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Convergence of Public Expenditures and Implementation of a Single Model of Public Finances in the European Union

Convergencia en gasto público e implantación de un modelo único de finanzas públicas en la Unión Europea

Jesus Ferreiro
University of the Basque Country UPV-EHU
jesus.ferreiro@ehu.es

Carlos A. Carrasco
University of the Basque Country UPV-EHU
carlosalberto.carrasco@ehu.es

Carmen Gómez
University of the Basque Country UPV-EHU
carmen.gomez@ehu.es

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Abstract

The paper analyses whether the composition of public spending is converging in the European Union. The novelty of the paper lies in the use of different techniques from traditional beta and sigma convergences, of the economic and functional classifications of public spending, and of two measures of the size of public expenditure: as a share of GDP and as a share of total public expenditures. The tests do not detect a convergence of the composition of public expenditures, mainly when the composition of public expenditures is measured as a share of total public expenditures.

Keywords: European Union; Composition Of Public Expenditures; Convergence; Public Finances; Fiscal Policy.

Resumen

El artículo analiza la convergencia de la composición del gasto público de los países de la Unión Europea. La novedad de este trabajo radica en el uso de técnicas diferentes a las tradicionales sigma y beta convergencia, en el uso de clasificaciones del gasto público económicas y funcionales y a dos medidas del tamaño del gasto público: como porcentaje del PIB y como porcentaje de gasto público total. Las pruebas no indican convergencia en la composición del gasto público, principalmente cuando éste se mide como porcentaje del gasto público total.

Palabras clave: Unión Europea; composición del gasto público; covergencia; economía pública; política fiscal.

JEL classification: H50, P52.

1. Introduction[1]

The European Monetary Union (EMU) requires member and candidate states to implement a macroeconomic policy in which fiscal policy is subordinated to monetary policy. Fiscal policy is determined by the norms arising from the Maastricht Treaty and the Stability and Growth Pact[2] (SGP), which require national fiscal policies to avoid excessive fiscal deficits and that severely constrain the discretionary management of public finances.

These principles are based on the axiom that fiscal policy does not affect the potential output, that is, the economic activity in the long run. Active fiscal policies can only be implemented on a short-term basis, correcting cyclical disequilibria via built-in stabilizers..

However, the public-policy endogenous growth models argue that public finances can influence the economic activity (Barro, 1990; Rebelo, 1991; Romer, 1990). The long-term rate of economic growth would be (negatively) influenced not only by the size of public spending and fiscal imbalances but also by the composition of public expenditures and revenues (Angelopoulos *et al.*, 2007; Gemmel and Kneller, 2001). Thus, some public expenditures items would have a positive impact on the long-run economic activity (provided that their size is not 'excessive').

This view on the role of fiscal policy has been recently adopted by the European Union. The Lisbon Strategy, the current Broad Economic Policy Guidelines (BEPG) and the reformed SGP, accept that fiscal policy can accelerate the long-run rate of economic growth by changing the composition of public expenditures, increasing the share of 'productive' expenditures. This view is encompassed in a more general strategy of management of public finances, the so-called "quality of public finances", which emphasizes the need to increase the share in public expenditures of productive expenditures (Barrios and Schaechter, 2008, Barrios *et al.*, 2009, Deroose and Kastrop, 2008; European Commission, Directorate-General for Economic and Financial Affairs, 2002, 2004, 2008).

According to this strategy, the European economies should reduce the size of overall public expenditures[3] and increase the size of the "government acti-

[1] This work was supported by the Basque Government (Consolidated Research Group IT712/13).

[2] Reinforced by the Two-Pack and the Fiscal Compact Treaty.

[3] For Buti *et al.* (2003) the maximum stabilizing size of governments would be 35% of GDP for small open economies and 40% of GDP for large open economies.

vity and related public spending that is essential for the performance of the economy" (Afonso *et al.*, 2005: 10) to foster economic growth. This "core", "essential" or "productive" spending would include spending for essential administrative services, basic research, basic education and health, public infrastructure and internal and external security (Afonso *et al.*, 2005). Nonetheless, the positive effects of these productive expenditures depend on that spending being below certain limits, above which the impact on productivity of inputs would be negative.

This view implies the acceptance for all EU countries of a single model of fiscal policy (as a tool of macroeconomic policy) and also a single model of public sector and public spending. Public finances would be only ruled by economic reasons (to foster economic growth), thus excluding other potential objectives of public activities and different preferences of constituencies and societies about the role and functions of national public sectors. However, Barrios and Schaechter (2008) point out that the size of the public sector reflects political choices, and that public policies do not necessarily have economic growth as the primary goal, with social spending serving other goals, like income distribution or social cohesion. Consequently, if public spending has multiple and opposite objectives, the size and composition of public expenditures will depend on which objective is considered priority by the society. A composition of public expenditure with a predominance of 'productive' expenditures will imply that the main objective of public finances is the economic growth, with objectives like social cohesion or redistribution being subordinated to the former. Therefore, to implement a single model of public finances in the whole set of European countries, it would be necessary that in all these countries the social and political preferences give priority to the economic growth above other objectives of fiscal policy and public finances.

A simple analysis of the size and composition of the public spending shows the significant differences existing in the size of public expenditures in Europe (Ferreiro *et al.*, 2010, 2012, 2013): in 2007 public spending ranged between 34.2 (Slovakia) and 52.6% GDP (France). These differences would imply different national preferences about the size and role of public sectors in Europe, making very difficult to implement a single model of public finances. Nonetheless, that picture could hide the existence of a process of reduction of the differences in the size and composition of public spending. If this convergence exists, it could allow in the medium-term, if the convergence process deepens, to implement in the EU a single model of public finances valid for all the Member States. However, to implement the model defended by the European institutions, based on the quality of public finances, the convergence process must be defined by a similar and rising weight of those items of public spending considered as productive expenditures.

The objective of our paper is to analyze whether the European Union's strategy based on the quality of public finance can be effectively applied in the whole set of member states. Given the existing differences in the size and composition of public spending among EU countries, our hypothesis is that the

strategy based on the quality of public finances can only be implemented if these differences have been falling in the recent past. To test this hypothesis, we analyze whether the European Union economies have registered a convergence process in the size and composition of their public expenditures. Although available data finish later, the period analyzed ends in 2007 because we want to avoid any distortion resulting from the current economic crisis and the fiscal adjustment measures implemented since 2009, because the recent changes in the public expenditures may well be transitory.

The analysis carried out in the paper presents some novelties that contribute to a better understanding of the comparative evolution of public expenditures in Europe and the consequent implication about the possibility to implement a single model of public finances in the European Union. Firstly, instead of the traditional analyses based on the existence of sigma or beta convergence or the implementation of cluster analysis, we use other convergence indicators that, to our knowledge, have not been used in the field of public finances: the γ-convergence, the χ-convergence, and unit root tests. Secondly, since the strategy of the quality of public finances defines as productive some expenditures items that in some cases are part of the economic classification of public spending, whilst, in other cases, are part of the functional classification, we analyze the convergence in the composition of public expenditures using the economic and the functional-COFOG classifications of public spending. Finally, to avoid the size bias generated in the comparison of the composition of public spending when the size of the government differs, we measure the size of public expenditures as a share of GDP and as a share of total public expenditures.

We want to emphasize that the paper does not analyze the determinants of the differences in the composition of public expenditures, or the determinants of the convergence-divergence processes in the public finances in Europe[4]. This objective is outside the scope of the paper. The focus of the paper is on the study of the possible existence of a convergence process in the structure of public finances in Europe. The reason is that our hypothesis is that only if this convergence process exists, the strategy of the quality of public finances endorsed by the European institutions will be able to be effectively implemented.

The paper is structured as follows. First and second sections present, respectively, the data of public expenditures and the methodology used in the paper to analyze the convergence of the composition of public expenditures in the European Union. Third section shows the results of the tests of convergence used in the paper. Next section presents a discussion of the results and the

[4] The evolution of the size and composition of public spending in Europe may be influenced by the fiscal norms related to the size of fiscal disequilibria (fiscal deficits and public debts). Fiscal disequilibria would have converged as a result of the implementation of the fiscal rules included in the Stability and Growth Pact (Baskaran and Hessami, 2013; Savage, 2001). In this sense, the fiscal adjustments required to fulfil the fiscal criteria may have affected the composition of public expenditures in EMU countries (see Ferreiro, Garcīa del Valle and Gõmez, 2008).

implications on the possibility to implement a single model of public finances for all the EU member states. Final section concludes.

2. DATA

Most papers about the convergence of public expenditures and their determinants focus on the evolution of the size of the government or, in a more disaggregate analysis, a particular item of public expenditure, mainly those related to the Welfare State. However, the strategy of the quality of public finances argues that the composition of the public spending influences the economic activity and growth both from the side of the economic and the functional classification of the public expenditure. That is, not only the objective of the public spending matters, but also the specific way in which it is carried out. This leads to the necessity to analyse the behaviour of the composition of public spending using both classifications.

Data on public expenditures of European general governments have been obtained from the Eurostat Government Finance Statistics. The composition of public expenditures has been analysed in terms of the functional-COFOG and the economic classifications of public spending. The COFOG classification divides public spending into 10 different categories: general public services; defence; public order and safety (public order, in short); economic affairs; environment protection; housing and community amenities (housing, in short); health; recreation, culture and religion (recreation, in short); education; social protection. The economic classification uses nine categories of spending: compensation of employees; subsidies; property income; social benefits other than social transfers in kind (social benefits, in short); social transfers in kind; other current transfers; capital transfers; intermediate consumption; gross capital formation.

In both cases, the different items have been measured as a share of GDP and as a share of the total public expenditures, being the latter a more accurate measurement of the composition of public expenditure since it eliminates the size effect resulting from the size of the total public expenditures in percentage of GDP.

Analyzed data covers the period 1995-2007. Data for the economic classification of public expenditures are available for the EU-27. However, in the COFOG classification, only 23 countries are analyzed because there are not data for the first years of that period for Bulgaria, Lithuania, Poland and Slovenia (data for Latvia data start in 1996).

3. METHODOLOGY

In the early nineties, with the aim to indirectly compare the classical theory of economic growth and the theory of endogenous growth, several works tried

to detect the convergence in the economic growth of different economies. The seminal papers of Barro and Sala-i-Martin (1991, 1992) and Sala-i-Martin (1996) proposed the concepts of β-convergence and σ-convergence. Although both concepts have been frequently used in the empirical literature, there have been criticisms to the use of β-convergence. Quah (1993) and Friedman (1992) conclude that 'Barro´s regression', in which the classical tests of β-convergence are upheld, is subject to Galton´s fallacy, and Quah (1996) shows the existence of errors of estimation when using 'Barro´s regression' due to the presence of unit roots.

To avoid these problems we use in the paper other alternative approaches. Boyle and McCarthy (1997, 1999) proposed a method to measure the convergence (which can give an indication of the presence of β-convergence) called γ-convergence, which uses the movement in the ranking of individuals in a set of data. γ-convergence takes the change in the ranking of individuals according to Kendall´s data concordance index. The version we use is the binary version, which compares two time periods:

$$RCa_t = \frac{Var\left[AR(y)_{i,t} + AR(y)_{i,t-1}\right]}{Var\left[2 * AR(y)_{i,t-1}\right]}$$

$AR(y)_{i,t}$ is the order of the individual *i* within the group in the moment *t,* and *Var* is the variance for each distribution of individuals. The index RCa_t takes values between 0 (involving greater mobility and, consequently, greater convergence) and 1 (the positions in the ranking do not change). To make inferences under the null hypothesis of convergence, we use a chi-square distribution with n-1 degrees of freedom.

$$2(n-1)RCa_t \approx \chi^2_{n-1}$$

We have also used the Webber and White's approach (2009)[5]. Being $y_{i,t}$ and $y_{j,t}$ the percentage of an item of public expenditure for the country *i* and the country *j* in the time *t*, respectively, X-convergence is obtained by comparing two periods of time (under the condition $y_{i,t} > y_{j,t}$):

$$X_{i,j} = \frac{y_{i,t+k} - y_{j,t+k}}{y_{i,t} - y_{j,t}}$$

[5] For simplicity, we refer to the approach proposed by Webber and White (2009) as X-convergence.

Depending on the values of $X_{i,j}$, the results are:

- $X_{i,j} > 1$: Divergence (D)
- $0 < X_{i,j} < 1$: Convergence (C)
- $X_{i,j} = 0$: Absolute Convergence
- $-1 < X_{i,j} < 0$: Convergence with Switching Positions (CS)
- $X_{i,j} < -1$: Divergence with Switching Positions (DS)

We use Germany as the reference country. First, we measure the size of the public expenditure items for the economic and the COFOG classifications as a share of GDP and as a share of the total public expenditures in two periods (1995-2001 and 2002-2007). Then, we rank each component of the classification from the highest to the lowest depending on the average of the first period. If the country analyzed shows a higher percentage than Germany, then Germany is country *j*; in the opposite case, Germany is country *i*.

For the third approach we have used unit root tests for panel data[6]. Following Cecchetti *et al.* (2002), we have obtained differences among countries, with Germany being the reference country:

$$Dy_{ij,t} = y_{i,t} - y_{j,t}$$

Next, we have applied the LLC (Levin *et al.*, 2002) and IPS (Im *et al.,* 2003) tests. The null hypothesis of the LLC test (estimated under the assumption of a structure AR(1) shared by all series) is the presence of common unit root for all individuals, with the alternative hypothesis indicating that all individual series are stationary. The LLC test allows to including an intercept and a temporal tendency, and the presence of serial correlation for each individual. Levin *et al.* (2002) suggest 3 steps to implement the test: first, to carry out Augmented Dickey-Fuller (ADF) regressions for each individual of the panel to generate orthogonalized residuals; second, to estimate the standard deviation ratio of the long versus short run for each individual; and, finally, to calculate the combined t-statistics. The t^* -statistic proposed in LLC (2002) is a modification of the usual t -statistic, which follows a normal asymptotic distribution. Im *et al.* (2003) propose a t-bar_{NT} statistic based on the average of the ADF statistics calculated for each individual of the panel. The IPS test uses the presence of individual unit root as null hypothesis, allowing different coefficients of AR(1) for each series, and the attraction of individual characteristics admitting the presence of serial correlation, heterogeneous dynamics and different variances of the errors for each individual. In both cases, if differences are stationary (if unit roots are not detected), public expenditures are converging to the composition of public expenditures in Germany.

[6] For a survey of the use of unit roots test in the analysis of convergence processes, see Banerjee and Wagner (2009) and Durlauf *et al.* (2009).

4. Results

Table 1 shows the results of γ-convergence according to the economic classification. Three sub-periods are compared: 1995 to 1999 (first period), 2000-2004 (second period) and 2005-2007 (third period). The complete period was chosen considering two criteria: maximizing the number of countries of the analysis, and avoiding the bias which could have been caused if we had included the years of the current crisis.

The results show that when public expenditure is measured as a share of the GDP, the convergence between the first and third periods is only detected in capital transfers and gross capital formation. If we consider public investment (capital transfers plus gross capital formation) as a productive expenditure, then we can argue that there has been a convergence among European countries in the size of public investment (productive expenditures) when this spending is measured as a share of GDP.

However, when the size of the different public expenditures items is measured as a share of the total public expenditure, we only detect a convergence process in capital transfers. Therefore, in this case there is no convergence in the spending on public investment.

When we use the COFOG classification (table 2), we do not detect a significant process of convergence in any item, regardless of how we measure the size of public expenditures.

γ-convergence uses the change in the ranking of the countries. Now, though variables can be closer, if the ranking does not change, the null hypothesis is rejected. For this reason, we use other convergence approaches which complement the study.

Tables 3 and 4 present the results of the analysis of the X-convergence. The results are inconclusive. When the composition of public expenditures by countries is analyzed, a clear pattern of convergence/divergence to the German model is not detected because we detect opposite movements in the different items of public spending, regardless the classifications or the measures of the size of public expenditures.

TABLE 1. γ-CONVERGENCE OF THE COMPOSITION OF PUBLIC EXPENDITURES IN THE EU-27 (ECONOMIC CLASSIFICATION)

Periods	Compensation of employees	Subsidies	Property income	Social benefits	Social transfers in kind	Other current transfers	Capital transfers	Intermediate consumption	Gross capital formation	Total public expenditures
Percentage of GDP										
2 vs 1	0.9548*	0.9542*	0.8135*	0.9573*	0.9750*	0.9499*	0.9038*	0.9408*	0.8507*	0.9722*
3 vs 2	0.9750*	0.9402*	0.9539*	0.9628*	0.9881*	0.8629*	0.8520*	0.9771*	0.8223*	0.9740*
3 vs 1	0.9191*	0.9139*	0.7973*	0.9038*	0.9533*	0.8669*	0.6627	0.9066*	0.6749	0.9347*
Percentage of total public expenditures										
2 vs 1	0.9765*	0.9087*	0.8635*	0.9228*	0.9655*	0.9408*	0.8950*	0.9713*	0.9209*	
3 vs 2	0.9731*	0.9316*	0.9261*	0.9322	0.9878*	0.8349*	0.8486*	0.9863*	0.9054*	
3 vs 1	0.9392*	0.8922*	0.8208*	0.8089*	0.9747*	0.8110*	0.6783	0.9545*	0.8257*	

* Rejection of null hypothesis of convergence at 5% level

TABLE 2. γ-CONVERGENCE OF THE COMPOSITION OF PUBLIC EXPENDITURES IN THE EU-23 (COFOG CLASSIFICATION)

Periods	General public services	Defence	Public order	Economic affairs	Environment protection	Housing	Health	Recreation	Education	Social protection	Total public expenditures
Percentage of GDP											
2 vs 1	0.9713*	0.9555*	0.9531*	0.9135*	0.9190*	0.8982*	0.9822*	0.8844*	0.9659*	0.9792*	0.9753*
3 vs 2	0.9659*	0.9679*	0.9664*	0.7782*	0.9456*	0.9476*	0.9615*	0.9832*	0.9699*	0.9674*	0.9768*
3 vs 1	0.9224*	0.9279*	0.8948*	0.7668*	0.8453*	0.8266*	0.9437*	0.8666*	0.9254*	0.9407*	0.9402*
Percentage of total public expenditures											
2 vs 1	0.9190*	0.9728*	0.9708*	0.9560*	0.9476*	0.9096*	0.9486*	0.8715*	0.9827*	0.9649*	
3 vs 2	0.8997*	0.9773*	0.9867*	0.8592*	0.9837*	0.9634*	0.9496*	0.9758*	0.9787*	0.9620*	
3 vs 1	0.8127*	0.9338*	0.9427*	0.8108*	0.9125*	0.8612*	0.9051*	0.8602*	0.9560*	0.9101*	

* Rejection of null hypothesis of convergence at 5% level

TABLE 3. X-CONVERGENCE OF PUBLIC EXPENDITURES. ECONOMIC CLASSIFICATION

	Compensation of employees	Subsidies	Property income	Social benefits	Social transfers in kind	Other current transfers	Capital transfers	Intermediate consumption	Gross capital formation	Total public expenditure
	Share of GDP (%)									
Austria	0.62 C	1.63 D	0.39 C	-0.01 CS	0.80 C	1.34 D	-6.30 DS	0.15 C	-2.99 DS	0.82 C
Belgium	1.32 D	-0.34 CS	0.44 C	1.20 D	0.43 C	1.48 D	-0.06 CS	0.62 C	-2.07 DS	1.71 D
Bulgaria	3.71 D	0.59 C	-0.22 CS	0.89 C	1.74 D	0.45 C	0.08 C	1.31 D	3.46 D	0.90 C
Cyprus	1.43 D	0.59 C	-1.09 DS	0.74 C	0.99 C	2.30 D	0.47 C	3.74 D	1.51 D	0.30 C
Czech Republic	-0.35 CS	0.84 C	0.76 C	0.89 C	0.87 C	0.48 C	0.46 C	1.23 D	1.46 D	0.38 C
Denmark	1.12 D	1.33 D	-0.38 CS	2.97 D	0.98 C	0.95 C	0.64 C	1.18 D	-2.50 DS	0.87 C
Estonia	0.93 C	0.51 C	0.90 C	1.13 D	1.02 D	0.31 C	0.49 C	0.54 C	1.23 D	1.16 D
Finland	1.03 D	3.56 D	-6.06 DS	-2.63 CS	0.92 C	1.38 D	0.83 C	1.09 D	1.44 D	0.50 C
France	1.10 D	-0.80 CS	3.44 D	1.60 D	0.77 C	1.59 D	0.55 C	0.75 C	1.46 D	1.46 D
Greece	1.94 D	0.72 C	0.37 C	0.62 C	1.01 D	-0.03 CS	-0.51 CS	1.20 D	1.33 D	0.56 C
Hungary	1.88 D	6.41 D	0.32 C	0.88 C	0.92 C	-13.13 DS	0.52 C	0.77 C	4.81 D	2.23 D
Ireland	4.26 D	0.82 C	63.05 D	1.07 D	0.99 C	1.06 D	0.56 C	0.81 C	2.25 D	0.95 C
Italy	1.32 D	0.55 C	0.41 C	1.04 D	0.89 C	0.14 C	-0.56 CS	1.32 D	2.23 D	1.77 D
Latvia	1.18 D	0.79 C	0.96 C	1.80 D	0.94 C	-16.27 DS	0.39 C	0.95 C	-6.59 DS	0.99 C
Lithuania	0.97 C	0.63 C	0.87 C	1.13 D	1.00 D	0.74 C	-0.81 CS	0.41 C	3.52 D	1.38 D
Luxembourg	-1.93 DS	-1.49 DS	0.91 C	1.05 D	0.81 C	0.96 C	0.06 C	1.25 D	1.23 D	0.69 C
Malta	1.09 D	7.06 D	-2.41 DS	1.00 C	0.97 C	0.14 C	0.18 C	1.60 D	1.39 D	0.31 C
Netherlands	1.43 D	-0.07 CS	-0.33 CS	1.41 D	-2.94 DS	-6.55 DS	1.01 D	1.19 D	1.56 D	0.91 C
Poland	1.33 D	0.67 C	-0.17 CS	1.74 D	0.94 C	-0.45 CS	0.67 C	0.81 C	1.40 D	0.90 C
Portugal	1.25 D	-0.51 CS	-0.16 CS	0.65 C	0.73 C	1.68 D	0.30 C	-2.13 DS	0.67 C	0.11 C
Romania	-0.88 CS	0.57 C	-7.96 DS	1.14 D	1.08 D	0.89 C	0.09 C	0.67 C	2.03 D	0.98 C
Slovakia	0.45 C	0.13 C	2.87 D	1.43 D	0.71 C	-0.87 CS	-0.03 CS	0.37 C	0.62 C	-76.31 DS
Slovenia	1.32 D	3.08 D	1.15 D	1.26 D	0.97 C	-0.70 CS	-1.97 DS	0.80 C	1.61 D	0.81 C
Spain	1.10 D	0.33 C	-0.96 CS	1.23 D	0.95 C	0.09 C	0.04 C	2.82 D	1.55 D	1.04 D
Sweden	1.07 D	0.35 C	-0.67 CS	9.77 D	0.87 C	1.54 D	0.60 C	0.89 C	1.25 D	0.79 C
United Kingdom	2.04 D	0.51 C	5.45 D	1.25 D	1.01 D	2.49 D	0.20 C	1.40 D	-0.19 CS	0.43 C

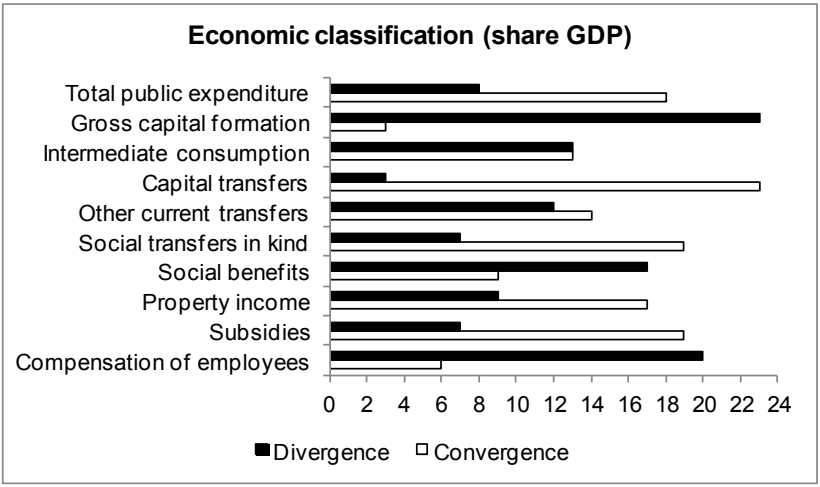
Share of total public expenditures											
Austria	0.61 C	1.90 D	-0.80 CS	1.39 D	0.86 C	1.63 D	-3.60 DS	-0.30 CS	4.77 D		
Belgium	1.32 D	-0.18 CS	0.41 C	1.32 D	0.69 C	1.49 D	0.06 C	0.84 C	-0.48 CS		
Bulgaria	1.13 D	1.19 D	-0.69 CS	1.04 D	1.15 D	0.40 C	-0.04 CS	1.14 D	1.22 D		
Cyprus	0.91 C	0.99 C	1.25 DS	0.95 C	1.04 D	1.36 D	0.55 C	0.97 C	0.95 C		
Czech Republic	-1.85 DS	0.74 C	0.81 C	1.03 D	1.07 D	0.47 C	0.46 C	1.09 D	1.37 D		
Denmark	1.23 D	1.87 D	-1.25 DS	1.47 D	1.03 D	1.02 D	0.70 C	1.31 D	-0.29 CS		
Estonia	1.11 D	0.21 C	0.94 C	1.14 D	1.05 D	-0.24 CS	0.46 C	0.72 C	1.33 D		
Finland	1.25 D	0.04 C	6.71 DS	2.15 D	0.96 C	1.76 D	0.85 C	1.26 D	1.93 D		
France	1.06 D	-0.13 CS	1.48 DS	1.53 D	0.93 C	1.62 D	0.64 C	0.41 C	1.51 D		
Greece	1.61 D	0.76 C	0.38 C	0.61 C	1.05 D	-0.25 CS	12.49 DS	1.10 D	1.25 D		
Hungary	1.86 D	-4.23 DS	0.28 C	1.02 D	1.00 C	-6.28 DS	0.44 C	0.70 C	4.55 D		
Ireland	1.54 D	0.98 C	-1.28 CS	1.16 D	1.02 D	1.09 D	0.57 C	0.95 C	1.78 D		
Italy	1.35 D	0.60 C	0.41 C	1.17 D	0.94 C	0.25 C	-0.56 CS	1.30 D	2.30 D		
Latvia	1.13 D	0.87 C	1.04 DS	3.81 D	0.95 C	6.32 D	-30.39 DS	1.03 D	32.58 D		
Lithuania	1.24 D	0.43 C	0.84 C	1.07 D	1.01 D	0.45 C	-0.38 CS	0.67 C	2.95 D		
Luxem-bourg	0.87 C	3.06 D	0.96 C	1.89 D	0.86 C	0.91 C	-0.19 CS	-13.21 DS	1.11 D		
Malta	0.91 C	2.30 D	5.18 DS	1.34 D	1.02 D	-0.04 CS	0.19 C	0.96 C	1.19 D		
Nether-lands	1.43 D	-0.13 CS	-0.30 CS	1.48 D	-5.16 DS	-25.28 DS	1.06 D	1.22 D	1.59 D		
Poland	1.25 D	0.69 C	0.08 C	4.13 D	0.98 C	-0.73 CS	0.72 C	0.86 C	1.41 D		
Portugal	1.03 D	-0.97 CS	-0.05 CS	0.79 C	0.79 C	1.10 D	0.49 C	-0.10 CS	0.59 C		
Romania	4.18 D	0.67 C	-0.77 CS	1.30 D	1.16 D	1.57 D	-0.26 CS	0.81 C	1.77 D		
Slovakia	2.29 D	0.36 C	1.44 DS	0.90 C	0.57 C	-2.01 DS	0.09 C	0.71 C	0.98 C		
Slovenia	1.31 D	2.34 D	1.27 DS	1.43 D	1.01 D	-1.15 DS	-1.39 DS	0.83 C	1.63 D		
Spain	1.12 D	0.08 C	-0.27 CS	1.41 D	0.97 C	-2.65 DS	-0.76 CS	1.67 D	1.51 D		
Sweden	1.27 D	-0.43 CS	-4.17 DS	1.36 D	0.93 C	3.69 D	0.66 C	0.97 C	1.71 D		
United Kingdom	1.22 D	0.53 C	-1.40 DS	2.37 D	1.05 D	1.75 D	0.18 C	1.21 D	-1.16 DS		

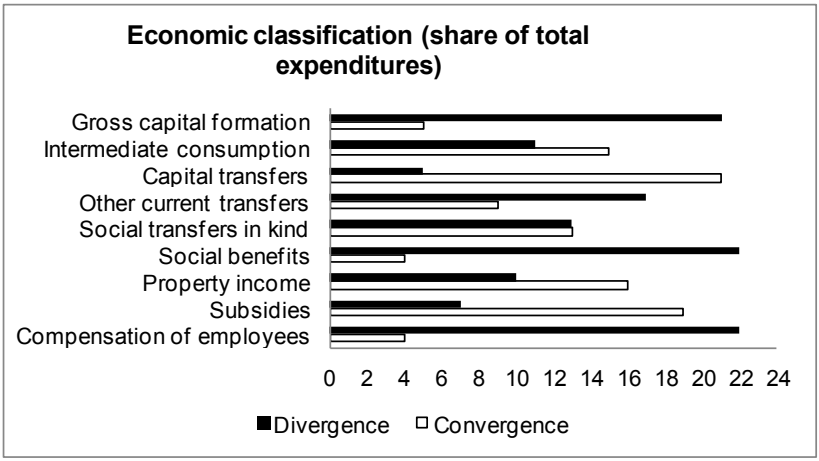
TABLE 4. X-CONVERGENCE OF PUBLIC EXPENDITURES. COFOG CLASSIFICATION

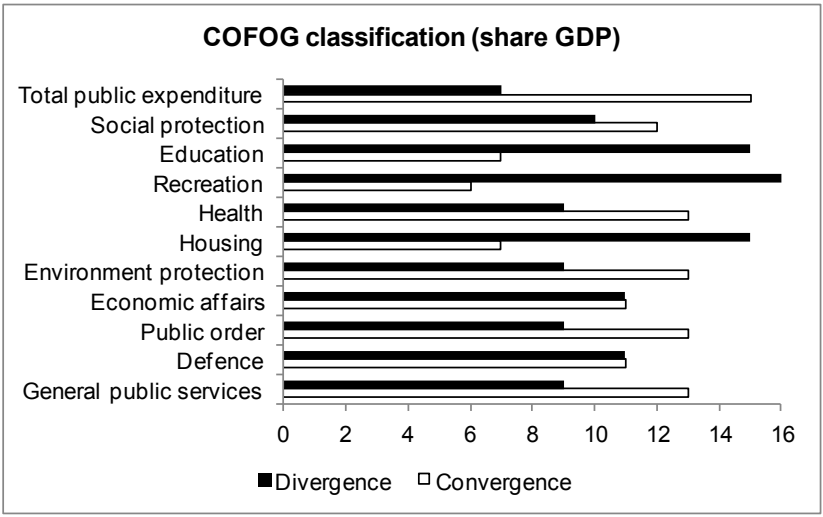
	General public services		Defence		Public order		Economic affairs		Environment protection		Housing		Health		Recreation		Education		Social protection		Total Public Expenditure	
	Share of GDP (%)																					
Austria	0.82	C	0.61	C	1.55	D	5.86	D	1.11	D	-2.33	DS	0.38	C	1.17	D	0.90	C	6.03	D	0.82	C
Belgium	0.69	C	0.87	C	-0.43	CS	-4.19	DS	-0.43	CS	1.01	D	-1.95	DS	4.92	D	1.15	D	1.02	D	1.71	D
Cyprus	2.10	D	1.90	D	1.81	D	-7.61	DS	0.59	C	1.26	D	1.00	C	2.82	D	1.83	D	0.83	C	0.30	C
Czech Republic	0.37	C	1.07	D	0.72	C	0.75	C	1.81	D	1.66	D	-0.34	CS	1.48	D	-8.24	DS	0.92	C	0.38	C
Denmark	0.48	C	1.23	D	0.92	C	0.47	C	0.31	C	2.01	D	2.72	D	1.05	D	1.13	D	0.66	C	0.87	C
Estonia	1.03	D	5.84	D	0.58	C	-0.71	CS	-1.64	DS	1.72	D	1.41	D	1.05	D	0.77	C	1.12	D	1.16	D
Finland	0.72	C	0.96	C	1.28	D	0.92	C	0.66	C	1.86	D	0.44	C	0.77	C	1.00	C	-0.55	CS	0.50	C
France	0.96	C	0.82	C	0.77	C	0.41	C	-1.60	DS	1.26	D	1.14	D	1.97	D	0.96	C	-0.10	CS	1.46	D
Greece	0.52	C	1.21	D	0.49	C	2.67	D	0.17	C	1.18	D	0.82	C	0.81	C	0.66	C	0.68	C	0.60	C
Hungary	0.72	C	-3.44	DS	1.96	D	1.59	D	-0.97	CS	-0.58	CS	1.14	D	1.28	D	1.92	D	0.83	C	2.23	D
Ireland	2.06	D	1.14	D	-1.02	DS	-0.51	CS	-3.38	DS	1.52	D	0.19	C	0.48	C	1.30	D	1.05	D	0.96	C
Italy	0.64	C	-2.32	DS	0.74	C	-0.57	CS	8.22	D	17.48	D	0.11	C	1.06	D	1.33	D	0.93	C	1.77	D
Latvia	-9.35	DS	-0.94	CS	0.82	C	-0.59	CS	-0.48	CS	-0.83	CS	0.64	C	6.34	D	1.28	D	1.43	D	0.98	C
Luxembourg	0.70	C	1.00	C	0.78	C	-1.63	DS	0.98	C	4.02	D	1.21	D	1.31	D	2.08	D	0.91	C	0.69	C
Malta	-1.70	DS	0.53	C	-1.22	DS	1.34	D	2.43	D	-0.11	CS	0.39	C	0.48	C	1.44	D	0.89	C	0.31	C
Netherlands	0.70	C	0.88	C	-0.58	CS	35.46	D	2.77	D	0.10	C	0.72	C	1.50	D	1.77	D	1.40	D	0.91	C
Portugal	1.91	D	0.84	C	3.18	D	0.70	C	0.17	C	13.12	D	-0.88	CS	1.59	D	1.33	D	0.66	C	0.11	C
Romania	-15.79	DS	1.63	D	-2.35	DS	1.60	D	0.66	C	1.94	D	0.97	C	-1.77	DS	0.19	C	1.08	D	0.98	C
Slovakia	-0.16	CS	0.63	C	0.43	C	0.20	C	0.36	C	-0.47	CS	1.14	D	0.87	C	0.13	C	1.25	D	-76.31	DS
Spain	-6.31	DS	-1.01	DS	0.97	C	63.03	D	9.39	D	-0.29	CS	1.14	D	1.19	D	1.76	D	1.09	D	1.04	D
Sweden	0.61	C	0.70	C	0.98	C	-14.73	DS	0.44	C	-0.18	CS	-2.05	DS	0.37	C	1.07	D	0.63	C	0.79	C
United Kingdom	1.11	D	1.01	D	1.77	D	0.33	C	-0.80	CS	-1.45	DS	0.03	C	2.03	D	3.89	D	1.03	D	0.43	C

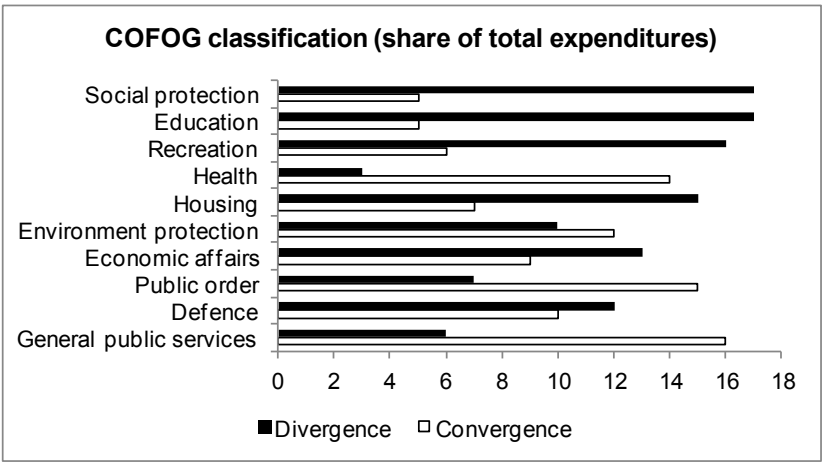
Share of total public expenditures (%)																				
Austria	0.93	C	0.69	C	1.14	D	-23.80	DS	0.94	C	-23.64	DS	-0.02	CS	1.56	D	0.98	C	1.14	D
Belgium	0.66	C	-0.09	CS	0.25	C	-3.03	DS	0.05	C	1.07	D	0.94	C	6.62	D	1.10	D	1.16	D
Cyprus	1.07	D	1.06	D	0.77	C	1.18	D	0.68	C	0.93	C	1.29	D	1.19	D	1.03	D	0.99	C
Czech Republic	0.39	C	0.89	C	0.66	C	0.73	C	1.46	D	1.29	D	3.08	D	1.28	D	3.57	D	1.06	D
Denmark	0.33	C	1.67	D	0.96	C	0.64	C	0.52	C	1.63	D	0.65	C	1.14	D	1.28	D	1.58	D
Estonia	1.07	D	2.14	D	0.81	C	3.26	D	6.50	D	2.53	D	1.85	D	1.19	D	0.96	C	1.15	D
Finland	1.15	D	1.35	D	1.06	D	1.33	D	0.69	C	1.66	D	0.57	C	0.91	C	1.25	D	1.98	D
France	0.75	C	0.77	C	0.95	C	0.62	C	-0.64	CS	1.23	D	0.25	C	2.11	D	0.86	C	1.22	D
Greece	0.53	C	1.19	D	0.48	C	1.47	D	0.09	C	1.26	D	0.86	C	0.84	C	0.68	C	0.70	C
Hungary	0.67	C	-1.79	DS	1.81	D	1.46	D	-0.40	CS	-1.50	DS	1.33	D	1.26	D	1.86	D	0.98	C
Ireland	-2.97	DS	1.73	D	0.66	C	1.93	D	4.00	D	1.40	D	2.20	D	4.39	D	1.10	D	1.15	D
Italy	0.65	C	-1.87	DS	0.67	C	-0.47	CS	10.70	D	9.72	D	0.39	C	0.99	C	1.30	D	1.03	D
Latvia	0.30	C	-38.65	DS	0.92	C	8.40	D	1.64	D	-46.84	DS	0.38	C	3.11	D	1.20	D	2.10	D
Luxembourg	0.80	C	1.13	D	0.80	C	3.84	D	0.87	C	-0.83	CS	2.28	D	1.21	D	1.03	D	1.61	D
Malta	4.64	D	0.70	C	0.13	C	0.99	C	1.76	D	-0.05	CS	0.39	C	0.57	C	1.02	D	1.11	D
Netherlands	0.73	C	0.91	C	-0.85	CS	5.21	D	2.53	D	0.15	C	0.74	C	1.53	D	1.74	D	1.49	D
Portugal	0.83	C	0.59	C	1.09	D	0.44	C	0.27	C	-4.26	DS	0.70	C	1.13	D	1.06	D	0.78	C
Romania	-0.22	CS	1.49	D	4.87	D	1.17	D	0.62	C	1.73	D	0.87	C	0.57	C	2.72	D	1.20	D
Slovakia	0.80	C	0.98	C	0.81	C	0.41	C	1.02	D	0.30	C	0.02	C	1.65	D	-1.08	CS	0.92	C
Spain	0.11	C	1.39	D	1.09	D	2.27	D	2.70	D	0.42	C	1.02	D	1.24	D	1.25	D	1.16	D
Sweden	0.57	C	0.75	C	0.96	C	-0.53	CS	0.53	C	-0.60	CS	0.84	C	0.29	C	1.31	D	1.11	D
United Kingdom	3.56	D	0.88	C	1.22	D	0.33	C	-2.31	DS	1.81	D	1.61	D	1.21	D	1.73	D	1.78	D

Figure 1. Number of countries where items of public expenditure diverge or converge









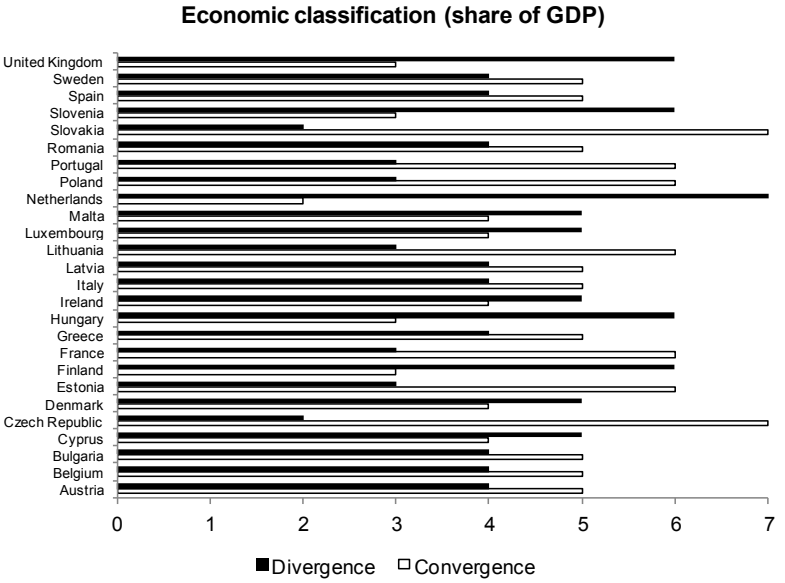
For a better understanding of the results, in the figure 1 we show the number of countries where each item of public expenditure (measured as a share of GDP and as a share of total public expenditures) converge or diverge to the German situation. Here, convergence includes convergence and convergence with switching, and the same happens in the case of divergence. We will argue that an item of expenditure is converging or diverging when the difference between the number of countries converging and diverging is at least 3.

Following this criterion, in the economic classification, when public expenditures are analyzed as a share of GDP, we detect a clear process of convergence in subsidies, property income, social transfers in kind, and capital transfers, and in the total public expenditures. On the other hand, there is a divergence process in compensation of employees, social benefits, and gross capital formation. When these items are measured as a share of total public expenditures, a convergence process is detected in subsidies, property income, capital transfers, and intermediate consumption; whilst there is a clear divergence in compensation of employees, social benefits, other current transfers, and gross capital formation.

When we use the COFOG classification, and public expenditures items are measured as percentage of GDP, we detect a convergence to the German model in general public services, public order, environment protection, and health; and we detect a process of divergence in the cases of housing, recreation, and education. When public expenditure is measured as a percentage of total public spending, we detect a convergence process in general public services, public order, and health; and a divergence process in economic affairs, housing, recreation, education and social protection.

Some conclusions arise from this analysis. First, in both classifications the way to measure the size of public expenditures matters: converging or diverging items differ depending on whether we measure them as a percentage of GDP or total spending. Second, among the items that converge (subsidies, property income, capital transfers, general public services, public order, and health) or diverge (compensation of employees, social benefits, gross capital formation, housing, recreation, and education) there are items that are considered both productive and unproductive spending. Consequently, we cannot argue the existence of a generalized convergence process to a structure of public expenditures with a predominance of the productive (or unproductive) expenditures.

A similar analysis has been made but now adding in each country the number of items where a change (convergence or divergence) is detected (figure 2). If we add the items that are converging and converging with switching, and the items that diverge and diverge with switching, we can get a more representative picture about a convergence-divergence process in the composition of public expenditures to the German model. Here, we will argue that a country converge or diverge to the German model when the difference between the number of items converging and diverging is at least 2 items.


Economic classification (share of GDP)
United Kingdom
Sweden
Spain
Slovenia
Slovakia
Romania
Portugal
Poland
Netherlands
Malta
Luxembourg
Lithuania
Latvia
Italy
Ireland
Hungary
Greece
France
Finland
Estonia
Denmark
Czech Republic
Cyprus
Bulgaria
Belgium
Austria
0 1 2 3 4 5 6 7
Divergence
Convergence

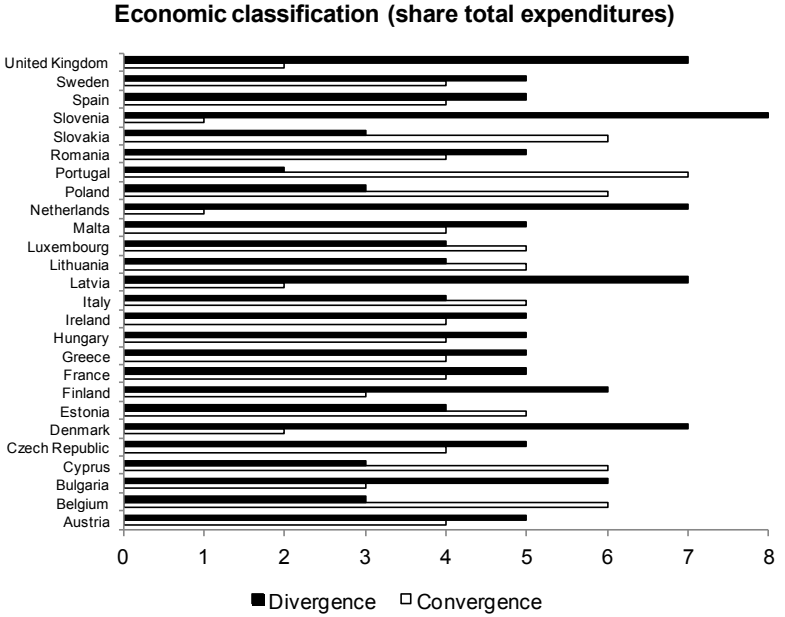
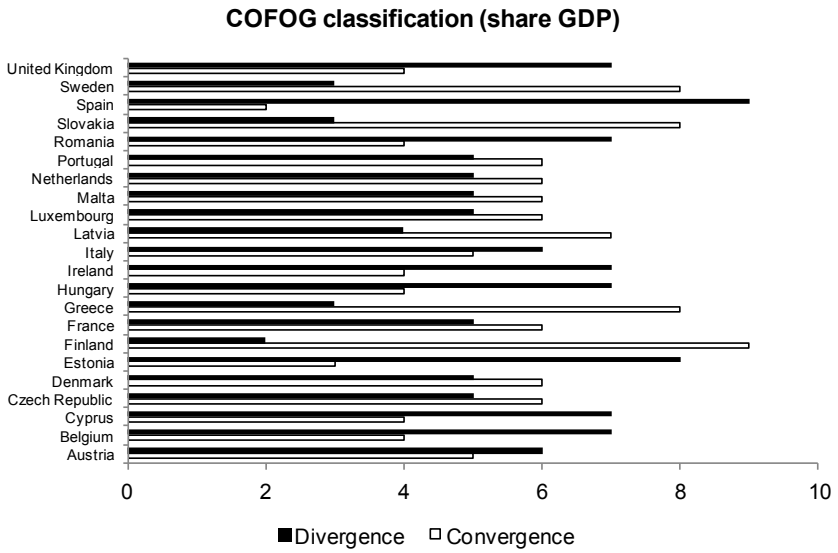
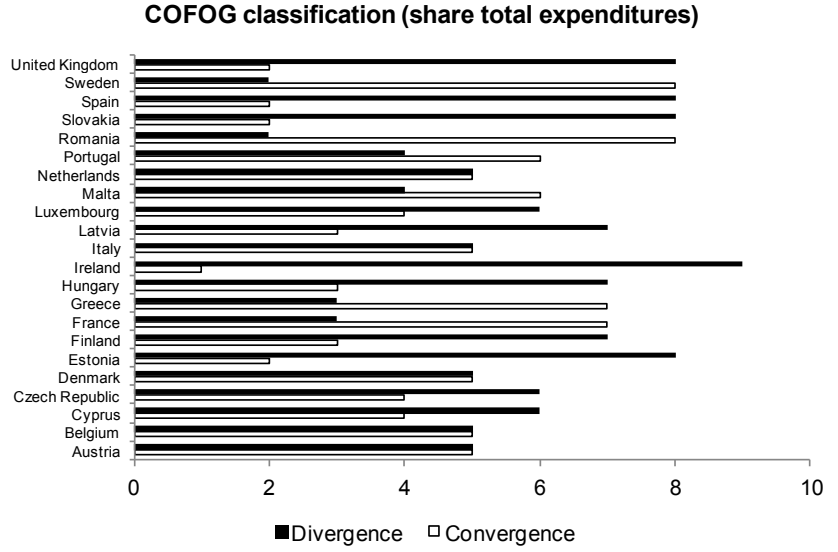

Economic classification (share total expenditures)
United Kingdom
Sweden
Spain
Slovenia
Slovakia
Romania
Portugal
Poland
Netherlands
Malta
Luxembourg
Lithuania
Latvia
Italy
Ireland
Hungary
Greece
France
Finland
Estonia
Denmark
Czech Republic
Cyprus
Bulgaria
Belgium
Austria
0 1 2 3 4 5 6 7 8
Divergence
Convergence

Figure 2. Number of variables of public expenditures that convergence or diverge by countries





Under the economic classification, when public expenditures items are measured as a share of GDP we detect a convergence towards the pattern of German public expenditure in the cases of Czech Republic, Estonia, France, Lithuania, Poland, Portugal, and Slovakia; and a divergence in the cases of Finland, Hungary, Netherlands, Slovenia and United Kingdom. When public expenditure is measured as a share of total public expenditures, we detect a convergence process in Belgium, Cyprus, Poland, Portugal and Slovakia; and a divergence in Bulgaria, Denmark, Finland, Latvia, Netherlands, Slovenia and United Kingdom.

Under the COFOG classification, when public expenditures items are measured as a share of GDP we see that Finland, Greece, Latvia, Slovakia, and Sweden converge to the German model of public expenditure. On the contrary, Belgium, Cyprus, Estonia, Hungary, Ireland, Romania, Spain, and United Kingdom diverge. When public expenditure is measured as a share of total spending, France, Greece, Malta, Portugal, Romania, and Sweden converge to the German model of public expenditure, but Cyprus, Czech Republic, Estonia, Finland, Hungary, Ireland, Latvia, Luxembourg, Slovakia, Spain, and United Kingdom.

The conclusions are quite similar to those reached when we analyzed the behaviour of the different items of public spending.. First, the results are different depending on how we measure public spending (as a share of GDP or of the total public spending). Second, the kind of classification of public expenditures used in the analysis also matters: the number of countries diverging of the German model is higher in the case of the COFOG classification. Third, when individual countries are analyzed is impossible to set a clear-cut conclusion about whether they converge or diverge, since their results differ depending of the classification and the measure of the size of public expenditures uses. The only exception is the case of the United Kingdom, which in all the cases shows that is diverging of the German model.

Table 5. Unit root tests for panel data. Economic classification of public expenditures (EU-27)

Tests	Compensation of employees	Subsidies	Property income	Social benefits	Social transfers in kind	Other current transfers	Capital transfers	Intermediate consumption	Gross capital formation	Total public expenditure
	Percentage of GDP									
LLC	-3.5135 (0.0002)	-4.0588 (0.0000)	-7.9323 (0.0000)	-6.9585 (0.0000)	-1.3581 (0.0872)	-1.9175 (0.0276)	-74.0786 (0.0000)	-3.6690 (0.0001)	-2.4783 (0.0066)	-9.3469 (0.0000)
IPS	-0.0263 (0.4895)	-0.9349 (0.1749)	-2.9245 (0.0017)	-1.1761 (0.1198)	0.8196 (0.7938)	-0.5382 (0.2952)	-53.5696 (0.0000)	-0.0191 (0.4924)	0.3484 (0.6362)	-6.2387 (0.0000)
	Percentage of total public expenditure									
LLC	-2.9026 (0.0019)	-3.8558 (0.0001)	-8.2296 (0.0000)	-12.2734 (0.0000)	-9.5225 (0.0000)	-3.1306 (0.0009)	-55.0860 (0.0000)	-4.1573 (0.0000)	-3.6329 (0.0001)	
IPS	-0.2894 (0.3861)	-1.3534 (0.0880)	-2.7108 (0.0034)	-10.4790 (0.0000)	-8.0821 (0.0000)	-1.7934 (0.0365)	-40.0575 (0.0000)	-1.3104 (0.0950)	0.0895 (0.5357)	

p-values in parenthesis

Table 6. Unit root tests for panel data. COFOG classification of public expenditures (EU-23)

Tests	General public services	Defence	Public order	Economic affairs	Environment protection	Housing	Health	Recreation	Education	Social protection	Total public expenditure
Percentage of GDP											
LLC	-5.2160 (0.0000)	-2.966 (0.0014)	-2.2419 (0.0000)	-27.0427 (0.0000)	-5.8787 (0.0000)	1.0552 (0.8543)	0.5207 (0.6987)	0.3987 (0.6549)	-1.4146 (0.0786)	0.4404 (0.6702)	-4.8465 (0.0000)
IPS	-3.2800 (0.0005)	-1.3796 (0.0839)	0.2810 (0.6106)	-22.5181 (0.0000)	-3.2031 (0.0007)	1.2694 (0.8978)	1.1789 (0.8808)	1.6227 (0.9477)	1.200 (0.8849)	1.5422 (0.9385)	-4.1382 (0.0000)
Percentage of total public expenditure											
LLC	-8.9677 (0.0000)	-2.7512 (0.0000)	-3.0131 (0.0013)	-21.6317 (0.0000)	-3.6459 (0.0001)	-0.7179 (0.2364)	-3.9707 (0.0000)	-0.7594 (0.2238)	-4.6324 (0.0000)	-17.2071 (0.0000)	
IPS	-3.7759 (0.0001)	-1.4314 (0.0762)	-1.5577 (0.0597)	-17.5662 (0.0000)	-1.3643 (0.0862)	-0.3954 (0.3463)	-2.3558 (0.0092)	0.4348 (0.6682)	-2.4660 (0.0068)	-13.9449 (0.0000)	

p-values in parenthesis

Finally, the analysis of convergence has been developed using panel unit roots tests. Again, we have adopted Germany as the reference country, testing whether the EU countries have converged to the German pattern of public expenditures. LLC null hypothesis is a common unit root process. We estimate LLC with individual effects, automatic lag length selection based on SIC, Newey-West automatic bandwidth selection and Bartlett kernel, and IPS with individual effects and automatic lag length selection based on SIC.

Table 5 shows the results of the panel unit root tests for the economic classification of public expenditures. Using 10% as critical level to reject the null hypothesis, we detect different results depending on the test used and the way we measure public expenditures. Measuring them as a share of GDP, LLC test shows a convergence process in all items; however IPS test allows to detecting a convergence process in property income, capital transfers and total public expenditures. When expenditures are measured as a share of total public expenditures, LLC test detects a convergence process in all the items, whilst IPS test does not that convergence in compensation of employees and gross capital formation.

Table 12 makes the analysis for the COFOG classification. Measuring public expenditures as a share of GDP, using 10% as critical level to reject the null hypothesis, we detect different results depending on the test used and the way to measure public expenditures. As a share of GDP, LLC test shows a convergence process in general public services, defence, public order, economic affairs, environment protection, education and total public expenditure. IPS test allows to detecting a convergence process in general public services, defence, economic affairs, environment protection, and total public expenditure. When expenditures are measured as a share of total public expenditures, LLC and IPS test detect a convergence process in all the items except housing and recreation.

These results show that the conclusions about the existence of a convergence process in the composition of public expenditures vary with the tests applied, the measures of public expenditures and the classifications of public spending. As in the previous analysis, the convergence or the divergence process is not related to the productive or unproductive nature of the items of expenditure. Nonetheless, it is worth noting that when public expenditures are measured as a share of the GDP, the number of items converging is lower than when we measure as a share of the total public expenditures, thus indicating the presence of a size bias.

5. Discussion

The results obtained show that in the recent past the European countries have not converged in the composition of their public expenditures, and, therefore, they have not converged to a model of public spending like that defended by the European institutions. This is an indirect proof of the existence of national elements characteristic of each country that would make difficult the implementation of a single European strategy of public finances based on the axioms of the quality of public finances.

It is important to remark that the lack of a full convergence of the size and composition of public spending in the European Union does not mean that common factors having a similar impact on the size and composition of public finances do not exist. These common factors could generate a convergence process in different aspects of the national public finances, like the size of public expenditures and revenues, the composition of the items of revenues and spending, or the sign and size of fiscal imbalances. Thus, the tax harmonization process has led to a convergence in terms of the size of revenues from the VAT; and the fiscal rules arising from the Maastricht Treaty and the Stability and Growth Pact have led, at least until the current crisis, to a convergence in the size of fiscal imbalances. Moreover, the aging processes lead to a generalized increase of the size of the public expenditures in items like health of pensions. Finally, other processes, like globalization, can affect the size and composition of public budgets (Baskaran and Hessami, 2012; Meinhard and Potrafke 2012).

However, these common factors do not operate with the same intensity in all the countries, and, therefore, the impact on public finances is not similar. For instance, the recent projections made by the European Commission about the budgetary impact of the ageing process show significant differences among the EU economies: thus, in 2060, the spending on public pensions would oscillate between 5.9% GDP (Latvia) and 18.6% GDP (Luxembourg), the health care spending will oscillate between 2.9% GDP (Cyprus) and 9.4% GDP (Germany and France), the long-term care spending would oscillate between 0.3% GDP (Cyprus) and 8% GDP (Denmark), and the education spending would oscillate between 3% GDP (Slovakia) and 7.4% GDP (Denmark) (European Commission 2012).

But the different intensity of the impact of common factors only partially explains the existing differences in the size and composition of public expenditures in Europe. Therefore, there are other elements different of potential common factors and intrinsic to each country that also have influence in the size and composition of public spending, avoiding a full convergence of public expenditures or, even, leading to a diverging process.

The lack of a (full) convergence of the composition of public expenditures reinforces the arguments of theories, like the theories of diversity of capitalism, varieties of capitalism, comparative capitalism and welfare production regimes (Amable and Palombarini, 2009; Bernard and Boucher, 2007; Campbell and Pedersen, 2007; Crouch and Streeck, 1997; Hall and Soskice, 2001; Hancké, 2009; Iversen and Stephen, 2008; Jackson and Degg, 2008; Özveren, Havuç and Karao uz, 2012; Rhodes, 2005; Whitley, 2007), that argue that the size, role and functions of public sectors in (European) countries reflect different social and political choices.

Although this is not the objective of our paper, we want to point out that our results show the need to include in the analyses of the determinants of the size and composition of public spending, something that could be also applied to public revenues, not only economic variables but also socio-political variables that can influence public finances. Until now, most existing literature have included

variables with a political nature in the analysis of certain and specific items of public spending, or, in a broader perspective, in the determinants of the Welfare States[7]. In our opinion, the inclusion of social and political variables should be made in any analysis of the determinants of the size, forms, and roles of public sector.

The lack of a convergence in the composition of public expenditures would be an obstacle to the implementation of single and universal models of fiscal policy, public finances and public sectors. It would hinder the European Union's strategy to move to a new model of public finances based on a higher share of productive expenditures as far as social preferences[8] in many European countries give priority to other objectives, like redistributive ones. Consequently, the strategy of the quality of public finances would be unlikely to be efficiently implemented. Perhaps, this strategy could be valid for the budget of the EU, in the current form or in a reformed and increased version that could make it comparable to any federal budget, for instance like that of the USA. This budget could be elaborated taking into account only (or mainly) economic factors, leaving those components of the public spending more influenced by socio-political factors in the hands of the national public budgets.

6. Conclusions

The results obtained in the different tests applied in the paper show that European Union Member States only converge in a clear way in the size, as a percentage of the GDP, of total public expenditures. However, we have not detected an unambiguous process of convergence in the composition of public expenditure, regardless the classification (functional-COFOG or economic) of public expenditure used. When the size of the items of expenditure is measured as a percentage of the GDP, we have detected a process of convergence, which is fundamentally explained by the generalized reduction of total public expenditures. However, when the composition of public expenditure is analyzed removing the bias generated by the size of public expenditure, that is to say, measuring the size of the different items of public spending as a percentage of total public expenditure, a generalized process of convergence is not detected. The results of our analyses allow us to conclude that a convergence process to a higher share of items considered as productive expenditures is not happening in the European public finances.

To summarize, our paper reinforces the generalized view that in the European Union economies there are still significant national differences not only with regards to the total size but also to the composition of public expenditu-

[7] See Caminada *et al.* (2010) and Josifidis et al (2011) for a survey of the political elements influencing the shapes and sizes of the different regimes of Welfare States in Europe.

[8] As we have pointed out above, we do not analyze how these social preferences are forged, and consequently, the influences of the determinants of social preferences, like the strength of labor movement (Jensen, 2012), on the structure of public spending.

res, which implies that there is not a single model of public expenditure in Europe and that the objective defended by the European institutions to modify the composition of public expenditures to a single model of public finances characterized by a lower size of public expenditures and a higher share and size of those items considered as productive expenditures faces deep difficulties.

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