

# The Impact of the Crisis on Fiscal Convergence in the EU: the Early Signs

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## Abstract

This article investigates the early signs of the impact of the financial crisis on fiscal convergence within the EU. Over the 2004-2012 period we offer a comprehensive picture of the convergence pattern by considering the key fiscal aggregates and the main economic and functional components of total government expenditure. Indeed, the effects of the crisis have been transmitted differently on the fiscal frame in the EU, signalling an overall tendency to diverge of the Periphery EU countries from the Core. In particular, it emerges a greater persistence in the Periphery countries of the backlash of the crisis on government budgets and disarranging effects on government spending, with crowding out of productive components of public expenditure.

**Keywords:** European Union, fiscal convergence, government spending composition, financial crisis

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## Introduction

The turmoil that spread throughout Europe since the 2008 global financial crisis, resulted in the sovereign debt crisis of several EU countries, determining a situation currently threatening, not only the sustainability of the Eurozone, but the whole process of European integration. The uncertainty about a successful overcoming of the present troubles inside the EU raised an intense debate in both the academic and policy arena on the primary causes of the crisis and on the future prospects of the EU. Influential studies in both European law and economics share the view that the original EU design is at stake. Several law scholars agree that the current debt crisis actually discloses the shortcomings of the EU treaties, challenging European constitutionalism and democratic governance (Ruffet, 2011; Athanassiou, 2011). An extensive line of research in economics investigates deeply into the causes of the present EU crisis, identifying in the short-sighted frame of the Maastricht Treaty and its following refinements one of the shortcomings, that set the stage for the present fiscal troubles inside the EU area (Lane, 2012; Lin and Treichel, 2012). These studies share the view that the current debt crisis actually is not fiscal in nature, but it is rooted in the increasing macroeconomic imbalances characterizing a group of EU countries, designated as Peripheral countries<sup>1</sup>, since the adoption of the common currency. The quick convergence to a lower level of the interest rate, spurred by the Maastricht requirements, the financial deregulation and eventually the adoption of the common currency stimulated over the first decade of the 2000s a rising capital inflow from the Core European area towards the Periphery countries. However, the easier availability of credit did not encourage productive investment, but rather fuelled mostly private consumption and real estate investment, leading to serious current account imbalances and a progressive decline of competitiveness with respect to the Core European countries. Actually, the high growth rates sustained by the boost in private consumption masked the situation till the eruption of the

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<sup>1</sup> Namely, Greece, Spain, Portugal and Ireland, sometimes with Italy included as well.

financial crisis. The following credit collapse made it difficult for some countries to finance their budget deficits and servicing existing debt. The overall contraction deteriorated tax revenue, while rising interest rates demanded by lenders increased debt burden.

The debate on the proper actions to overcome the crisis is manifold and probably biased by the present emergency climate. Nonetheless a widespread view advocates a radical reform of the regulatory EU frame aimed at improving governance in a longer run perspective of economic, financial and political stability (Armstrong, 2013; de Streel, 2013) and at achieving a deeper level of fiscal union and an enhanced coordination of national policies. Within the current scholar debate, this long-run objective of fiscal integration basically indicates two broad designs: the strengthening of an European budget able to accomplish horizontal fiscal equalization (Begg, 2009; Marzinotto et al. 2011), and the introduction of an European government bond market backed by all countries (De Grauwe and Moesen, 2009; Favero and Missale, 2012). In both cases, the viability of these reforming paths requires as a necessary step a transition towards sustainable fiscal convergence. This latter point clearly shifts the attention to the recent history of the EU, with particular reference to the effects on fiscal convergence of the regulatory framework established since the Maastricht Treaty. In general, existing empirical literature outlines an unsatisfactory picture. First, the few signs of fiscal convergence appear to find roots more in the process of European economic integration since the mid-seventies, rather than in the EU treaties of the last two decades. Second, fiscal convergence observed over the nineties seems to be determined more by the commitment to join the common currency, rather than by a longer term objective of fiscal harmonization. Given this background of missing opportunities, the following questions emerge. How is the unwinding of the crisis reflected in the fiscal convergence/divergence pattern among EU countries? In particular, is it recognizable any signal of divergence in the fiscal frame between Core and Periphery? These questions summarize the main concern of this paper. We consider

a sample of fourteen EU countries and investigate the convergence of key fiscal aggregates and of the main economic and functional components of total government expenditure. We focus the analysis on the 2004-2012 period by examining convergence behaviour before and after the financial crisis for the whole country sample and for the groups of Core and Periphery countries.

If fiscal convergence is a major concern of the European institutions, it is important to focus not only on the fiscal targets established in the original treaties, but also on other measures of fiscal policy. There are several reasons that motivate a comprehensive analysis of fiscal convergence. The theoretical background of the EU deficit discipline is based on the neoclassical economic principle that the relative size of public sector should be consistent with the government objective of maximizing growth. Therefore, countries sharing similar institutional and economic structures, should be expected to converge to some extent not only in terms of their fiscal positions but also in terms of GDP shares of expenditure and revenues. Moreover, the progressive economic integration inside the EU stimulates tax competition and calls for institutional agreements leading to fiscal harmonization. Given the deficit discipline imposed by the treaties, revenue convergence comes along with convergence of public expenditure. On the other side, the Lisbon Strategy, the revised Stability and Growth Pact and the current Broad Economic Policy Guidelines share the view that fiscal policy can positively affect Member states' growth performance by managing the composition of public expenditures between productive and non-productive components. As a result, welfare maximizing governments improving the *quality* of public finances along the directions prompted by the Lisbon agenda should generate some convergence in the composition of total expenditure.

Our analysis shows that the unwinding of the crisis impacted differently in the EU area, causing an overall divergence of the Periphery countries from the Core. It emerges a greater persistence among Periphery countries of the backlash of the crisis on government budgets, fostering the divergent pattern of public debt inherited from the previous decade. On the

expenditure side, the convergence process before the crisis has been interrupted after 2009 by a marked divergence between and inside Core and Periphery. On the revenue side, the crisis appeared to slow down the convergence process within the Core, whereas it intensified the divergence pattern in the Periphery. A dissimilar behaviour between Core and Periphery is neatly detected in both the economic and functional composition of total government expenditure. While inside the Core the structure of public spending responded minimally to the 2008-2009 negative shock, the latter had a destabilizing impact in the Periphery countries, by crowding out productive components of public expenditure.

The paper is organized as follows. After reviewing the literature dealing with fiscal convergence within the EU, we present a comprehensive analysis of the early impact of the crisis on the EU fiscal frame. A brief discussion of this evidence concludes the paper.

## **The Literature on Fiscal Convergence in the EU**

Despite the fact that fiscal convergence was one of the primary guideline for admittance to the common currency, scholar contributions to the investigation of this issue are relatively few. Furthermore, this limited body of literature varies considerably with respect to the choice of fiscal variables, time period and methodological setup. In spite of this heterogeneity, however, these studies share similar motivations in relation to the effects of the growing European economic and financial integration on the convergence of key fiscal indicators. De Bandt and Mongelli (2000) and Blot and Serranito (2006) investigate if the institutional frame of the Maastricht arrangement had any effect on fiscal convergence in addition to the convergence likely fostered by economic integration started in the early seventies. These studies focus on revenue, total expenditure and deficit. Over the period 1970-1998 De Bandt and Mongelli

(2000) find significant convergence for revenue and to a lower extent for expenditure and deficit, which intensifies in the nineties. These results are partially confirmed by Blot and Serranito (2006). Despite some evidence of fiscal convergence, however, they conclude that the fiscal harmonization process cannot be ascribed to institutional factors, since it started well before the Maastricht treaty. The analysis of Delgado and Presno (2011) focuses on the convergence of total revenue and tax structure. over the period 1965-2004 and they find that few countries converge despite growing economic integration and tax competition.

Another group of studies focuses on the recent EU history and concentrates on the decade before and after the introduction of the Euro. Bertarelli et al. (2014) evaluate the impact of the Euro on the process of fiscal convergence. Their results show a fast convergence of public deficit over the nineties, replaced by a divergence tendency in the following decade. Moreover, their findings give some support to the view that the common currency encouraged convergence of total expenditure and revenue. Limited to government spending, this conclusion is confirmed by Ferreiro et. al. (2009, 2013), and by Apergis et al. (2013).

Given the potentially different impact on growth of productive and non-productive components of government spending, several papers address the issue of convergence in the functional composition. Apergis et al. (2013) find no evidence of convergence over the period 1990-2012. The result of no convergence is confirmed by Ferreiro et al. (2009, 2013). In both papers a general result of no convergence emerges, with the exception of education and of general public services. In a longer run perspective, Sanz and Velazquez (2006) analyse the evolution of the functional components of expenditure in OECD countries between 1970 and 1997. They find that the subsample of Euro countries displays convergence only in education and general public services. Focusing only on the evolution of social protection expenditure between 1995 and 2002, Van Vliet (2010) detects convergence inside the EU area compared to

a larger sample of non-EU OECD countries. However, this evidence weakens once the fiscal variable is disaggregated into its components.

Finally, the convergence in the economic composition of is examined by Bertarelli et al. (2014) and Ferreiro et al. (2013) between 1990-2008. Both analyses show an overall no convergence/divergence pattern, with the exception of debt interest over the nineties (Bertarelli et al., 2014).

Although the empirical analysis on fiscal convergence in Europe is extremely varied, some general features emerge. First, over sample periods preceding the Euro era, the observed convergence in tax revenue, in fiscal position and to a minor extent in total government spending, appear triggered more by the ongoing process of economic integration starting in mid-seventies than by the institutional arrangements approved in the nineties. Second, when shorter sample periods covering the last two decades are considered, it appears that the common currency might have started a process of convergence in revenue and total spending, but without any relevant sign of harmonization as far as the economic and functional composition of total government expenditure are concerned. Moreover, the convergence in the fiscal position detected over the nineties seems to aim only at fulfilling the common currency admission requirements.

The reviewed literature outlines an unsatisfactory picture. Over the last two decades the refinements of the common regulatory setting, did not succeed in orienting national policies towards common objectives. The resulting extent of fiscal harmonization at the outset of the crisis appears weak, heavily conditioned by domestic objectives pursued by national governments and vulnerable to external shock. Clearly the 2008 crisis constitutes a dramatic test of the above conjecture. In the next section we explore empirically the early sign of the crisis, with particular attention to the likely disarranging effects between the Core and Peripheral sets of EU countries.

## Measures and Methods

### *Fiscal variables, time and country samples*

For a comprehensive picture on fiscal convergence we consider first the key aggregate fiscal indicators expressed as GDP percentages: deficit, debt, total revenue and total government expenditure. In addition we examine the main economic components of total public spending, (public consumption, social benefits, debt interest payments, and public investment) and the most relevant components according to a functional definition (social protection, health, education and general public services). This latter set of variables is expressed as a percentage of total government expenditure. Three samples of countries has been selected and labelled EU14, Core and Periphery. The EU14 sample consists of the following: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden, and United Kingdom. The Periphery includes Greece, Ireland, Italy, Portugal and Spain.<sup>2</sup>, while all other countries above are counted in the Core sample. Indeed, in our analysis of fiscal convergence we compare the fiscal performance of Peripheral countries against the Core of EU, including those countries with strengthened roots in the history of the EU over the last twenty years and with a mature stage of economic development<sup>3</sup>. Notice that the EU14 sample considered covers over 90% of GDP of total EU area and leaves out essentially Eastern and Central Europe countries that joined the EU from 2004 onwards. These recent EU members

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<sup>2</sup> In respect of the conspicuous body of literature employing the distinction between Core and Periphery countries, the identification of Periphery is almost unanimous. In some cases Italy is dropped from the set of countries often grouped under a polemic epithet, that we refuse to use in this paper (for example Lehwald; 2013, and De Grauwe and J. Yuemei, 2013).

<sup>3</sup> We consider also non Euro members, since the European fiscal constraints and recommendations apply to this wider set of countries



does not easily fit into the partition between Core and Periphery since their economic, institutional and fiscal structure still on transition towards more mature stages of development restricts their influence on the overall fiscal and financial stability of the EU area. Finally, the time period runs from 2004 to 2012. This choice allows an analysis of convergence through a balanced time span before and after the crisis. We used initially a three-year average (2004-2006) and two-year averages for later periods (2007-08, 2009-10, and 2011-12).

### *Data analysis*

To deal with the issue of fiscal convergence we adopt the simple approach of  $\sigma$ -convergence. The latter is based on a statistical index (here the variance) that measures the dispersion of the cross-country values in a given period of time. By computing this index at different time periods, we say that countries converge/diverge if the variance decreases/increases over time. For the three samples of countries we calculate the percentage cross-country variance change between 2004 and 2012 to have an overall picture of the convergence pattern and for the two subperiods 2004-2008 and 2009-2012 to see if different patterns emerge before and after the crisis.

The comparison of the Core and Periphery convergence pattern with the EU14 sample provides additional information. In particular, if both Core and Periphery are characterized by convergence while divergence appears in EU14, this indicates an enlarged distance between Core and Periphery despite the reduced dispersion inside the groups. On the contrary, if both Core and Periphery are characterized by no-convergence while convergence emerges in the larger sample, the two groups actually moved closer to each other albeit without any reduced distance among countries within each group.

Empirical results are displayed in Tables 1-4. The left panel offers a graphical representation of convergence results. In graphs displayed, bars below the zero line indicate convergence, i.e.

in the time interval the cross-country variance has declined, whereas bars above zero indicate divergence. At the top of each bar the percentage change in variance is reported. In the right panel we include the time evolution of fiscal variables (measured as two-year averages) in order to enrich the discussion by combining the detected convergence pattern with the time trend.

## **Analysis**

### *Aggregate Fiscal Variables*

We examine first the convergence pattern of the main fiscal variables: deficit, debt, total revenue and total expenditure. In Table 1 a meaningful overall convergence for the deficit - to - GDP ratio is shown inside Core and Periphery between 2004 and 2012 (-38% and -28% in cross-country variance changes, respectively). However, a slight divergence appears in EU14 (+14%) over the same period, indicating dissimilar patterns between the two groups of countries. This is confirmed in the two subperiods before and after 2008, where a notable reduction of dispersion arises between 2004 and 2008 inside the Periphery (-48%), while this pattern of convergence appears between 2009 and 2012 in the Core (-46%). The time evolution of average shares suggests that the detected convergence reflects the different timing of fiscal response to the 2008-2009 crisis inside Core and Periphery. In particular, the adverse impact on fiscal balances started in 2007-2008 in Periphery countries, worsening the deficit/GDP ratio by 1.4 percentage points with respect to 2004-2006. The deficit deterioration continued in 2009-2010 reaching 10.4% of GDP, with a reversed trend afterwards, which, however, involved only a moderate convergence. On the contrary, between 2004 and 2008 deficit decreased in the Core, while the counter-cyclical fiscal measures implemented in 2009 led to a deficit increase by 4.7

points. As a result, the sustained convergence observed between 2009 and 2012 reflects the effort inside the Core to bring deficit back to the 3% threshold.

On the Debt/GDP side, between 2004 and 2012 a 92% increase in dispersion indicates a marked heterogeneity among EU14 countries. Since the Core experiences a 50% dispersion increase in 2004-2012, while a slight convergence is observed in the Periphery, the substantial divergence in EU14 reflects the widening between Core and Periphery. The slight convergence in the Periphery mainly reflects the impact of the sovereign debt crisis that boosted the Debt/GDP shares of Spain, Ireland and Portugal towards the levels of Italy and Greece. Despite the fact that both Core and Periphery share an upward trend of debt/GDP since 2009, the debt/GDP ratio showed a growth slowdown in the Core in 2011-2012, while it kept moving along an unchanged trend in the Periphery. This explains the divergence (+45%) detected in EU14 between 2009 and 2012.

To scrutinize the fiscal effects of the crisis, we examine the convergence pattern of total government expenditure and total revenue. In Table 2 an overall convergence between 2004 and 2012 in EU14 (-43%) emerges for total expenditure. However, a decrease in dispersion is detected in the Periphery (-72%), while divergence arises in the Core (+37%). The evolution of the share of government expenditure suggests that the observed convergence in EU14 actually reflects the approaching of the Periphery to the higher average share of the Core. A similar pattern of convergence characterizes both Core and Periphery before and after the crisis. Indeed, the sustained convergence detected between 2004 and 2008 in both Core and Periphery (-31% and -45% respectively) is replaced by a marked divergence after 2009 (+90% and +46%, respectively).

On the revenue side, while no relevant change in dispersion is observed in EU14 between 2004 and 2012, a contrasting behaviour emerges between Core and Periphery. In particular, the

crisis seems only to weaken the convergence process at work inside the Core since 2004, whereas it enhances dramatically the divergence tendency among Periphery countries<sup>4</sup>.

Overall, these results show relevant disarranging effects in the EU area, which led to an increased heterogeneity both on the revenue and on the expenditure side inside the Periphery, while in the Core the crisis significantly affected expenditure management, without interrupting the convergence pattern of revenue inherited from 2004-2008 period.

### *Composition of Public Expenditure*

For a deeper understanding of the impact of the crisis, we examine also the convergence pattern of the main components of total expenditure, according to both an economic and functional classification.

According to the economic classification we consider public consumption, social benefits, debt interest, and public investment. These components amount to more than 90% of total expenditure. As far as public consumption is concerned, in Table 3 an overall divergence appears between 2004 and 2012 in EU14. Since dispersion inside the Core area remains substantially stable, the detected increase in dispersion in EU14 reflects an enhanced heterogeneity between Core and Periphery. More specifically, while the crisis did not influence the relative dispersion among countries around a stable average share in the Core, in the Periphery the convergence observed before the crisis (-31%) stops in 2009, as an opposite pattern of divergence arises (+38%), accompanied by a reduction of the share of public consumption.

Social benefits shows the lowest dispersion changes with the exception of the Periphery sample, where a noticeable divergence (+48%) is detected before the crisis. It is worth noticing

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<sup>4</sup> Since a dispersion increase is detected in 2004-2008 and 2009-2012 in the, the strong divergence over the whole period (+213) actually reflects the variance increase between 2008 and 2009.

that in the Periphery the average share of social benefits steadily increases over the whole period (from 37.1% in 2004 to 42.7% in 2012), fast approaching the stable Core average. However, this cannot be regarded as an effective harmonization process between Core and Periphery, since no convergence is displayed in EU14.

The debt interest component shows an increased heterogeneity between Core and Periphery over the entire period, since the negative variance changes detected in both samples (-7% and -52%, respectively) result in a marked divergence in EU14 (+42%). While the crisis causes a slight divergence in the Core (+20%), with a steadily declining share since 2004, inside the Periphery the decrease in dispersion (-52%) between 2004 and 2012 actually reflects the 2009-2012 convergence (-40%) towards higher shares triggered by heavier debt burden

The convergence observed in public investment is particularly meaningful, since it clearly shows a dramatic consequence of the crisis. The dispersion decrease observed in EU14 essentially depends on the convergence inside the Periphery. Indeed, while in the Core an overall unchanged dispersion is associated with a stable 4.5% share, inside the Periphery a remarkable divergence (+107%) stops at the outset of crisis, replaced by marked convergence (-86%) and a drastic cut of the public investment share (from 8% to 4.3%).

On the whole, the economic composition of public expenditure inside the Core shows limited dispersion changes accompanied by stable shares. On the contrary, the crisis prompted a substantial reallocation of public expenditure among Periphery countries. In particular, the converging pattern towards higher shares of social benefits and debt interest (+7.6% in total) combines with the crowding out of public investment and public consumption (-7.5% in total).

To have a more comprehensive view of the consequences of the crisis on the composition of public expenditure, we also consider the main functional components: social protection, health,

education and public general services (Table 4). These components amount to the 80% of total expenditure.

Social protection<sup>5</sup> shows a steady convergence process in EU14 (-59%) over the whole period, resulting both from the convergence between Periphery and Core and from the convergence inside the two groups of countries (-37% and -27%, respectively). In the Periphery this lower dispersion is associated with a share increase towards the Core level. By considering the two subperiods, the positive variance changes detected in 2004-2008 in both country sets turn into a negative sign in 2009-2012, indicating that the crisis likely speeded up the convergence of the Periphery toward the Core.

The share of public expenditure allocated to education is characterized by an even convergence pattern in both groups of countries, that weakens in EU14. This latter result can be explained by taking into account the decreasing share in the Periphery after 2008 that diverges from the stable share of the Core.

As for health, a distinctive patterns before and after the crisis can be identified inside EU14. The convergence between 2004 and 2008 (-36%) stops in following years, as a marked divergence arises (+58%) associated with diverging shares between Core and Periphery. Moreover, different patterns characterizes Core and Periphery over the whole period. In the Core an overall divergence emerges between 2004 and 2012 (+42%), while convergence characterizes the Periphery (-43%). This different behaviour suggests that the disarranging effects of the crisis impacted differently in Core and Periphery, since in the latter the dispersion tendency after 2008 did not stop the overall convergence process towards lower shares.

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<sup>5</sup> Although social protection as a functional component and social benefits as an economic component are conceptually similar, several accounting discrepancies arise between the two. For example, social benefits include the function education, while social protection does not. For details see the "Manual on sources and methods for the compilation of COFOG Statistics" 2011, pag.65.

Finally, the share of public general services displays convergence within the Core (-34%) over the entire period accompanied with a stable share, while no convergence is observed in the Periphery, associated with a share increase 2009<sup>6</sup>. Combined with the larger dispersion detected in EU14, these results suggest an enlarged heterogeneity between Core and Periphery as a consequence of the crisis.

The picture emerging from the analysis of the functional composition of total government spending reinforces the overall conclusions drawn for the economic composition. Again, the structure of public spending inside the Periphery has been significantly affected by the crisis. The higher social protection expenditure and the raised burden of debt, recorded in the general public services, crowded out productive spending (education and health), causing an increased distance between Core and Periphery.

## **Conclusions**

In this paper we investigated the early signs of the impact of the 2008 financial and economic crisis on the process of fiscal convergence inside the EU. The recent academic and political debate depicts the present economic and institutional EU situation by contrasting the exposed fiscal position of a group of Peripheral countries with the safe Core of Europe. Therefore, we examined the early effects of the crisis on the fiscal convergence pattern for a sample of EU countries partitioned into Core and Periphery.

The results obtained highlight in the immediate post-crisis period a heavy impact both on the main fiscal aggregates and on the composition of public spending. In particular, the effects of the crisis have been transmitted differently on the fiscal frame of the two sets of countries,

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<sup>6</sup> Since debt interest are included in the public general services, the increase from 15% to 17.3% actually results from the increase in interest expenditure over the second subperiod.

signalling between 2009 and 2012 an overall tendency to diverge of the Periphery from the Core.

As for fiscal balances, inside the EU a tendency to converge was detected after the crisis. However, remarkable differences characterised Core and Periphery, with particular reference to the greater persistence of the negative effects of the 2008-2009 shock on government budgets among Periphery countries. This evidence discloses the fiscal consequences of the weaker macroeconomic system of Peripheral countries. The greater exposure to external shocks amplified the automatic fiscal response to the GDP contraction, in terms of lower tax revenue and higher social protection expenditure, to an extent that actually stuck the discretionary management of fiscal policy between the need to sustain internal demand and deficit compliance.

In retrospect, the failure of governments to tighten fiscal policy in the favourable high growth environment of the early 2000s was a missed opportunity to secure an effective fiscal action for challenging adverse macroeconomic conditions. (Lane, 2012; Hauptmeier et al., 2011). From an institutional point of view, however, the short-sighted management of fiscal policy during the 2000s cannot actually be ascribed to the responsibility of national governments only. As pointed out by Bordo and James (2014), the EU fiscal disciplinary frame worked well before the Euro introduction, but much less well afterwards. Looking backward, the stricter regulatory framework of the Stability Growth Pact appears a mere accounting constraint unfit to promote substantial structural improvement at market level in the medium term (Koehler and König, 2015). Therefore, the enhanced diversity in the deficit positions over the 2000s coupled with the macroeconomic imbalances determined a situation vulnerable to adverse shocks and potentially opened to further divergence. The deficit boost to cope with the crisis and the inability to adjust imbalances fostered the divergent pattern of public debt since the noughties



(Bertarelli et al., 2014), enhancing the distance of the debt positions between Core and Periphery.

We further investigated the management of total revenue and spending before and after the crisis. On the expenditure side, in both Core and Periphery the crisis interrupted the overall convergence pattern, that starting at the outset of euro continued till 2009<sup>7</sup>. The following boost of dispersion arguably reflects the way in which the diverse macroeconomic impact of the crisis constrained discretionary fiscal action forcing an heterogeneous usage of the expenditure lever to cope with the fall of aggregate demand. As a consequence, the quick approach after 2009 of the Periphery share of total spending over GDP to the Core is not accompanied by any evidence of harmonization.

On the revenue side, a different pattern emerged between Core and Periphery. While in the Core the crisis did not seem to stop an ongoing harmonization process, a persistent divergence appeared inside the Periphery associated with unstable shares. To the extent that fiscal harmonization is encouraged by economic cohesion and tax competition, this pattern of convergence suggests that the EU institutional framework fostered inside Core a higher degree of economic integration which involved to lesser extent the Periphery area.

These considerations point to an additional consequence of the divergent macroeconomic pattern characterizing the recent history of the EU. Indeed, Lehwald (2013) stresses that the imbalances between Core and Periphery area since the euro debut deeply affected the comovements of the main macroeconomic variables, determining a rise in the business cycle synchronization for the Core and a significant decrease for the Periphery. As a result, the

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<sup>7</sup> Bertarelli et al. (2014) and Ferreiro et al. (2013) find evidence of convergence for the GDP share of total government expenditure after the Euro introduction

enhanced fiscal dispersion among Peripheral and Core countries may partially reflect the asynchronous response to the negative shocks.

The dissimilar behaviour between Core and Periphery emerges distinctly in the economic composition of total expenditure. Indeed, while the fiscal frame of public expenditure appears stable inside the Core, with minor changes in dispersion and substantially invariant shares, the crisis had a destabilizing impact among Periphery countries. In particular, the crisis had the effect of enlarging the distance between Core and Periphery in the shares of public consumption and debt interest payments. While the latter reflects the diverging dynamic of debt and the higher risk aversion in bond market<sup>8</sup>, the former depends on an overall reallocation of public expenditure, entailing a lower share that after 2008 diverged from the stable level of the Core. As for social benefits and public investment, in the first case the sharp increase in the share of social benefits actually approached the average share of the Core, but without any sign of harmonization, since not accompanied by any relevant dispersion decrease; in the second, the observed convergence between Core and Periphery actually reflects the severe decrease of the average share after the crisis towards the level of the Core. On the one side, the sharp rise in the share of social benefits essentially depends on the necessity to protect household from the crash of the labour market; on the other, the need to cope with excessive deficits resulted in the crowding out of both public consumption and public investment.

The overall tendency of the Periphery to diverge from the Core is confirmed looking at the main functional components of public spending. In this context, only the share devoted to social protection shows an intensified convergence after the crisis among the EU countries, while the observed convergence in education and health inside the Periphery appears to be more likely the consequence of the distortionary crowding-out effects of the crisis on productive

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<sup>8</sup> Von Hagen et al. (2011) show that market penalizes rising fiscal deficits much stronger after the Lehman and Brothers default.

expenditure. On the whole, it appears that the need to strengthen social protection measures and the increase in debt burden disarranged in the Periphery area the composition of total government spending according to both an economic and functional definition. Differently, in the Core the wider margin of fiscal action due to the safer deficit position at the outset of the crisis allowed to cope with recession without crowding out effects and without any recognizable change in the convergence pattern.

Our analysis of the economic and functional composition of total expenditure leads to similar results. Indeed, since the Lisbon agenda, EU authorities have repeatedly stressed the need to avoid relying upon fiscal aggregates only in order to move the economy towards more efficient outcomes in the mid-long term, and to consider instead the qualitative dimension of fiscal policy in terms of composition of public spending and taxes, in particular by distinguishing between productive and unproductive usages, which may directly affect potential output and growth. It follows that if the detected divergence between Core and Periphery in the mix of public spending were to persist as longer term shock, this might influence the macroeconomic performance, entailing harmful consequences on the catching-up process on the part of several Periphery countries.

The etymology of the word crisis is suggestive in order to summarize few final remarks. Crisis comes from the ancient Greek *krinein*, which means “to separate”. The evidence of fiscal divergence shown in our analysis, indicates that despite the common framework of the treaties the process of fiscal integration inside the EU area is still heavily conditioned by countries heterogeneity, that makes the whole European fiscal system vulnerable to adverse external shocks. Indeed, the disarranging effects of the financial crisis disclosed the short-sighted view of the Maastricht Treaty and the Stability Growth Pact and their inadequacies as an effective mechanism for fiscal coordination and control. The debt crisis that followed call for a new

institutional frame, possibly designed through a renewed democratic legitimation<sup>9</sup> to contrast the growing Eurosceptic movements inside the EU and able to pursue effectively an objective of fiscal harmonization as a condition for a revitalised engine for economic growth.

## References

Armstrong K. 2013. The New Governance of EU Fiscal Discipline. *European Law Review*, 38: 601-617.

Athanassiou P. 2011. Of Past Measures and Future Plans for Europe's Exit from the Sovereign Debt Crisis: What is Legally Possible (and What is Not). *European Law Review*, 36: 558-575.

Apergis N., C, Christou and C. Hassapis. 2013. Convergence in Public Expenditures across EU Countries: Evidence from Club Convergence. *Economics & Finance Research*, 1: 45–59.

Begg I. 2009. Fiscal Federalism, Subsidiarity and the EU Budget Review. Swedish Institute for European Policy Studies, Report No. 1.

Bertarelli S., R. Censolo and C. Colombo. 2014. Fiscal Convergence in the European Union before the Crisis. *Contemporary Economic Policy*, 32: 784-801.

Blot C. and F. Serranito. 2006. Convergence of Fiscal Policies in EMU: a Unit Root Test Analysis with Structural Break. *Applied Economic Letters*, 13: 211-216.

Bordo M. D., and H. James. 2014. The European Crisis in the Context of the History of Previous Financial Crisis. *Journal of Macroeconomics*, 39: 275-284.

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<sup>9</sup> On the problem related to the political and institutional consequences of the crisis there is a vast literature. See for example a comprehensive collection of specific contributions in Chiti et al. (2012).

Chiti E., A. J. Menéndez and P. G. Teixeira. 2012. The European Rescue of the European Union. In *The European Rescue of the European Union*, E. Chiti, A. J. Menéndez and P. G. Teixeira (eds) , RECON Report No. 19: 391-428.

De Bandt O., and F. P. Mongelli. 2000. Convergence of Fiscal Policies in the Euro Area. European Central Bank, Working Paper No. 20.

Delgado, F. J., and M. J. Presno. 2011. Convergence of Fiscal Pressure in the EU: A Time Series Approach. *Applied Economics*, 43: 4257–67.

De Grauwe P. and W. Moesen 2009. Gains for All: A Proposal for a Common Euro Bond. *Intereconomics*, 44: 132–141.

De Grauwe P. and J. Yuemei. 2013. Self-fulfilling Crises in the Eurozone: An Empirical Test. *Journal of International Money and Finance*, 34: 15-36.

De Streel A. 2013. The Evolution of the EU Economic Governance since the Treaty of Maastricht: An Unfinished Task. *Maastricht Journal of European and Comparative Law*, 3: 336-362.

Favero C. and A. Missale 2012. Sovereign spreads in the eurozone: which prospects for a Eurobond? *Economic Policy*, 27: 231-273.

Ferreiro, J., M. T. Garcia-Del-Valle, and C. Gomez. 2009. Is the composition of public expenditures converging in EMU countries? *Journal of Post Keynesian Economics*, 31: 459–84.

Ferreiro J., M. T. Garcia-Del-Valle and C. Gomez. 2013. An Analysis of the Convergence of the Composition of Public Expenditures in European Union Countries. *American Journal of Economics and Sociology*, 72: 799-825.

Hauptmeier S., A.J. Sanchez-Fuentes and L. Schuknecht 2011. Towards expenditure rules and fiscal sanity in the euro area. *Journal of Policy Modeling*, 33: 597–617.

Koehler S. and T. König 2015. Fiscal Governance in the Eurozone: How Effectively Does the Stability and Growth Pact Limit Governmental Debt in the Euro Countries? *Political Science Research Methods*, 3: 329-351.

Lane, P. 2012. The European Sovereign Debt Crisis. *Journal of Economic Perspectives*, 26: 49–68.

Lehwald S. 2013. Has the Euro changed business cycle synchronization? Evidence from the core and the periphery. *Empirica*, 40: 655–684.

Lin J. Y., and V. Treichel. 2012. The Crisis in the Euro Zone. Did the Euro Contribute to the Evolution of the Crisis? The World Bank, Policy Research Working Paper 6127.

Marzinotto, B., A. Sapir and G. B. Wolff 2011. What Kind of Fiscal Union? *Bruegel Policy Briefs*, 2011/06.

Ruffert M. 2011. The European debt crisis and the European Union law. *Common Market Law Review*, 48: 1777–1805.

Sanz I. and F. J. Velazquez. 2006. Has European Economic Integration Affected the Functional Composition of Government Expenditures? *Contemporary Economic Policy*, 24: 300–15.

Van Vliet O. 2010. Divergence within Convergence: Europeanization of Social and Labour Market Policies. *Journal of European Integration*, 32: 269-290.

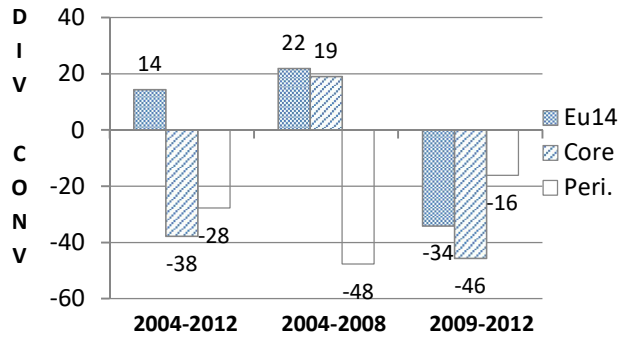
Von Hagen J., L. Schuknecht and G. Wolswijk. 2011. Government Bond Risk Premiums in the EU Revisited: The Impact of the Financial Crisis. *European Journal of Political Economy*, 27: 36-43.

Table 1. Deficit/GDP and Dbt/GDP

**Deficit/GDP**

**Average Share**

	EU14	Core	Peri.
2004-06	-1.2	-0.5	-2.4
2007-08	-1.1	0.4	-3.8
2009-10	-6.7	-4.7	-10.4
2011-12	-4.7	-3.1	-7.7



**Debt/Gtot**

**Average Share**

	EU14	Core	Peri.
2004-06	60.9	56.5	68.8
2007-08	60.2	53.9	71.5
2009-10	76.5	65.5	96.3
2011-12	87.4	70.2	115.5

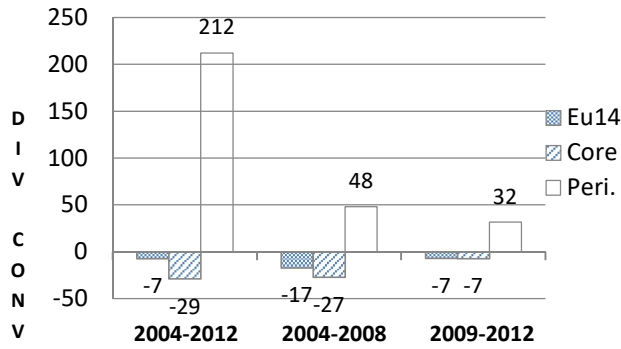


Table 2. Total Revenue/GDP and Total Expenditure/GDP

**Total Revenue/GDP**

**Average Share**

	EU14	Core	Per.
2004-06	45.7	49.9	39.9
2007-08	45.9	48.9	40.6
2009-10	45.3	48.6	39.4
2011-12	46.2	49.2	40.9



**Total Expenditure/GDP**

**Average Share**

	EU14	Core	Per.
2004-06	46.9	49.5	42.3
2007-08	47.0	48.5	44.4
2009-10	51.1	53.3	49.8
2011-12	51.0	52.3	48.6

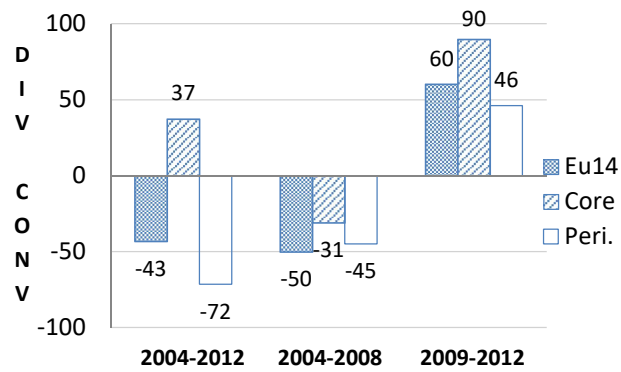


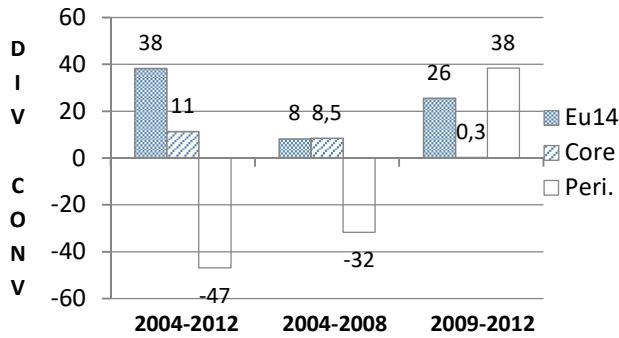




Table 3. Main Economic Components of Total Government Expenditure  
Public Consumption/Gtot

Average Share

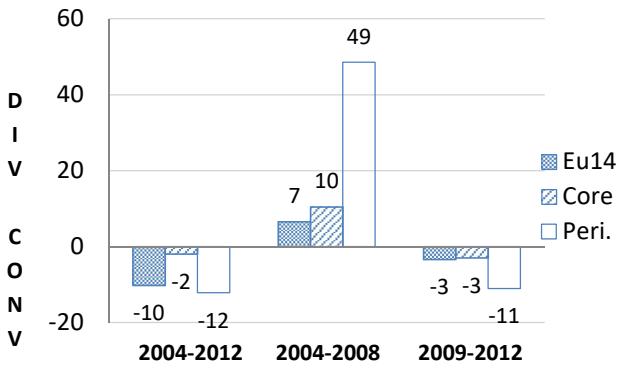
	EU14	Core	Per.
2004-06	45.3	45.7	44.6
2007-08	45.6	46.5	44.2
2009-10	45.1	46.2	43.3
2011-12	44.2	46.1	40.7



Social Benefits/Gtot

Average Share

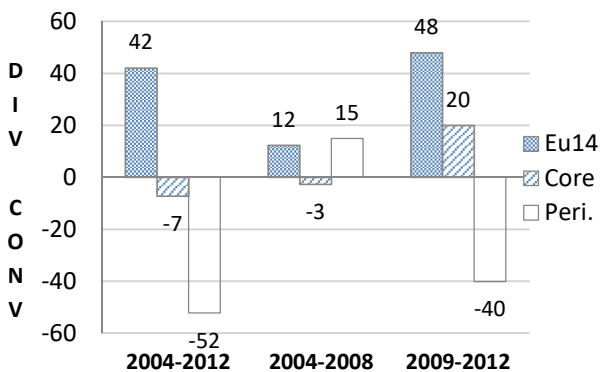
	EU14	Core	Per.
2004-06	39.6	41.0	37.1
2007-08	39.9	40.8	38.5
2009-10	41.1	41.4	40.5
2011-12	42.3	42.0	42.7



Debt Interest/Gtot

Average Share

	EU14	Core	Per.
2004-06	5.7	5.1	6.8
2007-08	5.6	4.9	6.9
2009-10	5.1	4.3	6.7
2011-12	6.0	4.4	8.8



Public Investment/Gtot

Average Share

	EU14	Core	Peri.
2004-06	5.6	4.4	7.9
2007-08	5.9	4.7	8.2
2009-10	5.3	4.7	6.4
2011-12	4.4	4.5	4.3

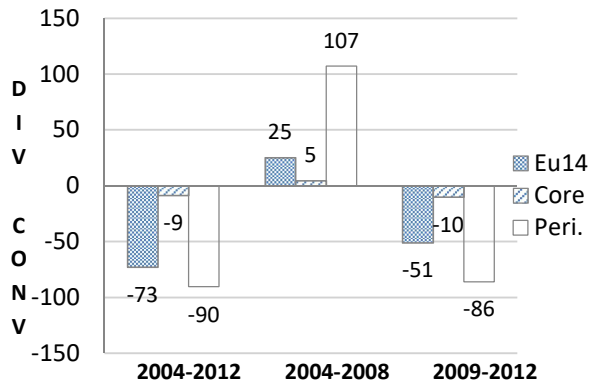
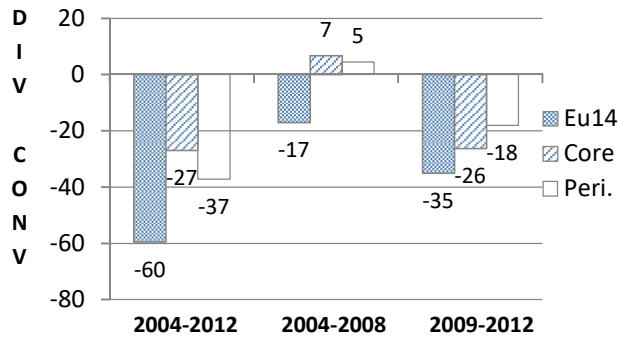


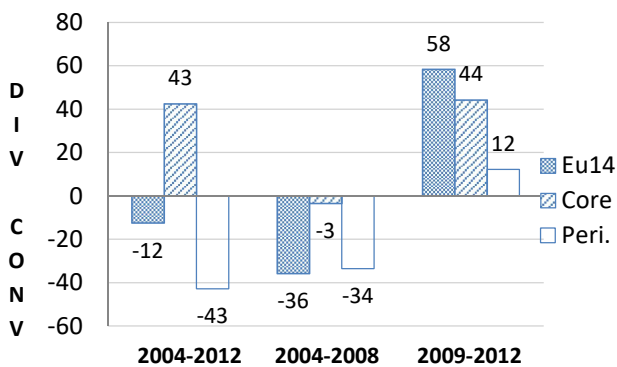
Table 4. Main Functional Components of Total Government Expenditure  
**Social Protection/Gtot**

Average Share			
	EU14	Core	Per.
2004-06	37.9	40.2	33.8
2007-08	37.8	39.5	34.7
2009-10	38.8	40.0	36.7
2011-12	39.9	40.4	38.7

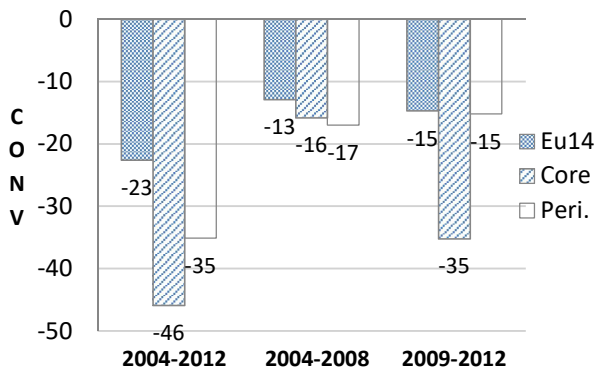


**Health/Gtot**

Average Share			
	EU14	Core	Per.
2004-06	14.5	14.1	15.3
2007-08	14.9	14.8	15.0
2009-10	14.8	15.0	14.6
2011-12	14.7	15.2	13.7



**Education/Gtot**



**Average Share**

	EU14	Core	Per.
2004-06	11.7	11.8	11.5
2007-08	11.5	11.8	11.0
2009-10	11.3	11.8	10.5
2011-12	11.1	11.7	10.1

**Public General Services/Gtot**

**Average Share**

	EU14	Core	Per.
2004-06	14.1	13.4	15.4
2007-08	14.0	13.3	15.2
2009-10	13.5	12.7	15.0
2011-12	14.5	13.0	17.3

