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Acknowledgments: A previous version of the paper was presented at the 11th International Conference Developments in Economic Theory and Policy (Bilbao, 26-27 June, 2014). We want to thank the comments and suggestions made by the participants at the conference. The paper has been funded by the European Union Seventh Framework Programme (FP7/2007-2013), Research Project FESSUD (Project Number: 266800), and by the Basque Government (Consolidated Research Group IT712/13).

Fiscal Policies in the European Union during the Crisis

Summary: The paper studies the fiscal policies implemented in the European Union countries since the beginning of the current crisis. With this aim in mind we have analyzed separately the expansionary fiscal policies implemented at the first stage of the crisis and the fiscal consolidation policies that became widespread at the beginning of the current decade. Studying the content of the national fiscal policies (discretionary measures versus built-in stabilizers, revenue-based versus expenditure-based fiscal policies, the relationship existing between the size of the fiscal impulses-adjustments and the composition of these measures) shows the significant differences between the fiscal policies implemented in the European Union countries.

Key words: European Union, Fiscal policy, Economic crisis.

JEL: E62, E65, H62, O52.

The economic crisis that was unleashed in 2008 has led to a reassessment of the fiscal policy. In most cases, due to pragmatic reasons many developed and emerging economies have used fiscal policy as an active instrument to alleviate the effects of the crisis. Moreover, even from a theoretical perspective there has been a change in the view about the economic impact both of the measures of fiscal impulse and consolidation. As a result, the fiscal policy has abandoned its passive role, hitherto limited to the reduction or elimination of the fiscal imbalances in order to guarantee the effectiveness of a monetary policy that focuses on price stability, and has adopted a more active role, at least in certain circumstances (Jesús Ferreiro, Carmen Gómez, and Felipe Serrano 2013).

In the case of the eurozone, the fiscal rules resulting from the Maastricht Treaty, the Stability and Growth Pact and the Fiscal Compact, imply an attempt to harmonize the fiscal policies of the eurozone economies, at least in terms of the size and evolution of the fiscal imbalances (public budget deficits and public debt). However, these norms do not mean that all the eurozone countries must mimetically adopt the

same fiscal policy strategy in order to reach fiscal targets, mainly in the measures adopted to modify the size of public revenue and expenditure. Nonetheless, with the aim of fostering the economic growth, the strategy behind the Quality of Public Finances promoted by the European Union in the last decade has tried to change the composition of the national public budgets, both in the structure of revenue and that of expenditure. An effective implementation of that strategy would imply convergence in the composition of the European public budgets. However, though empirical analysis has proved the existence of a convergence process in the size of sign of fiscal imbalances and in the size of government spending, the convergence would be weak or non-existing in terms of the composition of public expenditures, at least until the onset of the financial and economic crisis (Ferreiro, Maribel García del Valle, and Gómez 2010, 2012, 2013; Silvia Bertarelli, Roberto Censolo, and Caterina Colombo 2014; Ferreiro, Carlos A. Carrasco, and Gómez 2014).

Strict observance of those fiscal norms would lead to the existence of a single fiscal policy strategy in the European Union. National fiscal policies would only differ according, first, to the phase of the business cycle of the economies, and, second, to the size of the deviation existing between the current economic activity and its normal or tendency levels.

The purpose of the paper is to analyze whether, as a result of the current crisis, European economies have implemented since the beginning of the crisis the same fiscal policy strategy, or, conversely, there have been different models of fiscal policies. In the following sections we will study the composition of the national fiscal policies in the European Union. We will analyze separately the expansionary fiscal policies implemented at a first stage of the crisis and the fiscal consolidation policies that started to be implemented in the current decade. Thus, Section 1 will analyze whether fiscal policies in the European Union have adopted a procyclical or a countercyclical stance. Section 2 will focus on the content of the national fiscal policies, analyzing, first, whether national fiscal policies have been based on discretionary responses or on the working of the built-in stabilizers, and second, whether fiscal policies were revenues-based or expenditure-based. Next, we will analyze the possible relationship between the size and the composition (revenue *versus* expenditure) of the fiscal impulses-adjustments, and the relationship between the evolution of the size of public revenue and expenditure. The final section concludes.

1. Have Fiscal Policies in the European Union Been Procyclical or Countercyclical?

The purpose of this section is to analyse whether fiscal policies in the European Union (EU) have been working since the year 1999 in a procyclical or in a countercyclical way. In a recent paper, Florence Huart (2013), focusing on the eurozone countries, argued that in the period 1999-2009, fiscal policy was not procyclical, and that discretionary fiscal policies have become more countercyclical after 1999, in particular during bad times.

The hypothesis we will test is whether in Europe the implementation of a countercyclical fiscal policy has been a widespread phenomenon since the creation of

the eurozone in 1999. In this sense, we will analyse the behaviour of the fiscal policy, first, for the whole period (1999-2013), and, later, by establishing two sub-periods: 1999-2007 and 2008-2013. Thus, we want to know whether the current crisis has involved a change in the stance of fiscal policies in Europe. Besides, we will divide the EU member states in two groups: the euro countries and the non-euro countries. This division will allow us to ascertain whether the fiscal rules operating in the eurozone have a singular impact on the fiscal policies of its member states.

To define the stance of the fiscal policy we have used the change in the primary cyclically adjusted budget balance (PCABB) of the general governments in the European Union. Data regarding European public finances have been obtained from Government Finance Statistics provided by the Eurostat Database in its website. An improvement in the PCABB is identified with a restrictive fiscal policy, and a worsening in the change of the PCABB has been identified with an expansionary fiscal policy. The fiscal policy can be procyclical or countercyclical depending on the restrictive-expansionary stance, as previously defined, and on the situation regarding the business cycle. In this respect we will use the output gap (the difference between actual and potential gross domestic product) to argue the existence of a recession (negative output gap) or an expansion (positive output gap). To this end, we have used the output gap figures provided by the Annual Macro-Economic (AMECO) Database. We will define a fiscal policy as being procyclical when an expansionary fiscal policy is implemented during a period of expansion and when a restrictive fiscal policy is implemented during a recession. Conversely, a countercyclical fiscal policy will exist when an expansionary fiscal policy is implemented during a recession and when a restrictive fiscal policy is implemented during a period of expansion.

We are aware of the endogeneity problems existing in the relationship between the output gap and the cyclically adjusted public balance (CAPB). The correct estimation of the latter depends on the correct estimation of the output gap, which, in turn, depended on the correct estimation of the potential output. This implies that the mistakes in the estimation of the output gap lead to mistakes in the estimation of the cyclically adjusted public balance and to mistakes in the evaluation of the fiscal policy stance. Thus, if output gap is underestimated, then the discretionary component of the public budget balance will be overestimated. Therefore, the analysis carried out in this paper about the discretionary stance of the fiscal policy and its procyclical or countercyclical stance must be taken with caution. Nonetheless, we will use the data about output gap and cyclically adjusted public balance made by AMECO, because, though they might be wrong, they can offer a plausible and useful tool to analyse the differences in the national fiscal policy strategies as far as any bias in the estimation of the output gap and the CAPB would be similar for all countries (José M. González Mínguez and Camilo A. Ulloa Ariza 2007; Michael T. Kiley 2013; Robert Anderton et al. 2014). In this sense, we want to emphasize that the aim of the paper is to detect differences among the national fiscal policy strategies, and not to offer policy prescriptions about how to reduce these fiscal imbalances.

Table 1 shows the stance of the fiscal policies of the European Union Member States for the period 1999-2013. Our aim is to know the number of countries that each year were implementing procyclical or countercyclical fiscal policies taking into account the phase of the business cycle.

Table 1 Number of Countries with a Certain Fiscal Policy Stance

	Expansionary in recessions (Countercyclical)	Expansionary in booms (Procyclical)	Restrictive in recessions (Procyclical)	Restrictive in booms (Countercyclical)
1999	4	11	1	8
2000	4	8	0	15
2001	2	15	0	10
2002	9	11	2	5
2003	10	8	5	4
2004	6	6	6	9
2005	2	9	7	9
2006	1	14	2	10
2007	0	18	0	9
2008	0	21	0	6
2009	19	2	6	1
2010	12	1	14	1
2011	4	2	20	2
2012	10	1	17	0
2013	9	1	17	1

Source: Our calculations based on the AMECO Database¹.

The figures provided in Table 1 show clearly that until the current crisis, countercyclical fiscal policies dominated the European scene, both whether countries implemented expansionary fiscal policies during recessions or they adopted restrictive fiscal policies in expansions. However a large number of countries implemented expansionary fiscal policies in the years 2006 to 2008, i.e., before the crisis or when it had just began. Since 2011 most countries have been adopting restrictive fiscal policies during a slump.

Table 2 Number of EU Countries Adopting Procyclical and Countercyclical Fiscal Policies

	Expansionary in recessions (Countercyclical)		Expansionary in booms (Procyclical)		Restrictive in recessions (Procyclical)		Restrictive in booms (Countercyclical)	
	Euro	Non-euro	Euro	Non-euro	Euro	Non-euro	Euro	Non-euro
1999	2 (12%)	2 (25%)	9 (57%)	2 (25%)	0 (0%)	1 (12%)	5 (31%)	3 (38%)
2000	1 (6%)	3 (30%)	6 (35%)	2 (20%)	0 (0%)	0 (0%)	10 (59%)	5 (50%)
2001	0 (0%)	2 (20%)	10 (59%)	5 (50%)	0 (0%)	0 (0%)	7 (41%)	3 (30%)
2002	4 (24%)	5 (50%)	8 (47%)	3 (30%)	0 (0%)	2 (20%)	5 (29%)	0 (0%)
2003	7 (41%)	3 (30%)	4 (24%)	4 (40%)	5 (29%)	0 (0%)	1 (6%)	3 (30%)
2004	5 (29%)	1 (10%)	3 (18%)	3 (30%)	6 (35%)	0 (0%)	3 (18%)	6 (60%)
2005	1 (6%)	1 (10%)	5 (29%)	4 (40%)	6 (35%)	1 (10%)	5 (29%)	4 (40%)
2006	1 (6%)	0 (0%)	6 (35%)	8 (80%)	2 (12%)	0 (0%)	8 (47%)	2 (20%)
2007	0 (0%)	0 (0%)	12 (71%)	6 (60%)	0 (0%)	0 (0%)	5 (29%)	4 (40%)
2008	0 (0%)	0 (0%)	13 (76%)	8 (80%)	0 (0%)	0 (0%)	4 (24%)	2 (20%)
2009	13 (76%)	6 (55%)	0 (0%)	2 (18%)	4 (24%)	2 (18%)	0 (0%)	1 (9%)
2010	8 (47%)	4 (36%)	0 (0%)	1 (9%)	8 (47%)	6 (55%)	1 (6%)	0 (0%)
2011	2 (12%)	2 (18%)	2 (12%)	0 (0%)	12 (71%)	8 (73%)	1 (6%)	1 (9%)
2012	5 (29%)	5 (45%)	1 (6%)	0 (0%)	11 (65%)	6 (55%)	0 (0%)	0 (0%)
2013	2 (12%)	7 (64%)	0 (0%)	1 (9%)	14 (82%)	3 (27%)	1 (6%)	0 (0%)

Source: Our calculations based on the AMECO Database.

¹ European Commission's Directorate General for Economic and Financial Affairs (DG ECFIN). 2014. Annual Macro-Economic (AMECO) Database. http://ec.europa.eu/economy_finance/db_indicators/ameco/index_en.htm (accessed March 19, 2014).

Table 1 showed the behaviour of the fiscal policies in the European Union. This implied that we were including both countries belonging and outside the euro area, and, therefore, we could be hiding possible differences between both groups of countries. To avoid this problem, Table 2 shows the differences among euro and non-euro countries regarding the stance of their respective fiscal policies. This table shows the number of countries that implement each of the four types of fiscal policy considered. The percentage that the corresponding figure represents in relation to the total number of economies belonging and not-belonging to the euro area are shown in brackets in each cell.

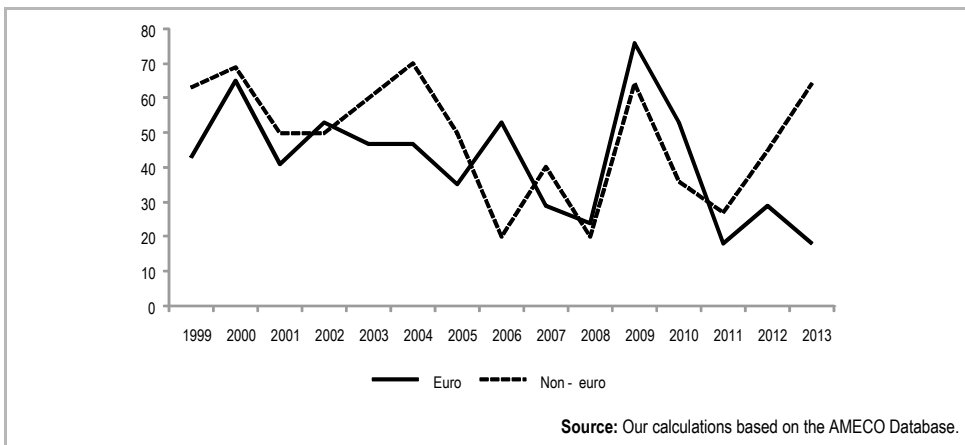


Figure 1 Share of Countries Implementing Countercyclical Fiscal Policies (%)

For a better understanding of the information provided in Table 2, Figure 1 represents the percentage of euro and non-euro economies that have adopted countercyclical fiscal policies. The most striking fact is that since 1999, most euro economies have been adopting procyclical fiscal policies. Only in five years (2000, 2002, 2006, 2009 and 2010) the percentage of euro economies that adopted countercyclical fiscal policies was above 50 percent. This behavior has manifested itself both during booms and slumps, and before and during the current crisis. Conversely, the adoption of countercyclical fiscal policies proved to be the dominant pattern in non-euro economies: in 9 out of the 15 years analysed, the percentage number of countries with countercyclical fiscal policies was above 50 percent. It is remarkable that between 1999 and 2005, countercyclical fiscal policies were dominant in non-euro countries, although this share fell dramatically in 2006. Since then, with the exception of 2007 and until 2010, the share of countercyclical fiscal policies in non-euro economies rose, although it remained below that of eurozone. But since 2011 the share of countercyclical fiscal policies was again higher in non-euro economies.

If we focus on the more recent years, we can note the differences existing between both groups of countries since 2011. In the case of the eurozone, in the years 2011, 2012 and 2013 there was a recession in 14, 16 and 16 countries, respectively. Out of these countries, the percentage number of countries adopting a procyclical restrictive fiscal policy was 86%, 69% and 88% in 2011, 2012 and 2013. The situa-

tion in the non-eurozone was, however, significantly different. In the years 2011, 2012 and 2013 10, 11 and 10 countries, respectively, experienced a recession. During those three years, the percentage number of countries implementing a procyclical fiscal policy was much lower than that of the eurozone - namely, 80%, 55% and 30%, respectively.

Previous data show the existing differences between the Member States of the eurozone and those that do not belong to the European Monetary Union. These differences are more pronounced since the beginning of the current crisis. These differences suggest the need to analyze the differences in the national fiscal policies between the years before and after the crisis (i.e., before and after 2008). Moreover, the differences between both groups of countries can hide the differences within both groups of economies. Consequently, in Tables 3 and 4 we show the fiscal policy stances of the individual EU economies in 1999-2007 and 2008-2013, respectively. Non-euro countries are shown in bold. As Table 3 shows, at the beginning of the eurozone era most European economies were implementing a countercyclical fiscal policy, although we cannot argue that this position was clearly predominant given the large proportion of countries with a procyclical fiscal stance. However, what is im-

Table 3 Fiscal Policy Stance in European Union Countries 1999-2007

Year	Fiscal policy	Stance	Countries	Stance
1999	Expansionary	Countercyclical	EE, SK, LV, BG	Countercyclical (12) Procyclical (12)
		Procyclical	BE, IE, FR, IT, CY, LU, AT, SI, FI, SE, CZ	
	Restrictive	Countercyclical	DE, ES, MT, NL, PT, UK, DK, PL	
		Procyclical	GR	
2000	Expansionary	Countercyclical	SK, BG, CZ, RO	Countercyclical (19) Procyclical (8)
		Procyclical	BE, GR, ES, FR, PT, SI, DK, PL	
	Restrictive	Countercyclical	DE, EE, IE, IT, CY, LU, MT, NL, AT, FI, LV, SE, UK, LT, HU	
		Procyclical		
2001	Expansionary	Countercyclical	LT, PL	Countercyclical (12) Procyclical (15)
		Procyclical	DE, EE, IE, GR, FR, IT, CY, NL, PT, FI, SE, UK, DK, CZ, HU	
	Restrictive	Countercyclical	BE, ES, LU, MT, AT, SI, SK, LV, BG, RO	
		Procyclical		
2002	Expansionary	Countercyclical	GR, NL, SK, FI, LV, SE, UK, CZ, RO	Countercyclical (14) Procyclical (13)
		Procyclical	BE, DE, IE, FR, IT, CY, LU, AT, DK, BG, HU	
	Restrictive	Countercyclical	EE, ES, MT, PT, SI	
		Procyclical	LT, PL	
2003	Expansionary	Countercyclical	ES, CY, LU, MT, NL, AT, FI, SE, DK, PL	Countercyclical (14) Procyclical (13)
		Procyclical	GR, FR, IT, SI, UK, CZ, LT, RO	
	Restrictive	Countercyclical	EE, LV, BG, HU	
		Procyclical	BE, DE, IE, PT, SK	
2004	Expansionary	Countercyclical	LU, AT, PT, SK, FI, PL	Countercyclical (15) Procyclical (12)
		Procyclical	BE, IT, SI, UK, LT, RO	
	Restrictive	Countercyclical	EE, ES, FR, LV, SE, DK, BG, CZ, HU	
		Procyclical	DE, IE, GR, CY, MT, NL	
2005	Expansionary	Countercyclical	PT, BG	Countercyclical (11) Procyclical (16)
		Procyclical	BE, EE, IE, IT, SK, LV, UK, CZ, HU	
	Restrictive	Countercyclical	ES, FR, CY, LU, SI, SE, DK, LT, RO	
		Procyclical	DE, GR, MT, NL, AT, FI, PL	
2006	Expansionary	Countercyclical	NL	Countercyclical (11) Procyclical (16)
		Procyclical	EE, GR, MT, AT, SI, SK, LV, SE, DK, CZ, LT, HU, PL, RO	
	Restrictive	Countercyclical	BE, DE, ES, FR, IT, CY, LU, FI, UK, BG	
		Procyclical	IE, PT	
2007	Expansionary	Countercyclical		Countercyclical (9) Procyclical (18)
		Procyclical	BE, EE, IE, GR, ES, FR, MT, NL, AT, SI, SK, FI, LV, UK, DK, BG, LT, RO	
	Restrictive	Countercyclical	DE, IT, CY, LU, PT, SE, CZ, HU, PL	
		Procyclical		

Source: Our calculations based on the AMECO Database.

portant to notice is the fact that before the crisis, namely since the year 2006, this pattern underwent a radical change, with regard to economies - both euro and non-euro - with expansionary procyclical fiscal policies dominating the scene. Table 4 shows that, at the beginning of the crisis, most European countries implemented expansionary procyclical fiscal policies. This outcome may sound strange, but it is explained by that fact that in 2008 most economies were still experiencing a positive, albeit declining, output gap, and therefore, according to the previous definition these economies were in an expansion.

Table 4 Fiscal Policy Stance in European Union Countries 2008-2013

Year	Fiscal policy	Stance	Countries	Stance
2008	Expansionary	Countercyclical	BE, DE, EE, IE, GR, ES, IT, CY, MT, AT, SI, SK, FI, LV, UK, DK, BG, CZ, LT, PL, RO	Countercyclical (12) Procyclical (12)
		Procyclical		
	Restrictive	Countercyclical	FR, LU, NL, PT, SE, HU	
Procyclical				
2009	Expansionary	Countercyclical	BE, IE, GR, ES, FR, IT, CY, LU, NL, AT, PT, SK, FI, UK, DK, BG, CZ, HR, LT, LV, PL	Countercyclical (19) Procyclical (8)
		Procyclical		
	Restrictive	Countercyclical	RO	
Procyclical				
2010	Expansionary	Countercyclical	DE, IE, LU, MT, NL, AT, PT, FI, SE, DK, HR, HU, PL	Countercyclical (12) Procyclical (15)
		Procyclical		
	Restrictive	Countercyclical	CY	
Procyclical				
2011	Expansionary	Countercyclical	BE, SI, SE, HR, EE, CY	Countercyclical (14) Procyclical (13)
		Procyclical		
	Restrictive	Countercyclical	DE, PL, IE, GR, ES, FR, IT, LU, MT, NL, AT, PT, SK, FI, LV, UK, DK, BG, CZ, LT, HU, RO	
Procyclical				
2012	Expansionary	Countercyclical	GR, ES, MT, PT, FI, SE, DK, CZ, HR, HU, EE	Countercyclical (14) Procyclical (13)
		Procyclical		
	Restrictive	Countercyclical	BE, DE, IE, FR, IT, CY, LU, NL, AT, SI, SK, LV, UK, BG, LT, PL, RO	
Procyclical				
2013	Expansionary	Countercyclical	GR, SI, SE, UK, BG, HR, HU, PL, RO, LV	Countercyclical (9) Procyclical (18)
		Procyclical		
	Restrictive	Countercyclical	EE	
Procyclical				

Source: Our calculations based on the AMECO Database.

In 2009, however, with most countries experiencing a negative output gap, expansionary countercyclical fiscal policies were a widespread phenomenon in the European Union. This situation changed in 2010, when a large number of countries (14) implemented measures to reduce their primary cyclically adjusted public budget balance, despite the fact that they were in the midst of a recession (Ferreiro, Gómez, and Serrano 2013; Achim Truger 2013). In 2011, procyclical consolidation policies dominated the European scene, but since 2012 the number of countries implementing expansionary countercyclical fiscal policies has increased significantly. Nonetheless, it is important to note that the majority of these economies do not belong to the eurozone.

In short, the existence of a clear tendency towards implementing procyclical fiscal policies - something that does not happen in the European Union member states that do not belong to the euro area - indicates a failure in the design of the fiscal policy in the eurozone, which makes it difficult for fiscal policies to work following the principles of functional finance (Phillip Anthony O'Hara 2013; Ferreiro,

Gómez, and Serrano 2014). This failure complicates the working of the macroeconomic policies in the eurozone, because it places the burden of the macroeconomic policy on monetary policy, an instrument whose main objective is price stability. On the other hand, insofar as restrictive fiscal policies are nowadays being implemented in a context of recession or, at best, low growth, this complicates the economic recovery of the eurozone and even the objective of reducing fiscal imbalances (Nicoletta Batini, Giovanni Callegari, and Giovanni Melina 2012; Graham Bird and Alex Mandilaras 2013).

2. The Content of the Fiscal Policies in the Crisis

Next, we will analyze the differences in the management of fiscal policy in the European Union during the crisis. We have analyzed European public finances since 2007 (the year before the crisis) using data corresponding to the public budget balances of the general governments provided by the General Finance Statistics of Eurostat and the AMECO Database.

In most European Union countries fiscal deficits peaked in the year 2009. Therefore, we have analyzed the evolution of European public finances drawing a line in the year 2009 and, consequently, divided the period 2007-2013 in two sub-periods: 2007-2009 and 2010-2013. The first sub-period corresponds to the period of widespread expansionary fiscal policies in Europe when fiscal deficits increase, and the second sub-period (2010-2013) corresponds to the period of widespread fiscal consolidation processes, when fiscal deficits enter in a path of correction. However, in some countries expansion and consolidation phases started and finished in years other than 2009. Thus, the exceptions to this grouping are Germany, Luxembourg, Austria, Ireland, Poland and Finland, whose fiscal deficits peaked in 2010 (therefore for these countries the sub-periods are 2007-2010 and 2011-2013), Estonia and Malta (with fiscal deficits peaking in 2008, with the sub-periods 2007-2008 and 2009-2013), and Croatia (for which there is available data only since 2009, and whose sub-periods are 2009-2011 and 2012-2013).

The aim of this section is to study the existence of differences in fiscal policies adopted in the European Union during the crisis, both in the first period of widespread implementation of expansionary fiscal policies and in the more recent period of fiscal adjustments. We will first study the extent to which fiscal policies were based on discretionary measures or on the working of built-in automatic stabilizers. Second, we will study the extent to which fiscal impulse and adjustment strategies were based on revenue or expenditure. Lastly, we will analyze whether the composition (i.e., revenue-expenditure) of fiscal impulses and adjustments was related to the size of the latter.

The first analysis will be based on the study of the cyclically and cyclically adjusted components of the primary budget balance. The second analysis will take into account the behavior of total revenues and primary expenditures. In this case, the choice of this procedure is explained by the fact that the literature about the effects of the fiscal adjustment policies focuses on the existence of different effects depending on whether the improvement in the total public budget balance is based on tax hikes or expenditure cuts. This method hides the fact that the evolution of the budget bal-

ance (and those of public revenues and expenditures) is explained by the discretionary measures implemented by public authorities and also by the evolution of the business cycle. If the objective of a study of the evolution of the public finances were the analysis of the impact of the fiscal adjustment (impulse) on the economic activity, it should be necessary to analyse the discretionary component of public revenues and expenditures. However, as mentioned above, our aim is simpler, focused on how the evolution of total revenues and expenditure explain the improvement or worsening of the public finances in the European Union.

2.1 Discretionary versus Automatic Responses

As mentioned above, we have first studied whether fiscal policies were based on discretionary measures or on the working of built-in stabilizers. To carry out this analysis, we have broken down the public budget balance into three components: interest payments, the cyclically adjusted primary budget balance, and the cyclical component of the public budget balance.

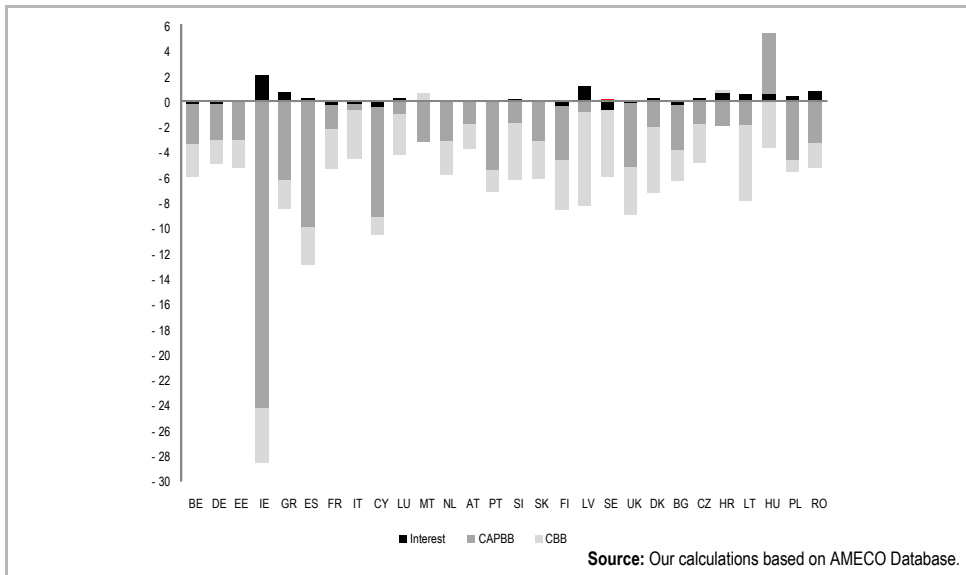


Figure 2 Variation in the Components of Public Budget Balance between 2007 and 2009 (Percentage Points of GDP)

Figure 2 shows the changes recorded in the three components of the public budget balance between 2007 and 2009. A negative (–) sign refers to a fall of the component of the public budget balance (lower interest payments, lower surplus or higher deficit), while a positive (+) sign means an increase in these components (higher interest payments, higher surplus or lower deficit).

With the sole exception of Hungary, all the EU countries faced a large deterioration of their public finances, ranging from 2.5 (Croatia) to 13.1 (Spain) percent of GDP. Ireland is an exceptional case, because the huge deterioration of its public fin-

ances (amounting 30.8 percent of GDP) is explained by the impact of the Irish banking crisis on its public finances. Nonetheless, when we focus on the evolution of the components of public budget balances, significant differences emerge among countries. In the case of interest payments, in 11 countries the size of interest payments (as a percentage of the national GDP) in 2009 was lower than that of the year 2007. In the case of the cyclical component of the budget balance, this component only showed an improvement in two countries: Malta and Hungary. In the other EU countries, the deterioration of the economic activity meant a worsening in the cyclical budget balance ranging from 0.9 (Poland) to 7.3 (Latvia) percent of GDP. In the case of the CAPBB, the variable used to analyze the discretionary fiscal policy (in other words, the responses of the public authorities to the economic crisis), all the 28 EU countries, with the exception of Hungary and Sweden, adopted fiscal measures that led to a deterioration of their CAPBBs. In Hungary, CAPBB moved from a deficit amounting to 2.5 percent of GDP to a surplus equivalent to 2.3 percent of GDP. In Sweden, its CAPBB moved from a surplus of 3.5 percent of GDP to a surplus of 3.6 percent of GDP. In the remaining countries, the discretionary fiscal impulse (measured by the fall in the CAPBB) ranged from 0.43 (Italy) to 9.96 (Spain) percent of GDP. The case of Ireland is different from the other countries that implemented expansionary fiscal policies due to the direct relationship between banking and the fiscal crises (Stephen Kinsella and Tiou-Tagba G. Aliti 2013). In Ireland the discretionary fiscal impulse reached 24.4 percent of GDP, but to a great extent this fiscal impulse is related to the impact of the banking crisis on Irish public finances. Thus, according to the AMECO Database, the one-off and other temporary measures on the expenditure sides of the Irish general government (which includes the public financial assistance to the banking sector) amounted 2.5% of GDP in 2009, 20% of GDP in 2010, and 4.2% of GDP in 2011.

When we focus on the contribution of the changes of the components of the public budget balance to the fiscal impulse recorded in this first period, it is important to note that in 11 countries (France, Italy, Luxembourg, Austria, Slovenia, Finland, Latvia, Sweden, Denmark, Czech Republic and Lithuania) the fiscal impulse deriving from the built-in stabilizers was higher than that deriving from the discretionary fiscal measures. Actually, excluding Hungary, the contribution of the changes in the CAPBB to the deterioration of the public budget balance ranged between the -2.6% for Sweden to the 91.1% for Cyprus. This means that the intensity of the discretionary fiscal impulse in the European Union economies was far from being similar, and that many countries relied on built-in stabilizers in order to face the economic crisis.

Since 2009, all European Union countries have followed fiscal consolidation processes whose outcome has been a major fall in their fiscal deficits (see Figure 3). The only exceptions have been Slovenia and Sweden, whose fiscal deficits have increased in 8.6 and 0.3 percentage points of their GDP respectively. In these economies, the improvement in economic activity has led to an improvement in the cyclical budget balance, and the deterioration of public finances is explained by higher interest payments (1.4 p.p. of GDP in Slovenia) and an expansionary discretionary fiscal policy that has worsened the CAPBB in 7.5 p.p. of GDP in Slovenia and 2.6 p.p.

of GDP in Sweden. Like in Ireland, most deterioration of the cyclically adjusted public balance in Slovenia is due to the impact of financial assistance to the financial sector. However, the Swedish case is different, because Sweden maintains a cyclically adjusted surplus in its public finances, and so we might better say that, more than having an expansionary fiscal policy, Sweden is currently implementing a less restrictive fiscal one.

Excepting these two countries, the situation regarding public finances has improved in the European Union countries. Excluding Ireland, whose improvement in its public finance (equivalent to 23.2 percent of GDP) has been due to the size of the public rescue of its banking system, the improvement in the public budget balance ranges between 0.07 percent of GDP in Finland and 8.5 percent of GDP in Latvia.

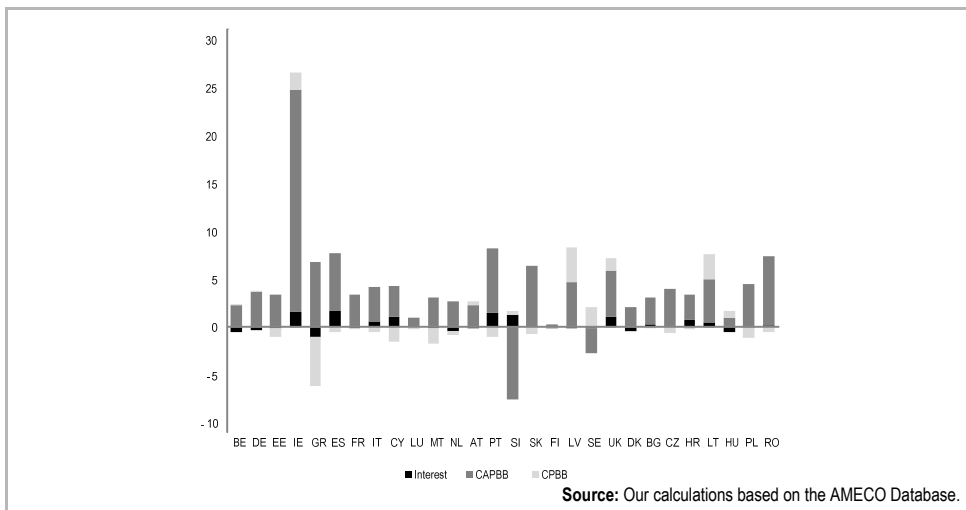


Figure 3 Variation in the Components of Public Budget Balance between 2009 and 2013 (Percentage Points of GDP)

It is important to note that the improvement in the European public finances has been based on the improvement in the CAPBB. In other words, European economies have based their fiscal adjustment processes on the implementation of discretionary measures in order to reduce their fiscal deficits. However, as we detected when analysing the contribution of the fiscal impulses that were adopted at the beginning of the crisis, the composition of fiscal consolidations has also been different.

Thus, in 13 out of the 28 EU countries, the size of the interest payments as a percentage of GDP has fallen, ranging from 0.02 (Poland) to 0.95 (Greece) percent of GDP. Conversely, in the remaining 15 countries the size of interest payments has risen, ranging from 0.16 percent of GDP in Luxembourg to 1.7 percent of GDP in Spain. Obviously, in these countries higher interest payments have fuelled the fiscal deficits, leading to a more intense implementation of adjustment measures.

If we focus on the evolution of the cyclical public budget balance (CPPB), i.e. on the impact on public finances of the changes in economic activity, again we detect differences among countries. In 10 countries, the improved economic situation (a

higher output gap) has led to an improvement in the CPBB, with impacts ranging from 0.1 percent of GDP in Belgium to 3.7 percent in Latvia. However, in 18 countries, the worse economic situation has in turn contributed to a worsening of their public finances, with impacts ranging from 0.05 (France) to 5.2 (Greece) percent of GDP.

Regarding the variation in the CAPBB, as mentioned earlier, with the exceptions of Slovenia and Sweden, there has been a remarkable change in these balances, with improvements that range from 0.2 (Finland) to 7.2 (Romania) percent of GDP. The magnitude of this unparalleled fiscal consolidation is clearly appreciated by knowing that, besides Ireland, in nine other countries (Greece, Spain, Portugal, Slovakia, Latvia, United Kingdom, Lithuania, Poland and Romania) the fall in the CAPBB is above 4 percentage points of the GDP).

Consequently, most fiscal consolidation has fallen in the discretionary fiscal adjustment measures adopted by public authorities in Europe, both in the countries whose cyclical budget balance has improved and in those countries whose cyclical budget balances have deteriorated due to the worsening economic conditions, as Tables 5 and 6 show.

Table 5 Contribution of Variations in CAPBB to the Variation in Total Public Budget Balance between 2009 and 2013 (%) in Countries that Have Seen an Improvement of Their Cyclical Budget Balances

Belgium	Germany	Austria	Luxembourg	United Kingdom	Lithuania	Hungary
80.5	90.6	83	153	94.8	67.5	48

Source: Our calculations based on the AMECO Database.

Table 6 Contribution in Variations on CAPBB to the Variation in Total Public Budget Balance between 2009 and 2013 (%) in Countries that Have Seen a Deterioration of Cyclical Budget Balances

EE	ES	FR	IT	LUX	MT	NL	PT	SK	DK	BG	CZ	HR	PL	RO	CY	FI	GRE
135.7	154.4	100.6	143.6	153	193.1	107.2	157.8	114.8	90.2	113.7	124.8	152.4	130.9	115.5	505.5	297.3	262.5

Notes: EE (Estonia), ES (Spain), FR (France), IT (Italy), LUX (Luxembourg), MT (Malta), NL (Netherlands), PT (Portugal), SK (Slovakia), DK (Denmark), BG (Bulgaria), CZ (Czech Republic), HR (Croatia), PL (Poland), RO (Romania), CY (Cyprus), FI (Finland), GR (Greece).

Source: Our calculations based on the AMECO Database.

2.2 Tax-Based versus Expenditure-Based Fiscal Policies

The aim of this sub-section is to study whether fiscal impulses and adjustments in the European Union countries have been tax-based or expenditure-based. Since the nineties, analysis of the influence of the composition of fiscal expenditures and adjustments on the effectiveness and duration of fiscal policies has been flourishing. Traditional analyses were based on estimations of the different short-term fiscal multipliers. However, since the nineties, with the inclusion of (rational) long-term expectations in economic models, a different perspective started to prevail. Thus, estimations (mostly based on DSGE models) concluded that long-term multipliers of public expenditure were zero or even negative, with traditional Keynesian expansionary fiscal

policies having a zero impact on economic activity. The counterpoint to these analyses was that fiscal consolidations could be expansionary, mainly when fiscal adjustments were based on credible spending cuts in the long-run (Organisation for Economic Co-operation and Development 2010; Nicolas Carnot 2013; International Monetary Fund 2013).

However, recent literature has tended to cast doubts on this simplistic view (Emanuele Baldacci, Sanjeev Gupta, and Carlos Mulas-Granados 2012; Huixin Bi, Eric M. Leeper, and Campbell Leith 2013; Pablo Hernández De Cos and Enrique Moral-Benito 2013; Pasquale Foresti and Ugo Marani 2014). Thus, it is now argued that, to be effective and credible, large fiscal consolidations must be based on multiple instruments, involving spending cuts and tax hikes (Robert Hagemann 2012; Margit Molnar 2012; Douglas Sutherland, Peter Hoeller, and Rossana Merola 2012). Moreover, the composition of fiscal adjustments would not only be based on “economic” criteria, but also reflect country-specific socio-political preferences and structural features regarding the desired size of the public sector and the composition of public revenue and expenditure (Ferreiro, García del Valle, and Gómez 2010, 2012, 2013; Paolo Mauro and Mauricio Villaverde 2013; Ferreiro, Carrasco, and Gómez 2014).

To study the composition of fiscal impulses and consolidations, we have broken down the variation in public budget balances into the three components of revenue, interest payments and primary expenditure. Again, we have studied the composition of fiscal impulses and adjustments adopted by European countries in the sub-periods of 2007-2009 and 2010-2013, in accordance with the definition of the periods of expansionary and restrictive fiscal policies used above.

As we did earlier, we have focused first on the expansionary fiscal policies implemented at the beginning of the crisis. Since we analysed in the previous subsection the behaviour of interest payments, we will now focus our analysis on the evolution of public revenue and primary expenditure.

As Figure 4 shows, all the EU countries increased public spending as a tool to stimulate the declining economic activity in the first years of the crisis. If we exclude Ireland (because of the impact of the banking crisis on public expenditure), Hungary (because in this first sub-period, its public finances improved) and Croatia (because data became first available in 2009), public expenditure increased in the European Union with a range that oscillates between 1.6 (Malta) and 8.8 (Finland) percent of GDP.

However, in the case of public revenue, we do not find a common and single pattern of evolution. In 18 countries, the fiscal impulse was fuelled by a fall in public revenue. This fall ranged from 0.05 (Belgium) to 6 (Spain) percent of GDP. However, public revenue increased in 10 economies, with this increase ranging from 0.1 (Slovenia) to 2.8 (Luxembourg) percent of GDP. Actually, if we consider that in two countries (Belgium and Germany), the reduction in public revenues was lower than 0.1 percent of GDP, then, if we exclude Hungary, 40 percent of EU countries implemented expansionary fiscal policies exclusively based on expenditure increases.

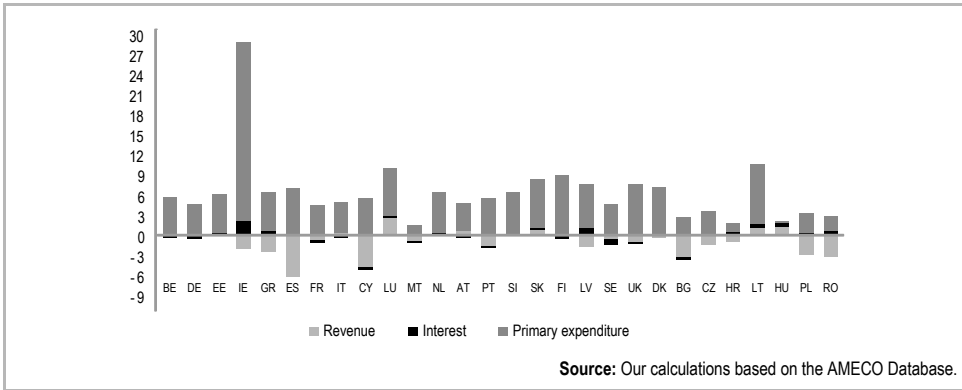


Figure 4 Variation of Public Revenue and Expenditure, 2007-2009 (Percent of GDP)

Figure 5 can help us to better discern whether EU countries implemented a tax-based or an expenditure-based fiscal impulse. Figure 5 shows the contributions of the three components of public budget to the total variation in public budget balance during the period of expansionary fiscal policies, as defined above. The figure does not include Hungary, because, as explained, in those years its public budget balance improved rather than worsened as in the rest of Europe.

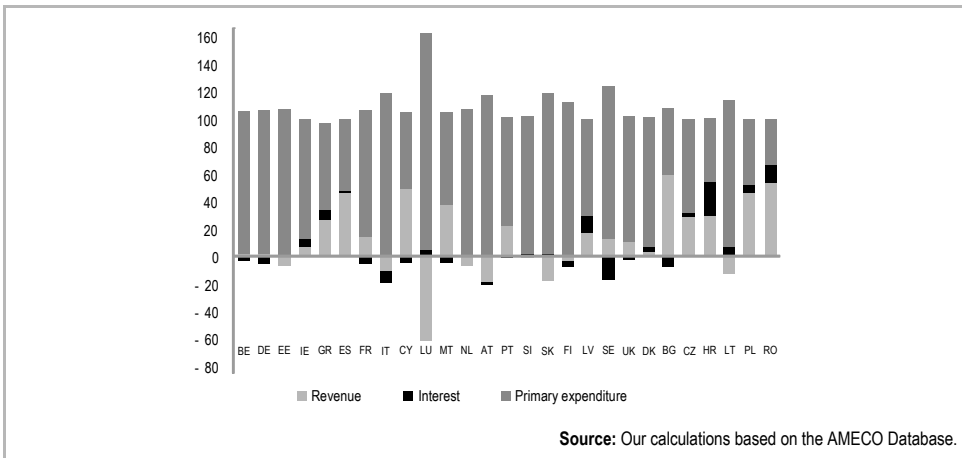


Figure 5 Contribution to Total Variation of Public Budget Balance 2007-2009 (% Total Variation)

It is easier now to detect the differences. In ten countries (Belgium, Germany, Estonia, Italy, Luxembourg, Netherlands, Austria, Slovakia, Finland and Sweden) the contribution of higher public expenditure to the fiscal impulse (measured as the downwards variation in the public budget) was above 100 percent. Consequently in these ten countries the fiscal impulse was exclusively expenditure-based.

In the other countries, there was a mix of higher expenditure and lower revenue, but again with significant differences among them. Thus the contribution of higher expenditure to the fiscal impulse ranged from 75 to 100 percent in six coun-

tries (Ireland, France, Portugal, Slovenia, United Kingdom, and Denmark). This contribution ranged between 50 and 75 percent in six countries (Greece, Spain, Cyprus, Malta, Latvia, and Czech Republic), and was below 50 percent in four economies (Bulgaria, Croatia, Poland and Romania).

Actually, if we focus on the contributions of fiscal cuts to the fiscal impulse, the reduction in public revenue represented above 40 percent of fiscal impulse in five countries: Spain (46%), Portugal (46%), Cyprus (49%), Romania (53%) and Bulgaria (59%).

Therefore, we can exclude the existence of a single and/or dominant pattern of expansionary fiscal policies in the European Union. Table 7 shows clearly how four types expansionary fiscal policy strategies co-existed in Europe depending on the evolution of revenue, interest payments and primary expenditure. In all EU countries, the expansionary fiscal policy was based on higher primary expenditure. However, public revenue also increased in nine countries, and in twelve countries the higher primary expenditure came with a lower spending on interest payments.

Table 7 Expansionary Fiscal Policy Strategies in the European Union, 2007-2009

	Higher primary expenditures	
	Higher interest payments	Lower interest payments
Lower revenues	Ireland, Greece, Spain, Latvia, Denmark, Czech Republic, Croatia, Hungary*, Poland, Romania	Belgium, Germany, France, Cyprus, Malta, Portugal, Sweden, United Kingdom, Bulgaria
Higher revenues	Estonia, Luxembourg, Netherlands, Slovenia, Slovakia, Lithuania	Italy, Austria, Finland

Note: * Hungary evidenced an improvement in the public budget balance.

Source: Our calculations based on the AMECO Database.

It will be, however, in the period of fiscal consolidations, when we are going to find the most remarkable differences among national fiscal policies. With the already mentioned exceptions of Slovenia and Sweden, whose public budget balances worsened over this period, fiscal deficits fell in Europe. However, the driving forces behind these fiscal adjustments are significantly different, as Figure 6 shows.

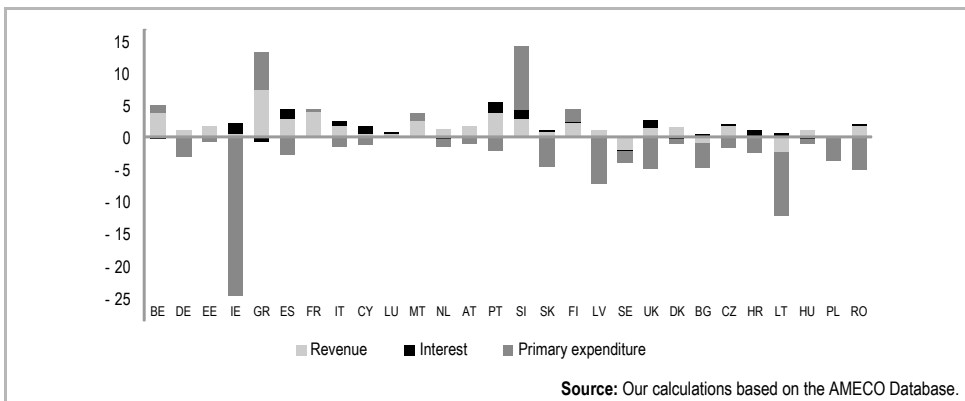


Figure 6 Variation of Public Revenue and Expenditure 2009-2013 (p.p. of GDP)

If we focus first on interest payments, in 12 countries (Belgium, Germany, Estonia, Greece, France, Malta, Netherlands, Austria, Latvia, Sweden, Denmark, Hungary and Poland) the fall in interest payments helped to improve public finances. In these countries the fall in interest payments ranged from 0.017 percent of GDP in Poland to 0.96 percent of GDP in Greece. In the remaining countries, the increase in interest payments due to the higher stock of public debt and/or higher yields ranged from 0.06 (Finland) to 1.7 (Spain) percent of GDP.

Regarding public revenue, this increased in most European Union countries, with increases ranging from 0.1 percent of GDP in Croatia to 7.4 percent of GDP in Greece. However, there was a fall in public revenues in four countries - Sweden, Bulgaria, Lithuania and Poland - ranging from -0.13 (Poland) to 2.6 (Lithuania) percent of GDP. Given that in Sweden there was a worsening of its public finances, three economies therefore implemented a fiscal adjustment based on revenue and expenditure cuts.

If we focus in the variation of primary expenditure, this fell in most countries, with the exception of Belgium, Greece, France, Malta, Slovenia and Finland. In these economies, primary expenditure rose, with the increase ranging from 1 (Malta) to 5.8 (Greece) percent of GDP. In the other countries, the fall in primary expenditure (excluding Ireland) ranged from 0.3 (Luxembourg) to 9.7 (Lithuania) percent of GDP.

Table 8 Fiscal Consolidations Strategies in the European Union, 2009-2013

	Higher primary expenditure		Lower primary expenditure	
	Higher interest	Lower interest	Higher interest	Lower interest
Lower revenue			Bulgaria, Lithuania	Sweden*, Poland
Higher revenue	Slovenia*, Finland	Belgium, Greece, France, Malta	Ireland, Spain, Italy, Cyprus, Luxembourg, Portugal, Slovakia, United Kingdom, Czech Republic, Croatia, Romania	Germany, Estonia, Netherlands, Austria, Latvia, Denmark, Hungary

Note: * Slovenia and Sweden evidenced a deterioration of public budget balance.

Source: Our calculations based on the AMECO Database.

As in the case of the fiscal expansions, fiscal consolidations strategies are really diverse (see Table 8). Although most EU countries have implemented a mix of higher revenue and lower primary expenditure, in six economies primary spending has increased parallel to rising revenues. Moreover, four economies cut their primary expenditure at the same time as they reduced the size of public revenue, which means that in Bulgaria, Lithuania and Poland fiscal adjustments have only been based on expenditure cuts. We must also emphasize the different evolution of interest payments: whilst the size of interest payments has increased (as a percentage of GDP) in 15 economies, interest payments have fallen in 13 countries.

2.3 Size and Composition of Fiscal Impulses and Adjustments

In the previous section, we detected a diversity of expansionary and restrictive fiscal policies, depending on the composition of the fiscal impulses and adjustments. To complete this analysis, in this sub-section, we will study the possible existence of a relationship between the size of fiscal impulses and consolidations and the contributions made by the different components (revenue-expenditure) of the public budget balance to the variation in this balance. Thus, our hypothesis is that this composition will vary according to the size of the fiscal impulses-adjustments.

We will first analyze the relationship between the changes in public budget balance, measured as a percentage of GDP (data that will be shown in the horizontal axes of the figures below) and the contribution made by the components of the budget balance to that variation. For a better understanding of the analysis, we have chosen as a representative variable of the composition of the budget balance the contribution of the primary expenditure to the change in budget balance.

Given that the change in budget balance is the sum of the changes in revenue, interest payments and primary expenditure, greater weight of primary expenditure means lower weight of the other items. In fact, as we will see below, the contribution made by primary expenditure to the change in budget balance can be higher than 100 percent. This means that one or the two other items (interest payments and revenue) have had the opposite effect on the budget balance compared to that of the primary expenditure, thus leading to overstrain in this item. The contribution made by primary expenditure may also be negative. This means that the interest payments and/or the revenue have endured the burden of the fiscal impulse-adjustments, offsetting the opposite effects of primary expenditure.

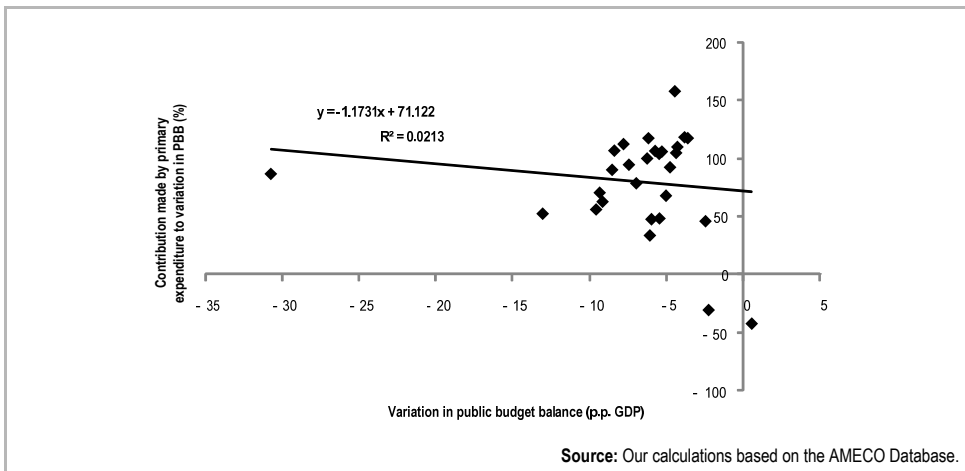


Figure 7 Expansionary Fiscal Policies (2007-2009)

Figure 7 shows the behaviour of the expansionary fiscal policies implemented at the beginning of the crisis. A positive variation in public budget balance means an improvement in this balance, i.e., a lower deficit or a higher surplus, and *vice-versa*.

The data shows a poor relation between the worsening of the public finances in the European Union and the contribution made by primary expenditure to these expansionary fiscal policies. Nonetheless, the regression included in the figure shows a negative relation between both variables. Thus, an increase in the public deficit equivalent to 1 percentage point of the GDP implies that the contribution made by primary expenditure to this expansionary fiscal policy increases by 1.17 percentage points. In other words, the more expansionary is a fiscal policy, the more expenditure-based this policy.

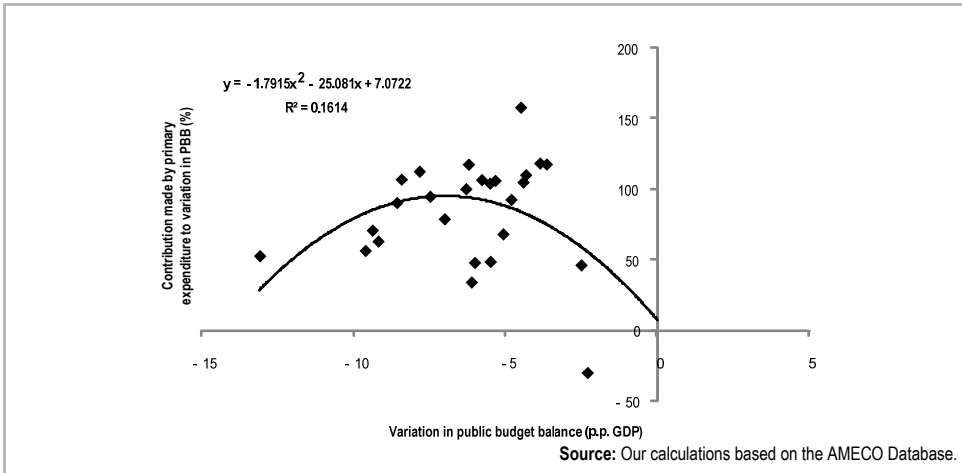


Figure 8 Expansionary Fiscal Policies, Ireland and Hungary Excluded (2007-2009)

Nonetheless, these results can be biased by the inclusion of Ireland and Hungary. On the one hand, fiscal deficits figures include the cost for the public finances generated by the banking rescues, which explains the huge fiscal deficit figure in Ireland. On the other, we are including Hungary, whose public budget balance improved in this period and that, consequently, did not implement an expansionary fiscal policy.

To avoid these problems, we have excluded both countries from Figure 8. Now, the results show a more significant relationship between the variation in budget balance and the contribution of primary expenditure to that variation. However, the relationship is now a quadratic one: this implies a declining marginal impact of the variation in fiscal balance on the contribution of primary expenditure once a certain threshold is reached. This threshold is 7 percent of GDP. Thus, in countries whose budget balances have worsened by less than 7 percent of GDP, the contribution made by primary expenditure increases insofar as fiscal deficits rise. In the countries whose budget balances fell by more than 7 percent of GDP, the contribution made by primary expenditure falls. This means that highly expansionary fiscal policies are expenditure-based and revenue-based. In other words, countries that implement highly expansionary fiscal policies adopt a mix of primary expenditure hikes and tax cuts.

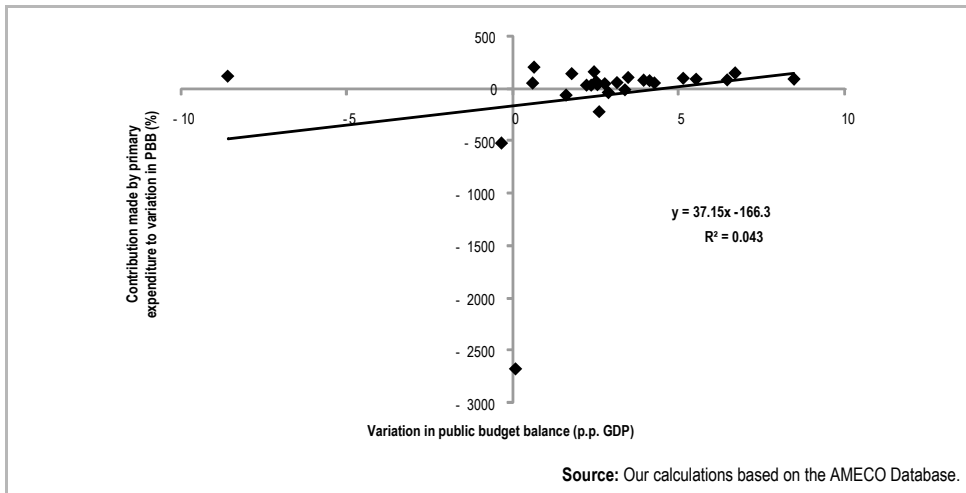


Figure 9 Fiscal Consolidations (2009-2013)

Figure 9 focuses on the fiscal consolidation strategies implemented in the European Union. As in Figure 9, the relationship between the variation in public budget balance and the contribution made by primary expenditure to the fiscal adjustment is quite low, although the regression implies that stronger fiscal consolidations go hand in hand with higher contributions deriving from primary expenditure.

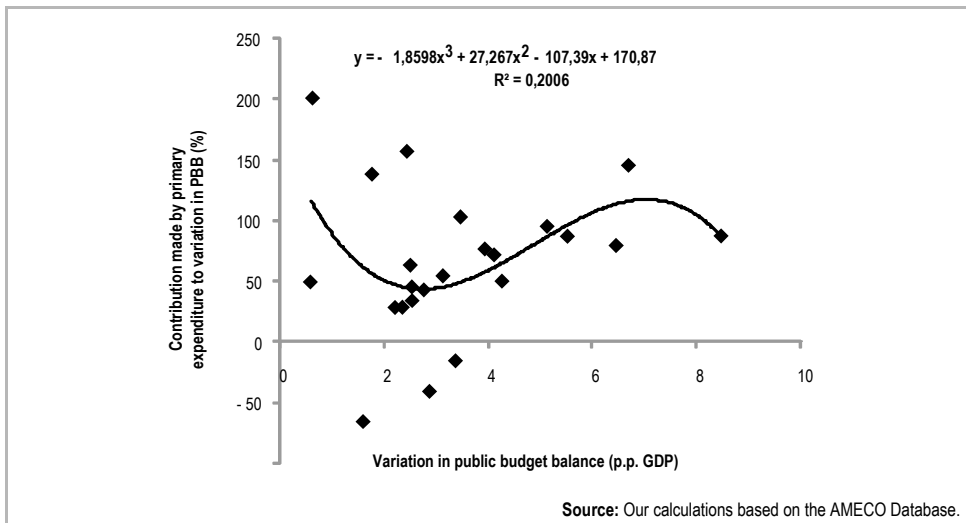


Figure 10 Fiscal Consolidations (2009-2013), Excluding Ireland, Greece, Slovenia, Sweden and Finland

As in the case of expansionary fiscal policies, the above conclusion could be biased because of the inclusion of certain countries that distort the results. Thus, Figure 9 includes the data from Slovenia and Sweden (countries that in the period subject

to scrutiny reduced their public imbalances, consequently implementing tight fiscal policies), Ireland (whose primary public expenditure fell due to the end of the banking rescue), Greece (whose primary expenditure rose) and Finland (due to the high increase of both public revenue and expenditure).

Figure 10 shows the relationship between the variation in public budget balance and the contribution made by primary expenditure to the improvement in public finances. In this simple analysis, we have included a polynomial equation, because it provides a more significant relationship. This relationship shows interesting results that can be summarized by the fact that the contribution of primary expenditure to the fiscal consolidations changes according to the size of the fiscal adjustment processes.

The regression included in the figure shows that small fiscal consolidations are mainly primary expenditure-based. Thus, for an improvement of 1 percent of GDP in the public budget balance, 88.9 percent of this variation is explained by a fall in primary expenditure. However, tax hikes gain importance in the fiscal consolidations insofar as the size of fiscal adjustments also rises. As Figure 10 shows, for fiscal adjustments ranging from 1 to 3 percent of GDP, the contribution made by primary expenditure falls in favor of an increased relevance of tax hikes. For large fiscal consolidations – i.e., fiscal adjustments ranging from 3 to 7 percent GDP - the main driving forces behind the consolidation process are cuts in primary expenditure. Actually, for fiscal consolidations above 5.7 percent of GDP, the contribution made by primary expenditure to the adjustment efforts is above 100 percent. This implies that major consolidations go hand in hand with tax cuts, leading to offsetting higher primary expenditure cuts. Very large fiscal consolidations, however, go hand in hand with a declining weight of primary expenditure. For fiscal consolidations whose size is above 8.2 percent of GDP, the contribution made by primary expenditure cuts to the adjustment processes is below zero, what implies that tax hikes operate in parallel to expenditure cuts. Indeed, the contribution made by tax hikes to the fiscal consolidations would increase exponentially: thus, the contribution made by primary expenditure cuts to the fiscal adjustment would fall to 57 percent when the fiscal deficits decline amounts to 9 percent of GDP, and would be 17 percent when the fall in fiscal deficits amounts to 9.5 percent of GDP.

2.4 Relationship between Public Revenue and Primary Expenditure

In the previous sub-section, we detected a relationship between the size of fiscal impulses and adjustments and their composition. This implies the existence of a relationship between the evolution of the public revenue and the primary expenditure. With caveats, we can argue that there is a direct and positive relationship between both components of the public budget balance.

To test this hypothesis, we will analyse the relationship between the change noted in the size of public revenue and primary expenditure, both variables measured as percentage of GDP, with a distinction being drawn by the evolution of these variables during the expansionary and restrictive fiscal policies.

Figure 11 shows the behaviour of public revenue and primary expenditure during the first stage of expansionary fiscal policies at the beginning of the crisis. We have excluded two EU countries: Hungary (which in those years implemented a tight

fiscal policy leading to a fall in its fiscal deficit) and Ireland (due, as explained above to the distortion of its huge deficit driven by the impact of the banking rescue on the Irish public finances).

The regression included in Figure 11 shows the existence of a non-linear relationship between the evolution of public revenue and primary expenditure. In the case of low-sized expansionary fiscal policies, i.e., when the rise in primary expenditure is less than 2.1 percent of GDP, the higher primary expenditure go hand in hand with lower revenue: the size of public revenue would fall up to a maximum of 1.6 percent of GDP. Therefore, small fiscal expansions are both revenue-based and primary expenditure-based. Insofar as the increase of primary expenditure is higher, the fall in public revenue starts to decline. And finally, when the increase in primary expenditure exceeds 7.9 percent of GDP, the size of the public revenue starts to increase, thus partially offsetting the expansionary impact deriving from higher primary expenditure.

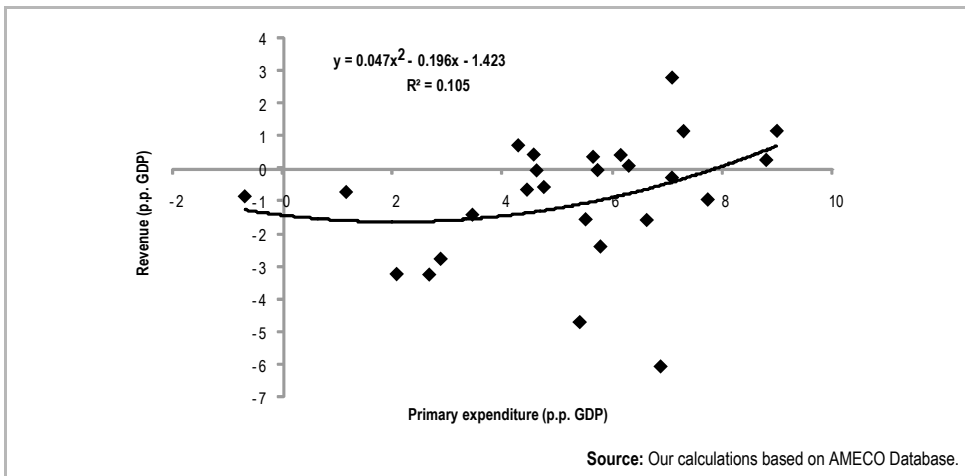


Figure 11 Change in the Size of Public Revenue and Primary Expenditure during Expansionary Fiscal Policies (2007-2009), Ireland and Hungary Excluded

This pattern is consistent with the need to take into account the impact of the higher primary expenditure on the public budget balance, trying to avoid an excessive fiscal deficit. Nonetheless, the higher revenue induced would not be enough to reduce the fiscal deficit driven by the higher primary expenditure. This offsetting will only happen when the increase in primary expenditure is above 12.5 percent of GDP. From this threshold onwards, the rise in revenue would be higher than the rise in primary expenditure, consequently reducing (slowly) the fiscal deficit.

Next, we have analysed the changes evidences in the size of public revenue and primary expenditure during the fiscal consolidation processes. The results are shown in Figure 12. Here, we have excluded three EU countries: Slovenia and Sweden (whose primary budget balance deteriorated in this period) and Ireland (that recorded a dramatic fall in its primary public expenditure fall due to the end of the banking rescue).

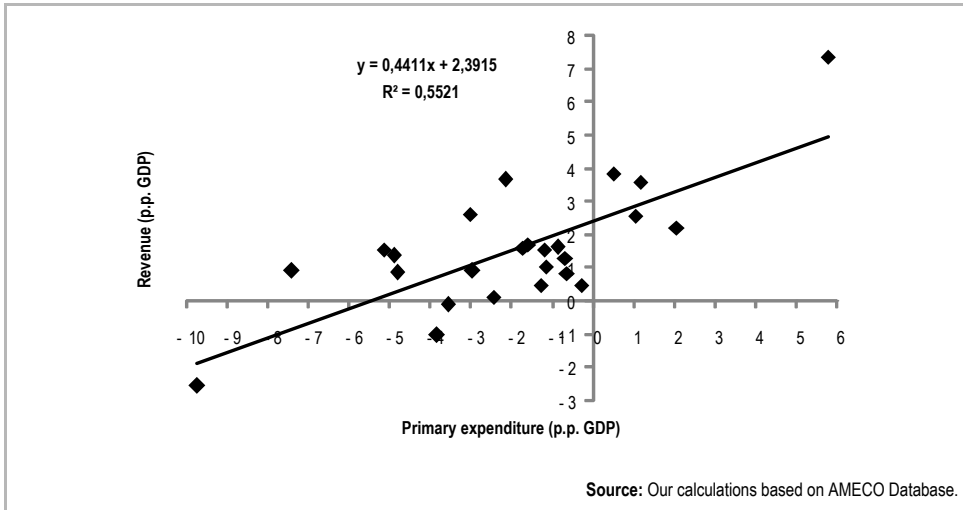


Figure 12 Change in the Size of Public Revenue and Primary Expenditure during Fiscal Consolidations (2009-2013), Ireland, Slovenia and Sweden Excluded

As mentioned in previous sections, most EU countries adopted a fiscal adjustment strategy based on a mix of primary expenditure cuts and tax hikes. In the case that primary expenditure has risen, the increase in public revenue has been the driving force behind the consolidation processes. However, we can detect that insofar as the expenditure cuts are higher, the increase in public revenue declines. Actually, once that expenditure cuts exceeds a threshold equivalent to 5.4 percent of GDP, the variation of public revenue becomes negative. Nonetheless, the decline in public revenue is lower than the rise in the primary expenditure and, consequently, the fiscal deficit maintains its declining tendency.

These results show that major fiscal consolidations - those that according to our estimations are equivalent to a fall in fiscal deficits of up to a maximum of 5.4 percent of GDP, implying primary expenditure cuts amounting to 5.5 percent of GDP - are generated by a mix of expenditure cuts and tax hikes. However, very large consolidation processes are only expenditure-driven, because expenditure cuts would take place parallel to tax cuts, probably reflecting the economic and social and political problems arising from highly-excessive tax pressures.

3. Conclusions

The analysis carried out of the fiscal policies implemented since the beginning of the current crisis in the European Union shows clearly that a common pattern of national fiscal policies does not exist. The EU countries have adopted different fiscal policy strategies, which applies to both the expansionary fiscal policies implemented during the first years of the crisis and the widespread fiscal consolidation policies implemented since 2010.

At the beginning of the crisis, most EU countries adopted a countercyclical expansionary fiscal policy. This pattern changed after 2010, when the number of

countries implementing procyclical restrictive fiscal policies increased. However, since the year 2012 the number of countries that have adopted a countercyclical expansionary fiscal policy has risen significantly. Nonetheless, it is remarkable the fact that most of the latter countries do not belong to the eurozone, which highlights the problems that the current institutional framework of fiscal policies in the eurozone creates in order to implement a countercyclical fiscal policy.

Analysing the content of the fiscal policies applied in the EU Member States shows the remarkable differences among countries. These differences become apparent when we analyze the strategies of fiscal policies in terms, first, of the discretionary or automatic stance of the fiscal policies, and, second, of the variations in public revenue and expenditure. These differences remain when we make analyze separately the composition of expansionary and restrictive fiscal policies.

Lastly, we wish to emphasize the relationship detected, first, between the size of the fiscal impulses-adjustments and the composition (revenue *versus* expenditure) of these fiscal policies, and, second, between the change evidenced in the size of the public revenue and expenditure.

References

- Anderton, Robert, Ted Aranki, Alistair Dieppe, Catherine Elding, Stephan Haroutunian, Pascal Jacquinot, Valerie Jarvis, Vincent Labhard, Desislava Rusinova, and Béla Szörfi.** 2014. "Potential Output from a Euro Area Perspective." European Central Bank Occasional Paper 156.
- Baldacci, Emanuele, Sanjeev Gupta, and Carlos Mulas-Granados.** 2012. "Reassessing the Fiscal Mix for Successful Debt Reduction." *Economic Policy*, 27(71): 366-406.
- Batini, Nicoletta, Giovanni Callegari, and Giovanni Melina.** 2012. "Successful Austerity in the United States, Europe and Japan." International Monetary Fund Working Paper 12/190.
- Bertarelli, Silvia, Roberto Censolo, and Caterina Colombo.** 2014. "Fiscal Convergence in the European Union before the Crisis." *Contemporary Economic Policy*, 32(4): 784-801.
- Bi, Huixin, Eric M. Leeper, and Campbell Leith.** 2013. "Uncertain Fiscal Consolidations." *Economic Journal*, 123(566): F31-F63.
- Bird, Graham, and Alex Mandilaras.** 2013. "Fiscal Imbalances and Output Crises in Europe: Will the Fiscal Compact Help or Hinder?" *Journal of Economic Policy Reform*, 16(1): 1-16.
- Carnot, Nicolas.** 2013. "The Composition of Fiscal Adjustments: Some Principles." European Commission Directorate General for Economic and Financial Affairs (ECFIN) Economic Briefs 23.
- Ferreiro, Jesús, Maribel García del Valle, and Carmen Gómez.** 2010. "Social Preferences and Fiscal Policies: An Analysis of the Composition of Public Expenditures in the European Union." *Journal of Post Keynesian Economics*, 32(3): 347-370.
- Ferreiro, Jesús, Maribel García del Valle, and Carmen Gómez.** 2012. "Similarities and Differences in the Composition of Public Expenditures in the European Union." *Journal of Economic Issues*, 46(3): 633-659.
- Ferreiro, Jesús, Maribel García del Valle, and Carmen Gómez.** 2013. "An Analysis of the Convergence of the Composition of Public Expenditures in EU Countries." *American Journal of Economics and Sociology*, 72(4): 792-825.
- Ferreiro, Jesús, Carmen Gómez, and Felipe Serrano.** 2013. "Mistakes in the Fiscal Policy in Spain before the Crisis." *Panoeconomicus*, 60(5): 577-592.
- Ferreiro, Jesús, Carlos A. Carrasco, and Carmen Gómez.** 2014. "Convergence of Public Expenditures and Implementation of a Single Model of Public Finances in the European Union." *Revista de Economía Mundial*, 37: 75-102.
- Ferreiro, Jesús, Carmen Gómez, and Felipe Serrano.** 2014. "Conditions for a Sustainable Counter-Cyclical Fiscal Policy: The Case of Spain." *Journal of Economic Issues*, 48(2): 341-348.
- Foresti, Pasquale, and Ugo Marani.** 2014. "Expansionary Fiscal Consolidations: Theoretical Underpinnings and Their Implications for the Eurozone." *Contributions to Political Economy*, 33(1): 19-33.
- González Mínguez, José M., and Camilo A. Ulloa Ariza.** 2007. "Los Problemas Metodológicos de los Saldos Ajustados de Ciclo: El Caso de la UEM (The Methodological Problems of the Cyclically Adjusted Fiscal Balances: The Case of EMU)." *Boletín Económico del Banco de España*, June: 84-99.

- Hagemann, Robert.** 2012. "Fiscal Consolidation: Part 6. What Are the Best Policy Instruments for Fiscal Consolidation?" Organisation for Economic Co-operation and Development, Economics Department Working Paper 937.
- Hernández De Cos, Pablo, and Enrique Moral-Benito.** 2013. "Fiscal Consolidations and Economic Growth." *Fiscal Studies*, 34(4): 491-515.
- Huart, Florence.** 2013. "Is Fiscal Policy Pro-cyclical in the Euro Area." *German Economic Review*, 14(1): 73-88.
- International Monetary Fund (IMF).** 2013. "Reassessing the Role and Modalities of Fiscal Policy in Advanced Economies." International Monetary Fund Policy Paper September 17.
- Kiley, Michael T.** 2013. "Output Gaps." *Journal of Macroeconomics*, 37: 1-18.
- Kinsella, Stephen, and Tiou-Tagba G. Aliti.** 2013. "Modeling Moments of Crisis: The Case of Ireland." *Journal of Economic Issues*, 47(2): 561-566.
- Mauro, Paolo, and Mauricio Villaverde.** 2013. "Past Fiscal Adjustments: Lessons from Failures and Successes." *IMF Economic Review*, 61(2): 379-404.
- Molnar, Margit.** 2012. "Fiscal Consolidation: Part 5. What Factors Determine the Success of Consolidation Efforts?" Organisation for Economic Co-operation and Development, Economics Department Working Paper 936.
- O'Hara, Phillip Anthony.** 2013. "Policies and Institutions for Moderating Deep Recessions, Debt Crises and Financial Instabilities." *Panoeconomicus*, 60(1): 19-49.
- Organisation for Economic Co-operation and Development (OECD).** 2010. *OECD Economic Outlook*. Paris: OECD Publishing.
- Sutherland, Douglas, Peter Hoeller, and Rossana Merola.** 2012. "Fiscal Consolidation: Part 1. How Much Is Needed and How to Reduce Debt to a Prudent Level?" Organisation for Economic Co-operation and Development, Economics Department Working Paper 932.
- Truger, Achim.** 2013. "Austerity in the Euro Area: The Sad State of Economic Policy in Germany and the EU." *European Journal of Economics and Economic Policies: Intervention*, 10(2): 158-174.