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The Early Consequences of the Crisis on Fiscal Convergence in the EU

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Abstract

This article investigates the early signs of the impact of the 2008 crisis on fiscal convergence within the EU area. Over the 2004-2012 period we compare the convergence pattern before and after the crisis by considering the key fiscal aggregates and the main economic and functional components of total government expenditure. We show that the effects of the 2008 financial crisis have been transmitted differently on the fiscal frame in the EU area, signalling an overall tendency to diverge of the Periphery EU countries from the Core. In particular, it emerges a greater persistence among the Periphery countries of the backlash of the crisis on government budgets, causing a further divergence in the debt positions between Core and Periphery, and disarranging effects on government spending in the Peripheral countries, with crowding out of the productive components of public expenditure.

JEL Classification: E61, F02, H11

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

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I. Introduction

The turmoil that spread throughout Europe since the global financial crisis in 2008, resulted in the sovereign debt crisis of several EU countries and determined an economic and socio-political situation currently threating, 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 area raised an intense debate both in academic research and in the policy arena on the primary causes of the crisis and on the future prospects of the European Union. 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; Overbeek, 2012; Athanassiou, 2011; Besselink, 2012). 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 of the euro, that set the stage for the present fiscal troubles inside the EU area (Lane, 2012; Pérez-Caldentey and Vernengo, 2012; Lin and Treichel, 2012; Bordo and James, 2012; Chen et al., 2013). 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[1], since the adoption of the common currency. The quick convergence to a lower level of the interest rate, spurred by the Maastricht convergence 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 higher productive investment, but rather fuelled mostly private consumption and real estate

[1] Namely, Greece, Spain, Portugal and Ireland, sometimes with Italy included as well.

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 crisis with the Lehman Brothers default in September 2008. The following banking crisis and the resulting credit collapse made it difficult for some countries to finance their budget deficits and servicing existing debt. The overall contraction in the levels of activity deteriorated tax revenues, while rising interest rates demanded by lenders increased debt burden. Eventually, the widespread economic recession led the crisis into a serious fiscal stalemate, with the sovereign debt crisis hitting more or less severely all the Periphery countries.

The debate on the proper actions to overcome the crisis is manifold and probably biased by the present emergency climate. Nonetheless a widespread view, emerging both in the political arena and in academic research, advocates a radical reform of the regulatory EU frame aimed at improving the EU governance in a longer run perspective of economic financial and political stability (Ruffert; 2012). As pointed out by Lane (2012) this involves a deeper level of fiscal union and an enhanced coordination of national policies enabling an effective 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 inside the EU area since the Maastricht Treaty. In general, the body of existing empirical literature outlines a rather unsatisfactory picture. First, the few signs of fiscal convergence appear to find their roots more in the process of progressive European economic integration in the mid-seventies and eighties, rather than in the EU treaties of the last two decades. Second, the 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. If the prospects for a renewed EU cohesion rely upon an effective fiscal harmonization, what are the early signs, if any, of the effects of the crisis on the fiscal convergence among the EU countries? And in particular, is it recognizable any divergence in the fiscal frame between Core and Periphery? These questions summarize the main concern of the present paper. We consider a sample of fourteen EU countries and investigate the convergence pattern of the key fiscal aggregates (deficit, debt, total expenditure and tax revenue) and of the main economic and functional components of total government expenditure. We focus the analysis on the 2004-2012 period by examining the convergence behaviour before and after the crisis for the whole country sample and separately for the groups of the Core and Periphery countries.

Our analysis shows that the effects of the 2008 financial crisis impacted differently in the EU area, causing an overall divergence of the Periphery countries from the Core. It emerges a greater persistence among the Periphery countries of the backlash of the crisis on government budgets. As a result, the deficit boost and the inability to adjust imbalances fostered the divergent pattern of public debt inherited from the previous decade, widening the distance of the debt positions between Core and Periphery. On the total expenditure side, the convergence process characterizing the years before the crisis has been interrupted and replaced after 2009 by a marked divergence between and inside Core and Periphery. On the revenue side, the crisis appeared only to slow down the convergence process within the Core area, whereas it intensified significantly the divergence pattern in the Periphery countries. 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. On the one side, the need to implement social protection measures and, on the other side, the increase in the debt burden as a consequence of the crisis altered significantly the composition of total government spending in the Periphery countries, by crowding out productive components of public expenditure.

The paper is organized as follows. Section II reviews the literature dealing with the fiscal convergence issue within the EU area. In section III the empirical results of the analysis of the early signs of the impact of the crisis on fiscal convergence are presented, while Section IV offers a discussion of results.

II The Literature on Fiscal Convergence in the EU

Despite the fact that fiscal convergence was one of the primary guideline in accomplishing the requirements for admittance to the common currency area, and later, in the Amsterdam and Lisbon treaties, the Maastricht fiscal discipline has been reaffirmed within a stricter regulatory frame as a necessary condition to assure economic stability inside the EU area, the scholar contributions to the investigation of this issue are relatively few[2]. Furthermore, this limited body of literature varies considerably with respect to the choice of fiscal variables, the time period and the 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) aim at investigating if the institutional frame of the Maastricht agreement had any effect on fiscal convergence in addition to the convergence process likely fostered by economic and financial integration started in Europe in the early seventies. These studies focus on total revenue, total government expenditure and public deficit for a sample of euro countries. By adopting both descriptive cross-correlation indices and cointegration techniques over the period 1970-1998, De Bandt and Mongelli (2000) find

[2] This point is also stressed by Delgado and Presno (2011, 2010)

significant convergence for revenue and, to a lower extent, for expenditure and deficit, which intensifies in the nineties. By employing a different procedure, based on unit root tests, Blot and Serranito (2006) observe evidence of convergence in revenues and fiscal position between 1970 and 2000, while no convergence is detected for public expenditure. However, they conclude that the fiscal harmonization process cannot be ascribed to institutional factors, since it started well before the Maastricht Treaty and mainly resulted from the process of increased economic integration. The analysis of Delgado and Presno (2010, 2011) focuses on the convergence of total revenue and tax structure in a long run perspective. For a group of fifteen EU countries over the period 1965-2004, they use unit root and stationarity tests with endogenous breaks, finding that few countries converge despite fiscal harmonization and tax competition. However, by using a less demanding statistical approach based on descriptive measures of dispersion, Delgado (2006) detects between 1965 and 2003 a convergence pattern for revenue in a subset of ten Euro countries taking place since the mid-seventies.

Another group of studies considers a shorter time period, focusing on the recent history of the EU and concentrating on the decade before and after the introduction of the common currency. Bertarelli et. al. (2014) employ beta-convergence panel data analysis, complemented by a convergence analysis based on a time series approach, to analyse fiscal convergence in fourteen EU countries. Their results show a fast convergence of public deficit over the nineties, replaced by a divergence tendency between 2000 and 2008. Moreover, their findings give some support to the view that the common currency encouraged convergence of total expenditure and revenue. For total government spending, this conclusion is confirmed by Ferreiro et. al. (2009, 2013) through a box plot analysis, and by Apergisa et. al. (2013) through panel convergence testing for different samples of EU countries.

Given the potentially different impact on market activity and growth of productive and non-productive components of government spending, as recognized in the Lisbon Strategy, several papers address the issue of the convergence in the functional composition of total expenditure. Apergisa et al. (2013) find no evidence of convergence in a sample of seventeen EU countries over the period 1990-2012. The overall result of no convergence is confirmed by Ferreiro et al (2009) for a sample of ten EU countries over the period 1990-2005 and by Ferreiro et al. (2013) for twenty EU countries between 1990 and 2007. In both papers a result of no convergence emerges, with the exception of Education after EMU in the EU10 sample and of Public General Services in the EU20 sample. In a longer run perspective, Sanz and Velazquez (2006) analyse with σ- and β-convergence techniques the evolution of the functional components of expenditure for a group of 26 OECD countries between 1970 and 1997. They find that the subsample of euro countries displays convergence only in Education and General Public Services.

Finally, the convergence of the composition of total public expenditure according to an economic classification is examined in Bertarelli et al. (2014) and Ferreiro et al. (2013), by considering a EU14 sample over the 1990-2008 period and a EU20 sample over 1990-2007, respectively. By using different statistical tools, both analyses show an overall no convergence/divergence pattern, with the exception of the debt interest component 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 the time periods prior to the euro era, the observed convergence in tax revenue, fiscal position and, to a minor extent, in total government spending, appears to be triggered more by the process of economic integration starting in the mid-seventies, rather than by the institutional arrangements approved in the nineties. Second, when shorter time periods are considered, covering the last two decades, it emerges 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 is concerned. Moreover the convergence in the fiscal position detected over the nineties seems to aim only at fulfilling of the common currency admission requirements.

On the whole, the reviewed literature outlines a rather unsatisfactory picture. Over the last two decades the refinements of the common regulatory setting, the stricter binding constraints on deficit and debt and the supranational policy recommendations did not succeed in orienting national policies towards common objectives. The resulting extent of fiscal harmonization at the outset of the crisis appears weak and heavily conditioned by domestic objectives pursued by national governments. Given this fiscal heterogeneity, the overall fiscal stability inside the EU appears vulnerable to external shock. Clearly, the 2008 crisis constitutes a dramatic test of the above conjecture. In the next section the empirical analysis explores empirically the early sign of the impact of the crisis, with particular attention to the likely disarranging effects between the Core and Peripheral sets of EU countries.

III. Empirical Results

In this section we present the empirical results of the fiscal convergence analysis. We consider first the key aggregate fiscal policy indicators expressed as GDP percentages: deficit, debt, total revenue and total government expenditure. In addition we include in the analysis 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). These latter sets of variables are expressed as a percentage of total government expenditure. Data come from Eurostat. Three samples of countries has been selected and labelled EU14, Core and Periphery. The EU14 sample consists of the following EU countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden, and United Kingdom. The Core subset includes Austria, Belgium, Denmark, Finland, France, Germany, the Netherlands, Sweden, and United Kingdom, while the Periphery is left with Greece, Ireland, Italy, Portugal and Spain. In respect of the conspicuous body of literature employing the distinction between Core and Periphery countries in the EU, the identification of the Periphery is almost unanimous[3], while the notion of Core is more likely to change. Since the fiscal frame established in the Maastricht Treaty and Stability and Growth Pact is relevant also for the EU countries outside the Eurozone, we decided to compare the fiscal performance of the Peripheral countries against the Core of EU, including not only the EMU members but also those countries with strengthened roots in the history of the European Union over the last twenty years and with a mature stage of economic development[4]. Finally, the time period considered runs from 2004 to 2012. This choice allows an analysis of the convergence pattern through a balanced time span before and after the crisis.

Empirical results are displayed in Tables 1-4. The upper panel of each table shows the convergence results. We follow a σ-convergence approach. For the three samples of countries we calculate the percentage cross-country variance change for the entire 2004-2012 time period and for the two subperiods 2004-2008 and 2009-2012[5], where a negative sign indicates convergence whereas a plus sign divergence. To limit business cycle effects we use initially a 3-year average (2004-2006) and 2–year averages for later periods (2007-2008, 2009-2010, and 2011-2012). In the lower panel of each table we include the time evolution of the fiscal variables, measured as two-year averages. The purpose of this latter body of information is to

[3] 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).
[4] For this reason we do not consider recent EU members.
[5] Actually the limited size of our sample period allows only this descriptive analysis of convergence.

enrich the discussion by combining the detected convergence pattern with the time evolution of the variables.

A. Aggregate Fiscal Variables

We examine first the convergence pattern of the main fiscal variables: deficit and debt, the two key fiscal indicators included in the Maastricht convergence criteria and reaffirmed in the Stability and Growth Pact and its later reforms, and total revenue and total government expenditure. In Table 1 the percentage cross-country variance changes (Δ Var. (%)) for the deficit – to – GDP ratio show a meaningful overall convergence inside the Core and Periphery samples (-38% and -28% respectively) between 2004 and 2012. However, a slight divergence appears in the EU14 sample (+14%) over the same period, indicating that a dissimilar pattern characterize 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 sample (-48%), while this pattern of convergence appears between 2009 and 2012 in the Core sample (-46%). The time evolution of average shares reported in Table 1 suggests that the detected convergence reflects the different timing of fiscal response to the 2008-2009 global financial crisis inside Core and Periphery. In particular, the negative effects of the crisis on fiscal balances started in 2007-2008 in the 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 after 2009, which, however, involved only a moderate convergence. This indicates a different degree of commitment to lower deficit – to – GDP ratio among the Periphery countries. 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 4.3 GDP points. As a result, the sustained convergence observed between 2009 and 2012 reflects the effort undertaken by governments inside the Core to bring deficit back to the 3% threshold.

On the Debt/GDP side, between 2004 and 2012 a marked heterogeneity emerges among the EU14 countries, with a 92% increase in dispersion. Since the Core experiences a 50% dispersion increase in 2004-2012, while a slight convergence is observed in the Periphery, the substantial divergence in the EU14 reflects the widening between Core and Periphery.

When the two country samples are considered separately, a persistent divergence in the Core countries appears, while a slight convergence characterizes the Periphery between 2004 and 2012. This pattern 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, in the Core the crisis raised the 2009-2010 debt share by 11 percentage points with respect to 2007-2008, with a later increase by five points in 2011-2012, while the debt share burst by 24 points in the Periphery followed by a further 23 points increase. According to this evidence, the debt/GDP ratio showed a growth slowdown in the Core, while it kept moving along an unchanged trend in the Periphery. This explains the divergence (+45%) detected in the EU14 between 2009 and 2012.

Table 2 shows the σ-convergence results for total government expenditure and total revenue over GDP. An overall convergence between 2004 and 2012 among the EU14 countries (-43%) emerges for total expenditure. However, when the two subsets of countries are considered separately, a decrease in dispersion is detected in the Periphery (-72%), while a divergence pattern arises in the Core (+37%). The evolution of the average share of government expenditure in Table 2 suggests that the observed convergence in the EU14 sample actually reflects the approaching of the Periphery to the higher average share of the Core. However, a similar pattern of convergence characterizes both Core and Periphery in the periods 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 the EU14 sample between 2004 and 2012, a contrasting behaviour is detected between Core and Periphery. In particular, the crisis seems only to weaken the convergence process at work inside the Core area since 2004, whereas it enhances dramatically the divergence tendency among Periphery countries[6]. Remarkably, the convergence pattern in the Core is accompanied by a stable average share, while the divergence pattern in the Periphery is associated with a revenue share that slightly shifts over time.

Overall, these results indicate that different policy mix were implemented across countries. Indeed, while the Periphery managed both revenue and expenditure to cope with the recessive effects the crisis, leading to an increased heterogeneity in both variables, the Core countries, starting with a balanced deficit at the outset of financial troubles, managed only the expenditure side, leaving substantially unaffected the reduced dispersion on the revenue side inherited from 2008.

B. Composition of Public Expenditure

To gain a deeper understanding of the impact of the crisis, we examine also the convergence pattern of the main components of total public expenditure, measured as a share of total expenditure, according to both an economic and functional classification.

According to the economic classification we distinguish between 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

[6] Since a dispersion increase is detected in 2004-2008 and 2009-2012 in the Periphery (+48% and +31%, respectively), the strong divergence over the whole period (+213) actually reflects the variance increase between 2008 and 2009.

divergence appears between 2004 and 2012 in the EU14 sample. Since dispersion inside the Core area remains substantially stable, the detected increase in dispersion in the EU14 sample 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 total expenditure share on public consumption.

Social benefits are actually the fiscal variable with the lowest dispersion changes. The percentage change of variance never exceeds 12%, with the exception of the Periphery sample, where a noticeable divergence pattern (+48%) is detected before the crisis. It is worth noticing 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 Core average, which remains substantially stable. However, this cannot be regarded as an effective harmonization process between Core and Periphery, since no convergence is displayed in the EU14 sample.

The debt interest component of public expenditure 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 the EU14 sample (+42%). While the impact of the crisis causes a slight divergence in the Core (+20%), with a steadily declining average share since 2004, inside the Periphery area the decrease in dispersion (-52%) detected between 2004 and 2012 actually reflects the 2009-2012 convergence process (-40%) towards a higher average share triggered by the heavier debt burden

The convergence pattern observed in public investment is particularly meaningful, since it clearly shows a dramatic consequence of the crisis. The detected dispersion decrease observed in the EU14 sample essentially depends on the convergence pattern observed in the Periphery. Indeed, while in the Core area an overall unchanged dispersion is associated with a stable average share of 4.5%, inside the Periphery a remarkable divergence pattern (+107%) stops at the outset of crisis, replaced by marked convergence (-86%) accompanied by 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 area shows limited dispersion changes accompanied by stable average shares. On the contrary, the crisis prompted a substantial reallocation of public expenditure among the 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 components according to the functional classification. We include social Protection, health, education and public general services measured as a share of total government spending. Considered together these components amount to the 80% of total expenditure.

As reported in Table 4, social protection[7] shows a steady convergence process in the EU14 sample (-59%) over the whole period, that results 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 an increase of the average share towards the Core level. By considering the two subperiods separately, the positive variance changes detected in 2004-2008 in both country sets turn into a negative sign

[7] 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 a detailed reference see the “Manual on sources and methods for the compilation of COFOG Statistics” 2011 edition pag.65.

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 (over the entire period -46% and -35% in the Core and Periphery, respectively), that weakens in the EU14 sample (-22%). This latter result can be explained by taking into account the decreasing average share in the Periphery after 2008 that diverges from the stable share of the Core. Similar considerations also apply in the two subperiods.

As for health, a distinctive patterns before and after the crisis can be identified inside the EU14 sample. Between 2004 and 2008 a convergence process appears (-36%), that stops in following years, as a marked divergence arises (+58%) associated with diverging shares between Core and Periphery. Moreover, a different pattern characterizes Core and Periphery over the whole period. In the Core sample an overall divergence emerges between 2004 and 2012 (+42%), while convergence characterizes the Periphery sample (-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.

Finally, the share of public general services displays a convergence pattern within the Core countries (-34%) over the entire period accompanied with a stable average share, while no convergence is observed in the Periphery sample, associated with an increase in the average share after 2009[8]. Combined with the larger dispersion detected in the EU14 sample, these results suggest an enlarged heterogeneity between Core and Periphery as a consequence of the crisis.

[8] Since debt interest are included in the public general services, the increase from 15% to 17.3% actually result from the increase in interest expenditure over the second subperiod.

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 area 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.

IV. Final Remarks

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

The results obtained highlight the heavy impact in the EU area of the 2008 financial crisis 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, signalling an overall tendency to diverge of the Periphery from the Core.

As for fiscal balances, inside the EU area a tendency to converge was detected after the crisis due to the fiscal correction measures undertaken by governments. 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 the Periphery countries. Indeed, in a longer term perspective, the exposure of public deficit to the disarranging effects of the crisis seems to take roots from the fiscal management of the previous decade (Bertarelli et al., 2014), that determined within the euro area a deficit heterogeneity consistent with country specific level of deficits. In this respect the failure of governments to tighten fiscal policy in the favourable high growth environment of the early 2000s was a missed opportunity (Lane, 2012). 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 (2012), the fiscal disciplinary frame of euro worked well before the common currency introduction but much less well afterwards. Despite the stricter regulatory framework of the Stability and Growth Pact in 1997, the enhanced diversity in the deficit positions among the EU countries over the 2000s appears a situation vulnerable to adverse shocks and potentially opened to further divergence[9]. 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 to an extent that seriously challenges the political consensus on the ongoing process of economic integration inside the EU area.

We further investigated the management of total revenue and spending before and after the crisis. On the total expenditure side, a similar pattern characterized the EU area and the two country samples. Specifically, the crisis disarranged the convergence in total government expenditure, that starting at the outset of euro continued till 2009[10]. The following boost of dispersion suggests that the spending lever has been used in dissimilar manner by countries both in the Periphery and in the Core samples. After the crisis the average share of total spending over GDP increased sharply in the Periphery countries, quickly approaching the Core average, but without any sign of harmonization. On the revenue side, a different pattern

[9] Bordo and James (2012) stress that the exceeding deficit of Germany and France between 2003 and 2005 did not involve any official disciplinary procedure, which had “a corrosive effect on other countries” (pag. 21).
[10] By employing different techniques to detect convergence, 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. .

emerged between Core and Periphery. While in the Core the crisis did not seem to stop an ongoing harmonization process[11], a remarkable divergence appears inside the Periphery associated with unstable GDP shares, indicating again that Periphery countries reacted to the recessionary effects of the crisis by implementing heterogeneous policy strategies. Overall these results suggest that in the Periphery countries the crisis disarranged both revenue and expenditure, leading to an increased dispersion in both variables. The Core, likely by taking advantage from a balanced deficit at the outset of financial troubles, managed only the expenditure side, leaving substantially unaffected the reduced dispersion on the revenue side inherited from 2008. These latter 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 dissimilar policy and the enhanced fiscal dispersion among the 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 frame of public expenditure appears stable inside the Core, with minor changes in dispersion and substantially invariant shares, the crisis had a destabilizing impact on the economic frame of expenditure 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[12], the former depends on an overall reallocation of public expenditure, entailing a lower share that after 2008

[11] See on this point Bertarelli et al (2014)

[12] Von Hagen et al. (2011) show that market penalizes rising fiscal deficits much stronger after the Lehman and Brothers default.

diverged from the stable average level of the Core area. As far as social benefits and public investment are concerned, 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 it was not accompanied with any relevant dispersion decrease; in the case of public investment the observed convergence between Core and Periphery actually reflects the severe decrease after the crisis of the average share towards the level of the Core area. On the one side, the sharp rise in the share of social benefits essentially depends on the necessity to protect household income from the crash of the labour market, on the other side the need to cope with excessive deficits resulted in the crowding out of both public consumption and public investment. The drastic cut of this latter component may entail harmful consequences on the catching-up process started in the last decade on the part of several Periphery countries.

The overall tendency of the Periphery area to diverge from the Core as a likely consequence of the crisis is confirmed looking at the main components of the functional composition of public spending. In this context, only the share devoted to social protection shows an intensified convergence after the crisis among the EU countries. As far as the other components are concerned, the detected convergence in education seems to be specific of the two country samples, with the Core converging around a stable share, while the lowering dispersion inside the Periphery associates with a decreasing share below the Core average. Similarly, also the share devoted to health shows in the Periphery a converging pattern toward a share lower than the Core one. Indeed, 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 expenditure, with undesirable long term implications. On the whole, it appears that the need to strengthen social protection measures on the one side, and the increase in the debt burden as a consequence of the crisis disarranged in the Periphery area the composition of total government spending according both to an economic and functional definition. Differently, in the Core area 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 (except for health). Overall, this suggests that while in the Core area the fiscal response to the crisis might be considered a temporary shock, in the Periphery even in the circumstance of an economic recovery, the increased debt burden might enhance the persistence of the crowding out effect of productive expenditure.

The etymology of the word crisis is suggestive in order to summarize a few final remarks. Crisis comes from the ancient Greek *krinein,* which means "to separate". Indeed, the results presented in this paper show the early consequences of the "fiscal stage" of the crisis started in the late 2008. The macroeconomic imbalances grown inside the EU area since the introduction of the common currency represented the favourable ground not only for the bursting effects of the financial crisis on the real economy, but also for diverse fiscal effects and fiscal responses of national governments, that further widened the distance between Core and Peripheral EU countries. But *krinein* also means "to choose" and in this sense it actually indicates the urgency of a revised setting of the EU design. Indeed, the disarranging effects of the crisis disclosed the short-sighted view of the Maastricht Treaty and the Stability and Growth Pact and their inadequacies as an effective mechanism for fiscal coordination and control. The debt crisis and the "early signs" of fiscal divergence shown in this paper call for a new institutional frame, possibly designed through a renewed democratic legitimation[13] to contrast the growing Eurosceptic movements inside the EU area and able to pursue effectively an objective of growing fiscal harmonization as a condition for a revitalised engine for economic growth.

[13] 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).

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TABLE 1. Deficit/GDP and Debt/GDP

	Deficit/GDP			Debt/GDP		
	EU14	**Core**	**Periphery**	**EU14**	**Core**	**Periphery**
Index of dispersion						
Time period	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)
2004-2012	14.4	-37.8	-27.8	92.0	49.5	-22.8
2004-2008	21.9	19.0	-47.7	12.9	12.4	3.8
2009-2012	-34.1	-45.6	-16.1	45.3	17.9	-9.7
Average share						
Time period	**EU14**	**Core**	**Periphery**	**EU14**	**Core**	**Periphery**
2004-2006	-1.2	-0.5	-2.4	60.9	56.5	68.8
2007-2008	-1.1	0.4	-3.8	60.2	53.9	71.5
2009-2010	-.6.7	-.4.7	-.10.4	76.5	65.5	96.3
2011-2012	-4.7	-3.1	-7.7	87.4	70.2	115.5

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

	Total Revenue/GDP			Total Expenditure/GDP		
	EU14	**Core**	**Periphery**	**EU14**	**Core**	**Periphery**
Index of dispersion						
Time period	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)
2004-2012	-7.1	-28.8	212.8	-43.2	37.2	-71.6
2004-2008	-17.4	-27.1	48.2	-50.2	-31.0	-44.9
2009-2012	-6.9	-7.3	31.8	60.2	89.8	46.1
Average share						
Time period	**EU14**	**Core**	**Periphery**	**EU14**	**Core**	**Periphery**
2004-2006	45.7	49.9	39.9	46.9	49.5	42.3
2007-2008	45.9	48.9	40.6	47.0	48.5	44.4
2009-2010	45.3	48.6	39.4	52.1	53.3	49.8
2011-2012	46.2	49.2	40.9	51.0	52.3	48.6

TABLE 3. Main Economic Components of Total Government Expenditure

	EU14	Core	Periphery	EU14	Core	Periphery
Index of dispersion						
Time period	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)
		Public Consumption/Gtot			**Social Benefits/Gtot**	
2004-2012	38.3	11.3	-46.9	-10.2	-2.0	-12.2
2004-2008	8.2	8.5	-31.7	6.6	10.4	48.6
2009-2012	25.5	0.3	38.4	-3.4	-2.7	-11.1
		Debt Interest/Gtot			**Public Investment /Gtot**	
2004-2012	42.1	-7.3	-52.2	-72.8	-8.6	-90.4
2004-2008	12.4	-2.7	14.9	25.2	4.5	107.2
2009-2012	48.0	20.0	-40.1	-51.0	-10.2	-86.0

Average share						
Time period	**EU14**	**Core**	**Periphery**	**EU14**	**Core**	**Periphery**
		Public Consumption/Gtot			**Social Benefits/Gtot**	
2004-2006	45.3	45.7	44.6	39.6	41.0	37.1
2007-2008	45.6	46.5	44.2	39.9	40.8	38.5
2009-2010	45.1	46.2	43.3	41.1	41.4	40.5
2011-2012	44.2	46.1	40.7	42.3	42.0	42.7
		Debt Interest/Gtot			**Public Investment /Gtot**	
2004-2006	5.7	5.1	6.8	5.6	4.4	7.9
2007-2008	5.6	4.9	6.9	5.9	4.7	8.2
2009-2010	5.1	4.3	6.7	5.3	4.7	6.4
2011-2012	6.0	4.4	8.8	4.4	4.5	4.3

TABLE 4. Main Functional Components of Total Government Expenditure

	EU14	Core	Periphery	EU14	Core	Periphery
Index of dispersion						
Time period	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)	Δ Var. (%)
		Social Protection/Gtot			**Education /Gtot**	
2004-2012	-59.5	-26.9	-37.2	-22.6	-45.9	-35.1
2004-2008	-17.0	6.8	4.5	-12.9	-15.8	-17.0
2009-2012	-35.0	-26.2	-18.1	-14.7	-35.2	-15.2
		Health/Gtot			**Public General Services/Gtot**	
2004-2012	-12.44	42.5	-42.8	27.4	-33.7	2.7
2004-2008	-35.8	-3.4	-33.5	9.4	-6.7	15.9
2009-2012	58.4	44.2	12.3	25.8	-20.3	0.6
Average share						
Time period	**EU14**	**Core**	**Periphery**	**EU14**	**Core**	**Periphery**
2004-2006	37.9	40.2	33.8	11.7	11.8	11.5
2007-2008	37.8	39.5	34.7	11.5	11.8	11.0
2009-2010	38.8	40.0	36.7	11.3	11.8	10.5
2011-2012	39.8	40.4	38.7	11.1	11.7	10.1
		Health/Gtot			**Public General Services/Gtot**	
2004-2006	14.5	14.1	15.3	14.1	13.4	15.4
2007-2008	14.9	14.8	15.0	14.0	13.3	15.2
2009-2010	14.8	15.0	14.6	13.5	12.7	15.0
2011-2012	14.7	15.2	13.7	14.5	13.0	17.3