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## Regional income convergence and regional policy in the European Union

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**REGIONAL INCOME CONVERGENCE AND REGIONAL POLICY IN THE EUROPEAN  
UNION**

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**ABSTRACT**

In this paper we use a generalized entropy index such as the Theil index to analyze regional inequalities in Europe. We proved that there is a synchronization between the convergence and catching-up process of objective 1 regions towards the EU15 average with the reform of the EU regional policy. During the period 1982-1988 the Theil index shows that inequalities between objective 1 regions and non-objective 1 regions have increased while from 1989 onwards the reduction in the inequalities between these two groups has been the norm. We also remark the fact that there are high disparate rates of growth among objective 1 regions both within countries and across countries but our computations show also a trend towards a more balanced growth among objective 1 regions within and across EU countries. This success of the European Union regional policy in objective 1 regions will mean a big opportunity for Central and Eastern European countries and hence the increases in competition arising from an enlarged European market combined with a suitable regional development policy should in the future boost the growth of those countries. In the last part of the paper we made a simulation for the funding envelope from 2007, based on the 2000-2006 budget. We show that the figures of the Agenda 2000 provide enough financial support for 90% of the total CEEC population and for 75% of “current” objective 1 population.

*Key Words: Regional Policy, European Enlargement, Central and Eastern European Countries, Strategic Planning, Regional Growth, Regional Development*

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## **INTRODUCTION: THE NEED FOR A REGIONAL POLICY IN THE EU**

In order to fully understand EU Regional Policy certain factors must taking into consideration:

Firstly, there is no natural tendency toward some kind of spatial balance in the relative development of the regions.

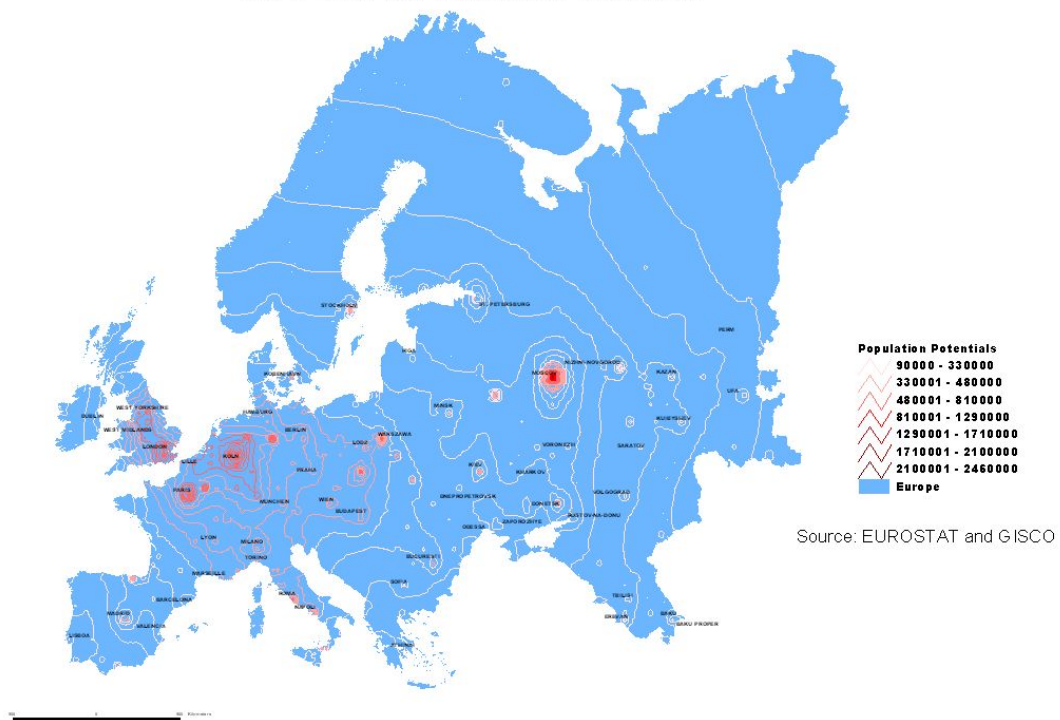
Secondly, the positive relationship between population density and economic activity is a well-established feature of the EU territory. It is a well-known (and well-documented) fact that the pentagon-shaped area that takes in London, Paris, Milan, Munich and Hamburg constitutes 20% of total EU space. Within this area 40% of the total number of EU citizens producing about 50% of the EU's total GDP are domiciled. This gives rise to major imbalances.

Thirdly, Unconditional convergence in per capita GDP levels is not a natural tendency. If a certain level of convergence exists, this is noticeable only in the very long term, since the rate at which these economies are catching is practically negligible.

Fourthly, economic development has to be encouraged in those regions that are lagging behind in terms of development or in areas suffering from severe structural problems.

The following map reflects the spatial distribution of the population through the technique of population potential contours. Population Potentials offer a means of condensing a large quantity of information by plotting maps of population contours which expand from the most densely populated areas, i.e. those areas that correspond to the highest population potentials. They provide us with a macroscopic cartography of the big population centres and a classification of territorial areas based on the influence and distribution of the principal conurbations. The pattern of the heavy "structural" lines of potentials in the European territorial structure has a clear parallel in the satellite observations which photograph the night-time light emissions from cities, houses, industries etc, captured by the Earth Viewer Satellite (map2). This similarity highlights the usefulness of the technique of population potentials (based on an analogy with classical mechanics) for providing a graded image of the population distribution for distinct geographical areas.

**MAP 1: EUROPEAN TERRITORIAL STRUCTURE**



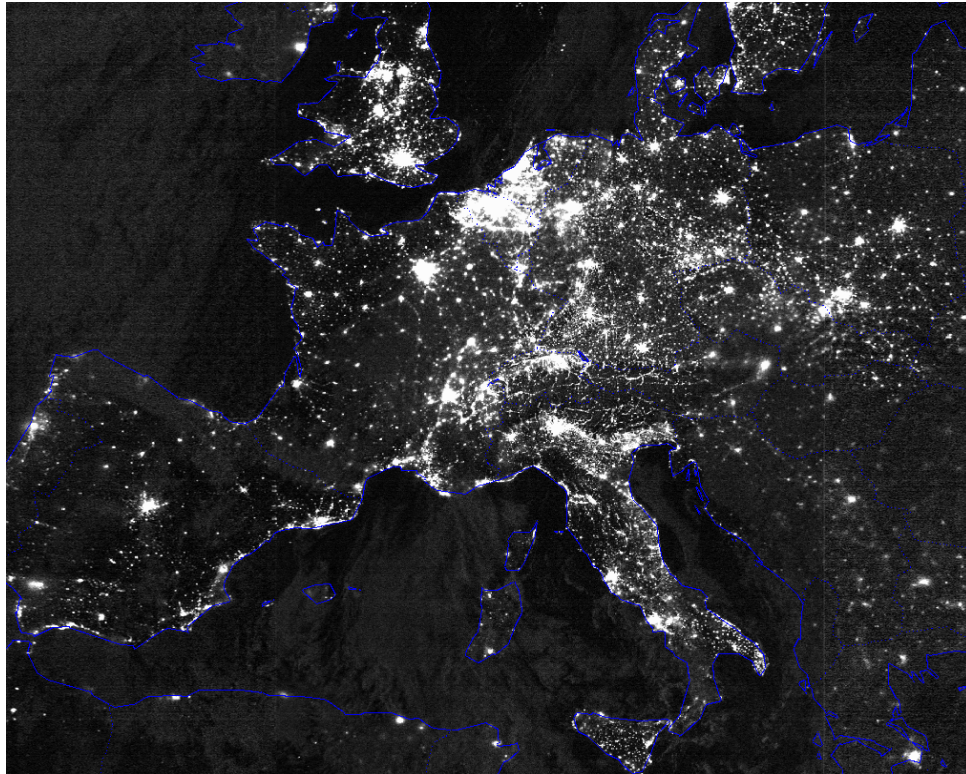
The map has a blue background over which the highest population potentials are drawn in red. A dark shade of red indicates a high value for the population potential contour whilst a light shade indicates a low value. The very lowest population potential contours are drawn in white. The most important reference point, in terms of population in the East, is the metropolitan area of Moscow. The most remarkable feature of the map however, is the relatively compact nature of the large central settlements of the European Union around which there are a concentric series of population potential contours with decreasing levels of potential.

The spatial structure of the European Union contains a large central area which is densely populated and which is centred around the three large metropolitan areas of Greater Manchester-London, Paris, and the Köln-Düsseldorf-Rhur Valley. This area constitutes a zone at the core of Europe in which more than 40% of the EU population resides, producing more than 50% of EU GDP. Logically, the population potentials that make up this area have high values; the most central contour, and therefore the contour with the highest value represents a population value of 480.000 Inhabitants/Km. This area constitutes the Metropolitan heart of North-western Europe.

In a similar way, the heavy structural lines of continental Europe are visible on the following nocturnal-light map. This map presents us with a satellite view of the night

time light emissions from cities, houses, industries and other light sources. The light emissions were captured and recorded using high sensitivity equipment.

**Map 2: MAPPING CITY LIGHTS WITH NIGHT TIME DATA FROM THE DMSP OPERATIONAL LINESCAN SYSTEM**



## **1. REGIONAL DEVELOPMENT POLICY IN THE EU**

According to the European Treaty, the Community must act “*to promote overall harmonious development*” and “*reduce the disparities in the levels of development of the various regions*” (Art 158). To this end the provisions of the SEA(1987) and the EU Treaty, Maastricht (1992), fomented integration, and were to give rise to economic and monetary union, while positing Economic Development as the back bone of European Regional Policy.

The main structural features of European Regional Policy, i.e. the financial amounts involved, its objectives and general procedures, are undergoing reform in a three-phase process which began in 1989 and which will continue until 2006. This process has provided the E.U. with its current structure, (European Commission 1989, 1993, 1994a, 1994b and European Council 1999a, 1999b, 1999c, 1999d, 1999e)

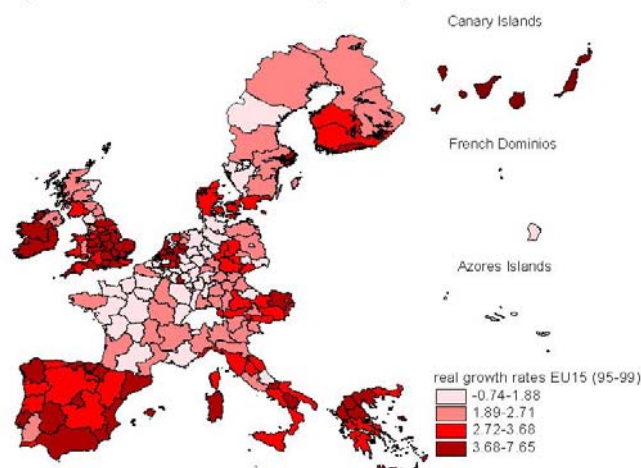
Financially, regional policy funding doubled during the first programming period 1989-1993 (Delors I package) while in the second period, 1994-1999 (Delors II package) the figure was redoubled.

On looking at EU objectives, it will be found that these have been streamlined, in the sense that, now there only exist regions which are deemed to be objective 1, 2 or 3. This streamlining in terms of objectives and the renewed focus on the population receiving assistance may be considered to be a key feature of EU Regional Policy. The main priorities of EU regional cohesion policy remain Europe's most needy areas and its least developed regions.

With respect to the general procedures for policy making within the EU, a new framework for planning and programming through negotiation was set up, which was to take effect throughout the various levels of public authority. This device was termed the Community Support Frameworks (CSF). Strategic planning is carried out via a system, in which various agents and governmental bodies attempt to reach agreements on the various measures and priorities that need to be adopted in view of the regional SWOT analysis carried out. Investment from structural funds is channelled towards the priorities that emerge from regional strategic planning and CSF through Operational Programs.

With the financial support of structural funds, the less developed regions have begun to perform positively in a period of intensified competition through the completion of the internal market, the liberalization of the movement of monies and capital in the EU and within the wider context of global competition in the world economy. This push towards higher levels of integration, combined with the strengthening of Regional Policy and the competitive advantages of the poorer regions, has favoured the convergence of the objective 1 regions. The performance of the objective 1 regions can be seen in the following map, which represents the regional distribution of accumulative growth rates over the period 1995-1999. These accumulative growth rates have been computed in real values from the EUROSTAT data on Purchasing Power Standards (PPS).

Map: Real Growth Rates EU15 (1995-99)



Source: Own elaboration based on the first progress report on economic and social cohesion (January 2002)

One striking feature of regional growth patterns in the EU is the highly positive growth potential demonstrated by the less developed regions. In the weaker regions, regional strategic planning and programming with support from Structural Funds have facilitated many of the supply-side improvements, a strengthening of their production potential and a shift into higher value-added sectors (see reports European Commission 1991, 1996a, 2000). A closer appraisal of the regions whose development is lagging would show that their performance and the rate at which they are catching up has not been uniform (Tondl 1997, Tsoukalis 1992, Bradley et al. 1995, Axt 1992, Baussola and Fiorito 1994, Alogoskoufis 1995), but in general terms, this particular group of regions has become one of the most actively expansive in the EU.

In order to give a more technical approach to the leading and lagging regional growth discussed in the first part of this section, we use a Generalized Entropy Index such as the Theil index of concentration as the main analytical instrument<sup>1</sup>. The Theil coefficient of concentration (Theil, 1967) became a very popular index for analysing spatial distributions. Different authors (Batty, 1974, 1976, Walsh and O'Kelly, 1979, Walsh and Webber, 1977) have shown the merits of this index. Not only is it neither scale<sup>2</sup> nor mean dependent<sup>3</sup> and it is not excessively affected by extreme values, but is also independent of the number of regions<sup>4</sup> and can therefore be used to compare the inequalities that exist between different regional systems. Moreover, the coefficient is decomposable<sup>5</sup> in between-group and within-group inequalities and in this way it can be used to analyse inequality on different geographical scales simultaneously (Walsh and O'Kelly 1979, p. 271). Furthermore, Bourguignon (1979), Shorrocks (1980) and Cowell

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<sup>1</sup>The vast theoretical and empirical literature on inequalities has produced a substantial number of measures. See Cowell (1995) for an excellent survey of measures and their potential drawbacks.

<sup>2</sup>This characteristic is called the income scale independence principle and states that a desirable measure of inequality should be homogeneous of degree zero, that is if we scale all of incomes by the same number, our measure of inequality should not change. For instance variance of income does not fit this principle (if we double the incomes, the variance quadruples).

<sup>3</sup>This characteristic is called the Pigou-Dalton transfer principle and states that a good inequality measure should rise in response to a mean preserving redistribution from a poor to a rich person or in other words the numerical value of an inequality index should increase when there is a transfer of income from someone lower in the income distribution to someone higher in the income distribution, holding everyone else's income constant. Most measures satisfy this principle being the main exception the variance of logarithms.

<sup>4</sup>This characteristic is called the principle of population or replication invariance and postulates that the distribution of the cake should not depend on the number of the cake receivers. That is, if we measure inequality in an economy with N regions and then merge it with another identical economy, inequality in the larger economy should be the same (Dalton 1920). Indices such as the weighted coefficient of variation is sensitive to the number of regions and therefore cross-national comparisons of its values are statistically biased.

<sup>5</sup>This characteristic is called the principle of decomposability.



(1995) showed that the only inequality indices that simultaneously satisfy all the principles mentioned are the Generalized Entropy Indices. These characteristics made the Theil index particularly suitable for analysis of the European case, where regional development has a strong geographical component, thus justifying the adoption of the Theil coefficient. The index was calculated according to the following formulas<sup>6</sup>.

Defining  $y_i = \frac{GDP_i}{Popul_i}$  as the per capita income of region  $i$  and  $y_{EU} = \frac{GDP_{EU}}{Popul_{EU}}$  as

the average per capita income of the Whole European Union, we can express the regional share of the average European Union per capita income with the  $x_i$  variable

defined as  $x_i = \frac{y_i}{y_{UE}}$ . Therefore the Theil index can be expressed in the following way:

$$IC = \sum_i \frac{GDP_i}{GDP_{UE}} \log(x_i) = IC_{br} + IC_{wr} \quad (1)$$

$$IC_{br} = \sum_r \frac{GDP_{i \in r}}{GDP_r} \log(x_{i \in r}) \quad (2)$$

$$IC_{wr} = \sum_r \frac{GDP_{i \in r}}{GDP_r} \left[ \sum_i \frac{y_i}{y_{i \in r}} \log\left(\frac{x_i}{x_{i \in r}}\right) \right] \quad (3)$$

taking into account that  $y_{i \in r} = \frac{GDP_{i \in r}}{Popul_{i \in r}}$  stands for the per capita income of region  $i$

that belongs to the “ $r$ ” group of regions and  $y_r = \frac{GDP_r}{Popul_r}$  is the average per capita

income of the “ $r$ ” group of regions, we can express the regional share of the average per capita income in the “ $r$ ” group of regions through the  $x_{i \in r}$  variable defined as

$$x_{i \in r} = \frac{y_{i \in r}}{y_r}.$$

$IC$  stands for Total Inequality,  $IC_{br}$  is between-group inequality and  $IC_{wr}$  is within-group inequality. Notice that the global inequality index may be broken down into two components, a between or across-group of regions index and a weighted average of

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<sup>6</sup>The Theil coefficient can be interpreted as the log of a weighted geometric mean of regional per capita incomes deflated by the national average, the weights being represented by the income shares. A dual form also exists, in which the role of population shares and income shares are interchanged, but we have preferred the original one for its direct relationship with the entropy concept (Theil, 1967,p.127). With respect to the standard deviation of log per capita income, adopted in the analysis of  $\sigma$ -convergence, the Theil coefficient presents the advantage of being weighted, independent of the number of regions and decomposable in between- and within-set shares.



within-group of regions inequalities. It should be noticed that the weights are in form of the aggregate incomes rather than population sizes.

Taking into account the above expressions, we have calculated the Theil Index for the regions of the European Union over different time periods, using two different European accounting systems (ESA79 and ESA95) and different numbers of regions. In all of the computations of the Theil index we have classified the European regions into two groups: On the one hand we consider the less developed regions or the “objective 1 group” in the European Union. This group logically takes in the objective 1 regions<sup>7</sup>. On the other we consider the remaining regions in the European Union, i.e., those that fall outside the objective 1 category and that we will call “non-objective 1 group”. This classification provides us with a means of measuring the dispersion in the distribution of income between those two groups and thus we are able to assess if a convergence process between them is taking place.

The GDP variable used in the Theil formula is expressed in terms of purchasing power standards (PPS) at constant 1985 prices. The data was provided by the European statistical office (EUROSTAT). As mentioned above, however, our analysis is based on two series of data that are not perfectly homogeneous for the years they overlap: One series is for 1982-1997 (ESA79) and the other for 1995-1999 (ESA95<sup>8</sup>).

The first computations of the Theil Index have been made for the period (1982-1997) with ESA79. This is our longest Theil series and takes in 131 regions in the EU12. The “objective 1 group” comprises 38 regions and the “non-objective 1 group” 93 regions<sup>9</sup>. The results are given in table 1.

For each year and for each of the two groups considered table 1 gives the population shares, the income shares, the logarithm of the ratio shares and the contribution to the Theil index. Finally, the last three columns give the numerical values of the Theil index for between groups, within groups and the total.

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<sup>7</sup>In all our computations “objective 1 group” takes in those NUTS II regions that were objective 1 either in the first programming period (1989-1994) (Delor’s I Package) or in the second programming period (1995-1999) (Delor’s II Package) and “non-objective 1 group” takes in the remainder of the European Union NUTS II regions.

<sup>8</sup>The move to ESA95 based accounts in 1999 was planned to address a range of inconsistencies and establish a new Eurostat-compatible and consistent data set from 1995.

<sup>9</sup> Annex A lists the NUTS II regions that belongs to each group considered.

**Table 1: Population and Income Shares for objective 1 and non-objective 1 group of regions and the Theil Index (1982-1997)**

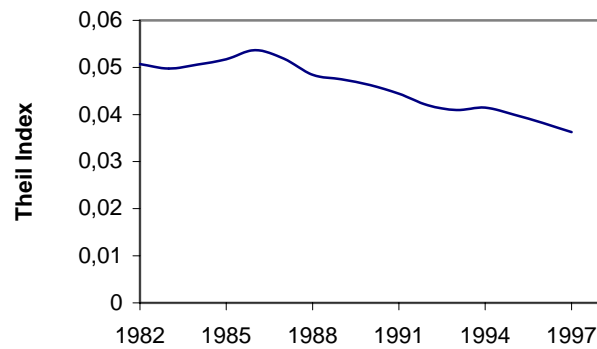
Year	Type of Group	Pop. Share	Income Share	Log R. Sh.	Cont.Theil Index	Theil Bet.	Theil Within	Theil Total
1982	obj 1 group	0,3258	0,1839	-0,5720	-0,1052	0,0507	0,0137	0,0645
	non-objective 1 group	0,6742	0,8161	0,1911	0,1559			
1983	obj 1 group	0,3274	0,1865	-0,5627	-0,1050	0,0498	0,0180	0,0677
	non-objective 1 group	0,6726	0,8135	0,1902	0,1547			
1984	obj 1 group	0,3291	0,1868	-0,5664	-0,1058	0,0506	0,0185	0,0692
	non-objective 1 group	0,6709	0,8132	0,1923	0,1564			
1985	obj 1 group	0,3302	0,1863	-0,5725	-0,1066	0,0518	0,0192	0,0710
	non-objective 1 group	0,6698	0,8137	0,1947	0,1584			
1986	obj 1 group	0,3319	0,1852	-0,5834	-0,1080	0,0537	0,0182	0,0719
	non-objective 1 group	0,6681	0,8148	0,1985	0,1617			
1987	obj 1 group	0,3321	0,1878	-0,5704	-0,1071	0,0519	0,0179	0,0697
	non-objective 1 group	0,6679	0,8122	0,1957	0,1590			
1988	obj 1 group	0,3316	0,1919	-0,5471	-0,1050	0,0484	0,0174	0,0659
	non-objective 1 group	0,6684	0,8081	0,1898	0,1534			
1989	obj 1 group	0,3306	0,1923	-0,5420	-0,1042	0,0475	0,0169	0,0644
	non-objective 1 group	0,6694	0,8077	0,1879	0,1517			
1990	obj 1 group	0,3254	0,1896	-0,5404	-0,1024	0,0463	0,0186	0,0648
	non-objective 1 group	0,6746	0,8104	0,1835	0,1487			
1991	obj 1 group	0,3258	0,1924	-0,5266	-0,1013	0,0444	0,0177	0,0622
	non-objective 1 group	0,6742	0,8076	0,1805	0,1458			
1992	obj 1 group	0,3248	0,1951	-0,5098	-0,0994	0,0420	0,0181	0,0601
	non-objective 1 group	0,6752	0,8049	0,1757	0,1414			
1993	obj 1 group	0,3230	0,1951	-0,5044	-0,0984	0,0410	0,0179	0,0588
	non-objective 1 group	0,6770	0,8049	0,1731	0,1393			
1994	obj 1 group	0,3236	0,1948	-0,5076	-0,0989	0,0415	0,0183	0,0598

	non-objective 1 group	0,6797	0,8058	0,1702	0,1372			
1996	obj 1 group	0,3200	0,1966	-0,4873	-0,0958	0,0382	0,0191	0,0573
	non-objective 1 group	0,6800	0,8034	0,1668	0,1340			
1997	obj 1 group	0,3198	0,1994	-0,4722	-0,0942	0,0363	0,0196	0,0558
	non-objective 1 group	0,6802	0,8006	0,1629	0,1304			

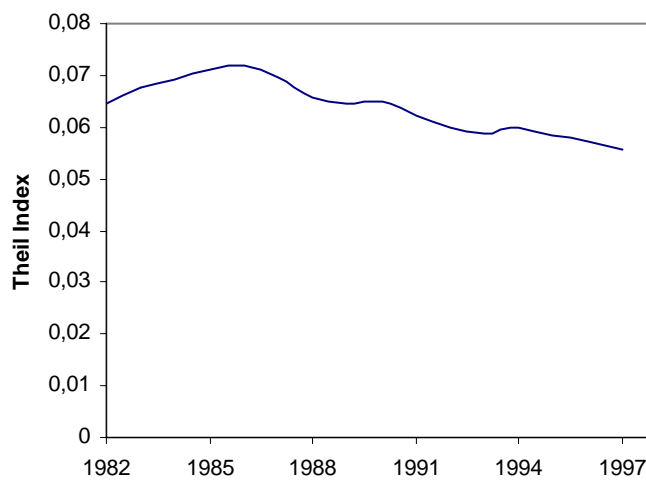
If we focus on the between-group inequality which aims to proxy the catching-up process of objective 1 regions with respect to the non-objective 1, table 1 reflects a change in the general tendency. Between 82 and 87 the disparity remained relatively constant rising from a value of 0.0507 in 1982 to 0.0519 in 1987. Between 1988 and 1997 however the income disparities between these two groups shrunk from 0.0484 in 1988 to 0.0363 in 1997. The within-group inequality, on the other hand tended to increase slightly. The total or overall Theil index displays almost the same pattern as the Theil index between groups. This would seem to indicate that the increase in the regional inequalities from 1982 to 1987 was driven by an increase in both the between-group component and the within-group component of the Theil Index. In 1982 the between-group contribution to European inequality was 0.0507 (as we saw in table 1) and by 1987 this figure had risen to 0.0519. With respect to the within-group contribution to the European inequality the figures rose from 0.0137 in 1982 to 0.0179 in 1987.

The decrease in regional inequality in the European Union from 1987 to 1997 was driven by a decrease in the between group component of total inequality. The between group contribution to total inequality was 0.0484 in 1988 and by 1997 this figure had risen to 0.0363. In this period the within-group inequality follows a relatively stable path. The graphic representation offered in figures 1 and 2 provide a vision which underline the similarities between the patterns traced by between-group inequalities and total inequality. Figure 3 provides a representation of the relative contributions of the between-group inequalities and the within-group inequalities to the total inequality and as such offers a graphic comparison of the three.

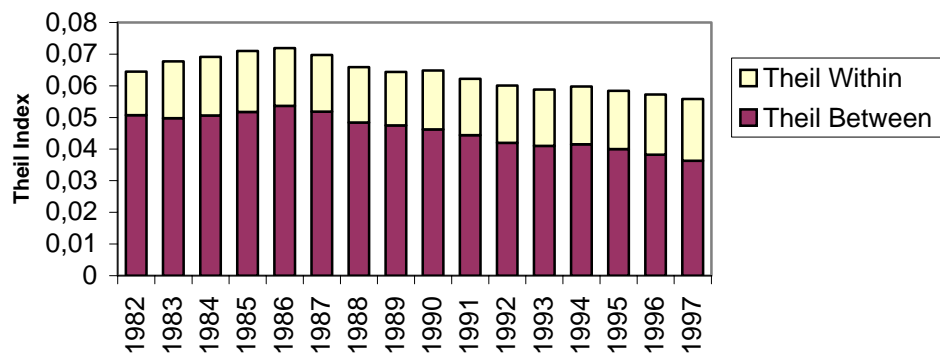
**Figure 1: Theil Between Groups**  
**Comparative Performance Objective 1 Regions**  
**EU12 (1982-1997)**



**Figure 2: Theil Total**  
**Income Inequality among EU regions**  
**EU12 (1982-1997)**



**Figure 3: Decomposition of Theil Index**  
**EU12 (1982-1997)**



It can be seen from figure 3 that between-group inequality contributes proportionally more to the total inequality than within-group inequality. Moreover, there is a stable tendency of within-group inequality and a decreasing tendency of the between-group inequality. The breakdown of the Theil index into between-group and within-group components helps to highlight the convergence process taking place in the levels of income across groups and the relative stagnation in terms of within-group inequalities from 1987-1997 in the EU12.

In order to enhance the sample of regions at our disposal we compute the Theil index for the period 1988-1997 (ESA79). The new sample includes 189 regions<sup>10</sup> all of which belong to the 15 present-day European Union countries. The general conclusions that may be drawn are similar to those given above for the smaller sample of regions. The reduction inequalities in income is due to the constant decrease in the gap in the Theil index between the two groups, which means that there is a convergence process taking place across groups of regions, in other words between objective 1 and non-objective 1 regions. Table 2 gives the results of the computations and can be read in similar terms to table 1.

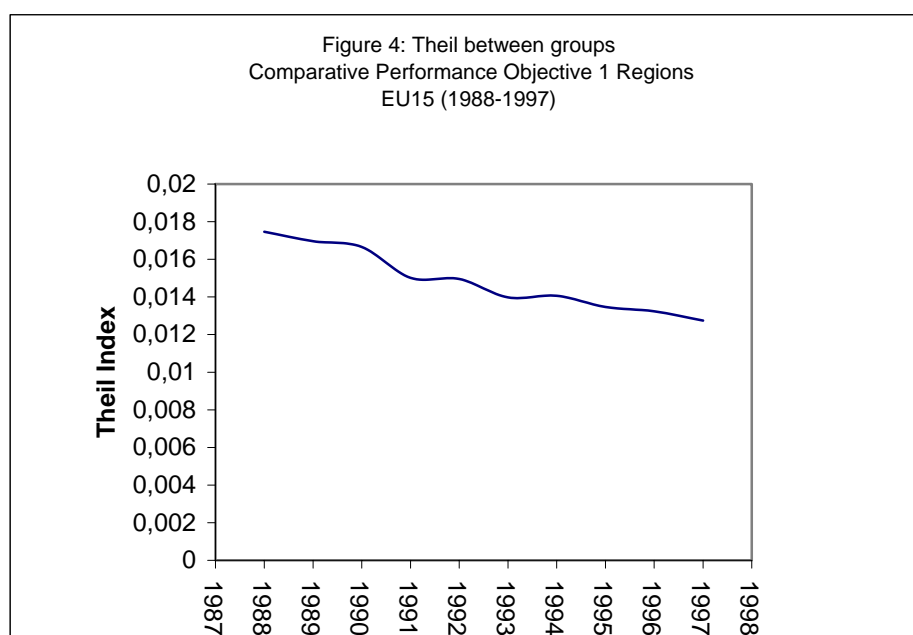
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<sup>10</sup> Annex B lists the NUTS II regions that belongs to each group considered

**Table 2: Population and Income Shares for objective 1 and non-objective 1 group of regions and the Theil Index Between the two groups (1988-1997)**

Year	Type of Group	Pop. Share	Income Share	Log R. Sh.	Cont.Theil Index	Theil Bet.
1988	obj 1 group	0,2072	0,1352	-0,4270	-0,0577	0,0175
	non-objective 1 group	0,7928	0,8648	0,0870	0,0752	
1989	obj 1 group	0,2068	0,1358	-0,4204	-0,0571	0,0170
	non-objective 1 group	0,7932	0,8642	0,0857	0,0741	
1990	obj 1 group	0,2046	0,1346	-0,4190	-0,0564	0,0167
	non-objective 1 group	0,7954	0,8654	0,0844	0,0730	
1991	obj 1 group	0,2045	0,1379	-0,3946	-0,0544	0,0150
	non-objective 1 group	0,7955	0,8621	0,0805	0,0694	
1992	obj 1 group	0,2041	0,1376	-0,3942	-0,0542	0,0150
	non-objective 1 group	0,7959	0,8624	0,0802	0,0692	
1993	obj 1 group	0,2034	0,1391	-0,3801	-0,0529	0,0140
	non-objective 1 group	0,7966	0,8609	0,0776	0,0668	
1994	obj 1 group	0,2039	0,1393	-0,3808	-0,0530	0,0141
	non-objective 1 group	0,7961	0,8607	0,0780	0,0671	
1995	obj 1 group	0,2022	0,1391	-0,3735	-0,0520	0,0135
	non-objective 1 group	0,7978	0,8609	0,0760	0,0654	
1996	obj 1 group	0,2020	0,1395	-0,3701	-0,0516	0,0132
	non-objective 1 group	0,7980	0,8605	0,0754	0,0649	
1997	obj 1 group	0,2019	0,1406	-0,3622	-0,0509	0,0127
	non-objective 1 group	0,7981	0,8594	0,0741	0,0637	

Figure 4 plots the evolution of the Theil index from 1988 to 1997 in the EU15 between the two groups. The value of the index falls throughout the whole period.



Finally, in order to bring the study of the regional convergence patterns in the European Union up to date using the most recent data available, we compute the numerical values for the Theil index for the period 1995-1999 based on ESA95 accounting. As before we divide the whole sample of NUTS II regions into two groups corresponding to objective 1 and non-objective 1 regions<sup>11</sup>.

Table 3 provides the main results of the computations for the Theil index and reflects the reduction in income disparities between the two groups. This should be viewed as a conclusive proof of the catching-up process taking place between objective 1 regions and non-objective 1 regions.

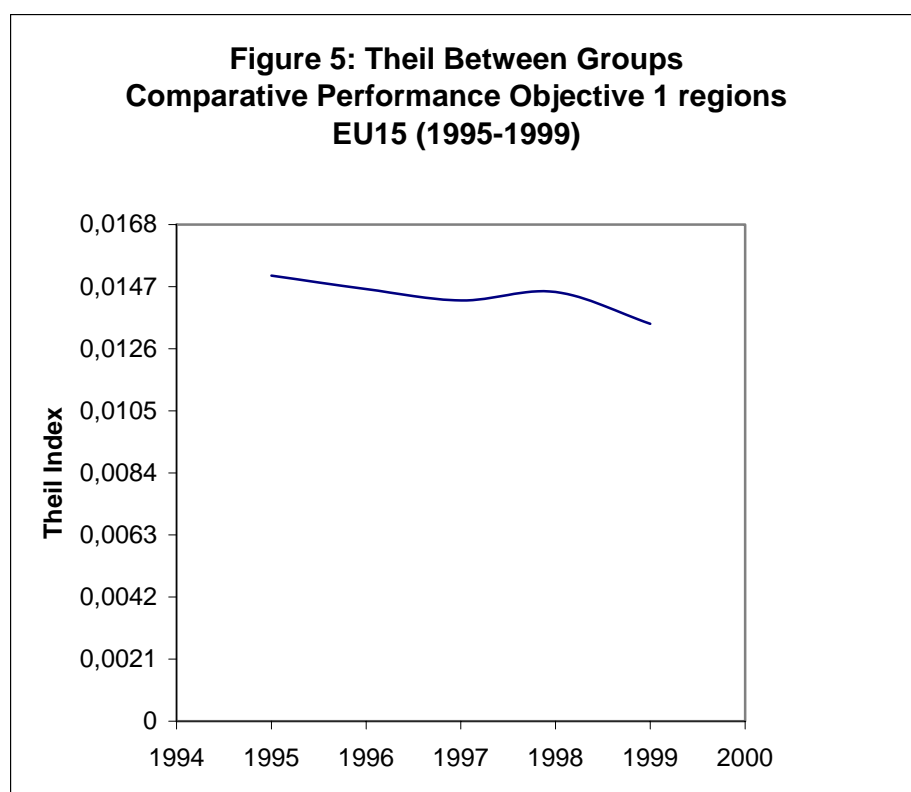
<sup>11</sup>Annex C lists the NUTS II regions that belongs to each group considered



**Table 3: Population and Income Shares for objective 1 and non-objective 1 group of regions and the Theil Index Between the two groups (1995-1999)**

Year	Type of Group	Pop. Sh.	Income Share	Log R. Sh.	Cont. Theil Index	Theil Bet.
1995	obj 1 group	0,24439	0,17259	-0,34786	-0,06004	0,01507
	non-objective 1 group	0,75561	0,82741	0,09078	0,07511	
1996	obj 1 group	0,24413	0,17341	-0,34204	-0,05931	0,01462
	non-objective 1 group	0,75587	0,82659	0,08944	0,07393	
1997	obj 1 group	0,24382	0,17402	-0,33726	-0,05869	0,01424
	non-objective 1 group	0,75618	0,82598	0,08829	0,07293	
1998	obj 1 group	0,24354	0,17311	-0,34134	-0,05909	0,01452
	non-objective 1 group	0,75646	0,82689	0,08902	0,07361	
1999	obj 1 group	0,24317	0,17533	-0,32709	-0,05735	0,01344
	non-objective 1 group	0,75683	0,82467	0,08584	0,07079	

Figure 5 plots the values of the between-group Theil index and gives the comparative performance of objective 1 regions.



The general tendency towards a decrease in inequality between the two groups becomes evident from this figure. There is however a small increase in inequality between 1997 and 1998.

Theil computations underline the special importance of the assistance provided for the objective 1 regions within the broader context of boosting the total growth of the EU. Figures 1, 2 and 3 reflect the level of correlation in both the phases of divergence and convergence for the period 1982-1997 with the reforms of the European Union regional policy. The reduction in the disparities between the objective 1 and non-objective 1 groups has been taking place ever since the Delor's I (1989-1993) and Delor's II (1994-1999) packages come into effect, signalling the reform of regional policy.

## **2. CENTRAL AND EASTERN EUROPE, REGIONAL POLICY AND THE EUROPEAN MARKET**

Accession to the European Union will constitute both a great opportunity and a stern challenge for the Central and Eastern European Countries (CEECs). The EU offers these countries a powerful developmental strategy, which is based on a combination of market competition and development policy. The EU also offers a structural development policy that focuses on the regions whose development is lagging behind. This tool is an investment policy rather than a price support tool and is aimed at maximising the advantages derived from the competitive forces arising from the integration within a larger market. Competition in a large market within the framework of European Economic and Monetary Union will foster competitiveness in domestic sectors and attract foreign direct investment to take advantages of new business opportunities. Fomenting competition within an enlarged market, combined with a solid regional development policy in the EU, has proved to be a successful policy mix which has been capable of boosting the growth of the objective 1 regions within the framework of an open market economy.

By the end of the present programming period the proportion of the populations in the current EU-15 receiving assistance, i.e. those populations in regions where the average per capita GDP is below 75% of the EU average, should have decreased by about 25%. By the end of the programme therefore, there should be more intense support for the most needy regions. Further, the gradual attainment of these objectives, frees resources which may then be focussed on other goals, such as restructuring and unemployment.

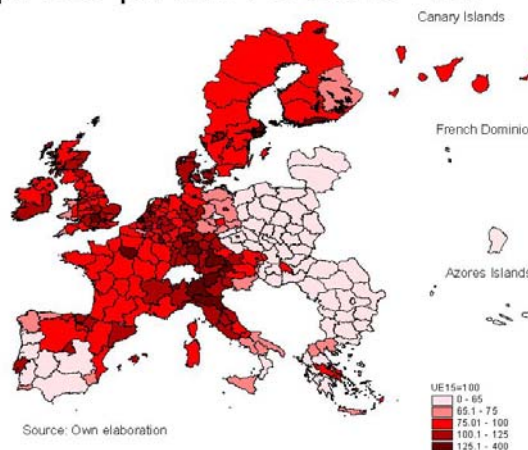
Hypothetically however, in a European Union made up of 21 or 25 countries, the number of objective 1 regions would increase dramatically since many of these incoming countries have low levels of per capita GDP and development. The overall proportion of numbers of the EU population living in objective 1 regions would thus increase. Baring in mind that 90% of the population of the future member States in the EU-25 would receive assistance, if the percentage of the assisted population in the current EU-15 was to remain the same, this would mean that 31% of the population of an EU-25 would fall into the category of an objective 1 region.

The accession of the CEE countries will lower the statistical threshold for the Objective 1 regions with respect to per capita GDP (see maps EU-21 and EU-25), since these countries have lower levels of development. If there was a premature withdrawal of assistance to these countries this would undoubtedly have dramatically negative ramifications since this aid has come to constitute a source of growth-potential and a means by which the cyclical nature of the economic lag might be overcome. In effect, the withdrawal of funds would have markedly negative consequences for those regions where the funds are at present most needed and most successful in fomenting growth.

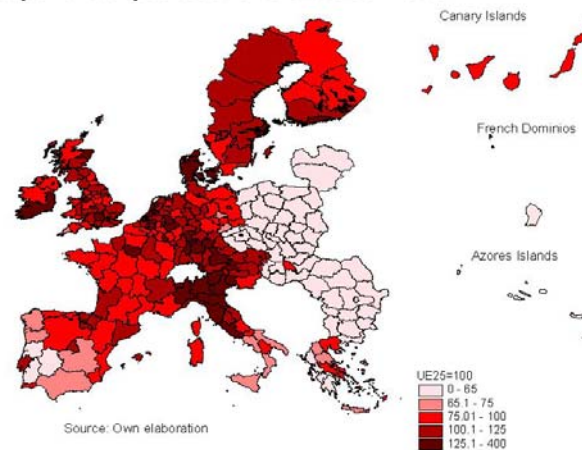
If the threshold for the objective 1 regions is lowered then there must be some kind of compensatory mechanism in order to maintain the positive momentum which is being generated in the existing objective 1 regions, and to maintain the coherence inherent in EU regional policy. At the same time, it is important that the focus of structural funds remains aimed at those regions, which are most needy. It is precisely these regions that, whilst being, by definition, the most underdeveloped, are also those regions that possess the greatest potential for economic expansion and hence, the prime aim of policy should be to enable these regions to compete on their own.

A viable mechanism for counter-balancing the essentially statistical negative effect of the enlargement of the EU, might be to consider those regions of the current EU-15 whose GDP per head is below 75% of the EU average, as objective 1 regions, prior to the accession of new Member States. That is, by calculating their real development levels as a proportion of the EU-15 figure rather than as a proportion of EU-25.

Map: GDPph in PPS EU15=100



Map: GDPph in PPS EU25=100



### 3. THE EXPERIENCE OF TWO GENERATIONS OF DEVELOPMENT PROGRAMMES: DELORS I PACKAGE AND DELORS II PACKAGE

In the past two generations of EC regional development programmes (1989-1993 Delors I package and 1994-1999 Delors II package) the main emphasis has been put on the improvement of transport networks, telecommunications and energy supply infrastructure (28 percent of structural funds transfers). The second-largest share of EU funds included the implementation, upgrading and restructuring of industrial and tourism activities and the modernization of the agricultural sector. The third development priority of EU funds has been the improvement of labour force skills.

Although there are Public Choice patterns revealed in the distribution of funds, countries' policies have different focus with respect to infrastructure, development of the productive sector and human capital. Very briefly, we are going to analyze the different strategies followed by the main recipient countries granted with Delors I and Delors II packages.

#### Portugal

The two generations of Community Support Frameworks (CSF) in Portugal concentrated its efforts in the modernization of the productive sector (36 percent of EU funds in 1989-1993 and 30 percent of EU funds in 1994-1999), infrastructure projects (26 and 24 percent of EU funds respectively) and the improvement of the educational situation (25 percent of EU funds). CSF II funds are also devoted to supplement Portuguese expenditures on environment and urban regeneration and to improve public health and social services.

#### Spain

Since its entry into the European Community, Spain has received large amounts via ERDF that channel into infrastructure projects. This is confirmed looking at the structure of spending of the CSF I (40 percent to economic infrastructure). Measures of

professional training to upgrade skills of active labour force and requalify unemployed constituted the second priority (24 percent of CSF I funds). The third priority of CSF I was the improvement of the productive sector largely focused on the agricultural sector (21 percent of funds). However, under the CSF II improvements of the production system gains most importance (30 percent of EU funds). This would encompass industry, agriculture as well as tourism. Measures to improve human capital gain noticeable ranking under CSF II (28 percent) while infrastructures projects were reduced (29 percent).

#### Greece

The most striking feature of the Greek CSFs is that the major part of the funds was placed for large scale infrastructure projects in the transport sector, telecommunications and energy supply (33 percent of EU funds in 1989-1993 and 39 percent of the EU funds in 1994-1999). The improvement of human capital (25 percent of the EU funds in 1989-1993 and 19 percent in 1994-1999) and the plans for a very active industrial development policy specially in the CSF II has been considered as the second most important development priorities (25 percent of EU funds in CSF I and CSF II). It is important to mention that during the CSF II a considerable share of funds is reserved for improving health services and related social aid schemes (17 percent of EU funds).

#### Italy

Among the development priorities in Italy under CSFs the funds that goes to the improvement of the productive sector (industry, crafts, related services, tourism and agriculture) are the most (39 percent in 1989-1993 and 48 percent in 1994-1999). Spending on infrastructure is much lower than in the other countries (22 percent and 17 percent respectively) given that Italian infrastructure is fairly advanced. An important share of EU funds is devoted to enhance labour skills (21 percent in CSF I and CSF II).

#### Germany

The CSF programmes for East Germany (New German Länder) differs from the other objective 1 programmes leaving aside financial support for infrastructure and public services and concentration on the modernization and expansion of production base (stimulate formation of new enterprises, particularly SMEs) and labour market measures (qualification of labour force according to present technological standards and reintegration of unemployed).

Table 4 capsulize the percentage allocation of structural and cohesion funds by policy area for the CSF I (1989-1993) and CSF II (1994-1999) in the southern-peripheral recipient countries.

TABLE 4: SHARE IN % OF TOTAL ALLOCATION CSF I AND CSF II  
ACCORDING TO DEVELOPMENT PRIORITIES

	PORTUGAL		SPAIN		GREECE		ITALY	
	1989-93	1994-99	1989-93	1994-99	1989-93	1994-99	1989-93	1994-99
1. Economic Infrastructure	26.5	23.8	40.0	28.9	32.8	38.9	22.1	16.6
2. Productive sector modernization	36.5	30.1	21.5	30.5	25.5	25.4	39.3	48.2
3. Human resources and employment	25.2	24.8	24.2	28.4	24.8	18.8	21.6	21.4
4. Living conditions	5.0	16.8	13.8	11.5	10.0	17.2	16.6	13.1
5. Others	6.7	4.4	0.5	0.7	6.8	1.4	0.4	0.6

Note: Adapted from Tondl (1998)

Economic infrastructure takes in roads, rail, ports, energy and telecommunications.

Productive sector modernization takes in Industry and services, tourism, agriculture and fisheries.

Human resources and employment takes in general education, vocational training: workforce, school leavers, unemployed and R&D.

Living conditions takes in Environment and urban regeneration, health and social integration.

Others takes in measures on regional imbalances, CSF technical assistance and training civil servants.

Since 1989, when the CSF I came into place, the growth performance of objective 1 regions as a whole outperformed the average growth of an EU15 region, so contributing to the decline of European income disparities. Table 5 shows the average per capita GDP growth per annum for objective 1 regions in each of the recipient countries. For the computations, per capita GDP values for the different objective 1 regions were transformed into purchasing power parities (PPP) at constant 1985 prices. The time periods we have chosen represent the span in which the two regional development programmes have been operational<sup>12</sup>.

<sup>12</sup> Although the second CSF was in place in 1994, we chose the interval 1995-1999 in order to be able to use the new EUROSTAT (ESA 95) figures.

**Table 5: Average per capita GDP growth per annum for objective 1 regions in main recipient countries**

Time Period	1989-1994	1995-1999
	CSF I	CSF II
Denmark		0.022
Spain	0.0073	0.037
France	-0.014	0.020
Greece	0.003	0.041
Ireland	0.047	0.065
Italy	-0.005	0.032
Portugal	0.015	0.038
United Kingdom	0.013	0.026
Av.Ob.1 Regions	0.0055	0.0337
UE15	-0.01	0.027

Source: Author's own elaboration

The figures in table 5 show that on average objective 1 regions have higher growth rates than UE15 as a whole both during the first and during the second Delors' packages. Looking at the particular performance of countries, Spanish and Portuguese regions in general and their objective 1 regions in particular all enjoyed an impressive high growth period since 1989 following the stagnation they experienced in the early 1980s, due the stabilization policies and in the case of Spain the economic restructuring. Growth rates in objective 1 regions for these two countries in both periods were far above the EU15 and the average objective 1 region. Spanish objective 1 regions' growth rates went from 0.73% during the CSF I to 3.7% during CSF II. In the case of Portugal the figures were 1.5% and 3.8% respectively. It is quite remarkable the case of Ireland -the so-called "Irish miracle"- were the growth rates in both periods were impressive (4.7% and 6.5% respectively). By contrast, Italian and Greek regions remained on a rather weak growth path throughout the CSF I (-0.5% and 0.03% respectively). These regions encountered severe difficulties in implementing and operating CSF I, mainly due to the incompetence and inefficiency of public administration. During the CSF II, clear macroeconomic policy commitments and a better performance of the administrative system allowed objective 1 regions in these countries to gain momentum reaching average growth rates of 3.2% and 4.1% respectively.



As to the differences in regional growth performance for regions within a country, the statistics are set out in table 6 which indicates average regional per capita GDP growth in 1989-1993 and 1995-1999. In the case of Denmark, we computed only the average growth rates for its objective 1 regions for the period 1995-1999 because they had been granted objective 1 status in 1991. Moreover, we have also computed the standard deviation, minimum value and maximum value for the growth rates and the difference between them for objective 1 regions within a country and for objective 1 regions across countries<sup>13</sup>.

The figures in table 6 stress the comments given in table 5. Most of the Spanish and Portuguese objective 1 regions experienced positive growth rates in 1989-1993, a general recession period in most of the EU countries. The only exceptions were the regions of Valencia and Murcia in the case of Spain and the Alentejo region in the case

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<sup>13</sup> Across countries computations take in the objective 1 regions of Spain, Greece, Italy and Portugal.

Table 6: Average per capita GDP growth per annum for objective 1 regions

SPAIN			GREECE			ITALY			PORTUGAL			DENMARK	
Obj1 Region	GDP growth 89-93	GDP growth 95-99	Obj1 Region	GDP growth 89-93	GDP growth 95-99	Obj1 Region	GDP growth 89-93	GDP growth 95-99	Obj1 Region	GDP growth 89-93	GDP growth 95-99	Obj1 Region	GDP growth 95-99
Galicia	0.73	3.66	Anatoli M.	0.63	3.07	Abruzzo	-0.64	1.72	Norte	2.07	3.16	Berlin	0.0
Asturias	0.15	3.53	Kentriki M.	1.25	4.5	Molise	-1.44	3.74	Centro	2.30	2.86	Brandenburg	2.15
Cantabria		4.43	Dytiki M.	-2.41	4.98	Campania	-1.31	3.01	Lisboa	1.37	4.76	Mecklenburg	2.20
C.Leon	1.55	3.07	Thessalia	-0.47	3.92	Puglia	-1.61	3.01	Alentejo	-2.97	2.35	Chemnitz	3.01
C.la Mancha	0.91	3.12	Ipeiros	-0.3	7.19	Basilicata	0.24	4.24	Algarve	1.54	3.26	Dresden	1.87
Extremadura	2.85	4.05	Ionia Nisia	1.30	4.31	Calabria	-0.69	3.31	Azores	2.43	4.33	Leipzig	1.08
Valencia	-0.28	4.46	Dytiki E.	1.28	2.93	Sicilia	0.71	2.96	Madeira	3.95	6.02	Dessau	2.20
Andalucia	0.48	3.64	Stereia E.	-3.32	2.92	Sardegna	0.60	3.69				Halle	2.69
Murcia	-0.51	3.87	Pelopon.	-0.87	3.45							Magdeburg	3.47
Ceuta y Mel	1.12	2.83	Antiki	2.41	3.05							Thüringen	3.42
Canarias	0.27	4.6	Voreio A.	2.87	4.97								
			Notio A.	0.92	4.82								
			Kriti	0.61	3.83								
Desv. St.	0.97	0.59	Desv. St.	1.76	1.20	Desv. St.	0.93	0.75	Desv. St.	2.15	1.28	Desv. St.	1.07
Min	-0.51	2.83	Min	-3.32	2.92	Min	-1.61	1.72	Min	-2.97	2.35	Min	0.0
Max.	2.85	4.60	Max.	2.87	7.19	Max.	0.71	4.24	Max.	3.95	6.02	Max.	3.47
Dif.	3.36	1.77	Dif.	6.19	4.27	Dif.	2.32	2.52	Dif.	6.91	3.67	Dif.	3.47
D.St. Acr	1.61	1.01	Min Across	-3.32	1.72	Max Across	3.95	7.19	Dif. Across	7.26	5.47		

Source: Author's own elaboration

of Portugal. On the contrary, Greece and Italy had a worst performance for their objective 1 regions in the 1989-1993 period. Greece counted five objective 1 regions with negative growth (Ditiki, Thessaly, Ipeiros, Peloponnesus and Sterea Ellada) and all Italian objective 1 regions had negative growth rates with the only exceptions of Basilicata and the Italian Islands (Sicilia and Sardegna). The 1995-1999 period was much better of, all the Community economies began growing again, but again objective 1 regions have performed better than the typical EU15 region.

This detailed analysis of what has occurred in the EU objective 1 regions from 1989 until 1999 highlights the clear influence which the evolution of the national economy has on its regional achievements. This point has also been remarked in other empirical studies (Rodriguez-Pose 1998, Tondl, 1998, Cuadrado-Roura 2001).

Moreover, in table 6 is also patent the disparate rates of growth that objective 1 regions have experienced in the past two CSFs, especially the cases of Greece and Portuguese objective 1 regions. However, the statistics we have computed remark a trend in terms of a more balanced growth rate for objective 1 regions within countries and across countries. The standard deviation and the difference between the maximum and minimum growth rates for objective 1 regions within countries have been reduced in the period 1989-1999. The only exception in terms of the gap between the maximum and minimum growth rate applies for Italy.

Looking at the statistics across objective 1 regions, the picture is much the same. There was a reduction in the standard deviation of growth rates and a reduction of the difference between maximum and minimum growth rates in 1989-1999. Nonetheless, objective 1 regions making up each country have more similar growth rates to one another than to regions in other EU member states. Even though, it is important to emphasize this good trend, there are still big differences among the growth performance of the objective 1 regions that the authorities must deal with in order to achieve a more balanced growth.

#### **4. THE AGENDA 2000 AND THE FUTURE OF EU REGIONAL POLICY: 2007 AND THE FINANCIAL ENVELOPE FOR BACKWARD REGIONS**

The guidelines for the medium-term implementation and funding of the main EU policies were agreed at the Berlin Summit (March 1999), where the European Council set out a coherent framework in order to fit expenditure commitments to foreseen resources. Focussing assistance on the neediest areas is at the core of the arrangements

drawn up by the European Council at the Berlin Summit. This principle aims to promote financial stability by assisting regions with structural problems and by easing the path toward enlargement and the accession of the CEE countries. The principle of concentration of assistance means that the perspectives for the period 2000-2006 are the source of a certain cautious optimism, in that, on the one hand, funds have been set aside for the existing objective 1 regions, whilst on the other, there remains enough financial room for manoeuvre in order to tackle the enlargement process, both with respect to the Pre-accession Financial Instrument, and the PHARE program, as well as for the structural interventions in the new member States, (future acceding countries after 2002).

Table 4 defines both the framework within which EU policies are undertaken at the moment i.e. a framework that involves 15 member states, and the hypothetical framework which would come into play should there be up to 21 members States.

**TABLE 7: FINANCIAL PERSPECTIVES (EU15) AND THE FINANCIAL FRAMEWORK (EU21)**

EUR Million 1999 prices- Appropriations for commitments	A: FINANCIAL PERSPECTIVES EU15		B: FINANCIAL FRAMEWORK EU21	
	2000-2006	Year 2006	2000-2006	Year 2006
<b>1 .AGRICULTURE</b>	297,740	41,660	297,740	41,660
CAP expenditure (excluding rural development)	267,370	37,290	267,370	37,290
Rural development and accompanying measures	30,370	4,370	30,370	4,370
<b>2. STRUCTURAL OPERATIONS</b>	213,010	29,170	213,010	29,170
Structural Funds	195,010	26,660	195,010	26,660
Cohesion Fund	18,000	2,510	18,000	2,510
<b>3. INTERNAL POLICIES</b>	42,350	6,200	42,350	6,200
<b>4. EXTERNAL ACTION</b>	32,060	4,610	32,060	4,610
<b>5. ADMINISTRATION</b>	33,660	5,100	33,660	5,100
<b>6. RESERVES</b>	4,050	400	4,050	400
Monetary reserves	1,250	0	1,250	0
Emergency aid reserves	1,400	200	1,400	200
Guarantee reserves	1,400	200	1,400	200

<b>7. PRE-ACCESSION AID</b>	21,840	3,120	21,840	3,120
Agriculture	3,640	520	3,640	520
Pre-Accession structural instrument	7,280	1,040	7,280	1,040
PHARE (applicant countries)	10,920	1,560	10,920	1,560
<b>8. ENLARGEMENT</b>			58,070	16,780
Agriculture			12,410	3,400
Structural operations			39,580	12,080
Internal policies			3,950	850
Administration			2,130	450
<b>TOTAL APROPRIATIONS FOR COMMITMENTS</b>	640,470	90,260	702,780	107,040
<b>CEILING ON APROPRIATIONS FOR PAYMENTS</b>	685,870	103,530	685,870	103,530
Appropriations for payments as % of GNP	1.15%	1.13%	1.12%	1.09%
Margin	0.12%	0.14%	0.14%	0.18%
Own resources ceiling	1.27%	1.27%	1.27%	1.27%

**SOURCE: Conclusions of the Presidency, Berlin European Council 24-25 March 1999.**

The previous table reflects the total amounts of expenditure under the different headings for the present EU-15 (financial framework) and for the EU-21 under the hypothesis of enlargement (financial framework) over the period 2000-2006.

The foreseeable amount of resources and the Community financial rules governing the “Own resources” ceiling are reflected within these frameworks. The derived reserve margin is given at the bottom of the table.

In the financial framework for the EU-21, the total number of headings rises to 8, where heading number 8 refers to the interventions in the new member States. The table also reflects the annual appropriations for the commitments foreseen for the year 2006.

Taking into account the 2006 figures for structural initiatives, we carry out a simulation exercise with the object of checking the extent to which projected funding will meet the financial requirements of extending objective 1 aid to CEEC. The simulation is based on GDPph data for 1997, the projected reduction in the number of EU-15 objective 1 regions, and the hypothesis that 90% of CEEC population will be provided with objective 1 assistance. The simulation is carried out by first, computing the amounts required to provide financial assistance for 75% of the currently assisted population in EU-15 together with 90% of the CEEC population. An attempt is then made to marry this figure to the amount of resources foreseen for the objective 1 regions together with the allied structural interventions for the year 2006 (Objective 1 foreseen resources) within the EU-21 financial framework established by the Berlin European Council. The

results obtained under these hypothesis are given in the following tables (table 8 and table 9):

The total amount of foreseen resources for the year 2006, within the Financial Framework EU-21, for structural initiatives in the objective 1 regions, may be calculated in the following way. We first take the amount that would correspond to the future Member States under the headings of Structural Operations and Pre-adhesion Aid for the year 2006 and then add the currently foreseen figure for 2006 i.e. the figure corresponding to financial perspectives EU15. The result is a total of 32.115 Million euros at 1999 prices. If, to this amount we add the projected increase in resources that would come from the growth in GNP for 2007 according to the assumptions used in the financial framework (0.45% of GNP devoted to Structural initiatives), a further 919 million euros should be generated. As a result, the total resources for structural initiatives in the objective 1 regions for the year 2007 would be 33.034 Million euros.

**TABLE 8: RESOURCES FOR OBJECTIVE 1**

RESOURCES FOR OBJECTIVE 1	Thousands Meuros 1999
Objective 1 EU-15 (65.4% of 26.660 - year 2006)	17.435
Structural Operations Acceding Countries	12,080
Pre-accesion Aid	2,600
Subtotal in EU 21 Financial Framework	32,115
2007 Increase. (0.45% from 2.15% GDP	919
TOTAL RESOURCES 2007	33,034

Source: Author's own elaboration

On the “needs” side, if we look at the scenario in which 75% of the currently assisted population in the objective 1 regions receive support for the current programming period 2000-2006, a scenario in which there is a compensatory mechanism that rebalances the “effects of statistical convergence”, the total figure for “needs” is 13.077 Meuros for the year 2007 if we use the average aid per head for 2006, a figure which becomes 13.664 Meuros if we use the average aid per head for the period 2000-2006. If we go on to assume that 90% of the population from the 12 acceding Central and Eastern European countries will have a per capita GDP that is lower than 75% of the EU average, total “needs” for the year 2007 will be either; 19,884 Meuros if we take the

average aid per head for the year 2006 in the objective 1 regions, or a slightly higher figure of 20,777 Meuros if we use the average aid per head for 2000-2006 in the objective 1 regions.

These calculations demonstrate that, under the assumptions of the EU's current financial framework for 2000-2006, the above scenario, provides the amounts necessary for both, EU enlargement and in order to counterbalance the statistical effect of the incorporation of new member states while maintaining funding for  $\frac{3}{4}$  of the objective 1 populations in the current EU15. If the average aid per head for 2000-2006 in objective 1 regions is adopted as the criteria which determines those regions whose development is lagging, a funding requirement of 34.441 Meuros would be needed. This criteria therefore, foresees a gap of 1.407 Meuros.

**TABLE 9: NEEDS FOR REGIONS WHOSE DEVELOPMENT IS LAGGING IN 2007**

<b>AID FOR 2007 OBJ 1 EU-25 (*)</b> Thousands of Meuros 99	<b>Average AID 2006</b>	<b>Average AID 00-06</b>
75% Current EU15 Obj 1	13,077	13,664
90% Population CEEAC	19,884	20,777
Total Amount Obj 1 EU-25 (*)	32,961	34,441
Difference to Total Resources	73	-1,407

Source: Author's own elaboration, (\*) Cyprus and Malta not included

This funding requirement for the objective 1 regions can be compared with the amounts devoted to the regions, which are deemed to be objective 2 and 3, and to which 8,379 Meuros have been designated, and also with the Cohesion Fund to which 2,510 Meuros have been assigned. It would be a mistake however, to attempt to divert funds from the objective 2 and 3 regions, and the cohesion fund, since this would obviously be detrimental to regional policy. A slight increase in GNP, arising from the foreseen structural interventions, should easily cover the shortfall of 1,407 Meuros however.

**TABLE 10: COMPARATIVE VALUE OF THE OBJECTIVE 1 FINANCIAL GAP**

<b>COMPARATIVE VALUE OBJECTIVE 1 FINANCIAL GAP</b>	<b>Meuros 99</b>	<b>%</b>
Objective 2 and 3	8,379	16.8
Cohesion Fund	2,510	56.0
0.05% over GDP	4,750	29.6
Financial gap for Objective 1 Maintaining the real value of aid per head	1,407	100.0



These computations are not aimed at influencing the amounts that EU Regional Policy should assign with respect to the future programming period 2000-2006. These figures are obtained via the complex process of political debate, and by taking into account the goals set by the future EU regional policy. These goals must include the management of a considerable increase in the disparities in levels of development. Policy must also establish the criteria by which the objective 2 regions (regions with structural problems) and objective 3 (human resources and employment) are designated. Further, the potential pit-falls inherent in European Spatial Development must be avoided, and the problems of coordinating policy and balancing territorial development addressed.

These objectives are far-reaching and should be tackled using a financial framework that is ambitious enough to take advantage of the development and benefits derived from cohesion, thus fortifying a stable but dynamic European Union.

## **5. CONCLUSIONS**

In this paper, we show that since the reform of the European Union regional policy, objective 1 regions (on average) have performed better than EU15 as a whole. By using a generalized entropy index such as the Theil index, we proved that there is a synchronization between the convergence and catching-up process of objective 1 regions towards the EU15 average with the reform of the EU regional policy. During the period 1982-1988 the Theil index shows that inequalities between objective 1 regions and non-objective 1 regions have increased while from 1989 onwards the reduction in the inequalities between these two groups has been the norm. These results of a better performance of objective 1 regions than EU15 as a whole has been confirmed in a more detailed analysis carried out in section 3 of the paper. We also remark the fact that there are high disparate rates of growth among objective 1 regions both within countries and across countries but our computations show also a trend towards a more balanced growth among objective 1 regions within and across EU countries. This success of the European Union regional policy in objective 1 regions will mean a big opportunity for Central and Eastern European countries and at the same time could be a threaten for current objective 1 regions in the sense of a premature withdrawal of their funding and the lost of momentum in terms of growth they have attained. In the last part of the paper we did a simulation showing that it would be feasible to maintain funding

for 75% of the current objective 1 regions while supplying a mean level of assistance to 90% of the population in the 10 CEEC. To do so would be compatible with the financial budget and the levels of resources available.

This scenario should not be considered as an end in itself, at least not politically, since there will be an increased need for a cohesion policy in an enlarged Union. There are several potential ways of adjusting Economic and Social Cohesion Policy in order to cope with the enlargement of the EU to take in the CEECs. However, Structural Funds and Cohesion Policy have to remain focused on economic development policies, allowing the objective 1 regions in the current EU-15 to remain harnessed to the positive dynamic which has been established, whilst at the same time providing a staunch bulwark of economic protection for the whole of the Union and a further source of economic expansion for the CEECs. This demands that the focus on the less developed regions be maintained while extending assistance to the acceding CEE countries.

One of the thorniest issues with respect to accession remains the management of structural funds. The weaknesses inherent in the administrative system diminished what positive effects might have been derived from the first Greek CSF (Georgiou, 1993, European Commission 1996c, 1997a) or possibly even the second CSF in Italy Mezzogiorno (Leonardi 1995, European Commission, 1995b, 1996c, Roeger 1996, Svimez 1996b). The examples of Greece and Italy therefore, underline the need for a competent, efficient, management system.

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## Annex A

Objective 1 Group	Non-Objective 1 Group		
Lüneburg	Région Bruxelles	Saarland	Emilia-Romagna
Galicia	Antwerpen	Schleswig-Holstein	Toscana
Principado de Asturias	Limburg (B)	Denmark	Umbria
Cantabria	Oost-Vlaanderen	Pais Vasco	Marche
		Comunidad Foral de	
Aragón	Vlaams Brabant	Navarra	Lazio
Castilla y León	West-Vlaanderen	La Rioja	Abruzzo
Castilla-la Mancha	Brabant Wallon	Comunidad de Madrid	Luxembourg
Extremadura	Hainaut	Cataluña	Groningen
Comunidad			
Valenciana	Liège	Baleares	Friesland
Andalucía	Luxembourg (B)	Île de France	Drenthe
Murcia	Namur	Champagne-Ardenne	Utrecht
Ceuta y Melilla (ES)	Stuttgart	Picardie	Noord-Holland
Canarias (ES)	Karlsruhe	Haute-Normandie	Zuid-Holland
Anatoliki Makedonia	Freiburg	Centre	Zeeland
Kentriki Makedonia	Tübingen	Basse-Normandie	Noord-Brabant
Dytiki Makedonia	Oberbayern	Bourgogne	Limburg (NL)
Thessalia	Niederbayern	Nord - Pas-de-Calais	Lisboa e Vale do Tejo
Ipeiros	Oberpfalz	Lorraine	
Ionia Nisia	Oberfranken	Alsace	
Dytiki Ellada	Mittelfranken	Franche-Comté	
Stereia Ellada	Unterfranken	Pays de la Loire	
Peloponnisos	Schwaben	Bretagne	
Attiki	Bremen	Poitou-Charentes	
Voreio Aigaio	Hamburg	Aquitaine	
Notio Aigaio	Darmstadt	Midi-Pyrénées	
Kriti	Gießen	Limousin	
Ireland	Kassel	Rhône-Alpes	
Molise	Braunschweig	Auvergne	
Campania	Hannover	Languedoc-Roussillon	
Puglia	Weser-Ems	Provence-Alpes-Côte d'Azur	
Basilicata	Düsseldorf	Corse	
Calabria	Köln	Piemonte	
Sicilia	Münster	Valle d'Aosta	
Sardegna	Detmold	Liguria	
Norte	Arnsberg	Lombardia	
Centro (P)	Koblenz	Trentino-Alto Adige	
Alentejo	Trier	Veneto	
	Rheinhausen-		
Algarve	Pfalz	Friuli-Venezia Giulia	

## Annex B

Group	Non-Objective 1 Group		
Asturias	Niederösterreich	Denmark	Friesland
	Wien	Pais Vasco	Drenthe
	Kärnten	Comunidad Foral de Navarra	Overijssel
	Steiermark	La Rioja	Gelderland
	Oberösterreich	Aragón	Utrecht
Galicia	Salzburg	Comunidad de Madrid	Noord-Holland
Cataluña	Tirol	Cataluña	Zuid-Holland
	Vorarlberg	Baleares	Zeeland
Flanders (ES)	Région Bruxelles	Itä-Suomi	Noord-Brabant
	Antwerpen	Väli-Suomi	Limburg (NL)
	Limburg (B)	Pohjois-Suomi	Stockholm
	Oost-Vlaanderen	Uusimaa (suuralue)	Östra Mellansverige
	Vlaams Brabant	Åland	Sydsverige
Aragon	West-Vlaanderen	Île de France	Norra Mellansverige
	Brabant Wallon	Champagne-Ardenne	Mellersta Norrland
Austria	Liège	Picardie	Övre Norrland
	Luxembourg (B)	Haute-Normandie	Småland med öarna
Germany	Namur	Centre	Tees Valley and Durham
	Stuttgart	Basse-Normandie	Northumberland, Tyne and Wear
France	Karlsruhe	Bourgogne	Cumbria
	Freiburg	Nord - Pas-de-Calais	Cheshire
Italy	Tübingen	Lorraine	Greater Manchester
	Oberbayern	Alsace	Lancashire
Spain	Niederbayern	Franche-Comté	Merseyside
	Oberpfalz	Pays de la Loire	East Riding and North Lincolnshire
Sweden	Oberfranken	Bretagne	North Yorkshire
	Mittelfranken	Poitou-Charentes	South Yorkshire
Netherlands	Unterfranken	Aquitaine	West Yorkshire
	Schwaben	Midi-Pyrénées	Derbyshire and Nottinghamshire
Belgium	Bremen	Limousin	Leicestershire, Rutland and Northants
	Hamburg	Rhône-Alpes	Lincolnshire
Portugal	Darmstadt	Auvergne	Herefordshire, Worcestershire and Warks
	Gießen	Languedoc-Roussillon	Shropshire and Staffordshire
Greece	Kassel	Provence-Alpes	West Midlands
	Braunschweig	Piemonte	East Anglia
Ireland	Hannover	Valle d'Aosta	Bedfordshire, Hertfordshire
	Lüneburg	Liguria	Essex
Poland	Weser-Ems	Lombardia	London
	Düsseldorf	Trentino-Alto Adige	Berkshire, Bucks and Oxfordshire
Czech Republic	Köln	Veneto	Surrey, East and West Sussex
	Münster	Friuli-Venezia Giulia	Hampshire and Isle of Wight
Hungary	Detmold	Emilia-Romagna	Kent
	Arnsberg	Toscana	Gloucestershire, Wiltshire and North Somerset
Slovakia	Koblenz	Umbria	Dorset and Somerset
	Trier	Marche	Cornwall and Isles of Scilly
Slovenia	Rheinhausen-Pfalz	Lazio	Devon
	Saarland	Luxembourg	Wales
Finland	Schleswig-Holstein	Groningen	Scotland



## **Annex C**

### **Objective 1 Group**

Lüneburg	Dytiki Ellada
Galicia	Stereia Ellada
Principado de Asturias	Peloponnisos
Cantabria	Attiki
Aragón	Voreio Aigaio
Castilla y León	Notio Aigaio
Castilla-la Mancha	Kriti
Extremadura	Ireland
Comunidad Valenciana	Molise
Andalucía	Campania
Murcia	Puglia
Ceuta y Melilla (ES)	Basilicata
Canarias (ES)	Calabria
Anatoliki Makedonia	Sicilia
Kentriki Makedonia	Sardegna
Dytiki Makedonia	Norte
Thessalia	Centro (P)
Ipeiros	Alentejo
Ionian Islands	Algarve

The Non-Objective 1 Group of Annex C takes in the regions that are in Annex B except these ones.