financial architecture in the euro area (see Mazier and Petit (2013) for some new proposals) in order to help overvalued countries affected by mass unemployment and sluggish growth to achieve their external adjustments without putting a huge strain on aggregate demand in the eurozone.

3. Alternative exit strategies for the euro zone

These exchange rate misalignments have important consequences for overvalued countries. They experienced a reduction of their growth rates and an increase of public and external deficits. Conversely, undervalued countries benefit of implicit advantages in terms of price competitiveness. These advantages allow to enhance growth performances and to reduce public and external deficits. These monetary misalignments imply a variation of relative costs in favor of Northern countries and at the detriment of Southern countries (at the end of the last decade, this variation of relative costs represent more than + 5% of GDP for France and Spain and about - 12 % for Germany).

This deterioration in terms of cost competitiveness due to an overvaluation of the euro has been investigated in the case of the French economy in the Gallois report on competitiveness (2012). This report offers a quite complete description of difficulties faced by the French industry. Unfortunately, the government measure implemented to tackle these problems, a tax rebate for firms without any requirement, seems to underestimate the extent of the problem (this measure represents about 1% of French GDP whereas an effort of 5% of French GDP is required to offset the competitiveness loss induced by the overvaluation of the euro) and the nature of the problem (as the tradable sector is not specifically targeted). The "pacte de responsabilité" acted in January 2014 perpetuates the same kind of flawed strategy.

3.1. The European "pressure cooker"

The eurozone is clearly in a deadlock. The strategy of European governments is based on two main pillars: firstly, a generalization of austerity programs to achieve internal devaluations and

reduce public deficits; secondly, the implementation, by successive steps and under the constraint, of a new financial architecture aimed at providing funds to countries which experience episodes of financial distress. This strategy is at best hazardous. Indeed, the economic slowdown produced by these measures, particularly in Southern countries, reduces public debt sustainability. This strategy can be understood only from the double perspective of the Northern countries and the "European elite" i.e. the dominant classes and the European technocracy. The first group has suffered from the economic slowdown in southern countries but has succeeded to stabilize growth and employment since the onset of the euro crisis. The second group uses the crisis context to promote more and more liberal reforms and reinforce its position.

The underlying idea that financial measures (eurobonds and debt mutualization, unlimited purchase of bonds by the ECB, European Stability Mechanism, and a larger role for the European Investment Bank) are sufficient to overcome the euro crisis, is not really convincing. An increase of intra-European credit to Southern countries from private banks of other countries in the eurozone, or from the European Investment Bank, or the European Stability Mechanism, or even the ECB, could be a way to ease the pressure on interest rates and to reduce the debt burden. This could allow a modest recovery which offsets partially the negative effects induced by the overvaluation of Southern countries. But this kind of measure does not solve the competitiveness problems of countries within the eurozone.

The euro crisis is deeply rooted in structural macroeconomic imbalances resulting from heterogeneity of eurozone economies and divergent evolutions since the beginning of the 2000s. Structural policies have to be implemented in order to increase non-price competitiveness of Southern countries (industrial policy, research, education, infrastructures). These policies are complex and their total effect can be measured only after an extended period of time. During this period, the public debt and external debt remain at high levels. In the current institutional

background (explicitly in the European mechanism of stability in particular), this leads to a reinforcement or a perpetuation of restrictive budgetary policies, inconsistent with the structural policies aforementioned and which maintains economic stagnation.

Eurobonds could be seen as useful tools to implement more long run structural policies as public debts are pooled beyond a specific threshold, 60% of GDP for instance, where eurobonds are issued to finance national public debts. This scheme allows to transfer the burden of national debt to the supranational level and thus to avoid austerity programs. However, this kind of system requires a strong control of national public finance by the European authorities with the creation of a European Debt Agency. Northern countries fear that Southern countries would not use this new room for maneuver to improve their international specialization, but to implement laxist policies oriented towards domestic consumption and thus benefit of permanent financial support from more competitive countries. This is the main reason that explains the reluctance of Germany to use a scheme based on a massive issuance of Eurobonds.

In this context, a financial federalism is not sufficient. Even if these measures are useful, and sometimes necessary, they are not able to solve problems induced by the macroeconomic heterogeneity of the eurozone. Intra-zone credits bring only temporary relief. Transfers should be made between members of the eurozone to settle the problem. The debt restructuration of heavily indebted countries is one of the most prominent example of the above proposition. After the Greek partial default in July 2011, we still fear a new debt restructuration. This successive debt restructuration is viable only if the largest economies of the North of eurozone have to bail out the smallest economies. But the cost of bailing out largest economies would be too high. This shows the non-viability of this process.

In the short to medium run, we can fear a cumulative slowdown of economic growth in the eurozone. The risks of a persistent stagnation are now obvious with an increasing divergence between Northern and Southern countries of the eurozone.

In this context, a break-up of the eurozone cannot be excluded in an episode of financial distress where a Southern country would be forced to leave the euro to avoid social unrest. This breakup would have disastrous consequences as capital flights, cumulative devaluations and large disruption in the domestic banking system. A new systemic crisis could lead the eurozone into a new deep recession. In order to avoid such apocalyptic scenario, the ECB and Germany have a little bit reduced their constraint and will continue to do it, but without addressing the underlying problems faced by the eurozone.

Scenarios and simulations

These scenarios, the suck down and stagnation, the euro break-up, towards fiscal federalism and the multi-euro scenario, have been described using the Cambridge Alphametrics Model (CAM) in the AUGUR project analyzing Europe in the world in 2030 (see Eatwell, McKinley and Petit, 2014 and Mazier, Petit and Plihon, 2013 for the main results).

Other simulations have been made using Stock Flow Consistent (SFC) model of the euro zone to illustrate adjustments with different institutional frameworks: increasing intra-European financing, euro bonds, fiscal federalism, multi-euros regime (see Duwicquet V., Mazier J. and Saadaoui J. (2013); Duwicquet V., Mazier J. and Saadaoui J. (2014); Mazier J. and Valdecantos S. (2014)).

3.2. Alternative policies

In order to exit from the stalemate and avoid a break-up, alternative policies have been previously and extensively discussed but they are complex to implement. We need to draw the lines of a European growth strategy instead of being trapped in inefficient austerity strategies. A set of regulatory measures in the financial sector should be adopted in order to limit financial excess observed during the 1990s and the 2000s. This growth strategy should rest on the potential of countries with an undervalued currency and a lesser public indebtedness, and

particularly Germany, through wages increase in the short run. This implies that Germany should accept a higher inflation target in order to participate to real exchange rate adjustment. At the level of the European Union, economic growth should be reignite by investment in strategic sectors (education, research, green technologies, and suburb's renovation) financed by a large European loan and by credit lines granted by the European Investment Bank. The consolidation of public finance will be the product of new fiscal resources. These new fiscal resources will come, on the one hand, from the recovery and, one the other hand, from the cancellation of tax rebates granted since 1990 to capital incomes and to wealthier households. But we need to go further by using and coordinating national resources. The coordination of economic policies and the "European economic government" face national interests and the fact most of the social and political issues are settled at the level of national spaces. Since more than twenty years, many people have called for a greater political integration and a coordination of economic policies. The notion of "European economic government" has been specially promoted by the successive French governments. But, the European history has shown that coordination is too complex from an institutional point of view to be fully efficient. This statement is even stronger if we talk about coordination of wages at the European level even when national wage policy does not exist in many European countries. We need to acknowledge this last point. The "European economic government" can only be achieved through explicitly federal institutions. It is useless to wait for a mythical European coordination.

First scenario: fiscal federalism

We propose two alternative scenarios. The first one is based on a federal budget with a progressive implementation limited to about 5% of eurozone GDP at medium term. This budget will be financed thanks to new taxes on saving and capital incomes and firms' profits in order to limit the effect of fiscal competition. Taxes on financial transactions will contribute to limit speculative movements and a tax on CO2 emissions to preserve the environment. This budget

will help to introduce some stabilization mechanisms through a system of budgetary insurance (for a relatively modest cost, about 0.3% of eurozone GDP). A European Social Fund (about 0.5 to 1% of eurozone GDP) would finance social transfers to help some countries to reach social standards, differentiated by countries and defined by large sector. This will reinforce the sentiment of belonging to a European community.

European structural policies would be rehabilitated in terms of research (about 0.4% of eurozone GDP), in terms of large technological and infrastructure programs (about 1% of eurozone GDP), in terms of regional development where the European experience can be considered as important (about 0.5% of eurozone GDP). Finally, the issuance of Eurobonds would contribute to finance European investment projects and would induce a debt service limited to 0.7% of GDP in the long run (with a ceiling of 20% for the European debt). This federal scenario has an uncontestable economic consistency. His main problem is its feeble political credibility. The European people does not exist and there is a very limited solidarity between the different members of the union. We also need to acknowledge this last point and be realistic.

Second scenario: a multi speed euro zone

The second scenario takes into account reluctances or impossibilities to increase the European budget and the difficulties to implement coordinated policies. It leads us to examine a multispeed euro zone where the new monetary regime includes a reintroduction of national currencies, eventually linked to an "external euro". This more flexible euro zone is characterized by:

The implementation of a new monetary regime in Europe where national euros are reintroduced with the possibility of periodical adjustments of intra-European parity when a fundamental disequilibrium is detected. This new monetary regime could be organized according to two distinct schemes:

The *first scheme* would be based on a simple reintroduction of national currencies with a system of exchange rate managed in several ways (a return to European Monetary System; or an exit of Northern countries from the euro area, with a floating currency for these countries, and the preservation of the euro for Southern countries).

The *second scheme* would preserve some institutional elements of the present euro area. It would be based simultaneously on a common "external euro", floating and managed by the ECB, and on national euros, non-convertible at the international level, linked to the "external euro" with a grid of fix but adjustable parities. National Central Banks would have an account in euros in the ECB representing the total amount of cumulated current accounts and capital flows with the rest of the area. The ECB would play the role of a clearing union, but only up to a certain point. Beyond this threshold, the intra-European parity of the country would have to be modified.

An absence of a federal budget, i.e. the preservation of its current level (1% of Europe's GDP) to ensure the continuation of some interventions in the sectors of agriculture and research. European regional policies will not be pursued as monetary adjustments are now possible. Structural national policies, mainly industrial policy and regional policy, will regain some room for maneuver facing a less dominant European competition policy. Some specific cooperation could be implemented to develop some targeted projects.

Social models will remain heterogeneous without institutional convergence (no European minimum wage, diversity of pension scheme and country-specific trade unions). Nevertheless, a partial convergence will be allowed thanks to catching-up effects and a stronger growth.

This scenario of a more flexible eurozone faces one of the most important challenge that has been revealed by the crisis. It offers a real answer to the macroeconomic imbalances induced by the heterogeneity of the eurozone's members thanks to possibilities of adjustments of

intraEuropean parities. However, this scenario has its own caveats. We can identify a series of three potential problems.

Firstly, instability factors cannot be ignored but can be reduced thanks to the introduction of capital controls (mandatory reserves on deposits and assets in foreign currency, tax on financial transactions). These measures have only a relative efficiency and the key element is the credibility of the parity fixed by Southern monetary authorities.

Secondly, the management of the external debt in euro is a sensible question. The reimbursement of this debt induces, either, a loss for foreign creditors in the case of a reimbursement in a (depreciated) new currency or in national euros, or, an additional cost for domestic countries that have devalued, if they settle their external debt in euros. An international arrangement, indeed largely intra-European as a large part of the debt is held by Europeans, should be a way to overcome this difficulty. Devaluing countries must have the possibility to reimburse their debt in their new (devalued) currency. Furthermore, if we take into account the high levels of indebtedness of Southern countries, a debt restructuration seems to be necessary or else inevitable. This will induce an additional cost for creditor countries and their banks. This effort is a necessary condition to move forward.

Finally, achieve a transition towards a new monetary regime is not an easy task. An array of efficient and relevant measure must be prepared to avoid an apocalyptic scenario with capital fights, cumulative devaluation and a commercial war. In some cases, these measures could mean a temporary closure of private banks in order to implement the new monetary regime. Southern countries should rapidly control imported inflation. The exit from a deadlock is, sometimes, not easy thing.

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