

Convergence, crisis and the need for innovative policies in the Eurozone¹

by Enrico Marelli* and Marcello Signorelli**

Abstract

In this paper we review the double crisis that affected the euro area in the recent period. The focal point is that the austerity measures that have been undertaken in the area, especially in the peripheral countries hurt by the sovereign debt crisis, not only have caused a deep recession but are likely to lead to a stagnation with persistent unemployment.

In the first part of the paper, we examine the original weaknesses of the construction of the monetary union, especially the emphasis placed on nominal convergence criteria without taking into account the need for real convergence. This analysis is corroborated by some econometric investigations based on sigma and beta convergence for different macroeconomic variables, distinguishing between the pre-crisis period, 1999-2007, and the recent 2008-2013 period. The empirical section of the paper discusses recent trends on key variables such as economic growth, unemployment, public deficit and debt: it stresses that the deep and prolonged recession can be defeated only through adequate demand management policies.

The next section explains how the excessive austerity policies recently carried out have also been caused by wrong assumptions about the size of the fiscal multipliers. The final policy section emphasizes both the radical reforms at the European level, necessary if the monetary union has to survive, and the policies required at the national level to put an end to the present stagnation; here special attention is placed to the role that a revitalization of investment can play.

Keywords: convergence, Eurozone, sovereign debt crisis

1. Introduction

More than fifty years have elapsed since the creation of the European Community, then European Union (EU): the project was grand and it ensured economic progress, peace and prosperity.² More than fifteen years have past since euro's birth. In the first ten years (1999-2008) the monetary union guaranteed an overall macroeconomic stability, low inflation rates – also in countries previously

¹ An earlier version of this paper was presented at the 16th INFER Annual Conference (28-31 May, Pescara, Italy) and at the 13th EACES Biennial Conference (4-6 September, Budapest, Hungary).

* Department of Economics and Management, University of Brescia (Italy), corresponding author: enrico.marelli@unibs.it

** Department of Economics, University of Perugia (Italy), e-mail: marcello.signorelli@unipg.it

² The eminent achievements realized in half a century led in 2012 to the award of the Nobel Peace Prize to the EU. For this introduction we refer to the account in Marelli and Signorelli (2014).

affected by an inflation-prone behaviour – and calmness in financial markets: the interest rates were almost identical in the whole Euro area.

The shock of the Global financial crisis (2007-08) and Global Recession (2008-09) dramatically changed the situation. The initial impact on EU countries was similar to what occurred in the United States and other advanced economies. However, more recently, the sovereign debt crisis (2010-14) has caused a “double-dip” recession in many Eurozone countries, produced a long-lasting impact on real economies – especially on rising and persistent unemployment – and triggered off severe social and even political consequences. “Eurosceptic” movements have proliferated throughout Europe, as confirmed by the outcome of the recent elections of the European Parliament (May 2014).

The recent economic evolution after the Eurozone crisis has revealed some crucial weaknesses in the original construction of the Economic and Monetary Union (EMU): in Section 2 we shall emphasize how such construction fails to match the well-known requisites of standard economic theories, e.g. the “optimum currency area” theories. In Section 3 there will be an account of the events that, commenced with the global financial crisis, passing through the Great Recession, culminated in the sovereign debt crisis: we shall consider both innovations introduced in EU governance (the EFSF and ESM funds, the non-conventional measures of the ECB, etc.) and also the mistakes and delays of the EU policies. A brief account of the recent macroeconomic evolution in the EU and in the Eurozone, with an application of the sigma and beta convergence approaches, will be presented in Section 4. In Section 5 there will be a critical appraisal of the policies adopted by EU institutions and governments, especially the widespread austerity measures; we shall also emphasize the consequences of such policies, in particular the “self-defeating” effects of fiscal consolidation. Finally, in Section 6 we shall focus both on the radical reforms needed at the European level and on the policies required at the national level, to put an end to the present stagnation.

2. The original weaknesses in the construction of the Economic and Monetary Union

The integration process in the EU has been wide-ranging and deep, although not always continuous and coherent over time. As for the widening process is concerned, starting from a

community of six in 1958 we arrived to a community of 28 in 2013, encompassing now most of the countries in the continent. Regarding the deepening aspect, the initial common market and customs union (realized between 1958 and 1968) was completed by the Single Market, focusing on the “four” liberalisations (goods, services, capitals and people), launched in 1985 and to be achieved by 1992. The more ambitious subsequent step, the European Economic and Monetary Union (EMU), was the key goal of the Maastricht Treaty (1992), to be established in 1999³.

The EMU is officially viewed as an instrument to achieve “economic and social progress, a high level of employment, balanced and sustainable development” (as stated in article 2 of the Treaty). This should lead in the long run to a “real” convergence, i.e. a convergence in economic performances of individual member States. This implies the narrowing of differences in the structural conditions of different countries (and regions), thus allowing the achievement of similar performances of real variables as well as the catching-up of backward countries and regions (in terms of standard of living, productivity, etc).

On the contrary, a short-run view of real convergence stresses that economic convergence is rather a prerequisite to accomplish an effective monetary union. The literature on “optimum currency areas” (OCA) is here pertinent: real convergence, for instance in economic structures, rendering more symmetric the economic shocks, makes unnecessary the exchange rate instrument and raises the net benefits of EMU. If shocks are more symmetric across countries, then real variables tend to respond more similarly: this outcome can be evaluated, for example, considering the degree of synchronisation of business cycles between countries. The adjustment after shocks would be easier in presence of an adequate degree of flexibility in prices and wages, high labour mobility and an ample centralized public budget.

A key question is whether real convergence is likely to increase or decrease with the integration process. A first view, purported by Krugman (1993), is that economic integration is likely to deliver increasing specialisation, diverging economic structures, asymmetric developments, and

³ An intermediate step toward the monetary union is represented by the Exchange rate mechanism (ERM) of the European Monetary System (EMS), launched in 1979; after the big crisis of 1992-93, now it still formally survives as ERM-II, for the countries waiting to join the Eurozone..

widening differences in growth rates. An opposite, more optimistic, view (initially offered by Eichengreen, 1993), states that the degree of similarity of economic systems is enhanced by increased competition and integration of markets; for example, in the EU⁴ it may be the outcome of the Single Market, the liberalisation of capital flows and the working of EMU itself. At the empirical level, many studies have shown that synchronicity has increased not only in the European “core”, but also in a wider area including some “peripheral” countries and even some New Member States (NMS).⁵

The Maastricht Treaty has, on the contrary, stressed the nominal convergence as a pre-condition for candidate countries to enter the EMU. The well-known convergence criteria (on inflation, interest rate, exchange rate, public deficit and debt) were, for the first time, verified in 1998, allowing to define a list of eleven members that in January 1999 gave birth to EMU, that now comprises eighteen members.⁶ Since 1999 the European Central Bank (ECB) is responsible for the conduct of monetary policy in the Eurozone; at the top of its final aims there is price stability: the current specification of this target is an inflation rate lower but close to 2%.

Also after the start of EMU, EU members had to satisfy nominal criteria concerning fiscal policy and public budgets, as specified in the Growth and Stability Pact (GSP): public deficit cannot exceed 3% of GDP, apart from exceptional circumstances, and in the medium run the public budget should reach a balanced situation. The GSP was reformed in 2005, increasing the flexibility and discretion in the application of the sanctions; such a reform was also the consequence of the 2002-4 budget difficulties of Germany and France (together with the decision not to apply sanctions in Autumn 2004). As a matter of fact, no one country has ever been sanctioned despite several occurrences of “excessive deficits”.

Why has the causality between real convergence and nominal convergence, uphold by OCA’s theories, been reversed in the Maastricht strategy? The EU Commission view was that nominal

⁴ In the case of EU integration, the link has been from EU’s institutional integration to trade deepening and then to cycle correlation. Notice that the “endogeneity of OCA’s criteria” proposition maintains that it is the creation of a monetary union itself that leads not only to trade integration but also to structural convergence (see the empirical contributions of Frankel and Rose, 1998, and Rose, 2000).

⁵ See the review in Marelli and Signorelli (2010a). This study includes an investigation of real convergence in its multifaceted features (per capita income, productivity, labour market and industry indicators, trade links, business cycle behaviour, etc.), including its relation with nominal and institutional convergence.

⁶ The following countries joined in the subsequent years: Greece (2001), Slovenia (2007), Cyprus and Malta (2008), Slovakia (2009), Estonia (2011) and Latvia (2014).

convergence⁷, through macroeconomic stability (price stability and fiscal discipline), the removal of the exchange-rate risk, the reduction of uncertainty (concerning inflation and interest rates), favours investment and international trade, eventually leading to stronger economic growth.⁸ In particular, for formerly “deviating” countries⁹ the hope was that they could be rewarded by the gains of EMU itself: disinflation, lower interest rates and debt service; these gains are to be added to the general benefits of monetary unions (in terms of lower transaction costs, lesser uncertainty, reinforced competition, etc.). On the other hand, we know that the same countries have been hurt because their economic growth has been impaired by the stringency of the nominal conditions.¹⁰

The strategy adopted by the Maastricht Treaty has been criticized by many authors precisely because of the possible negative short-run impact on real economic growth caused by the deflationary effects of restrictive monetary and fiscal policies undertaken by several countries at the same time (e.g. De Grauwe, 2007). As a matter of fact, the same EU institutions realized, after 1999, that a novel attention should be given to the problems of growth and persistent unemployment: the institutional response to these problems was the Lisbon Agenda of 2000, followed by the more recent “Europe 2020” plan adopted in 2010. Nevertheless, the quantitative targets that were proposed (e.g. concerning employment rates) were mere benchmarks, much softer than the Maastricht or GSP criteria. As a consequence, economic growth has been lower in Europe in all years of the new century, even before the recent financial crisis, if compared to other leading economies in the world¹¹: China, India, most of emerging countries, but also the United States.¹²

An even greater problem is that economic growth has not been uniform within the EU and even the Eurozone. Overall a certain degree of convergence has been insured by the catching-up of the

⁷ The justification for nominal convergence criteria has been critically assessed by many authors (e.g. Buiters, 2004; De Grauwe and Schanbl, 2005).

⁸ Buti and Sapir (1998).

⁹ In this way, those countries were punished for their previous “vices”: undisciplined public finances, inflation-prone behaviour, etc. (with the ultimate threat of being left out of EMU).

¹⁰ It should be added that the “bonus” due to lower interest rates has not been used by all countries to stimulate – also through accompanying structural reforms – higher economic growth and/or to improve public account sustainability (in countries with a high debt levels).

¹¹ See Table A1 in Appendix..

¹² Nominal stability and convergence have instead been satisfactory in the pre-crisis period: e.g. the inflation rate has been for about ten years very close to the 2% target, even in countries that in the ‘90s used to exhibit much higher inflation.

NMS of Central and Eastern Europe.¹³ But some old members (e.g. Italy and Portugal) exhibited very low rates of growth; in particular, productivity growth was very weak in many countries, also because of the slow pace of structural reforms.¹⁴ Furthermore, many peripheral countries – the two mentioned countries but also Spain and Greece – were suffering because of an increasing competitiveness gap.¹⁵ Without the possibility to devalue the national currencies, the trade and current account deficits have been rising, being the counterpart of the surpluses of Germany and the other “core” EU countries.

3. The dual crisis that struck the European countries

The recent financial crisis originated outside Europe, in the United States, but then reached the worst and lasting consequences in the Eurozone. The subprime crisis originated in 2007-08 in the US: in the previous years, monetary policy was expansionary till the mid of the decade, thus encouraging consumer credit, loans, mortgages (also to “subprime” debtors) and causing the mounting of financial and housing bubbles. Then it suddenly became more restrictive, triggering off the explosion of such bubbles and the consequent crisis of several banks, that went bankrupt or were bailed out by the governments. The instability soon propagated to the global financial system because of high leverage, massive cartolarization, and diffusion of derivatives and toxic assets. Then, the Lehman Brothers crack determined a dramatic fall in confidence, with immediate effects on the financial markets (stock indices, interest rates, etc.). The real effects were caused by the credit crunch, the negative wealth effects (due to the fall in equities and bonds), adverse expectations and systemic uncertainty.¹⁶

From the Fall of 2008 to the first half of 2009, production, income, investment, consumption, and world trade collapsed: the so-called “Great Recession” has been the deepest contraction in economic activity since the Great Depression of the ‘30s (Imbs, 2010). The recession propagated to Europe and to many world countries, although China, India and other emerging economies just

¹³ The specific trends of transition countries are reviewed in Marelli and Signorelli (2010b).

¹⁴ Alesina et al. (2011) have found that the adoption of the euro has been associated with an acceleration of the pace of structural reforms in the product markets (deregulations), but not in case of labour markets.

¹⁵ Since 1999, the real exchange rate based on unit labour costs depreciated by about 10% in Germany and appreciated by 10-15% in Italy and Spain. According to Seminerio (2012), Germany became more competitive in the early years of this century also thanks to the labour market and welfare reforms, accompanied however by a temporary loosening of the fiscal discipline (as shown by the excessive deficit in 2003).

¹⁶ The historical experiences on financial and debt crises are investigated by Reinhart and Rogoff (2009, 2011). For the developments in the Eurozone, see EC (2012).

witnessed a deceleration in their growth rates; the biggest falls were not recorded in the financial centres (US and Great Britain) but in the main manufacturing and exporting countries (-5% in Germany, -5.5% in Italy and Japan).

The labour market impact has been delayed, as usual: in normal recessions unemployment reaches the top value 18 months after the start of the recession and the lag is even longer in case of financial crises (see IMF, 2010); however, it was differentiated across countries. The unemployment rate rapidly increased in the most flexible countries, e.g. in the US, the UK, Ireland, the Baltic states and Spain (in the latter case because of the high incidence of temporary contracts). In countries characterised by less flexible labour markets or by “internal” flexibilities (such as working hour adjustments or other instances of labour hoarding), such as Germany, the increase has been narrow or null.¹⁷

In 2009, the peak of the Great Recession, there were some fears about the risks of a prolonged depression or a “double-dip” recession¹⁸, but a recovery began in the US in the Summer of that year and propagated, although at a much slower pace, to Europe (nevertheless the rate of growth in the leading country, Germany, was above 3% in 2010-11). The recovery was facilitated by the economic policy response in many world countries, that has been strong and manifold, thus differentiating this response from the policy mistakes made during the Great Depression of the ‘30s. It comprised, in the US and in many EU countries: (i) wide rescue plans of banks (the most relevant ones have been adopted in the US, the UK, Ireland and Spain); (ii) accommodating monetary policies: interest rates were lowered to almost zero in many countries and were accompanied by “unconventional” operations of liquidity management (e.g. the “quantitative easing” in the US); (iii) expansionary fiscal policies (in addition to the working of automatic stabilizers). On the contrary, despite several proposals of international institutions and agencies (such as the G-20 group), the reform of the international financial system has shown little progress.

¹⁷ See Table A3 in Appendix. In the case of Italy the initial impact on unemployment has been small both because of the Cassa Integrazione Guadagni (CIG)’s buffer and due to the discouraged workers effect.

¹⁸ See Roubini (2010).

Concerning public budgets, they deteriorated not only because of the recession and the rescue of banks, but also as a consequence of the fiscal stimulus packages (see Coenen et al, 2012a, among others). These caused an increase in the ratios of deficit/GDP¹⁹ and debt/GDP²⁰, already rising because of the fall in GDP itself. This deterioration in the fiscal stance of many countries caused a new instability scenario, that was setting up in the Old Continent. The situation precipitated because of some news coming from Greece. In October 2009 the new Greek government (Papandreou) revealed that the true deficit/GDP ratio was equal to 12%, the double than previously announced (then further revised upward by Eurostat).²¹

The real deterioration of the fiscal stance in many Eurozone countries and the news about the falsification of accounts in Greece, determined an abrupt drop in confidence of the financial markets. The spread in the rate of interest on public debt, compared to the German bonds, began to increase, initially in Greece and subsequently in the other “Piigs” (Portugal, Ireland, Italy, Greece and Spain) countries. The credit default swaps on sovereign debt deteriorated as well, also because of the downgrade progressively decided by the rating agencies (Moody's, Standard & Poor's and Fitch), that in some cases anticipated market trends but in others ratified dynamics already in progress.

The crisis changed the perception of the risk compared to the previous decade, when the euro was considered irreversible and the default of a member country highly unlikely (in fact spreads on Italian bonds had been for many years after the advent of the euro around 20 or 30 basis points). The high spread levels encountered from 2010-11 were due not only to the perception of the risk of default (i.e., the inability to repay the debt as a function of national progresses in the actions of fiscal consolidation), but also to the one related to the possibility of some countries abandoning the Eurozone or even the very existence of the euro: for the first time since its birth markets were beginning to question the irreversibility of the common currency.

¹⁹ From 2007 to 2009 these ratios increased as follows: from 2.8-11.9% in the US, 2.1-8.8% in Japan, 2.7-11.5% in the UK, 0.7-6.3% in the Eurozone; we mention also the changes in individual countries: 0-14% in Ireland, 6.5-15.6% in Greece, from surplus to 11.2% in Spain, 3.1-10.2% in Portugal, 1.6-5.4% in Italy.

²⁰ The debt/GDP ratios augmented in the 2007-2012 period as follows: from 66.3% to 93.1% in the Eurozone (but also from 44.4% to 89.8% in the UK); the individual variations are: 107.4-161.6% in Greece, 103.1-127.1% in Italy, 24.8-117.2% in Ireland, 68.3-120.6% in Portugal, 36.2-88.4% in Spain, 64.2-90.3% in France, 65.2-81.6% in Germany. See Eurostat data updated as in EU Commission (2013) for the year 2012.

²¹ It should be mentioned that Greece formally respected the 3% threshold for the deficit/GDP ratio - in order to join the EMU in 2001 – by producing fake data (as disclosed only after euro circulation in the country).

Thus the contagion spread from Greece to other peripheral countries, the so-called "Piigs ". Despite several similarities – in terms of financial vulnerability – there are also significant differences between these countries. Public deficits have strongly increased in most of them, but not in Italy; on the other hand, in the latter country the initial public debt was much higher than in the remaining countries. Moreover, private debt was badly high in Ireland and Spain, where the banking and housing bubbles caused dramatic crises in such sectors; instead it was much lower in Italy. Finally, prior to the crisis, economic growth was strong in Greece, Spain and (above all) Ireland, while it was feeble in Portugal and almost nil in Italy.²²

The uncertain, delayed and inadequate economic policy response also contributed to the contagion in the Eurozone. In the Spring of 2010, when it was clear that Greece could not save itself, the interventions were postponed not only for legal problems (the no bail-out clause included in the Maastricht Treaty) or economic ones (moral hazard problem), but also for political reasons (the political situation in Germany advised to postpone any decision until the completion of elections in some German Länders). Some measures were taken in May 2010: bilateral loans to Greece, settlement of the European financial stability facility (EFSF), purchase of sovereign bonds on the secondary market by the ECB (through the SMP, Securities market program), but they were not sufficient to contrast the speculative attacks. These were partly determined by the EU Council decision to make private owners responsible for the losses in case of default or restructuring of the debt.²³

As a consequence, the contagion reached Ireland and Portugal, that were helped through the EFSF in Autumn 2010 and Spring 2011 respectively. Then, in the Summer 2011 the speculative attacks turned against Spain and, especially, Italy.²⁴ Notice that Spain and even more Italy are too big to bail out (because of the size of their public debts), but also too big to default: their defaulting would almost certainly imply the collapse of EMU. A temporary cooling of spreads was facilitated by the

²² See Table A1 in Appendix.

²³ A first restructuring of the Greek debt was accomplished in February 2012.

²⁴ The spread on Italian bonds has been higher than the Spanish one for about half a year, from August 2011 to February 2012 (the budget decided following the joint letter of the ECB and the Bank of Italy in August was not enough to reverse the expectations about the sustainability of the debt). It reached a top value of 575 basis points in November 2011; this dreadful financial instability was one of the reasons for the change in the Government. The new Monti Government soon adopted austerity measures such as the "save Italy" law, including a major reform of the pension system.

operations of the SMP of ECB, addressed also in favour of Italy and Spain, and continued until the end of the year.

The situation did not improve even after the institution of a new permanent fund (the European Stability Mechanism, ESM)²⁵ and the adoption of the Fiscal Compact for the Eurozone countries, i.e. stricter rules, compared to the previous GSP, that in future should guarantee a balanced budget and the reduction of public debt in relation to GDP. Only after ECB President Draghi's declaration (Summer 2012) "we shall save euro whatever it takes" and the consequent adoption of the "Outright monetary transactions" (OMT) plan²⁶ the situation began to improve. Thus, despite some risks and sources of instability²⁷, thanks to the fiscal adjustment efforts in individual countries and to the stronger commitment by EU institutions (at least the ECB), the financial situation partially improved since the end of 2012 and the systemic risk reached low levels during 2014.

The negative impact of these policies is in any case troublesome. The strict austerity measures, added to the uncertainty created by the same systemic sovereign debt crisis, have resulted in a new recession²⁸: policymakers seemed to overlook that public deficits and debts were not the cause of the financial crisis, but rather its consequence. The recent macroeconomic trends are clear: unlike the U.S., the growth in the entire 2009-2013 period has been negative in the EU (-1.2% yearly rate), with deep contractions in the Piigs: Greece (-5.1 % per year), Italy and Portugal (-1.5 %), Spain (-1.4%) and Ireland (-1%); see also Table A1 in Appendix. In addition, this recession has raised up again the debt/GDP ratios and made more difficult the reduction of the deficit /GDP ratio (Tables A4 and A5 in Appendix); i.e. austerity has been self-defeating (see Section 5).

The miraculous virtues of the so-called "expansionary austerity" have not been found²⁹ and the real economies are suffering precisely because of the austerity measures undertaken in the Piigs

²⁵ On the relations between these two funds, see Schäfer (2012).

²⁶ The purchase is conditional upon the acceptance of strict fiscal consolidation plans. The plan has been envisaged to reduce the "excessive" spread (i.e. the part related to the euro's breakup risk); so the ECB is willing to purchase, on secondary markets, unlimited amounts of sovereign bonds. The plan received a provisional approval by the German Constitutional Court, that has deferred the final decision to the EU Justice Court.

²⁷ In March 2013, the bail-out of Cyprus's banks has been criticized because of the big involvement of the private sector (heavy taxes on bank deposits above a certain ceiling).

²⁸ The double-dip recession (De Grauwe, 2012), in European countries with generalized falls of GDP in 2012-13, has also contributed to the new global economic slowdown, assimilated by Krugman (2012) to a true depression.

²⁹ Even the financial markets now seem to penalize countries for the feeble growth prospects rather than for temporary deviations from positions of a balanced budget.

countries and in the Eurozone as a whole. The unemployment rate has reached 12% in the Eurozone in 2013, with expectations of persistence at high levels in several countries (see Table A3 in Appendix); in particular, youth unemployment has been rising fast and in some countries is approaching or exceeding 50%.³⁰ In general, the crisis impact has been deeper on the weakest sections of labour markets: young people (who are the first to become unemployed because of the less stable jobs, not to mention the growing difficulties for "first entrants" in a situation of low and decreasing labour demand), women, old workers (who are often unable to find alternative jobs), with a widespread increase in vulnerable employment as well (see ILO, 2010). While social pain is soaring, citizens, especially in the Piigs, feel that sacrifices do not deliver the promised results (Wyplosz, 2012a).

4. Macroeconomic convergence in the EU and the impact of the crisis

In this section, first of all we analyze economic convergence in the EU, particularly in the Eurozone, focusing on real variables and nominal variables.³¹ We have followed both a simple "sigma convergence" approach, by investigating the evolution over time of some dispersion measures³² of the relevant variables. and a "beta convergence" approach (this type of analysis is well established in the literature: see Barro and Sala-I-Martin, 1995).

The sigma convergence refers both to "real" economic variables (GDP per capita, unemployment rate, long run unemployment rate) and to "nominal" variables (such as debt/GDP ratio, deficit/GDP ratio, primary balance/GDP ratio, interest payments/GDP ratio). Our analysis refers to the EU countries (for the period 1995-2012 or 2013) and to the Eurozone countries (1999-2012). See the Figures in the Appendix.

With reference to GDP per capita (Figure 1), the dispersion in the EU has obviously increased after the 2004 enlargement; then it has been more or less stable. On the contrary in the Eurozone it has

³⁰ Young people who are long deprived of a decent job become alienated and society's most valuable asset, its human capital, is being wasted and even destroyed (Stiglitz, 2012). See also Choudhry et al. (2012).

³¹ In the Appendix we present some tables (Table A1-A9) concerning GDP growth, employment growth, unemployment, debts, deficits and other items of public budgets, for the Eurozone and EU countries (plus US and Japan whenever possible). In particular, we consider 5-years averages for the "pre-EMU period" (1994-98) and the "first EMU decade" - (1999-03 and 2004-08); finally, more recent yearly data and forecasts are presented to highlight the impact of the financial crisis.

³² The coefficient of variation, i.e. the standard deviation divided by the mean, is normally used as dispersion measure; but the standard deviation itself is used for the variables in which positive and negative numbers alternate over time (Coeff. of Var. or St. Dev. is specified on the graphs in the Appendix).

slightly increased from 1999 to 2007 and again in 2010-11. In the case of the unemployment rate, (Figure 2) we find a decreasing dispersion from 2000 to 2007, then an increasing trend. A similar pattern is shown, in the case of the Eurozone, by the long term unemployment dispersion (Figure 3), that before the crisis was slower compared to the full EU group.

As regards the nominal variables, the dispersion of debt/GDP ratios (Figure 4) slightly increased in the Eurozone before the crisis, but the deterioration was even worse in the EU. After the crisis, the dispersion to some extent decreased in both areas, since as we know the debt has increased everywhere, also in previous “good” countries.

The dispersion in deficit/GDP and primary balance/GDP ratios (Figures 5 and 6) presents a similar dynamics, with a peak in 2010, then a “re-adjustment” can be noticed in the last two years. Finally, the interest/GDP ratios dispersion (Figure 7) shows a more stable situation in the EU compared to the Eurozone, apart from 2011 (the year when the sovereign debt crisis exploded).

Considering now the beta-convergence approach, we refer to the *absolute* convergence, e.g. investigating whether GDP per capita (or other variables) of different countries are converging to a unique level.³³ The regression can be specified as follows (i is the individual country):

$$1/n \ln (Y_{it} / Y_{i0}) = \alpha + \beta \ln (Y_{i0}) + \varepsilon$$

where Y is per capita GDP, 0 is the initial year, t the final year and n is the number of years from 0 to t (and ln stands for natural logarithm). If the estimated coefficient β is negative and significant, then there is *absolute convergence*.

We have estimated this regression considering the current Eurozone countries (i.e. we have 18 observations for the whole period)³⁴, by distinguishing between the pre-crisis period (1999-2007) and the crisis period (2008-12). The results are in Table 1. We can see that the clear beta-convergence

³³ For a *conditional* beta-convergence analysis, see our previous study (Marelli and Signorelli, 2010a), but where the reference period was 1992-2006 (thus not considering the crisis period).

³⁴ This choice has been made also in order to have an acceptable number of observations (18) for our regressions.

detected in the 1999-2007 period (the coefficient is significant at 1% level) disappears during the crisis (the coefficient is still negative but not significant anymore).

**Table 1 – Absolute Beta convergence in Per capita GDP
(1999-2007 and 2008-2012)**

	Eurozone 18		EU 15	EU 27
Period	1999-2007	2008-2012	1995-2007	2008-2012
n. obs.	18	18	15	27
Beta coefficient	-0.035***	-0.008	-0.007	-0.023**
Adj. R2	0.466	-0.035	0.052	0.185

Significance levels: 1%***, 5%***, 10%*; constant not reported

A possible explanation is that nominal convergence – euro adoption and the satisfaction of Maastricht’s criteria – has led to a better real integration of Eurozone countries, consistently with the “endogeneity of OCA’s criteria” proposition (briefly mentioned in Section 2). An alternative explanation is that the Euro area comprises also countries (e.g. in Eastern Europe) that are still in their catching-up process, thus exhibiting higher growth rates. Notice that the regression has been made considering the whole sample of 18 countries since 1999; this can explain why this outcome of *beta* convergence is different from the already commented (slight) *sigma* divergence found for the period until 2007 (Figure 1).

For comparison purposes, we have repeated the regression for the EU aggregates, either EU-15 for the 1995-2007 period³⁵ or EU-27 for the 2008-2012 period. In fact it might be that some convergence was caused by the integration of real economies (customs union, single market, etc.), independently from the adoption of a common currency. However, our results (Table 1) show that there has been a significant convergence only in the crisis period (not before), in which the crisis has hurt also some previously rich countries.

A regression (similar to the previous equation), with unemployment rate in the place of per capita GDP, provides the results in Table 2. For the Eurozone, there has been a beta convergence in unemployment rates, statistically significant, in the period before the crisis. This is consistent with both the sigma convergence in unemployment rates and the previous results concerning beta convergence of GDP per capita. Nevertheless, we can see that also in the EU-15 there was a

³⁵ The EU-27 aggregate was not considered for this period, because less significant (many countries joined the EU in 2004 or 2007).

significant convergence in unemployment rates, thus the euro adoption did not play a particular role. On the other hand, in the crisis period (2007-2013) there is no significant convergence, neither in the Eurozone nor in the EU.

Table 2 – Absolute Beta convergence in Unemployment rate (1999-2007 and 2008-2013)

	Eurozone 18		EU 15	EU 27
Period	1999-2007	2008-2013	1999-2007	2007-2013
n. obs.	18	18	15	27
Beta coefficient	-0.076***	-0.044	-0.066***	-0.049
Adj. R2	0.605	-0.030	0.573	0.003

Significance levels: 1%***, 5%***, 10%*; constant not reported

Finally, by considering the long-term unemployment rate, we get the results in Table 3. Long-term unemployment (concerning people unemployed for at least 12 months) is particularly worrying because it denotes persistence. Similarly to previous results, there was convergence in the pre-crisis period, both in the Eurozone and in the EU, convergence that disappears after the crisis for EU-27 and become less significant for Eurozone.

Table 3 – Absolute Beta convergence in Long term Unemployment rate (1999-2007 and 2008-2013)

	Eurozone 18		EU 15	EU 27
Period	1999-2007	2008-2013	1999-2007	2007-2013
n. obs.	18	18	15	27
Beta coefficient	-0.054**	-0.095*	-0.044**	-0.083
Adj. R2	0.261	-0.110	0.171	0.137

Significance levels: 1%***, 5%***, 10%*; constant not reported

A preliminary conclusion is that the euro adoption might have sustained the integration process, favouring the convergence of real variables – per capita GDP and unemployment rates – up to the crisis; however, such convergence can also be observed in the EU countries not belonging to the Eurozone (this is especially true for unemployment and long-term unemployment rates). In the crisis period the previous convergence trends have generally disappeared.

So, as for the Eurozone, the overall evidences and results on “sigma and beta convergence” show a partially good performance in “normal times” (i.e. in the decade preceding the crisis)³⁶, while a

³⁶ However, we should add that also in “normal times” some convergence has been achieved across countries mainly thanks to the catching-up of the NMS. However there is some evidence that, while inequalities across EU countries have

worsening occurred during the “crisis years”, highlighting a difficulty of the Eurozone construction and governance to adequately react at and respond to severe aggregate shocks.

Let us now turn to the discussion concerning the impact of the recent crises. First of all, a high differentiation across countries clearly emerges for all macroeconomic variables, also within the Eurozone (see Tables A1-A9). In general, contrary to US and Japan, in the Eurozone: (i) the GDP is far from the pre-crisis level, with absolute declines in Greece and other peripheral countries, and a second recession in many other countries; (ii) the unemployment rates have significantly risen and they are still growing, with expectations of persistence at high levels; (iii) the deficit/GDP ratios are generally declining due to "austerity" policies, but the debt/GDP ratios are still growing due to the prevalence of the contractionary real effects on GDP with respect to the fiscal consolidation effects.

A second consideration is that the comments concerning the Eurozone as a whole (the three points above) are even more applicable to the countries directly affected by the sovereign debt crisis and consequent austerity measures, especially the Piigs. Other countries have shown considerably different trends. The best example is Germany: positive real growth in all years after 2009, decreasing unemployment rate, achievement of a balanced budget, a debt/GDP ratio slightly above the pre-crisis level. However, the deceleration in GDP growth since 2012 proves that also such countries are suffering because of the indirect effects of the extensive austerity measures undertaken elsewhere.

A third consideration is that in the recent period the peripheral countries have tried to enhance their competitiveness – in some cases with a factual improvement in current accounts – through an “internal devaluation” obtained through the cut in wages or at least a restraint in the wage dynamics (since the end of 2013 many Eurozone countries are close to deflation conditions). But in order to eliminate the competitiveness gap with Germany at least one decade of pain and suffering would be required; unless unit labour costs are mainly reduced through productivity increases, which requires strong innovations and investments.³⁷

diminished, within-countries disparities have increased (Martin, 2009); similar results were obtained by Marelli (2007), by making use of both conditional and unconditional beta-convergence,

³⁷ Also reductions in labour taxes would be useful to cut unit labour costs. But, given the current European constraints (Fiscal Compact), they are possible – e.g. in the case of Italy – only under two conditions: (i) an effective fight against tax evasion, (ii) a spending review that eliminates the waste of resources (together with inefficiencies of various kinds and

Finally, most of European countries – especially the Piigs – have suffered because of the fall in internal demand. Consumption has been reduced because of the wage restraint, the high unemployment and also the high fiscal pressure (consequent to fiscal consolidation measures), that have cut the disposable income. As to investment expenditure, unlike the American case where total investment have undergone only a deceleration, in the EU it has plummeted: -3.6% is the average annual decline in the 2009-13 period; it means that it is still a fifth lower than pre-crisis levels; decreases more pronounced are registered in the United Kingdom, France and of course in the Piigs.

Thus, to have a strong recovery we need also a demand-management strategy supporting consumption and investment: in the former case, to guarantee viable conditions of social sustainability; in the latter case, to derive positive effects also from the supply-side (on innovations and productivity dynamics).³⁸

5. The debate on austerity policies

As discussed earlier (Section 3), massive austerity policies have been conducted in most Eurozone countries, in order to improve the “confidence” of markets and to respect the rules imposed by EU institutions. However, according to a non-orthodox but large view, fiscal consolidation programmes have so far been self-defeating. To explain this point³⁹, let us introduce the debate on the fiscal multipliers, that is strictly connected to the dispute on the efficacy of austerity measures. In fact, we can contrast two key positions:

- a) the supporters of tough austerity measures, in order to consolidate public finances, argue that fiscal multipliers are rather low and consequently restrictive fiscal policies do not cause large falls in income and production. For example, by underestimating the fiscal multipliers, EU policymakers thought it would be possible to rapidly and safely re-balance public finances through quick and violent austerity measures (see Timbeau, 2012);
- b) the opponents argue that drastic austerity policies are likely to be “self-defeating”, in the sense that the resulting loss of output is so large that the debt/GDP ratio increases. Even the IMF (2012) now

episodes of corruption) and the perverse approach of linear cuts that reduce important public services (even more important in this crisis period).

³⁸ See also Marelli (2014).

³⁹ We follow again Marelli and Signorelli (2014), where the discussion is more complete.

maintains that the value of the fiscal multipliers, since the Great Recession, has significantly increased, suggesting a more gradual fiscal adjustment.

To better explain the two positions, we just recall that, according to the traditional Keynesian view, a cut in public expenditure or an increase in taxation leads to a more or less significant fall in production and income, perhaps with some lags. The subsequent Monetarist and New Classical Macroeconomic schools challenged this consolidated view, emphasizing the existence of potential “non-keynesian” effects. In addition to a possible crowding-in of private investment, following the reduction in public expenditure, the expectation of a long-run balanced budget consequent to the fiscal adjustment brings about an increase in current consumption (this is the “ricardian equivalence” proposition). Moreover, the higher credibility of economic policies and the better sustainability of public debt allows a reduction in interest rates (this is the “confidence factor”), thus encouraging private investment.

Pro-market economists have for a long time emphasized these non-keynesian effects. By assuming a reduced size of the fiscal multipliers, severe fiscal contractions can be “expansionary”.⁴⁰ However, different caveats are appropriate.

A first element to take into consideration is the time horizon. In fact, the most sensible analyses distinguish between a short-run impact of fiscal consolidation – which is mostly negative – and the long-run effects, that could turn to be positive (i.e. non-keynesian). The majority of models imply that a cut in expenditure, for example, lowers demand in the short run, but then subsequently the economy recovers to its previous level (Gros, 2012a).

The second element is the specific instrument of the fiscal policy that is manoeuvred: adjustments realized through spending cuts are less recessionary than those achieved through tax increases.⁴¹ This is the position of Alesina and Giavazzi (2012), who maintain that EU economies will remain stagnant or fall into recession (and debt ratios will not come down) if adjustments will be

⁴⁰ See the seminal paper by Giavazzi and Pagano (1990), the empirical investigation by Alesina and Perotti (1997) and the recent analysis by Perotti (2012).

⁴¹ As to the composition of tax and expenditure reforms, a shift towards the VAT and away from income taxes seems preferable; on the expenditure side, it is suggested to raise the retirement age (for pension allowances) and to cut government employment. Furthermore, only spending-based adjustments eventually lead to a permanent consolidation of the budget (Alesina and Giavazzi, 2012).

mostly made on the tax side. However, it is also possible to rejoin that the opposite proposition that tax cuts would reduce budget deficits, because faster economic growth will generate higher revenues, has been tested several times and confuted, since tax cuts were invariably followed by *higher* deficits (Gros, 2012a).

A second argument by Alesina and Giavazzi (2012), who in more recent contributions have admitted certain excesses in the thesis of expansionary austerity, is that spending-based consolidations should be accompanied by the “right” policies, including easy monetary policy, liberalisation of goods and labour markets, and other structural reforms; in this case, consolidations tend to be less recessionary or even have a positive impact on growth. However, we can reply on this point that: (i) supply-side reforms are useful to enhance economic growth in a long-run perspective, but their impact is deferred; (ii) in the current Eurozone situation low or negative growth depends mainly on lack of aggregate demand (as shown in Section 4); (iii) spending cuts or “reviews” are in some cases useful or even necessary (e.g. when they attack inefficiencies, wasted resources and corruption), but in other instances they are rather difficult to implement or may be counter-productive. The latter is the case of investment expenditure; on the other hand, social expenditure is not easy to cut, given the characteristics of the Welfare State in Europe (although it has already been slashed in many countries).⁴²

In contrast to Alesina and Giavazzi’s results, Heyer (2012) maintains that the multipliers associated with public expenditure are much higher than those observed for taxes: for the Eurozone, for instance, the multiplier at one year is 2.6 if government spending is used as an instrument of fiscal consolidation and 0.4 if the instrument is taxation. Similar results are obtained by EC (2012): in particular, first-year multipliers are larger if the fiscal consolidation is based on government expenditures (government investment in particular)⁴³; moreover, fiscal multipliers are nonlinear and become larger in crisis periods,

⁴² On the revenue side, an alternative to tax increases is the privatization of public firms or the dismissal of public assets (but in this case there is a problem of the right timing, given the depressed situation in many stock markets).

⁴³ Most of empirical estimates of first-year spending multipliers – in normal times – are located in the range of 0.4 to 1.2; at the same time, the values are lower (often below 0.7) for tax multipliers.

This is the third caveat about the size of fiscal multipliers, that depend on the business cycle conditions. They are higher in crisis periods due to uncertainty about aggregate demand and credit conditions, the presence of slack in the economy, the larger share of consumers that are liquidity constrained. In fact, the multipliers become larger in a crisis period (by a factor of about one half) and even larger in a crisis period in which many trade partners consolidate (in the latter case they should be roughly multiplied by a factor of 5/3). Also Auerbach and Gorodnichenko (2012) corroborate the traditional Keynesian idea that the multipliers are higher in recessions than in periods of expansion: the impact of a shock on public expenditure would be between 0 and 0.5 in expansions, and between 1 and 1.5 in recessions.

Turning back to the general debate on the size of the multipliers, recent empirical studies reveal that the multipliers differ by huge amounts, even by signs. The IMF (2012) maintains that the value of the fiscal multipliers, since the Great Recession, is significantly higher than the ones previously estimated. In the past (during the three decades ending in 2009), the average value of fiscal multipliers for advanced economies was assumed to be close to 0.5; the new IMF estimates place it in the range from 0.9 to 1.7.

In other econometric estimations the size has been found even greater. For example, several economists from leading institutions⁴⁴ compared their assessments based on eight different macroeconomic models (mainly DSGE models) for the US and four models for the Eurozone; they found that the size of many multipliers is large, particularly for public expenditure and targeted transfers (see Auerbach and Gorodnichenko, 2012). The OFCE (*Observatoire français des conjonctures économiques*) estimates a multiplier for the Eurozone as a whole in 2012 equal to 1.6, comparable to the assessments for the US and UK (Timbeau, 2012). Also Christiano et al. (2011) agree that the government spending multiplier may be very large, especially when the nominal interest rate is zero (this result is also obtained through a dynamic, stochastic, general equilibrium model).

The National Institute Global Econometric Model has made an attempt to estimate the quantitative impact of coordinated fiscal consolidation across the EU. The main conclusion is that

⁴⁴ IMF, OECD, European Commission (EC), European Central Bank (ECB), US Federal Reserve (FED), Bank of Canada.

while in normal times fiscal consolidation would lead to a fall in debt/GDP ratios, in current circumstances it has a much worse impact on economic growth and has led to higher debt ratios in 2013 in the EU as a whole (rather than lower): in fact, “coordinated austerity in a depression is indeed self-defeating” (Portes, 2012). The main reasons are the following: (i) the simultaneous fiscal consolidation in many countries depresses also external demand, especially in the EU where the spillover effects are large; (ii) the fiscal tightening does not help in reducing interest rates, since they were already extremely low (i.e. the “zero lower bound”); (iii) household and firms are liquidity constrained (a recurrent situation in presence of high unemployment) and cannot benefit from improved expectations on public accounts.

“Indeed, austerity economics has not worked in one single case in Europe in the last two years.” (Madrick J., 2012). Also Corsetti (2012) has the same opinion: austerity has gone too far. Even a liberal economist like Zingales (2012) admits that the immediate impact of cuts in public expenditures is an increase in unemployment, that in turn causes a reduction of aggregate demand and GDP: thus the economies of Southern Europe risk to die not only because of high spread, but also for an excessive cure, i.e. the austerity.

Wyplosz (2012a) recalls that fiscal discipline is good for the long run (from this point of view the Fiscal Compact can be accepted), but “adopting contractionary fiscal policies in the teeth of a double-dip recession never made sense”. The situation is complicated since financial markets want to see both a commitment to fiscal discipline and immediate growth; but how can confidence be restored as the crisis economies plunge into recession?⁴⁵ Moreover, even if we agree that in some countries structural reforms are necessary to reinforce growth, their effects are too slow for rapid relief. A gradual and smooth fiscal consolidation is preferable to a strategy of reducing public imbalances too rapidly and abruptly (Heyer, 2012).

⁴⁵ Stiglitz (2012) emphasizes that “markets on their own are not stable” and refers to an “automatic *destabilizer*” that is embraced in Europe, since “States with balanced-budget frameworks are forced to cut spending as tax revenues fall”. Gros (2012a) maintains that some market participants might not be rational, demanding a higher risk premium following a short-term deterioration of the debt ratio, although conscious of the longer-term positive impact of deficit cutting on the debt level. Thus the key question is whether financial markets focus on the short run or on the long run.

6. Concluding remarks: the need for innovative policies in the Eurozone

A recognized critical shortcoming of the EMU construction and governance is the complete asymmetry between the two key macroeconomic policies. While monetary policy has been centralized, fiscal policy is still assigned to national governments. It is true that the GSP tried to establish some constraints on national public budgets, but (in addition to the ascertained failures of the Pact) this is not enough. Standard OCA theories (see Section 2) maintain that a working monetary union requires not only convergence of economic and institutional structures (to avoid asymmetric shocks), accompanied by an adequate degree of market flexibility and labour mobility, but also fiscal transfers stemming from a centralized budget.

Thus, the lack of a federal budget that could carry out counter-cyclical policies⁴⁶ is a critical weakness. A second shortcoming is the absence of effective mechanisms favouring long-run convergence among the economies, despite the old “Lisbon Agenda” and the current “Europe 2020” plan. It is difficult to maintain a common currency in a group of countries characterized by huge differences in competitiveness and current account balances. From this point of view, the Piigs exhibit several similarities between them, considering the low degree of competitiveness and the deficits in the current accounts of the balance of payment, in contrast with the surpluses of Germany and other core countries (see Section 2). The situation has partially improved in the recent period only thanks to a painful “internal devaluation” (Section 4).

These recent trends have aggravated the double-dip recession and apparently a long period of stagnation with persistent unemployment without job creation is before us. In particular, cyclical unemployment is becoming structural and persistent in some countries, because of hysteresis factors. Labour market reforms, as advocated by Oecd and the EU institutions themselves, may be useful but absolutely inadequate if not accompanied by aggregate demand support.

⁴⁶ Zingales (2012) himself advocates a centralized system, at the EU level, of transfers, not only for supporting banks but also for helping unemployed people. He proposes an unemployment benefit system equal for all countries, to be financed by EU funds and managed at the EU level. This is also seen as an important message to public opinion: Europe is sympathetic not only toward banks, but also to private citizens.

Is an euro break up a likely scenario? At the moment it is still implausible, since a disintegration will bear too heavy costs.⁴⁷ However, euro's survival will depend on the capacity to find a solution for the mentioned problems of real convergence. This requires a stronger involvement of the EU in the implementation of structural funds, investment and infrastructure networks, policies for R&D and human capital, etc.: i.e. providing adequate financial substance to the "Europe 2020" or similar plans. This financial need adds to the necessity of a centralized budget for stabilization purposes, as argued before. For both needs, EU budget should be progressively increased over time. So it is quite astonishing the decision⁴⁸ (February 2013) of the EU Council to set a ceiling for the 2014-2020 budget, implying a cut in real terms – it is the first cut in more than fifty years (i.e. since the Community exists) – by about 3 percent. With a budget amounting to a mere 1 per cent of EU's GDP – compared with about 50 per cent of national budgets – one wonders whether a monetary union could be preserved. In future, not only a bigger budget would be necessary, but considering the significant different degree of integration of Eurozone countries, a separate budget for the euro area appears appropriate.

A real and progressive integration process would require not only adequate financial resources but also consistent institutional reforms. Yet also on this ground the perspectives are not clear. As we know, the recent financial and sovereign debt crisis has spurred many projects for institutional innovation, also by the EU bodies. For example, in June 2012, EU President van Rompuy presented a document (*Toward a genuine economic and monetary union*), foreseeing a stronger integration, leading to: (i) a bank union, (ii) a budget union, (iii) an economic union, and (iv) (at the end) a political union. The document has been followed by more detailed proposals by the EU Commission. However, a limited progress has been achieved only on point (i), also in this case after many compromises⁴⁹; it is hard to predict when the remaining steps could be attained.

⁴⁷ According to us, also the exit from the Eurozone of the individual countries will bear too many costs, much higher than the potential benefits: rising interest rates and capital outflows, worse public debt sustainability and much higher risk of default, rising inflation (that will shortly reduce the possible benefits of the initial devaluation).

⁴⁸ The decision was instigated by the tough position of the United Kingdom, soon followed by Germany and some other countries.

⁴⁹ The bank union will start in 2014 and the ECB's supervision will be limited to the biggest banks and financial institutions.

On the financial side, euro's survival will also necessitate effective crisis management instruments, that could be more helpful in comparison to the ones introduced in a confused and improvised way (see Section 3). The principle is that an authentic solidarity among the Eurozone countries should go hand in hand with stronger supra-national controls on all members (to face the “moral hazard” dilemma). While the debate on the usefulness of Eurobonds⁵⁰ is still going on, we are waiting to see how the new ESM fund will be managed.⁵¹

Also the new OMT plan of the ECB should be tested; at the same time, despite many requests, it is quite unlikely that ECB will change completely its strategy to become a “lender of last resort” also for Governments, i.e. providing money financing of public deficits. However, as Draghi himself has recognized⁵², monetary policy is not enough to solve the current problems of feeble economic recovery in the Eurozone. He has also finally accepted that – to reinforce economic growth – structural reforms continue to be important, but should be accompanied by policies to sustain aggregate demand. At any rate, considering the current deflationary conditions in the Eurozone (+0.3% the inflation rate in August 2014, but with negative rates in some countries), the ECB must now act precisely on the basis of its mandate (2% target of inflation). The newly decided unconventional measures should be introduced without delay.⁵³

If an ideal scenario of a fully integrated European economy⁵⁴ is unrealistic for the coming years, what should be done at least to overcome the current “growth crisis”? EU policymakers should realize that fiscal discipline – such as that required by the Fiscal Compact or the stricter rules inflicted to countries demanding financial assistance – should be assessed in a medium-term horizon and

⁵⁰ Eurobond are backed by several economists and policymakers (even the EU Commission presented a proposal for “project bonds”); a discussion on Eurobonds (as well as on the role that ECB can play) can be found in Schäfer (2012).

⁵¹ So far a sum of 100 billion euro has been committed to support Spanish banks (40 billion have been actually used). A much lower amount (less than 10 billions) has been used to help Cyprus.

⁵² Jackson Hole speech (ECB, August 2014).

⁵³ Some new “unconventional” measures have been announced by ECB President Draghi in the Summer 2014; the new TLTROs (targeted long-term refinancing operations) began to be implemented in September. At the same time the key interest rate has been further reduced to almost zero (0.05%).

⁵⁴ The final outcome of this scenario could be the set up a “EU Government”, as imagined in the past by J. Delors and recently by many economists (like J. Stiglitz, J.P. Fitoussi and R. Solow). But, of course, there is the opposition of many countries to accept further steps in integration that might end up in a political union.

should be accompanied by an adequate “growth policy” at the EU level⁵⁵ or at least by fiscal coordination.

Clearly the double-dip recession in the Eurozone is also related to the wrong structure of macroeconomic adjustments in this area: tight austerity has been imposed on the debtor (Southern) countries while the creditor (Northern) countries continued to follow policies aimed at balancing the budget (see De Grauwe, 2012). As we have seen, the peripheral countries have also been forced to reduce wages and prices relative to the core countries, in order to obtain an “internal devaluation” (a surrogate for currency devaluation). An alternative solution would be to induce the countries with sound fiscal positions and that have room for fiscal manoeuvre – like Germany – to accept expansionary policies. A “coordinated domestic demand-led policy” would be particularly beneficial.⁵⁶ As Wyplosz (2012b) claims: “Germany must also conclude that playing the locomotive is in its deep interest and that a little bit of inflation is much more preferable than letting the euro disappear”.

For instance, a spur of investment would enhance long-term growth, with positive spillovers to the rest of Europe (Stiglitz, 2012). An increase of public investment expenditure would allow an immediate relief for the economy: for example, investment in infrastructure, transport, communications (Digital Agenda), but also human capital, higher education and research. The investments of private enterprises, that have plummeted in recent years (Section 4), should benefit from the reversal of expectations and confidence and from a more efficient working of the credit mechanism: we need to identify the most appropriate means to ensure that the liquidity, that the ECB has given to the banks, really flows to production and to the real economy. It is almost superfluous to point out that a revival of investment not only supports aggregate demand in the short term but allows an increase in the of long-run growth, especially if the utmost attention is given to the role played by

⁵⁵ Waiting for Eurobonds or for a (future) increase in the EU budget, an extension of the operation of the European Investment Bank could be an intermediate step.

⁵⁶ This is the conclusion of a recent investigation (Garbellini et al., 2014) that has quantified, within an input-output framework, the possible benefits deriving for the Eurozone countries from such a coordinated policy. In the same paper, it has been found that during the Great Recession the “Piigs” have generally been more sensitive to domestic demand reductions while core-Eurozone countries have been more vulnerable to (and inflicting more damage to) their trade partners.

innovation.⁵⁷ Let us hope that at least the plan announced by Jean-Claude Juncker, the President of the new EU Commission, consisting in a programme worth 300 billion euro of public and private investments, will be soon implemented.

In any case, austerity measures have been too harsh especially in countries needing fiscal consolidation, also because of an erroneous estimation of the fiscal multipliers (see Section 5), leading to the awful effects on production, employment and growth. In this context, even the IMF (e.g. IMF, 2012) advocates not only the maintenance of a very accommodating monetary stance, including unconventional measures, but also a smoothing of the fiscal adjustments⁵⁸ As Romano Prodi, former President of the EU Commission, once said (talking about the GSP), fiscal rules are useful unless when become just “stupid”. EMU survival desperately requires that EU policies should be rapidly and strongly re-oriented towards the objective of economic growth.

At the end, we can argue that in a globalized world where the competitive pressure coming from the new economic powers – in America, Asia and other world regions – is every year more intense and where a fragmented Europe would be certainly fading, we need open-minded and far-sighted policymakers, both in national Governments and in the EU institutions, in order to preserve the aims and spirit of a momentous process of integration involving several generations.

References

Alesina A., S. Ardagna and V. Galasso (2011), “The Euro and Structural Reforms”, *Review of Economics and Institutions*, 2(1).

Alesina A. and F. Giavazzi (2012), “The austerity question: ‘How’ is as important as ‘how much’”, *VoxEU.org*, 3 April.

⁵⁷ Industrial policies as well as public investment should be directed to this end. Instead of an indiscriminate support to all firms in all sectors, it would be appropriate to target the aid toward firms that actually expand “good” jobs or to those that act as leader in innovation processes, so that the benefits pour to the entire industrial and economic system. See Cappellin et al. (2014).

⁵⁸ A certain moderation of the EU stance was perceived in early 2013: see, for instance, the delay accorded to France, Spain and other countries in the reduction of the deficit/GDP ratios below the 3% ceiling. In some other countries (e.g. in Italy) there is a request for considering in a special way – for instance as extenuating circumstances in the assessment of public deficits – the expenditure for public investments (although not formally adopting a “golden rule”, i.e. the exclusion of investments from the computation of deficits) or also the repayment of the commercial debts of public administration. Despite some hopes in the new Juncker Commission, the general EU position still seems inadequate.

- Alesina A. and R. Perotti (1997) “Fiscal Adjustments in OECD Countries: Composition and Macroeconomic Effects”, *International Monetary Fund Staff Papers*, 44(2): 210–48.
- Auerbach A.J. and Y. Gorodnichenko (2012), “Measuring the Output Responses to Fiscal Policy”, *American Economic Journal: Economic Policy*, 4(2): 1–27.
- Barro R.J. and X. Sala-i-Martin (1995), *Economic growth*, New York, McGraw-Hill.
- Buiter W.H. (2004), “To Purgatory and beyond: when and how should the accession countries from Central and Eastern Europe become full members of EMU?”, *CEPR Discussion Paper Series*, 4342.
- Buti M. and A. Sapir (eds.) (1998), *Economic Policy in EMU*, Oxford, Clarendon Press.
- Cappellin R., E. Marelli, E. Rullani and A. Sterlacchini (eds.) (2014), *Crescita, investimenti e territorio: il ruolo delle politiche industriali e regionali*, Website "Scienze Regionali", eBook 2014.1.
- Choudhry M.T., E. Marelli and M. Signorelli (2012), “Youth Unemployment Rate and the Impact of Financial Crises”, *International Journal of Manpower*, 33 (1): 76-95.
- Christiano L., M. Eichenbaum, and S. Rebelo (2011), “When is the Government Spending Multiplier Large?”, *Journal of Political Economy*, 119(1): 78-121.
- Corsetti G. (2012), “Has austerity gone too far? A new Vox Debate”, *VoxEU.org*, 2 April.
- De Grauwe P. (2007), *Economics of the Monetary Union*, Oxford, Oxford University Press.
- De Grauwe P. (2012), “How to avoid a double-dip recession in the eurozone”, *CEPS Commentary*, 15 November.
- De Grauwe P. and G. Schnabl (2005), “Nominal versus real convergence – EMU entry scenarios for the New Member States”, *Kyklos*, 4, 537-555.
- EC, European Commission (2013), *European Economic Forecast*, Autumn, European Economy, 7.
- EC, European Commission (2012), *Report on Public Finance in EMU*, European Economy, 4.
- EBC, European Central Bank (2014), *Unemployment in the Euro area*, Speech by Mario Draghi, President of the ECB, Annual central bank symposium in Jackson Hole, 22 August 2014 (<https://www.ecb.europa.eu/press/key/date/2014/html/sp140822.en.html>).

- Eichengreen B. (1993), “European Monetary Unification”, *Journal of Economic Literature*, 31(3): 1321-57.
- Eurostat (2012), *Newsrelease Euroindicators*, 24 October.
- Frankel J., Rose A.K. (1998), ‘The endogeneity of Optimum Currency Area criteria’, *Economic Journal*, 108: 1009-25.
- Garbellini N., E. Marelli and A.L. Wirkierman (2014), “Domestic demand and global production in the Eurozone: A multiregional input-output assessment of the global crisis”, *International Review of Applied Economics*, 28(3), 336-364.
- Giavazzi F. (2012), “Shock fiscale”, www.lavoce.info, 13 November.
- Giavazzi F. and M. Pagano (1990) “Can Severe Fiscal Contractions Be Expansionary? Tales of Two Small European Countries.” In O.J. Blanchard and S. Fischer (ed.), *NBER Macroeconomics Annual 1990*, 75–111, Cambridge, MA, MIT Press.
- Gros D. (2012a), “Austerity under Attack”, *Project Syndicate*, 3 February.
- Gros D. and T. Mayer (2010), “How to deal with sovereign default in Europe: Towards a Euro(pean) Monetary Fund”, *CEPS Policy Brief*, n. 202, February.
- Heyer E. (2012), “A review of the recent literature on fiscal multipliers: size matters!”, *OFCE le blog* (Observatoire français des conjonctures économiques), 21 November.
- ILO (2010), *Global Employment Trends*, International Labour Organization, Geneva, January.
- Imbs, J. (2010), “The First Global Recession in Decades,” *IMF Economic Review*, 58(2): 327–54.
- IMF, International Monetary Fund (2010), “Rebalancing Growth”, *World Economic Outlook*, Washington, April.
- IMF, International Monetary Fund (2012), *World Economic Outlook*, October.
- Krugman P. (1993), ‘Lessons of Massachusetts for EMU’, in Torres F. and F. Giavazzi (eds.), *Adjustment and Growth in the European Monetary Union*, Cambridge, Cambridge University Press, 241-261.
- Krugman P. (2012), *End this Depression Now!*, W. Norton & Co.
- Madrick J. (2012), “How Austerity Is Killing Europe”, *Triple Crisis*, 17 January.

- Marelli E. (2007), “Specialisation and convergence in European regions”, *The European Journal of Comparative Economics*, 4(2): 149-178.
- Marelli E. (2014), “Quali politiche dopo la crisi?”, in: Cappellin R., Marelli E., Rullani E. e Sterlacchini A., eds., cit.
- Marelli E. and M. Signorelli (2010a), “Institutional, nominal and real convergence in Europe”, *Banks and Bank Systems*, 5 (2): 41-57.
- Marelli E. and M. Signorelli (eds.) (2010b), *Economic Growth and Structural Features of Transition*, Palgrave-Macmillan, London and New York.
- Marelli E. and M. Signorelli (2014), “The Eurozone crisis, the defective policy response and the need for institutional innovation”. In: Eisenberg T., Ramello G. B. (eds.), *Research Handbook in Comparative Law and Economics*. London: Edward Elgar, forthcoming.
- Martin P. (2009), “The Geography of Inequalities in Europe”, in: Kochendorfer-Lucius G. and Pleskovic B. (eds.), *Spatial Disparities and Development Policy*, World Bank, Washington D.C., pp. 239-56.
- Perotti R. (2012), “The ‘Austerity Myth’: Gain Without Pain?”, in F. Giavazzi and A. Alesina (eds.), *Fiscal Policy After the Crisis*, NBER, wp 17571.
- Portes J. (2012), “Self-defeating Austerity”, *Social Europe Journal*, 31 October.
- Reinhart C.M. and K.S. Rogoff (2009), *This Time is Different: Eight Centuries of Financial Folly*, Princeton University Press,.
- Reinhart C.M. and K.S. Rogoff (2011), “From Financial Crash to Debt Crisis”, *American Economic Review* 101 (August): 1676–1706.
- Rose A. (2000) ‘One money, one market: the effect of common currencies on trade’, *Economic Policy*, **15**, 7-45.
- Roubini N. (2010), “Double-dip days”, in *Project Syndicate* (<http://www.project-syndicate.org/commentary/double-dip-days>), 16 July.
- Schäfer H.-B. (2012), “The Sovereign Debt Crisis in Europe, Save Banks Not States”, *The European Journal of Comparative Economics*, 9(2): 179-195.

Seminerio M. (2012), *La cura letale*, Rizzoli.

Stiglitz J.E. (2012), “After Austerity”, *Project Syndicate*, 7 May.

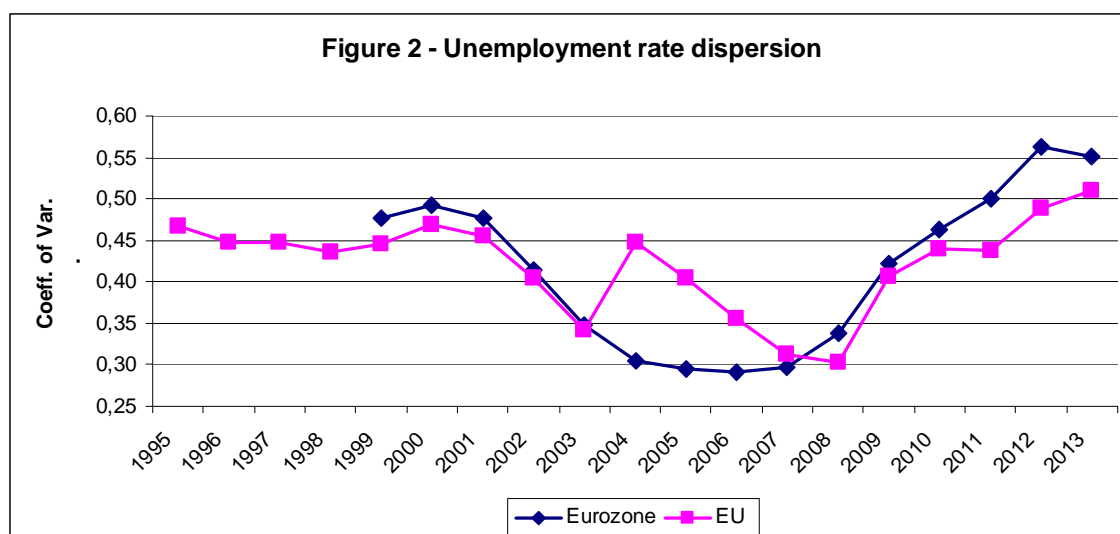
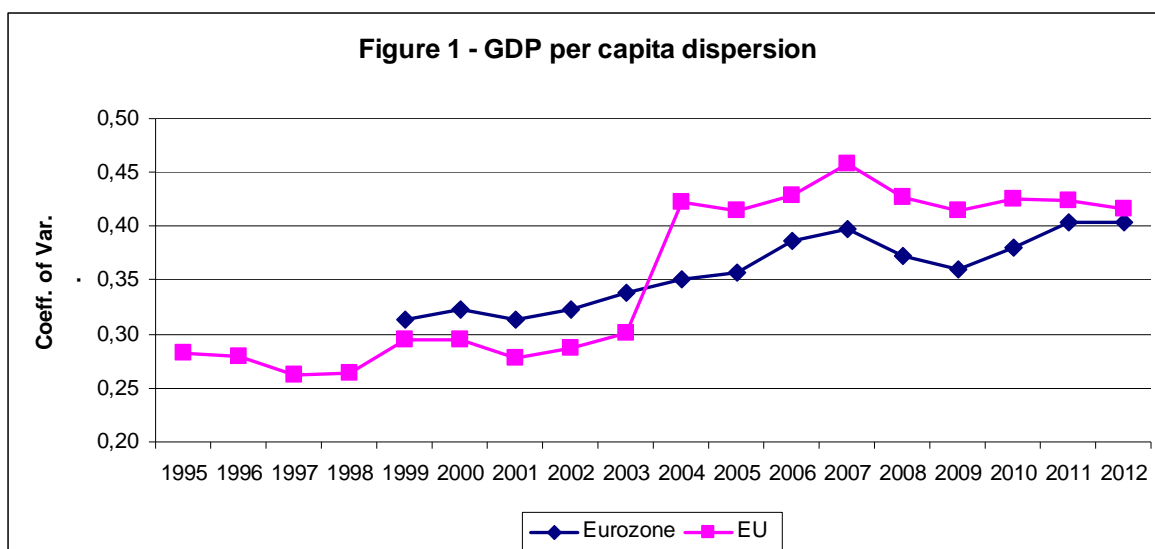
Timbeau X. (2012), “The debacle of austerity”, *OFCE le blog* (Observatoire français des conjonctures économiques), 24 October.

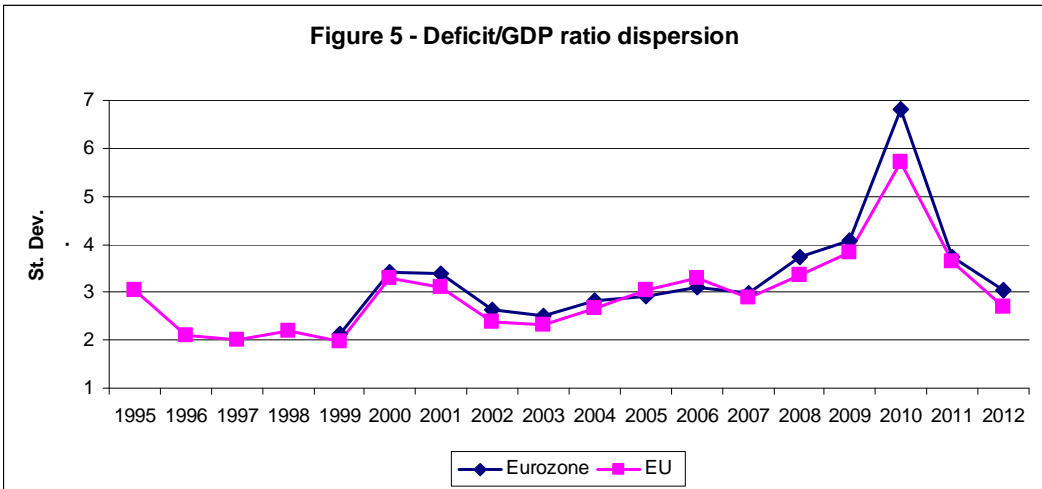
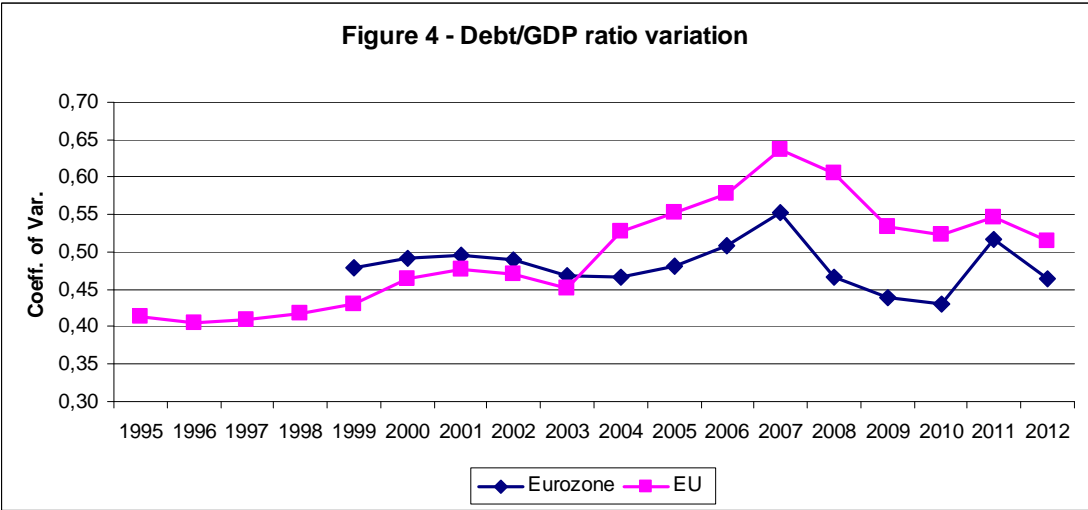
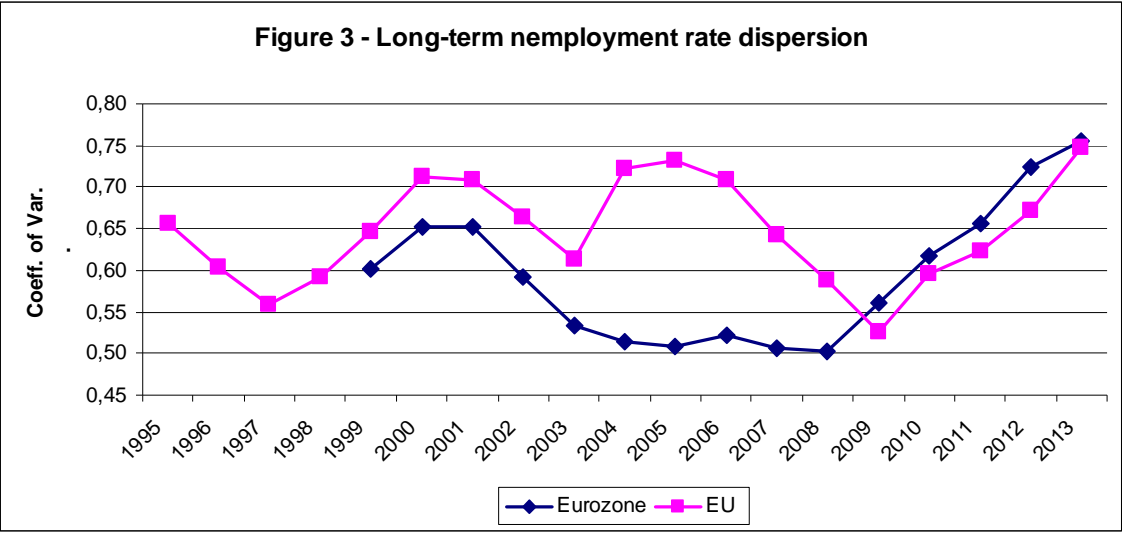
Wyplosz C. (2012a), “The coming revolt against austerity”, *VoxEU.org*, 2 May.

Wyplosz C. (2012b), “The impossible hope of an end to austerity”, *VoxEU.org*, 2 May.

Zingales L. (2012), “Euro, ora soldi ai disoccupati”, *L'Espresso*, 9 July.

Appendix





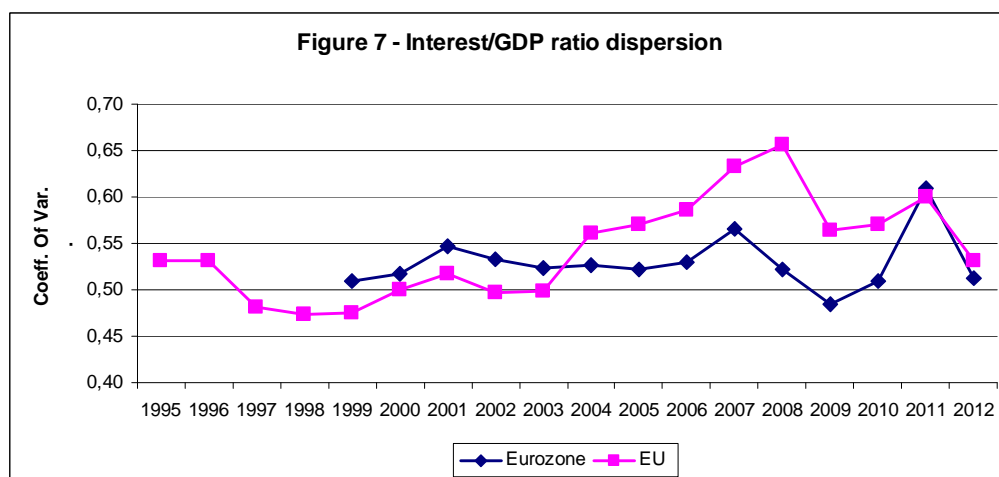
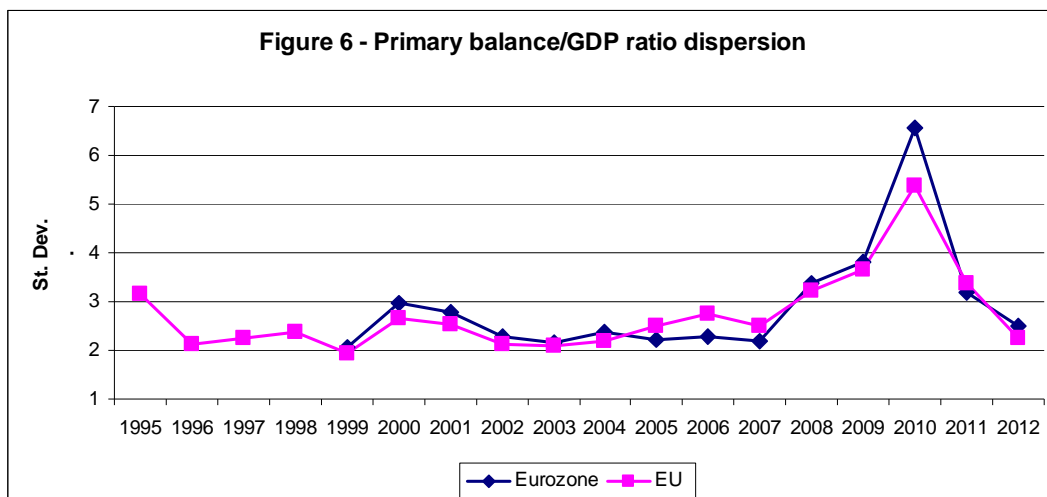


Table A1 – GDP (percentage change on preceding year) - selected countries

	1992-96	1997-01	2002-06	2007	2008	2009	2010	2011	2012	2013*	2014*	2015*
Germany	1.2	2.0	1.0	3.3	1.1	-5.1	4.0	3.3	0.7	0.5	1.7	1.9
Ireland	6.5	8.5	5.0	5.2	-3.0	-6.4	-1.1	2.2	0.2	0.3	1.7	2.5
Greece	1.1	3.8	4.3	3.0	-0.2	-3.1	-4.9	-7.1	-6.4	-4.0	0.6	2.9
Spain	1.5	4.4	3.3	3.5	0.9	-3.8	-0.2	0.1	-1.6	-1.3	0.5	1.7
France	1.2	2.9	1.7	2.3	-0.1	-3.1	1.7	2.0	0.0	0.2	0.9	1.7
Italy	1.2	2.1	1.0	1.7	-1.2	-5.5	1.7	0.5	-2.5	-1.8	0.7	1.2
Cyprus	5.5	4.2	3.2	5.1	3.6	-1.9	1.3	0.4	-2.4	-8.7	-3.9	1.1
Portugal	2.0	3.9	0.7	2.4	0.0	-2.9	1.9	-1.3	-3.2	-1.8	0.8	1.5
Euro area	1.5	2.8	1.8	3.0	0.4	-4.5	1.9	1.6	-0.7	-0.4	1.1	1.7
U.K.	2.5	3.7	2.8	3.5	-1.1	-5.2	1.7	1.1	0.1	1.3	2.2	2.4
EU	1.3	3.0	2.1	3.2	0.3	-4.5	2.0	1.7	-0.4	0.0	1.4	1.9
United States	3.3	3.8	2.7	1.9	-0.4	-2.8	2.5	1.8	2.8	1.6	2.6	3.1
Japan	1.3	0.5	1.7	2.4	-1.2	-5.5	4.7	-0.6	2.0	2.1	2.0	1.3
World				5.6	2.5	-0.9	5.2	3.9	3.1	2.8	3.4	3.9
World excl. EU				6.2	3.1	0.0	6.0	4.5	4.0	3.5	4.1	4.4

Source: European Commission (November 2013). * forecasts

Table A2 – Total Employment (percentage change on preceding year) - selected countries

	2009	2010	2011	2012	2013*	2014*	2015*
Germany	0.1	0.5	1.4	1.1	0.5	0.5	0.6
Ireland	-7.8	-4.1	-1.8	-0.6	1.2	1.3	1.3
Greece	-0.6	-2.6	-5.6	-8.3	-3.5	0.6	2.6
Spain	-6.2	-2.3	-2.2	-4.8	-3.6	-0.7	0.9
France	-1.5	0.0	0.7	0.0	-0.2	0.3	0.4
Italy	-2.9	-1.1	0.1	-1.1	-1.6	0.2	0.5
Cyprus	-0.4	-0.2	0.5	-4.2	-7.8	-3.7	1.0
Portugal	-2.6	-1.5	-1.5	-4.2	-3.9	-0.5	0.4
Euro area	-2.1	-0.6	0.1	-0.8	-0.9	0.2	0.7
U.K.	-1.6	0.2	0.5	1.2	0.7	0.9	1.0
EU	-1.9	-0.5	0.2	-0.3	-0.4	0.3	0.7
United States	-3.8	-0.6	0.6	1.8	1.1	1.3	1.5
Japan	-1.5	-0.4	-0.2	0.4	0.4	0.5	0.3

Source: European Commission (November 2013). * forecasts

Table A3 – Unemployment rate (unemployed as % of labour force) - selected countries

	2009	2010	2011	2012	2013*	2014*	2015*
Germany	7.8	7.1	5.9	5.5	5.4	5.3	5.1
Ireland	12.0	13.9	14.7	14.7	13.3	12.3	11.7
Greece	9.5	12.6	17.7	24.3	27.0	26.0	24.0
Spain	18.0	20.1	21.7	25.0	26.6	26.4	25.3
France	9.5	9.7	9.6	10.2	11.0	11.2	11.3
Italy	7.8	8.4	8.4	10.7	12.2	12.4	12.1
Cyprus	5.4	6.3	7.9	11.9	16.7	19.2	18.4
Portugal	10.6	12.0	12.9	15.9	17.4	17.7	17.5
Euro area	9.6	10.1	10.1	11.4	12.2	12.2	11.8
U.K.	7.6	7.8	8.0	7.9	7.7	7.5	7.3
EU	9.0	9.7	9.7	10.5	11.1	11.0	10.7
United States	9.3	9.6	8.9	8.1	7.5	6.9	6.5
Japan	4.9	4.9	4.5	4.3	4.0	3.9	3.8

Source: European Commission (November 2013). * forecasts

Table A4 – General Government "Gross Debt" (as % of GDP) - selected countries

	1994-98	1999-03	2004-08	2009	2010	2011	2012	2013*	2014*	2015*
Germany	56.5	61.2	67.0	74.5	82.5	80.0	81.0	79.6	77.1	74.1
Ireland	71.3	36.2	30.0	64.4	91.2	104.1	117.4	124.4	120.8	119.1
Greece	97.7	101.0	107.6	129.7	148.3	170.3	156.9	176.2	175.9	170.9
Spain	64.2	55.8	41.1	54.0	61.7	70.5	86.0	94.8	99.9	104.3
France	56.4	59.2	65.7	79.2	82.4	85.8	90.2	93.5	95.3	96.0
Italy	118.9	107.9	105.0	116.4	119.3	120.7	127.0	133.0	134.0	133.1
Cyprus	-	63.0	62.5	58.5	61.3	71.5	86.6	116.0	124.4	127.4
Portugal	56.4	54.4	67.8	83.7	94.0	108.2	124.1	127.8	126.7	125.7
Euro area	-	69.3	69.0	79.9	85.6	87.9	92.6	95.5	95.9	95.4
U.K.	48.3	39.4	44.1	67.1	78.4	84.3	88.7	94.3	96.9	98.6
EU	-	-	-	74.3	80.0	82.9	86.6	89.7	90.2	90.0

Source: European Commission (November 2013). * forecasts

Table A5 – General Government "Deficit" (as % of GDP) - selected countries

	2009	2010	2011	2012	2013*	2014*	2015*
Germany	-3.1	-4.2	-0.8	0.1	0.0	0.1	0.2
Ireland	-13.7	-30.6	-13.1	-8.2	-7.4	-5.0	-3.0
Greece	-15.7	-10.7	-9.5	-9.0	-13.5	-2.0	-1.1
Spain	-11.1	-9.6	-9.6	-10.6	-6.8	-5.9	-6.6
France	-7.5	-7.1	-5.3	-4.8	-4.1	-3.8	-3.7
Italy	-5.5	-4.5	-3.8	-3.0	-3.0	-2.7	-2.5
Cyprus	-6.1	-5.3	-6.3	-6.4	-8.3	-8.4	-6.3
Portugal	-10.2	-9.8	-4.3	-6.4	-5.9	-4.0	-2.5
Euro area	-6.4	-6.2	-4.2	-3.7	-3.1	-2.5	-2.4
U.K.	-11.4	-10.1	-7.7	-6.1	-6.4	-5.3	-4.3
EU	-6.9	-6.5	-4.4	-3.9	-3.5	-2.7	-2.6
United States	-12.6	-11.9	-10.5	-9.1	-6.4	-5.7	-4.9
Japan	-8.8	-8.3	-8.9	-9.6	-9.6	-7.2	-5.8

Source: European Commission (November 2013). * forecasts

Table A6 – General Government "Primary Balance" (as % of GDP) - selected countries

	1994-98	1999-03	2004-08	2009	2010	2011	2012	2013*	2014*	2015*
Germany	-0.7	0.8	1.1	-0.4	-1.6	1.7	2.5	2.3	2.2	2.3
Ireland	4.4	3.4	0.9	-11.6	-27.5	-9.9	-4.5	-2.8	-0.2	2.0
Greece	3.6	2.0	-2.3	-10.5	-4.9	-2.4	-4.0	-9.4	2.8	4.1
Spain	-	2.3	1.9	-9.3	-7.7	-7.0	-7.6	-3.3	-2.4	-3.0
France	-0.8	0.5	-0.3	-5.1	-4.7	-2.7	-2.3	-1.8	-1.4	-1.1
Italy	4.5	3.4	1.7	-0.8	0.1	1.1	2.5	2.3	2.8	3.1
Cyprus	-	-0.7	2.5	-3.6	-3.0	-4.0	-3.3	-4.2	-4.3	-2.1
Portugal	-0.3	-0.8	-1.6	-7.3	-7.0	-0.3	-2.1	-1.6	0.3	1.8
Euro area	0.8	1.8	1.1	-3.5	-3.4	-1.1	-0.6	-0.1	0.5	0.7
U.K.	-0.4	2.2	-1.4	-9.4	-7.1	-4.4	-3.1	-3.4	-2.4	-1.4
EU	-	1.8	0.7	-4.2	-3.8	-1.5	-1.0	-0.7	0.2	0.2
United States	-	1.7	-1.1	-8.8	-8.1	-6.5	-5.2	-2.5	-1.6	-0.8
Japan	-2.6	-4.7	-1.4	-6.8	-6.3	-6.8	-7.6	-7.6	-5.4	-4.0

Source: European Commission (November 2013). * forecasts

Table A7 – General Government "Interest Expenditure" (as % of GDP) - selected countries

	1994-98	1999-03	2004-08	2009	2010	2011	2012	2013*	2014*	2015*
Germany	3.4	3.1	2.8	2.7	2.5	2.5	2.4	2.3	2.2	2.1
Ireland	4.6	1.7	1.1	2.0	3.1	3.3	3.7	4.6	4.8	5.0
Greece	10.4	6.4	4.7	5.2	5.8	7.1	5.0	4.1	4.8	5.2
Spain	-	3.0	1.7	1.8	1.9	2.5	3.0	3.4	3.6	3.6
France	3.4	2.9	2.7	2.4	2.4	2.6	2.5	2.4	2.4	2.5
Italy	10.3	5.9	4.8	4.7	4.6	5.0	5.5	5.4	5.5	5.6
Cyprus	-	3.3	3.2	2.6	2.2	2.4	3.2	4.1	4.1	4.2
Portugal	4.7	2.8	2.8	2.8	2.8	4.0	4.3	4.3	4.4	4.4
Euro area	-	3.7	3.0	2.9	2.8	3.0	3.1	3.0	3.0	3.1
U.K.	3.4	2.3	2.1	2.0	3.0	3.3	3.0	3.0	3.0	2.9
EU	-	-	-	2.6	2.7	2.9	2.9	2.9	2.9	2.9
United States	-	3.8	3.5	3.8	3.8	4.0	3.9	3.9	4.1	4.1
Japan	2.9	2.6	1.8	2.0	2.0	2.1	2.0	2.0	1.9	1.8

Source: European Commission (November 2013). * forecasts

Table A8 – General Government Total Expenditure (as % of GDP) - selected countries

	2009	2010	2011	2012	2013*	2014*	2015*
Germany	48.3	47.9	45.2	44.7	44.7	44.5	44.2
Ireland	48.1	65.5	47.2	42.7	42.3	40.1	37.6
Greece	54.0	51.3	51.9	53.6	58.2	47.1	45.1
Spain	46.2	46.3	46.7	47.8	44.6	43.8	43.2
France	56.8	56.5	55.9	56.6	57.0	56.8	56.6
Italy	52.0	50.5	49.9	50.7	51.2	50.5	50.1
Cyprus	46.2	46.2	46.3	46.4	48.1	48.0	46.0
Portugal	49.7	51.5	49.3	47.4	49.1	46.8	46.3
Euro area	51.2	51.0	49.5	49.9	49.8	49.3	48.8
U.K.	50.9	49.9	48.0	47.9	47.2	46.1	44.9
EU	51.0	50.6	49.1	49.3	49.1	48.5	47.9
United States	41.3	41.0	39.8	38.4	37.5	37.1	36.7
Japan	43.8	42.5	43.9	44.1	44.3	43.5	43.0

Source: European Commission (November 2013). * forecasts

Table A9 – General Government Total Revenue (as % of GDP) - selected countries

	2009	2010	2011	2012	2013*	2014*	2015*
Germany	45.2	43.7	44.3	44.8	44.6	44.5	44.4
Ireland	34.5	34.9	34.0	34.5	34.9	35.1	34.7
Greece	38.4	40.6	42.4	44.6	44.6	45.1	44.0
Spain	35.1	36.7	36.2	37.1	37.8	37.8	36.6
France	49.2	49.5	50.6	51.8	52.9	53.0	52.9
Italy	46.5	46.1	46.1	47.7	48.1	47.8	47.6
Cyprus	40.1	40.9	39.9	40.0	39.8	39.6	39.7
Portugal	39.6	41.6	45.0	40.9	43.2	42.8	42.7
Euro area	44.9	44.8	45.3	46.2	46.7	46.7	46.4
U.K.	39.5	39.8	40.3	41.8	40.8	40.8	40.6
EU	44.1	44.1	44.6	45.4	45.6	45.8	45.2
United States	28.7	29.1	29.3	29.3	31.1	31.4	31.8
Japan	34.9	34.2	34.9	34.6	34.8	36.2	37.2

Source: European Commission (November 2013). * forecasts