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Exploring Convergence in some OECD Public Social Expenditure Trends[1]

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ABSTRACT. Triggered by the phenomenon of globalisation, during recent years there has been a process of State policy rationalisation in the social expenditure domain; hence the debate over the present role and dimension of welfare state has intensified.

Following on the extensive multidisciplinary literature on this issue, the purpose of this paper is two-fold 1) to apply a more traditional analysis of convergence (sigma and beta convergence) in public social expenditures and 2) to analyse public social expenditure allocation expressed as a % of GDP and derive a possible classification of the countries by means of a multivariate approach. We conclude by explaining some similarities in the expenditure behaviour of certain countries in terms of the policy transfer process. Our results can be interpreted as a further contribution to the literature on contemporary public policy evaluation in the welfare domain.

KEY WORDS: Policy Making, Welfare Programme, Public social Expenditures, Policy Transfer, principal component analysis, cluster analysis

JEL Codes: H50, H53, D78

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1. Introduction

In recent years a growing body of literature has appeared on the nexus between globalisation and the welfare state. Behind this increasing interest in the role that globalisation is exerting on state policy, there is the idea that it brings about "a loss of power of the nation state, in general, and a reduction in welfare state activities, in particular" (Dreher *et.al*., 2008, p. 264), which translates into a process of State policy rationalisation in the social expenditure domain. This is an important aspect that reveals how countries are affected by increased international competition. Hence the debate about the present role and dimension of the welfare state has intensified: due to competitive pressure worldwide triggered by the liberalisation of factor mobility, there is downward pressure on welfare programs that may result in a higher homogeneity of social expenditure in the sense of a clear harmonisation of their composition and amount.

However, as Esping Andersen suggested (1990), the welfare domain is a complex area and, clearly, the analysis of its evolution over time requires focus on socio-economic pressures, political parties, political institutions and welfare state structures, and not only on the expenditure trends.

Following on the heterogeneous literature on convergence, we suggest possible similarities that have occurred in the social expenditure models to date, in terms of the policy transfer process.

The purpose of this paper is two-fold: 1) to apply a more traditional analysis of convergence (sigma and beta convergence) in public social expenditure and 2) to analyse public social expenditure allocation expressed as a % of GDP and derive a possible classification of the countries by means of a multivariate approach. These methodologies can help to support or reject the hypothesis of strong harmonisation of national social expenditure policies in Europe. We considered a sample of 16 European OECD countries plus the USA (often considered a trend-setter country in the economic policy domain), and used data from the OECD Social Expenditure Database 1980-2001, keeping all variables that define Public Social Expenditure. In the last paragraph, we attempt to explain the behaviour of certain countries in terms of policy transfer. Hence, our results can be interpreted as a further contribution to the literature on contemporary public policy evaluation.

Our analyses reveal that some convergence in the expenditure domain occurred for certain Southern and Northern European countries. We conclude that some imitating between certain Northern Countries may have occurred due to a common reaction to the Maastricht Treaty constraints.

2. Globalisation and welfare expenditures

The revised role of state intervention, in its form and magnitude, is commonly ascribed to the new competition frameworks triggered by globalisation.

As written in Evans and Cerny (2003, p. 19):

> "Globalisation has transformed relationships between the international economy, the state and economic policy, creating new parameters – constraints and opportunities – for trade policy, regulating financial markets, corporate governance, industrial policy, macroeconomic policy and fiscal and monetary policy".

This transformation is supported by a neoliberal consensus that tends to promote global competition: hence the idea of a "competition state" that has replaced the concept of "nation state":

> "with the state increasingly using new forms of economic intervention intended to marketize the state itself as well as to promote the competitive advantage of national, industrial and financial activities within a relatively open world economy" (Cerny, 1992, p.241).

Since the seminal paper by Pierson (1994), the scholarly debate about the politics of retrenchment has intensified and social scientists have tried to demonstrate whether the dismantling of the welfare state is heading towards convergence or resilience, suggesting that the globalisation process may lead countries to implement similar structures of government spending over time, producing effects in particular on public social expenditures[2]. In other words, competitive pressure may have forced governments to reduce social protection and engage in a "race to the bottom" in welfare state policies. According to Evans and Davies, governments have been restructuring the welfare state, moving away from the industrial-welfare state through the "introduction of a distinctive economic project which embraces the pressures of international markets through the adjustment of domestic as well as foreign economic policies" (Evans and Davies, 1999, pp.-371-373). But among academic political economists, the influence that globalisation has exerted on social systems is amply debated, given that some argue that globalisation has little effect on the size of the welfare state or its funding basis, while others suggest that economic integration increases overall welfare state spending. For example, Keen and Marchand (1997) argue that, to cope with global competitiveness, all governments raise resource allocation for productive expenditures and reduce non-productive expenditures. Other scholars (Tanzi and Schuknecht, 2000) underscore that globalisation intensifies fiscal competition and factors mobility, reducing government revenues and, consequently, inducing a decrease in expenditures for social protection. An opposite interpretation of the globalisation effect is put forward by Rodrik (1997), in which enlargement of the public sector serves the purpose of mitigating exposure to external risk perceived by the citizens due to increasing trade openness: which means that globalisation-induced welfare state retrenchment is mitigated by citizens' preferences to be compensated for the risks of globalisation ("compensation hypothesis") (Dreher *et. al*. 2008). Other scholars ascribe welfare state resilience to institutional inertia and path dependency, due to the stickiness of beliefs and norms that should explain why policy and design institutions have a stake in the framework they created and resist changes (North, 1990). Navarro, Schmitt and Astudillo (2004) wrote that welfare states of most developed countries have not converged during globalisation towards a reduced welfare state but have continued to be different, retaining their individual characteristics, shaped primarily by the dominant political tradition that governed each country during the pre-globalisation period (Navarro, Schmitt and Astudillo, 2004, p. 134).
On the other hand, Sanz and Velazquez (2004) analyse whether the OECD member states have harmonised their composition of government expenditures

[2] For a comprehensive literature review on welfare retrenchment see Starke (2006). See also the International Tax and Public Finance's special issue on *Reinventing the Welfare State* (vol 15 no 1 Februrary 2008).

over the period 1970-1997. They identify two different models that the countries are converging to: the representative and the community model, that differ for the level of welfare and public services and facilities expenditures.
We can conclude that, again, the presence of contradictions implies some ambiguity and leads to rejecting the hypothesis of a univocal link between globalisation and the welfare state: "globalization is not a monolithic exogenous force that impacts directly and with equal impact on nation states, but rather a complex set of ideological and practical processes, some of which are accepted, internalized and acted on by national governments" (Sykes et.al., 2001, p. 197). As Dreher *et al* argue, the "efficiency" and "compensation" effects may neutralise each other and it is possible that "the impact of these two effects depends on the type of expenditures" (Dreher *et.al*, 2008, p. 264); they conclude that globalisation does not affect the composition of government expenditures.

3. Convergence and policy transfer

The idea of convergence in social expenditures refers to two different kinds of literature: all the economic definitions of convergence regard the confluence of a determined phenomenon to a reference value. This literature originated from the seminal papers by Barro (1990), where the composition of government expenditures was considered an important determinant of long-run growth; a further contribution to the issue of convergence in a more general sense is given by Barro and Sala-i-Martin (1992) and by Mankiw et al. (1992). In the non-economic literature, the generic definition of convergence - the tendency of societies to grow more alike, to develop similarities in structures, processes, and performances (Kerr, 1983) - includes multiple concepts like isomorphism, policy diffusion and policy transfer (Knill, 2005, p. 766, 767).
Social scientists observe that there is a tendency to a global regulation, with many countries responding by adopting similar policies, administrative arrangements and institutions, determining convergence in the structure and balance of policy instruments (Dolowitz and Marsh, 2000).
Policy transfer is defined as:

> "a process in which knowledge about policies, administrative arrangements, institutions etc. in one time and/or place is used in the development of policies, administrative arrangements and institutions in another time and/or place" (Dolowitz e Marsh 1996, p.344).

Policy diffusion and policy transfer share the assumption that governments do not learn about policy practices randomly, but rather through common affiliations, negotiations and institutional membership (Simmons and Elkins 2004) and they differ from policy convergence for the analytical focus (while diffusion and transfer are concerned with process patterns, convergence studies place particular emphasis on effects) and in their dependent variable (convergence studies typically seek to explain the changes in policy trends over time; transfer studies investigate the content and process of policy transfer while the focus of diffusion research is on the explanation of adoption).
The concept of isomorphism that has been developed in organization sociology refers to the mechanisms through which organisations become more similar over time and is defined as a process of homogenisation that "forces one unit in

a population to resemble other units that face the same set of environmental conditions" (DiMaggio and Powell 1991, p. 66).
The types of transfer can be: voluntary; negotiated or coercive (Evans and Buller, 2004); we are mostly interested in voluntary transfer (or lesson drawing), which originates from a dissatisfaction with the precedent political agenda, or from a new political strategy that aims at legitimising the goals reached or at promoting new political alliances.
Transfer is commonly favoured, mostly through the massive diffusion of best practices by policy entrepreneurs, think tanks, knowledge institutions, pressure groups or epistemic communities that, with their resources of knowledge, channel political choices in favour of certain issues and options (Rose, 1991).
The link between lesson-drawing and globalisation is well expressed by Levi-Faur: "learning is the driving force behind the great transformation to a more liberal world" (2003, p. 705). Besides globalisation and governments' growth-maximizing behaviour, policy transfer may be considered itself as a possible cause of convergence in the composition of public expenditures: national policymakers choose to adopt policy models developed elsewhere, appearing as mere executors of solutions originating in a different context in order to avoid the check of electoral returns by the community (De Simone, 2006)[3].
Cross-national learning has potential in that it can stimulate learning regardless of failure. The possible adoption of solutions that generate failures because they reflect a de-contextualised approach explains the difference between best practice and benchmarking on the one hand and the more interpretative and context-sensitive approach of lesson-drawing on the other: there is no doubt that, at least in some institutional circles, best practice and benchmarking are by far more popular than context-sensitive lesson-drawing (Radaelli, 2004).
The process of policy transfer has recently been analysed in the economic literature as a possible useful tool to evaluate public policies (Banks *et. al.*, 2005). Experience shows that multiple solutions can be adopted that go from a simple change in the composition of social expenditures to an evident reduction of the welfare state.

4. Data and methodology

We consider a sample of 16 European OECD countries plus the USA[4] (often considered a trend-setter country in the economic policy domain), and use data on public social expenditures registered for the period 1980-2001 by the OECD Social Expenditure Database. The time interval chosen is particularly interesting for a study on social expenditure trends as it is characterised by strong economic globalisation that, as quoted above, could be interpreted as the reason for the decline (Tanzi, 2000) or rise (Rodrik, 1997) in welfare policies.
Expenditures are grouped in 9 policy areas: Old-age, Survivors, Incapacity-related benefits, Health, Family, Active labour market, Unemployment,

[3] The author compares the choice of imitating policies to a game where the Nash equilibrium both for politicians and citizens is always the action of learning: the former choose to transfer policy to obtain re-election, while the latter agree with transfer because in line with general consensus.
[4] The countries are: Austria (Aus) , Belgium (Bel), Denmark (Dk), Finland (Fin), France (Fra), Germany (Ger), Greece (Gre) , Ireland (Ire), Italy (Italy), Netherlands (Ned), Norway (Nor), Portugal (Por), Spain (Spa), Sweden (Swe), Switzerland (Sui), United Kingdom (UK) and United States of America (USA).

Housing and Other (see Tab. 1 for details). Data on total public social expenditures are also compiled. As the primary focus of the paper is comparing data on national expenditure levels, we use all variables expressed as a percentage of GDP.

The next paragraph shows simple descriptive analyses, while in paragraph 6 we carry out the convergence analyses on these data by means of the well-known measures of σ and β convergence. While with the former we seek to verify whether the dispersion of total social expenditure – and expenditures in each policy domain - is reduced over the time interval examined (Streissler, 1979; Baumol, 1986; Dorwick and Nguyen, 1989; Barro and Sala-i-Martin, 1992), with the latter we try to verify the existence of a negative partial correlation between growth over time in total public social expenditure –and expenditure for each policy domain - and its initial level (Barro and Sala-i-Martin, 1992, 1992; Boyle and McCarthy, 1997).

Extending the empirical work, in paragraph 7 we perform a multidimensional analysis on the same data; Principal component Analysis (PCA – Hotelling, 1933) and Hierarchical Cluster Analysis are carried out; the resulting Factorial Plan and Clusters, automatically generated by the Parti-Decla Procedure of the Decisia software Spad, turn out to be a good means to study the dynamics of public social expenditures, also particularly useful to interpret the convergence phenomenon in the light of the policy transfer process.

More in detail, a principal component analysis allows us to interpret the relations between public expenditures in the light of two latent factors resulting from the linear combinations of the original variables, while by means of the Cluster analysis we examine the level of similarity in the countries' choices regarding social expenditures. Countries showing similar expenditure behaviours are incorporated into the same cluster/social expenditure model.

Label	Description
OTH	Other social policy areas. Non-categorical cash benefits to low-income households, other social services. Expressed as a % of GDP
HOUS	Housing allowances and rent subsidies. Expressed as a % of GDP
UNEMP	Unemployment compensation, severance pay, early retirement for labour market reasons. Expressed as a % of GDP
FAM	Family. Child allowances and credits, childcare support, income support during leave, sole parent payments. Expressed as a % of GDP
HEAL	HEAL. Spending on in- and out-patient care, medical goods, prevention. Expressed as a % of GDP
INC	Incapacity-related benefits. Care services, disability benefits, benefits accruing from occupational injury and accident legislation, employee sickness payments. Expressed as a % of GDP
SURV	Survivors. Pensions and funeral payments. Expressed as a % of GDP
OLD	Old-age. Pensions, early retirement pensions, home-help and residential services for the elderly. Expressed as a % of GDP
ACTLAB	Active labour market policies. Employment services, training youth measures subsidised employment, employment measures for the disabled. Expressed as a % of GDP
TOT	Total public social expenditure (sum of previous variables). Expressed as a % of GDP

Tab. 1: Variables, Labels and descriptions

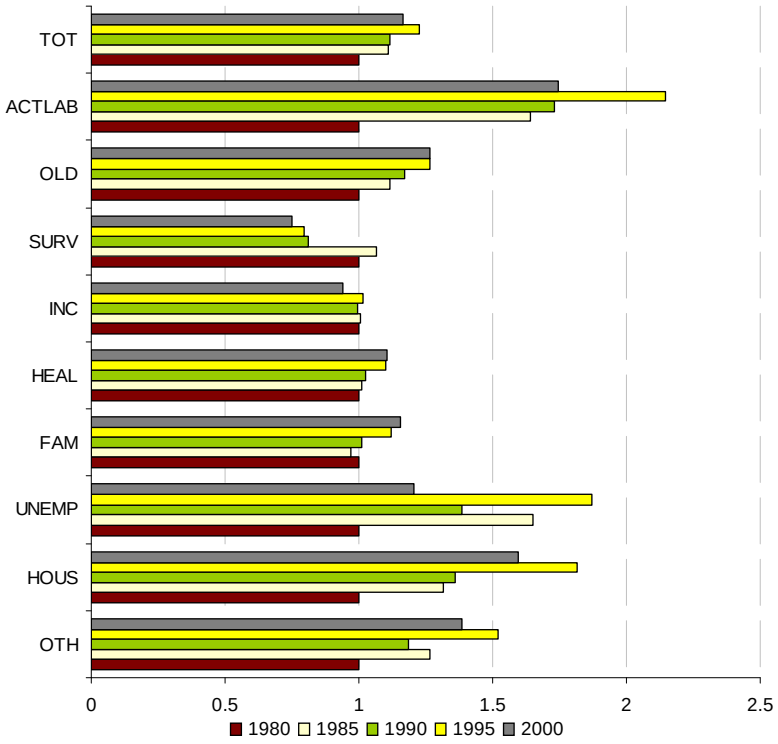

Fig. 1: Social Expenditure average trends

5. Descriptive analysis

Figure 1 shows the average levels of expenditure registered in our sample for each of the policy domains for 5 of the years studied: 1980, 1985, 1990, 1995, 2000 (with the 1980 values set at 100). Comparing 1980 to 2000, an increase in public social expenditures appears evident, except for the sectors labelled INC and SURV. Therefore, in accordance with Rodrik (1997), it can be argued that, far from declining, average public social expenditures increased during the period considered.

A further look reveals that for three variables (ACTLAB, UNEMP and HOUS) there was a marked expenditure increase from 1980 to 1995, followed by a considerable reduction registered between 1995 and 2000 (ACTLAB : -18.5% ; UNEMP : -35%); for the last period considered, these data seem to be consistent with the "discipline effect"[5] of globalisation.

Figures 2 to 5 show total expenditure (TOT) trends for each of the countries in our sample compared with the average expenditure value. It can be seen that some of the countries in the sample (Greece, Ireland, Portugal, Spain, Switzerland and the United States) are characterised by consistently below-average total expenditure levels over the entire period examined, while total

[5] "The so-called "efficiency" or "discipline" effect of globalisation thus reduces the range and size of government welfare programs" (Dreher *et.al*., 2008, p. 264)

expenditure in other countries (Austria, Belgium, Denmark, France, Germany and Sweden) is always higher than the average; values registered for Norway, Finland, Italy and the Netherlands are at times higher and at times lower than the average. Two groups of countries seem to show "converging behaviour" over the period considered: on the one hand, Portugal, Greece and Spain show increasing expenditure trends that approach the average levels during the last years, while Sweden and Finland, whose high public social expenditures are in definite decline since 1992, approach the average value. Dysfunctional behaviour characterises Ireland, the only country in the sample that is drifting away considerably from the average expenditure levels[6].

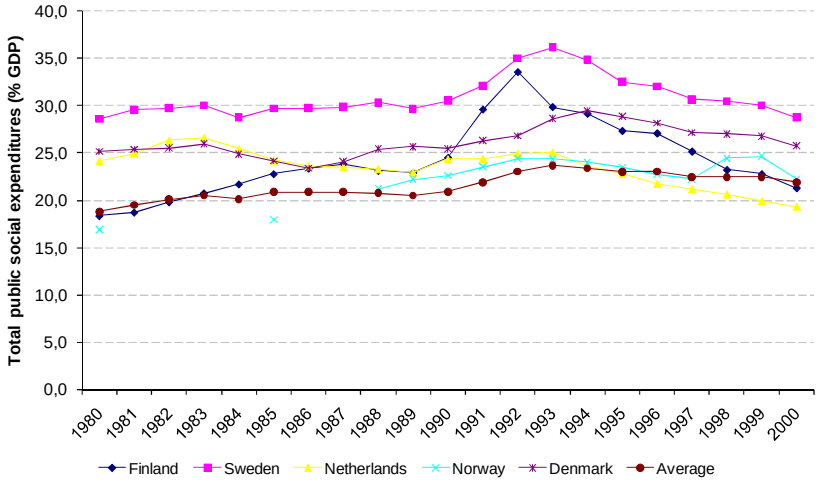

Fig. 2: Total public social expenditure trends in Finland, Sweden, the Netherlands, Norway, Denmark and the average values (1980-2000)

[6] As we used data expressed as a percentage of GDP, the strong economic growth of Ireland during the 90's (in terms of GDP) can explain this trend.

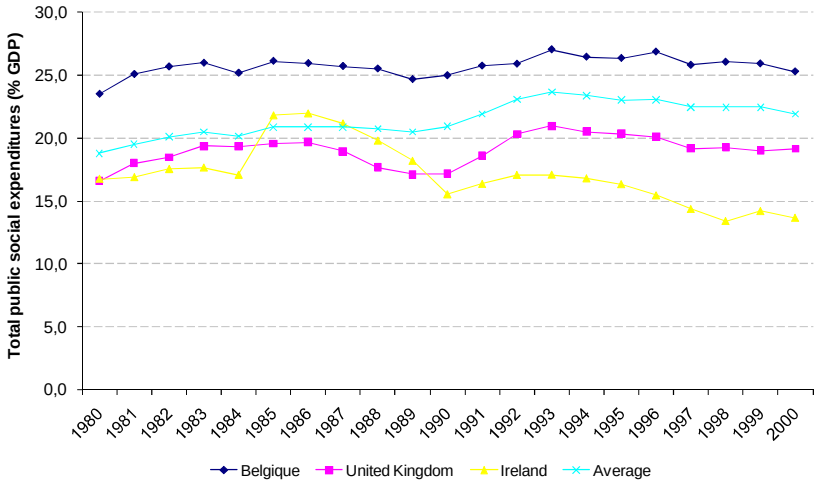

Fig. 3: Total public social expenditure trends in Belgium, UK, Ireland and the average values (1980-2000)

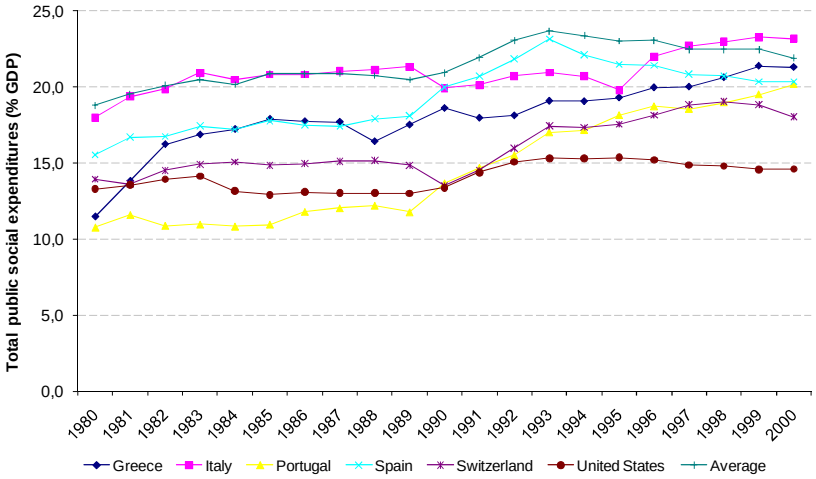

Fig. 4 Total public social expenditure trends (1980-2000) in Greece, Italy, Portugal, Spain, Switzerland, the USA and the average values

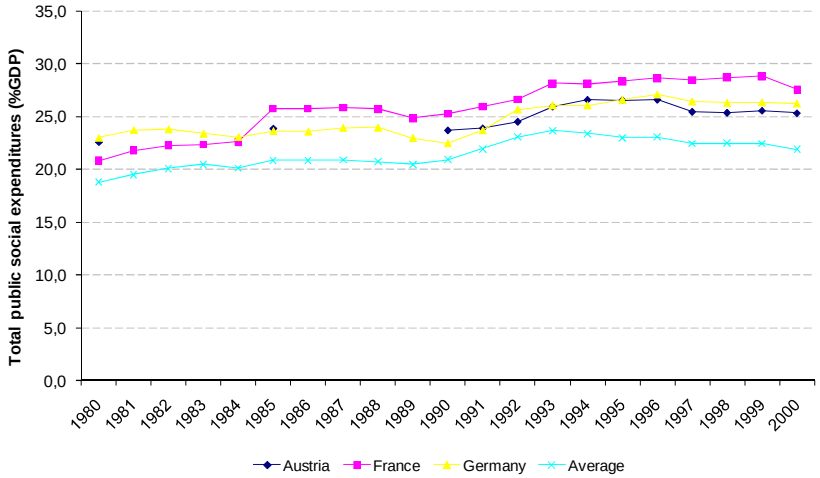

Fig. 5: Total public social expenditure trends (1980-2000) in Austria, France, Germany and the average values

6. Convergence Analyses

In the analysis of public social expenditure trends, σ-*convergence* is given by a marked reduction in expenditure variability over time, measured by the coefficient of variation. In Tab. 2 we show the coefficient of variation values calculated for the whole sample in the five different years: 1980, 1985, 1990, 1995 and 2000. Comparing 1980 to 2000, we found a slight reduction in variability for the following variables: unemployment (UNEMP), active labour market policies (ACTLAB), housing (HOUS) and health (HEAL), while for variables like family expenditure (FAM), incapacity (INC) and old age (OLD), we observe constant values.

Variable	1980	1985	1990	1995	2000
OTH	1.068	0.864	0.766	0.736	0.550
HOUS	1.135	1.096	0.979	1.031	0.943
UNEMP	1.219	0.782	0.828	0.660	0.719
FAM	0.571	0.592	0.615	0.605	0.479
HEAL	0.249	0.212	0.201	0.175	0.148
INC	0.499	0.397	0.536	0.451	0.451
SURV	0.629	0.649	0.710	0.726	0.816
OLD	0.308	0.300	0.308	0.317	0.353
ACT LAB	0.903	0.725	0.547	0.641	0.535
TOT	0.273	0.239	0.239	0.217	0.196

Tab. 2: Coefficient of variation values for 1980, 1985, 1990, 1995 and 2000

To test the absolute β convergence hypothesis, *w*e performed for each variable a cross-section Ordinary Least Square (OLS) regression to estimate the parameters of the following equation:

$$\frac{1}{T}\ln(\frac{S_{it}}{S_{i0}}) = \alpha + \beta \ln(S_{io}) + \varepsilon \qquad [1]$$

where:

S_{it}= public social expenditure (%GDP) in the country *i* in the year 2000
α = constant
S_{i0}= public social expenditure (%GDP) in country *i* in the year 1980
T= total time interval (20 years)
ε = error
ln indicates, as usual, the natural logarithm

The results are shown in Tab. 3.
Support for the *absolute β convergence* hypothesis is found for the variables health (HEAL), other expenditures (OTH), unemployment (UNEMP), family (FAM) and total (TOT); for these, regression results show an acceptable value of R^2 ,while all coefficients are significant and, as expected, have a negative sign[7]

[7] Further analyses in a following paper will concern conditional β convergence, which allows to take into account some structural characteristics of national economies as independent variables in the regression. This analysis will be carried out by means of panel regression (for example see Attia and Berenger, 2007)

Dependent variable	**OTH**	**HOUS**	**UNEMP**	**FAM**	**HEAL**	**INC**	**SURV**	**OLD**	**ACTLAB**	**TOT**
Independent variables										
CONSTANT	-0.0239901**	0.00342903	0.00406062	0.0182955***	0.0714659***	0.0111023	-0.0222746**	0.0274056	0.00413837	0.0837932***
	(0.00899)	(0.0166)	(0.00954)	(0.00434)	(0.01139)	(0.00798)	(0.00855)0	(0.02371)	(0.01786)	(0.02095)
lnOTH 80	-0.0335036***									
	(0.00549)									
lnHOUS 80		-0.0114979*								
		(0.00560)								
lnUNEMP 80			-0.0266761***							
			(0.00868)							
lnFAM 80				-0.0186582***						
				(0.00536)						
lnHEALTH 80					-0.0408493***					
					(0.00700)					
lnINC 80						-0.0145303*				
						(0.00765)				
lnSURV 80							0.0179012			
							(0.01250)			
lnOLDAGE 80								-0.00982046		
								(0.01320)		
lnACTLAB 80									-0.0246130	
									(0.01299)	
lnTOT 80										-0.0261307***
										(0.00720)
Number of cases	17	17	17	17	17	17	17	17	17	17
R^2	0.77156	0.25958	0.42047	0.44596	0.69399	0.19362	0.12021	0.03554	0.37421	0.46743

*** p<0.01 ** p<0.05 *p<0.1

Tab. 3: Absolute beta convergence. Cross-section OLS regression results

7. Multivariate approach and cluster analysis

The results of the previous paragraph show convergence for all variables considered, but in order to obtain more detailed information about the position of each country, as regards all variables and periods considered, we decided to perform a multidimensional analysis (MDA) by means of a Hierarchical Cluster Analysis based on a Principal Component Analysis (PCA).
The variables considered are the same as for the convergence analysis, without TOT, but we consider the average value in the following periods 80-85; 96-91; 92-96; 97-01. This solution helps to obtain a factorial plan and to reduce the bias of all possible expenditure outliers in a single year.
The first factor is positively characterised by variables that define social policies for the population in working age (see Tab. 3), while the second factor is characterised by social policies for the passive population (see Tab. 4)

Variable label	Coordinate	Weight	Mean	Standard deviation
SURV	-0.32	68	0.999	0.687
MIDDLE AREA				
ACTLAB	0.83	66	0.832	0.52
FAM	0.86	68	1.985	1.118

Tab. 4: Printout on factor 1 by the active continuous variables

Variable label	Coordinate	Weight	Mean	Standard deviation
OTH	-0.5	68	0.444	0.325
INC	-0.2	68	2.82	1.243
MIDDLE AREA		68		
OLD	0.66	68	7.32	2.295

Tab. 5: Printout on factor 2 by the active continuous variables

Fig 6 illustrates the factorial plan with the projection of the variables considered (pink arrows), countries in all macro-periods considered (small pink points) and the centre of the four cluster (big pink points).
Using the Parti-Decla procedure of Spad, the software itself generates the number of Clusters that maximises the inter cluster inertia and minimises the intra cluster inertia.

The data processing detected 4 clusters that give an idea of the public social expenditure behaviour of the countries considered:

- *Cluster 1* (see Tabs. 5 and 6), characterised by a high expenditure level for Health (*T value* 3.29) and Old-age pensions (*T value* 5.49). In this cluster are Germany, France and Austria, while in the last period we also find Greece. This cluster is defined as the "*Continental*"[8] model".
- *Cluster 2* (see Tabs. 5 and 7), characterised by a high expenditure level for housing (*T value* 4.33) and survivors pensions (*T value* 2.83). The countries that form this cluster for all periods are UK, Ireland and Belgium; we label this cluster *Anglo-Saxon*".
- *Cluster 3 (*see Tabs. 5 and 8), characterised by a low level of expenditure for all variables considered (negative *T value*), except for old age and survivors pensions (positive *T value*). Greece falls into this cluster in the first 3 macro periods, Finland and Norway in the first macro period, while all the other countries remain in it for the whole period. We define cluster 3 "*Mixed"*.
- *Cluster 4* (see Tabs. 5 and 9), characterised by a high expenditure level for family policies (*T value* 5.04), active labour market policies (*T value* 4.40), unemployment policies (*T value* 3.41), other policies (*T value* 5.51) and by a low expenditure level for survivors (T value -3.46). This cluster includes, for the whole period, Sweden, Denmark and the Netherlands, and for the last 3 periods also Norway and Finland. This cluster is labelled "*Northern European"*

The limited intra cluster movement highlights the existence of 4 expenditure behaviour models that retain their characterisation for the whole period. These results induce us to reject the hypothesis of strong homogenisation of national social expenditure policies, which seem, instead, to follow their former peculiarities, according to a process of path dependency (Pierson, 2000)
Returning to the factorial plan, we can evaluate the movements of countries during the whole period considered with respect to all variables and to two new latent variables, defined as an ageing population welfare measure (factor 2) and other welfare measures (factor 1), which depict the expenditure framework in the welfare domain.
In the next paragraph we observe that countries belonging to the Northern cluster, characterised by a high social protection level, in the last period all converge towards the centre of the factorial plan (which means that they decrease their expenditures). Similar behaviour is shown by Greece Portugal and Spain but with an increasing expenditure: we shall try to account for the two phenomena observed.

[8] We decided to not define clusters according to "traditional models" (Esping Andersen, 1990) because we used only expenditure variables, without institutional variables.

Cluster	**1**	**2**	**3**	**4**
	Continental	*Anglo Saxon*	*Mixed*	*Northern European*
	Ger 80-85	Ire 86-91	Por 92-96	Fin 97-01
	Ger 86-91	Ire 80-85	Gre 80-85	Swe 97-01
	Aus 92-96	UK 80-85	Por 97-01	Nor 97-01
	Aus 86-91	Ire 92-96	USA 86-91	Ned 97-01
	Aus 97-01	Bel 97-01	Sui 92-96	Dk 97-01
	Aus 80-85	UK 86-91	Gre 86-91	Fin 86-91
	Fra 86-91	Ire 97-01	Spa 97-01	Ned 92-96
	Ger 97-01	Bel 86-91	USA 80-85	Fin 92-96
	Fra 92-96	Bel 92-96	USA 92-96	Dk 86-91
	Fra 97-01	Bel 80-85	Spa 86-91	Ned 97-01
	Gre 97-01	UK 97-01	Italy 80-85	Nor 97-01
	Ger 92-96	UK 92-96	Sui 97-01	Dk 80-85
	Fra 80-85		Spa 80-85	Ned 80-85
			Por 86-91	Ned 80-85
			USA 97-01	Swe 86-91
			Fin 80-85	Dk 92-96
			Nor 80-85	Swe 80-85
			Italy 86-91	Swe 92-96
			Gre 92-96	
			Sui 86-91	
			Italy 92-96	
			Por 80-85	
			Spa 92-96	
			Sui 80-85	
			Italy 97-01	
Inertia within cluster	0.80517	1.10379	3.33869	6.11057
Inertia between clusters	4.02125			

Tab. 6: cluster composition

characteristic variables	cluster mean	Overall mean	Cluster standard deviation	Overall standard deviation	Test value
OLD	10.488	7.32	1.142	2.295	5.49
HEAL	6.314	5.479	1.002	1.011	3.29

Tab. 7: cluster 1 characterisation

characteristic variables	cluster mean	overall mean	Cluster standard deviation	Overall standard deviation	Test value
HOUS	0.942	0.391	0.466	0.383	4.33
SURV	1.511	0.999	0.896	0.687	2.83

Tab. 8: cluster 2 characterisation

characteristic variables	cluster mean	Overall mean	Cluster standard deviation	Overall standard deviation	Test value
OTH	0.266	0.444	0.283	0.325	-3.42
UNEMP	0.916	1.567	0.856	1.18	-3.44
INC	2.119	2.82	0.691	1.243	-3.52
HEAL	4.889	5.479	0.744	1.011	-3.64
HOUS	0.113	0.391	0.131	0.383	-4.09
ACTLAB	0.413	0.832	0.241	0.528	-4.68
FAM	0.858	1.985	0.449	1.118	-6.29

Tab. 9: cluster 3 characterisation

characteristic variables	cluster mean	overall mean	Cluster standard deviation	Overall standard deviation	Test value
INC	4.544	2.82	0.745	1.243	6.81
OTH	0.808	0.444	0.232	0.325	5.51
FAM	3.131	1.985	0.918	1.118	5.04
ACTLAB	1.303	0.832	0.477	0.528	4.4
UNEMP	2.386	1.567	1.351	1.18	3.41
SURV	0.515	0.999	0.301	0.687	-3.46

Tab. 10: cluster 4 characterisation

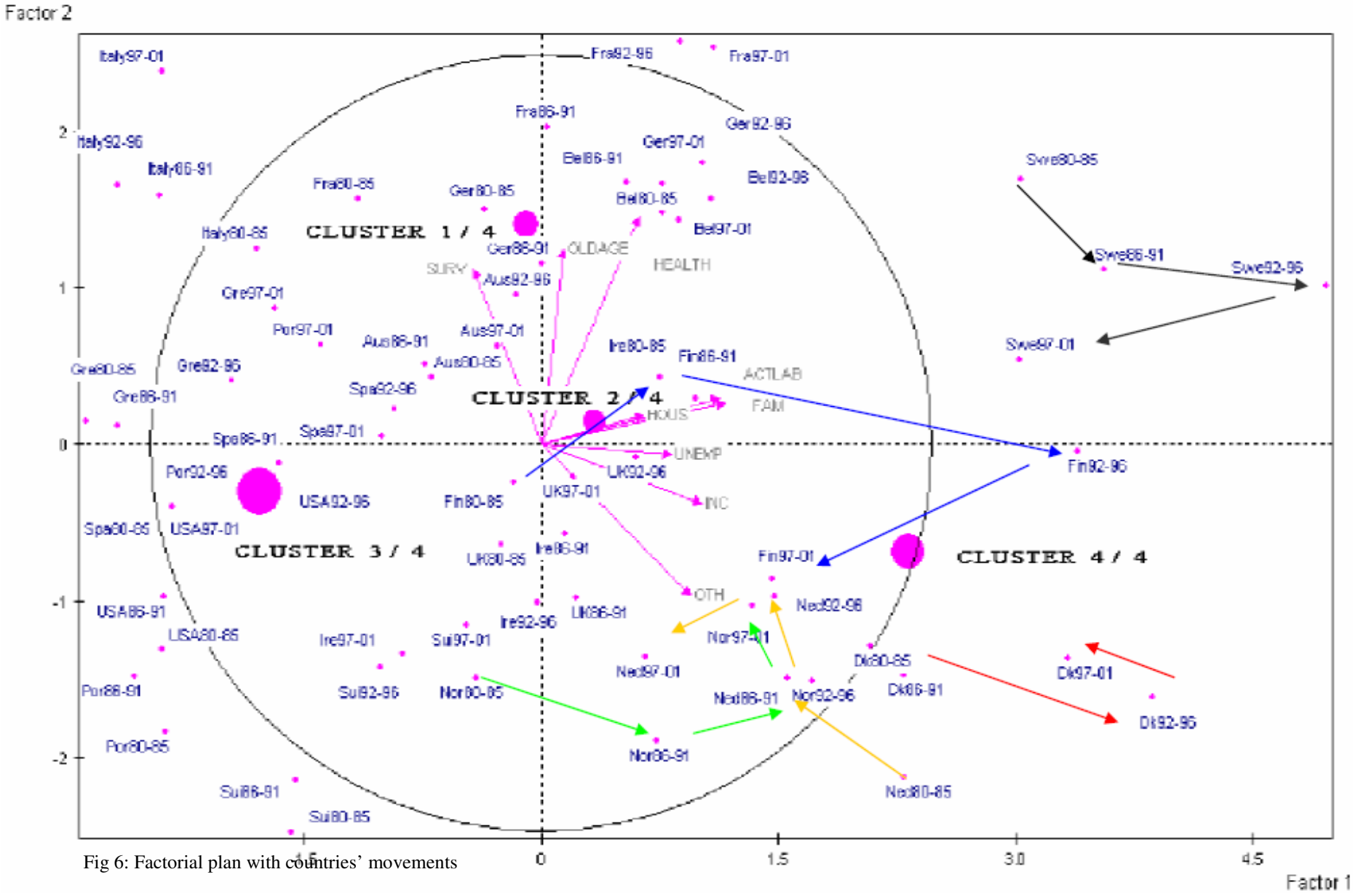

Fig 6: Factorial plan with countries' movements

8. The policy transfer hypothesis as a possible interpretation of social expenditure trends

In paragraph 6 we saw that the hypothesis of convergence is consistent for total public social expenditure and for some of its variables.
In the same paragraph we observed for the most part a persistence in the expenditure behaviours and a marked convergence in social expenditure patterns for some countries between 1992-1996 and 1997-2001.
To understand these results better we can focus on the trends in public social expenditures for each country (see Figs. 2-5) in which we can see:

1. a reduction, starting from 1992-1993, in public social expenditures for the Northern European countries;
2. an increase, from the beginning of the 90's, in public social expenditures for some Southern European countries (Portugal. Spain. Greece), formerly characterised by low expenditure levels;
3. Stability in public social expenditures (despite a slight initial increase) for Austria, France and Germany, whose value is considerably above the average. The USA shows a lower expenditure value than most of the European Countries.
4.

The convergence hypothesis seems to be consistent for some Southern countries (Spain, Greece, Portugal) and the Northern European cluster.
For the former, we could hypothesise that social, cultural and economic development in the early 80's occurring with the collapse of dictatorial regimes fostered the growth in social expenditures for Greece, Portugal and Spain; these countries, through a mechanism of voluntary policy transfer, tried to approach the European welfare standard. They retain their position in the "mixed cluster", but in the last period they show a singular displacement on the factorial plan.
After the Maastricht treaty (1992), in particular:

- Spain reduced both total public expenditures (see Fig. 8) and social expenditures, while the absolute value is higher than the 80's (see the movements on the factorial plan between 1992-1996 and 1997-2001);

- Portugal and Greece, despite an increase in their revenues (see Fig. 8), did not reduce their public social expenditures.

Since 1993, the Northern European countries have been induced to reduce their total public expenditures and their social expenditure (see Fig. 7), in accordance with the Maastricht constraints. In particular, we can observe:

- Sweden and Finland entered the EU in 1995. Some years before, they had high levels of deficit expressed in terms of GDP (Sweden 11.2%; Finland

8.3%). Hence, they adopted a restrictive expenditure policy (with constant revenue levels) and in 1996 they reached a deficit (%GDP) consistent with the Maastricht Treaty obligations (Sweden 3.3%; Finland 3.5%).

- The Netherlands in 1993 had a deficit (%GDP) that was acceptable for the Maastricht constraints; however, they, too, adopted a restrictive expenditure policy, albeit not so incisive as in Sweden and Finland.

- Denmark adhered to the Maastricht Treaty in 1993. Despite having financial conditions very close to the Treaty obligations, it adopted a restrictive tax policy and also reduced public social expenditure.

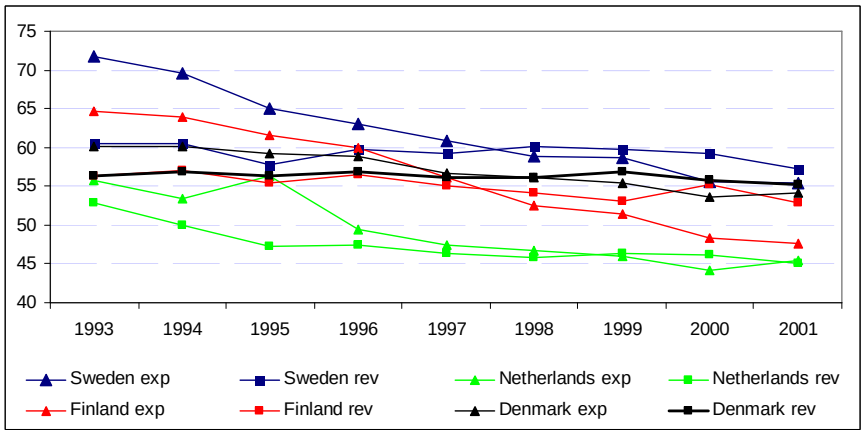

Fig. 7: General Government expenditures (exp) and revenues (rev) in Sweden, Finland, Denmark and the Netherlands (1993-2001). (Source*: Eurostat*)

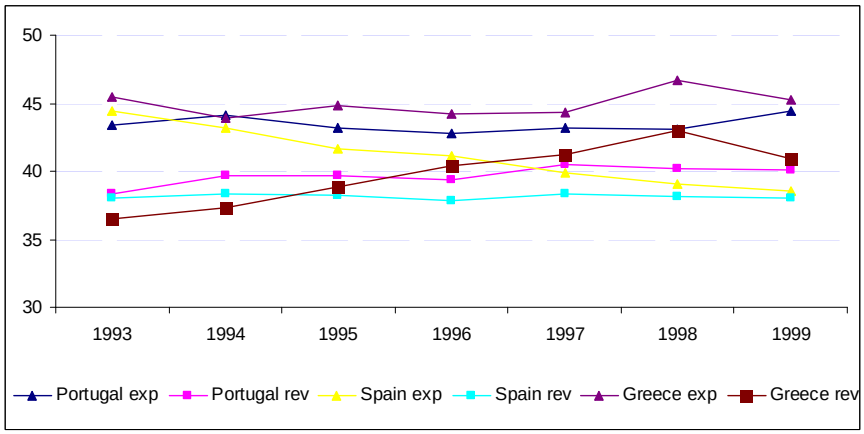

Fig. 8: Government expenditures (exp) and revenues (rev) in Portugal, Spain and Greece (1993-2001) (Source*: Eurostat*)

If we consider the Maastricht constraints as conditioning national public policy trends, convergence towards retrenchment of public social expenditures in the Northern European countries could be interpreted as a *"coercive-negotiated"* policy transfer, in the sense that they adopted a similar strategy to respond to the Treaty obligations, although their public finance frameworks were different.

9. Concluding remarks

This paper aimed at investigating public welfare expenditures for a large group of countries, mostly European, aver a time span of twenty years (from 1980 to 2000). Our analysis underscored how public social expenditures increased until the mid 90's and decreased in the subsequent period, a result that seems consistent with the efficiency enhancing - "discipline effect" of globalisation.

Monovariate and convergence analyses, carried out by means of the traditional instruments of descriptive analysis and σ and β absolute convergence, reveal that for total welfare expenditures, and for some single items (mostly HEAL and OTH, but also UNEMP and FAM), the convergence hypothesis for the whole period 1980-2000 is supported.

Multivariate analysis, a further tool for studying the convergence dynamics, revealed that the harmonisation process in the public social expenditure domain was not so overwhelming as to support the emergence of a single European social expenditure model. The cluster analysis results showed that the countries generally retained their expenditure choices, as the majority of them fall into the same cluster over time despite considerable movements inside each cluster that translate into convergence displacements on the factorial plan.

These converging trends are more evident for some countries: on the one hand, as we have already stated, we registered in the last period considered (1997-2001) a retrenchment of expenditure levels in Northern European Countries (Sweden, Denmark, Finland and the Netherlands), while on the other hand, an increase in social expenditures for the whole period was observed in Portugal, Greece and Spain. In Portugal and Greece the choice of augmenting public revenues by taxation avoided a cut in public expenditures and determined an increase in public social expenditures and deficit levels in line with the Stability Pact constraints.

It is possible to ascribe the Northern Countries' expenditure behaviour to an influence exerted by the Growth and Stability Pact: in these countries the adoption of restrictive fiscal policies brought about a reduction in social expenditures as a proportion of the total public expenditures. In this sense, the convergence towards a diminished social expenditure level shown by these countries can be interpreted in terms of the "*coercive- negotiated*" form of the policy transfer process.

However, far from providing a measure of the policy transfer process, which still awaits evaluation, our results can be interpreted as a further contribution to the analysis of welfare systems and the evaluation of the associated policy choices.

It seems interesting to underscore that, while our empirical analyses support partial convergence in expenditure levels for the countries examined, further research will aim at investigating whether convergence in the quality of the welfare services has also occurred.

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