THE EFFECTS OF EUROPEAN INTEGRATION IN THE ECONOMIC REGIONAL DISPARITIES: SPECIAL REFERENCE TO THE SPANISH CASE

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ABSTRACT

The aim of this paper is to analyse the effects of European integration in the economic regional disparities of Member States, with special reference to the Spanish case. To that end, the paper shows the principles conclusions of economic models with respect to economic convergence and integration, as well as their implications on the EU regional development policy. Likewise, it analyses the contribution of the Structural Funds to the development of European Objective 1 regions, and the evolution of EU regional disparities in GDP per head and unemployment. Finally, it evaluates the efficiency of the Community regional policy in Spain.

Key words: economic integration, regional policy, economic disparities, economic grow and spanish economy.

INTRODUCTION

Since the Treaty of Rome in 1957 up to the present time, the Community regional development policy has been undergoing changes both in its theoretical conception as in its implementation. The present international context of increasing economic globalization has favoured the reduction of the national policies' margins of manoeuvring, giving a more important role to the regional economies with active policies having a direct influence over the competitiveness of the territories. Since the nineties, the European Union (EU) regional policy aims to further the creative and innovating regional growth by means of the fostering of the factors which have revealed themselves as the engine of growth in the most recent economic models.

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The aim of this paper is to analyse the influence of the European integration in the designing of the Community regional policy and their effects on the national disparities of the Member States, with special reference to the Spanish case. Therefore, first of all it revises the conclusions of the main economic models with respect to economic convergence and integration, as well as their implications on the regional development policy. Secondly, it identifies the basic principles and the theoretical foundations which have sustained the EU regional policy. Thirdly, it analyses the contribution of the Structural Funds to the development of European Objective 1 regions. In fourth place, it studies the evolution of the EU's regional disparities in GDP per head and unemployment. Finally, it evaluates the efficiency of the Community regional policy in Spain, carrying out a more detailed analysis of the causes accounting for the economic disparities between the Spanish autonomic communities.

ECONOMIC INTEGRATION AND CONVERGENCE: REGIONAL POLICY IMPLICATIONS

Any economic integration process is justified by the global positive effects on the economic growth and welfare of the participating countries. The removal of obstacles to competence and market together with the free mobility of productive factors would allow for a more efficient allocation and use of resources, favouring an increase in production.[1] In the same way, the harmonisation of macroeconomics policies, through eliminating perturbances and imbalances, would foster investment and economic activity.[2]

However, whether on an aggregated level a higher economic growth and welfare can be predicted as a consequence of economic integration, there exist various standpoints on how that process would affect regions with different levels of development. So, the question is whether economic integration would lead to a higher convergence between the participating regions.

Under the neoclassical scheme, both of international commerce models (Samuelson, 1948) as of economic growth ones (the traditional one, Solow, 1956; or the Barro and Sala-i-Martin's extended one, 1991 and Mankiw *et al*., 1992), economic integration

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[1] Cecchini (1988) estimated that the European integration would give rise to an static and immediate increase ranging between 2.5 and 6.5 per cent of the EEC's total production; Smith and Venables (1988) considered that the static benefits of the integration would result in an increase of the European welfare of 4 per cent of the basic consumption. These immediate effects, through inducing to saving and investing, would have a positive repercussion on the rate of growth on the medium and long run.

[2] Fisher (1993) and Barro (1995) demonstrated that countries with a higher stability registered economic growth rates higher than those of the rest of the countries.

would further the interregional convergence of income per head. The mobility in space of productive factors would give rise to a capital flow from regions with higher capital-labour ratios (and therefore with higher economic growth) towards regions with lower capital-labour ratios, and a labour flow in the opposite direction, so that there would be a convergence in their rate of growth and per head income rate. As for international economy theories, based on comparative advantages, they predict a quick homogenisation of the prices of productive factors in a free-trade area, so that the movement of goods would contribute to account for the process of interregional convergence in the case of the absence of free mobility of productive factors.

The Custom Union Theory (Balassa 1962) states that the abolishment of restrictions upon commerce and the movement of factors can lead to the fact that some regions win while other lose as, on one hand, the dynamic effects (higher competence and technology transference) would favour the least-developed regions better but, on the other hand, the elimination of restrictions would tend to strengthen the capacity of attraction of highly industrialised centres with respect to capital and workers.

Within the theoretical body of endogenous growth models, it does not seem to be clear at all *a priori* which would be the direction of the flow of factors as a consequence of economic integration because, usually, regions with higher capital-labour ratios also possess higher allocations of human capital, technology capital, infrastructures and public services and this is why the marginal productivity of capital does not have to vary inversely to the capital-labour ratio. It could be expected that the integration would lead to a reinforcement of the present labour division scheme, whereby most developed regions specialise in productions which require a more qualified work and more advanced technologies, and even to a self-sustained polarisation process, if the existence of growing scale economies makes the progressive elimination of barriers to result in capital flows towards the most advanced regions.

Krugman´s Centre-Periphery Model (1992), under the framework of the 'new' international commerce theory, shows that increasing returns to scale in production have a great influence in economy as long as they determine the location of the economic activity in space, and this accounts for the geographical concentration of production observed in reality. Besides, in accordance with Myrdal's Accumulative Circular Causation Model (1957), Krugman indicated the existence of a circular process tending to keep the industrial centre once this has been created, and so history influences economic development. Finally, with respect to the process of economic integration of the EU Member States he stated that, once consolidated the Monetary Economic Union in Europe, it is not expected that large countries (with higher population) will at-

tract industries from small countries as people will no longer speak about countries but about regions and "in no way it must be true that the economic integration will necessarily favour all the regions of the largest country resulting from the union".[3]

The selected lines of thought have some *implications on regional policy*. As opposed to the public non-intervention defended by neoclassical models, endogenous growth models and more recent international commerce ones reveal the existence of defects in the market which prevent the efficient allocation of resources and which therefore stand for the existence of a regional policy in order to increase productivity and efficiency in the least-rich regions, so that their disparities in relation with the richest ones are decreased. Thus, endogenous growth models suggest that the public sector should intervene by fostering the engines of growth identified by such models in the least-advanced regions, as the human capital (Lucas, 1988, 1990 and 1993) and the technology capital (Romer, 1986 and 1990; and Grossman and Helpman, 1994). Krugman's Centre-Periphery Model (1992) stands for the necessity of a regional policy able to break the descending accumulative process in which peripheral regions are immersed. And finally, Auschauer (1989) and Munnell's (1992) papers set out a positive relationship between infrastructures expenses and the total productivity of factors and the economic growth rate, so that they propose investing in infrastructures in the weakest regions as a key factor for their economic development.

BASIC PRINCIPLES OF THE COMMUNITY REGIONAL POLICY: FROM THE 1957 TREATY OF ROME TO THE 1997 TREATY OF AMSTERDAM

Despite that the 1957 Treaty of Rome's Preamble, by which the EEC was formed, acknowledged the anxiety "to strengthen the unity of their economies and to ensure their harmonious development by reducing the differences existing between the various regions and the backwardness of the least-favoured regions", a Community regional policy was not provided for. The explanation to this apparent contradiction is that at that particular moment the predominant regional economic theory was of a neoclassical kind, so that there was a confidence in the market economy and free trade between countries to be suitable mechanisms to enhance the development of the most backward regions.

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[3] Krugman (1992, p. 94)

Although after the signing of the Treaty of Rome some regional policy actions were carried out with completely unsatisfactory results,[4] it can be stated that the Community regional policy was born in the 1972 Conference of Paris motivated by the imminent enlargement of the EEC with the incorporation of Denmark, Great Britain and Ireland, which anticipated an increase in the regional and structural imbalances and which revealed the necessity to undertake actions in order to correct them. Thus, in 1975 the European Regional Development Fund (ERDF) was created with the aim of correcting the Community's regional imbalances. During the second half of the seventies and first half of the eighties, due to the priority given to the resolution of the severe economic imbalances derived from the economic crisis, the actuation of the Community regional policy were scarce, limiting themselves to palliate the most severe territorial effects derived from adjustment policies.

In 1986, with the European Single Act (ESA) signed on July 1, 1987, the Treaty of Rome was reformed in order to create the Common Market in 1993. Besides, the ESA recognised the necessity to progress on a series of scopes under the competence of the Community and indissolubly linked to the accomplishment of the Common Market, among them encouraging social and economic cohesion. That is, for the first time, the concept of social and economic cohesion appeared on the Community's founding texts, understanding by such the harmonious development of the Community and the reduction of the disparities existing between the various regions and of the of the backwardness of the least-favoured regions.[5] This means that the principles of free competence and market economy which inspired the Treaty of Rome were still in force but, admitting that the economic growth does not have to conform with the guidelines laid down by the neoclassical model, measures were taken in order to compensate the possible negative effects of the Common Market on some regions.

Later on, the Treaty on the European Union (TEU), subscribed in Maastrich on February 7,1992 and which came into force on November 1, 1993, meant a new advance in regional politics by contemplating the strengthening of the economic and social cohesion as one of the three main objectives of the Community, together with the economic aims of the Common Market and the Economic and Monetary Union. To that purpose, the TEU anticipated the creation of the Economic and Social Cohesion Fund, acknowledging in this way that there could be either convergence -although very

[4] Among them: the elaboration in May 1965 of the first EEC's Communication on Regional Policy; the 1970 Werner Plan on the Economic and Monetary Union which set out the necessity to overcome regional differences; and the 1972 agreement that the European Agricultural Guidance and Guarantee Fund (EAGGF) were used as an instrument for regional development.

[5] Article 130A of the new Treaty Establishing the EEC after incorporating the ESA's modifications.

prolonged in time- on the regions most distant from the Community's average or even the reverse effect could happen and their differences being increased. The European Commission itself, among the reasons which accounted for the increase in disparities as a consequence of the Common Market, pointed out the initial differences existing in the allocation of resources (labour force qualification and allocation of infrastructures), technological progress rates, scale economies, transport costs and access to scientific knowledge.[6]

Finally, the Treaty of Amsterdam in 1997 has supposed a new change of the Treaty Establishing the European Community. The Treaty of Amsterdam consolidates the Economic and Monetary Union, develops the political Europe and therefore the European Political Europe with new provisions in Title I of the Treaty. But, above all, it introduces in the constitutional norms of the European Union the unemployment and social policy problems, which were only very vaguely tackled in Maastricht. To that purpose, it includes a specific Title (Title VIII) on employment and new provisions on social policy, thus meeting the expectations of European citizens, who want a Union which does its utmost to solve their problems and needs: the fight against unemployment, a higher security, the quality of education, a better health and sanitary assistance, etc. Because of all this, the Treaty of Amsterdam can be considered to entail the main social turn in the whole process of community construction nowadays.[7]

In short, along the five consecutive stages studied an important change on the planning of the Community regional policy has been observed, reflecting the fact that a regional policy, as an economic policy, is specially tributary to economic theory. So, from the neoclassical conception where market mechanisms and free trade would ensure the development of the least-rich regions there has been a shift toward more recent lines of performance where it is defended the existence of a belligerent regional policy in order to improve the productivity and efficiency of the least-developed regions, as well as an active policy in order to promote employment, in the same way as endogenous growth models and the more recent international commerce ones defend. This change, specially since the ESA, is reflected upon the evolution of the Community's budget distribution, as structural measures (Structural Funds and Cohesion Fund) whose objective is the promotion of cohesion, were allocated 19.6 per cent of the total in 1986, 30.8 per cent in 1993 and 35.7 per cent in 1999.[8]

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[6] Comisión de las Comunidades Europeas (1997, p. 115)
[7] Gomis (1999, p. 37)
[8] Comisión de las Comunidades Europeas (1997, p. 143).

STRUCTURAL FUNDS IN OBJECTIVE 1 REGIONS, 1994-2006

Once verified the importance given within the EU to regional politics since the end of the eighties, this chapter analyses the contribution of the Community regional policy to the development of the least-developed regions, specially taking a look to the Spanish case. Table 1 shows Structural Funds' annual average contribution to Objective 1 regions of the various EU Member States along the period 1994-2006.[9] In particular, the percentage distribution per State and per head of such annual contribution of Objective 1 regions has been calculated, as well as the percentage variation in annual expenditure and in per head annual expenditure in both successive periods of planning 1994-1999 and 2000-2006. These results allow to compare the territorial distribution of structural measures and of the Community investing effort per inhabitant.

First of all it must be pointed out that the Community global investing effort on the least-developed regions has been reduced in actual terms in a 2.4 per cent from one period to the other. So, Structural Funds destined per year to Objective 1 regions in the period 1994-1999 amounted to 18,923.5 million EUR (prices to 1999) and, according to what has been budgeted, for the period 2000-2006 they will reach the figure of 18,468.8 million EUR (1999 prices). The evolution of yearly expenditure per habitant confirms this same tendency as it has been reduced in a 4.8 per cent, going from 203 EUR per year and head of Objective 1 regions in 1994-1999 to 193 EUR per year and head in period 2000-2006.

Secondly, the territorial distribution of structural measures indicates that the regional policy aims at reducing economic disparities. In this way, during 1994-1999, the four least-developed countries (Greece, Portugal, Ireland and Spain), whose population covered by Objective 1 in 1994 represented 50.8 per cent of the total, received 62.1 per cent of the funds yearly. Along 2000-2006, the three countries with lowest GDP per head in the EU (Greece, Portugal and Spain), with a population covered by Objective 1 equivalent to 44 per cent of the total in 1999, were allocated 58.5 per cent of the yearly structural expenditure. However, within this group of countries, the Community investing effort per head -and therefore the economic effects- has been different, as in 1994-1999 the EU intervention per head in Greece, Ireland and Portugal was much higher that the one carried out on the Spanish Objective 1 regions. And for 2000-2006 this circumstance will get worse as the expected investing effort per head in Spain, besides being lower to the one corresponding to Greece and Portugal, will be foreseeably an 8 per cent lower (right column of Table 1).

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[9] It must be remembered that these are the regions whose GDP is under or close to 75 per cent of the Community's average.

Table 1 - Annual contribution of Structural Funds to Objective 1, 1994-2006

States	% Annual expenditure (1999 prices)		Annual expenditure per head* (EUR, 1999 prices)		% Variation 1994-2006	
	1994–1999	2000-006	1994–1999	2000-006	Annual Exp.	Annual Exp. ph
B-Belgium	0,7	0,5	102	71	-30,4	-30,4
D-Germany	14,0	14,8	162	176	3,0	9,0
EL-Greece	12,3	16,2	228	285	28,5	24,8
E-Spain	27,4	26,3	223	205	-6,4	-8,0
F-France	2,4	3,0	180	200	24,6	11,3
IRL-Ireland	6,7	2,4	364	122	-65,4	-66,4
I-Italy	15,0	18,6	135	178	20,6	31,9
NL-Holland	0,1	0,1	137	63	-31,0	-54,0
P-Portugal	15,7	16,0	301	301	-0,8	0,2
UK-United Kingdom	4,5	0,7	252	18	-85,4	-93,0
A-Austria	0,2	0,2	129	119	-7,6	-7,6
FIN-Finland	0,5	0,7	117	119	40,4	2,1
S-Sweden	0,3	0,6	122	206	68,4	68,4
EU13	100,0	100,0	203	193	-2,4	-4,8

* Population belonging to areas covered by Objectives 1 and 6.
Source: D.G. REGIO. Personal elaboration.

EVOLUTION OF THE EU'S REGIONAL DISPARITIES, 1989-1999

Table 2 shows the information provided by the First and Second Report on Economic and Social Cohesion produced by the European Commission in 1997 and 2001 respectively, as for regional disparities in GDP per head and unemployment.

In the analysis of disparities in GDP per head of Member States, along the 1988-1998 two stages with differing behaviours can be distinguished: the period 1988-1993 stage and the 1993-1998 stage.

The 1988-1993 stage has been characterised by a clear process of economic convergence, as the standard deviation calculated by Member States has decreased from 15.9 per cent in 1988 to 12.8 in 1993. This decrease in disparities corroborates the theory of the neoclassical models of economic growth and international commerce, so that the progressive removal of barriers to space mobility of goods and services and productive factors has improved the reallocation of resources among the Union's Member States. Thus, except for the United Kingdom, all the countries which were under the European average in 1988 (The Netherlands together with the cohesion countries:

Greece, Spain, Ireland and Portugal) have experimented remarkable increases in GDP per head. At the same time, countries standing at a good position in 1988 (Germany, Switzerland and Finland) have registered remarkable decreases in their respective GDPs per head.

In the 1993-1998 stage the process of convergence in GDP per head between the states which was being observed since the eighties has practically stopped, so that the standard deviation has gone from 12.8 in 1993 to 12.7 in 1998. While the cohesion countries have continued reducing their difference with the European average, the rest of the countries (except France) has experimented high increases in income per head. Within the former ones Ireland's behaviour, which in 1993 held the fourth worst position within the EU with a GDP per head equivalent to 80.2 per cent of the Community average and in 1998 has stood over said average with a GDP per head of 108.1 per cent. This behaviour is in accordance with the Structural Funds' investing effort in that country as, as shown in Table 1, Ireland is the Member State which received the highest annual expenditure per head of Objective 1 regions in the period 1994-1999 (364 EUR per head and year) with an outstanding difference over the rest.

Table 2 - Regional disparities in GDP per head and unemployment within the EU, 1988-1999

States	GDP per head						Unemployment					Employment
	PPS (EU15=100)			Standard deviation			Rate (%)		Standard deviation			(% annual growth)
	1988	1993	1998	1988	1993	1998	1989	1999	1989	1994	1999	1989-99
B-Belgium	103,2	113,6	111,3	24,5	17,1	25,7	7,2	8,8	2,7	3,3	4,3	0,3
DK-Denmark	105,3	112,0	118,9	---	--	---	7,6	5,6	---	---	---	0,3
D-Germany	---	---	107,7	---	---	26,8	---	8,9	---	4,0	4,3	---
D*-Germany	114,8	107,9	116,3	21,0	24,5	22,3	5,7	6,9	2,0	1,7	1,8	0,6
EL-Greece	58,1	64,5	66,0	6,1	7,6	10,2	6,7	11,7	1,7	2,4	2,0	0,8
E-Spain	74,0	77,8	81,1	13,9	15,3	19,1	17,4	16,1	5,4	5,4	5,7	1,3
F-France	108,4	109,1	98,6	28,6	27,9	26,5	9,3	11,4	1,8	2,0	2,5	0,4
IRL-Ireland	65,9	80,2	108,1	---	--	17,3	14,9	5,9	---	---	0,7	3,3
I-Italy	100,2	103,5	101,1	25,7	24,6	27,6	10,0	11,7	6,6	6,2	7,9	0,2
L-Luxembourg	139,1	162,2	175,8	---	--	---	1,7	2,4	---	---	---	2,6
NL-Holland	97,7	103,6	113,2	11,5	11,8	15,8	5,8	3,3	1,0	0,7	0,8	1,6
A-Austria	102,2	112,0	111,7	27,5	--	27,8	3,1	4,0	1,2	0,9	1,1	0,5
P-Portugal	58,9	68,2	75,3	17,2	20,2	14,2	4,8	4,7	2,5	1,8	1,4	0,7
FIN-Finland	101,6	91,4	101,6	18,1	--	24,6	3,8	11,5	2,0	2,5	3,2	-1,1
S-Sweden	109,7	98,2	102,4	10,7	--	17,1	1,7	7,6	0,7	1,1	1,6	-0,9
UK-United Kingdom	98,7	89,9	102,2	21,2	19,0	33,9	7,4	6,1	3,6	2,4	2,6	0,2
EU15	100,0	100,0	100,0	26,7	27,2	28,3	8,4	9,4	5,2	6,0	5,5	0,5
EU15 standard deviation per States				15,9	12,8	12,7						

* New länder excluded.

Source: Comisión de las Comunidades Europeas (1997, p. 132); European Communities Commission (2001).

The analysis of the evolution of disparities in the regions' income per head per Member State can shed some more light on the matter. Along the period 1988-1998, both the richest regions within the EU as the poorest ones have registered an increase in their GDP per head but the difference between both groups has increased in the studied period, the standard deviation going from 26.7 in 1988 to 28.3 in 1998. Paying attention to the regions per Member State, except in France and Portugal, there has been an increase in regional standard deviations as shown by the increase in standard deviation. That is, the conclusions of the endogenous growth models are confirmed, as it was analysed on a former section, so that the creation of the Common Market has particularly favoured the most dynamic regions of the various countries in the Union.

Table 2 (right part) also gives some information about the evolution of regional disparities with respect to unemployment. Starting with the unemployment rate, it should be pointed out that the European average rate has increased from 8.4 per cent in 1989 to 9.4 per cent in 1999. Per states, Spain registered the highest rate in the two years studied although it shows a positive decreasing tendency with a yearly employment growth of 1.3 per cent. Again, Ireland is the state which shows the best behaviour with a high decrease in the unemployment rate (from 14.9 per cent in 1989 to 5.9 per cent in 1999) and the highest rate of yearly creation of employment in the EU (3.3 per cent). With respect to interregional disparities in this variable, in the same way as the disparities in GDP per head, they have increased along the period 1989-1999. This increase in the unemployment rates and the increase in the disparities since the end of the eighties within the whole of the European regions has caused the Treaty of Amsterdam of 1997 to include a specific title on employment with the aim of developing a coordinated strategy to promote employment on an European level by the Member States and the Community, and to increase a qualified labour force, trained and adaptable, and labour markets capable of responding to economical changes.

The former conclusions do not mean in any way that the Community regional policy is inefficient. The beneficial effects resulted from the two first Community Support Frameworks on the least-developed regions in the Union have been contrasted, besides by various empirical papers,[10] by the European Commission itself.[11] However, when determining economic effects there seems to exist a direct relationship between these and the investing effort, as it is evidenced by the already mentioned evolution registered by Ireland, so that such effort is able to break the accumulative descending myrdalian causation process where the weakest regions in the Union are immersed in.

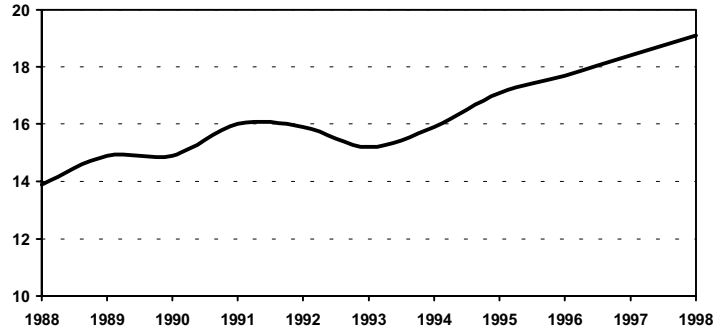
[10] In the specific case of Spain see Ministerio de Economía y Hacienda (1994 and 2000).
[11] Comisión de las Comunidades Europeas (1996) and European Communities Commission (1999).

THE COMMUNITY REGIONAL POLICY AND THE SPANISH ECONOMY

In the above epigraphs the contribution of Structural Funds to the development of Objective 1 regions and the evolution of the EU's regional disparities have been analysed. Known already the European context, in this section the incidence of the Community regional policy in the Spanish economy is studied.

The Spanish GDP per head has grown from 72.5 per cent respect to the Community's average in 1988 up to 83.1 per cent expected for the year 2000, year in which the highest value of the last two decades would be reached. Also, both the GDP per head and the Spanish population have registered positive increases. The Spanish GDP has grown at a yearly real rate of 3.3 per cent during the period 1985-1998 and the Spanish population at a yearly average rate of 0.56 per cent during the period 1985-1997.[12] These data allow to state that the integration in the EU with the removal of obstacles to competence together with the free circulation of factors and goods, as well as the progressive adjustment of economic policies have contributed to an increase in the aggregate production and the Spanish welfare.

Nevertheless, in 1998 (most recent year from which real data are available), with a GDP per head equivalent to 81.1 per cent of the Community's average, Spain held the third worst position of the fifteen Member States, as it is shown on Table 2.



Source: Eurostat; D.G. REGIO. Personal elaboration.

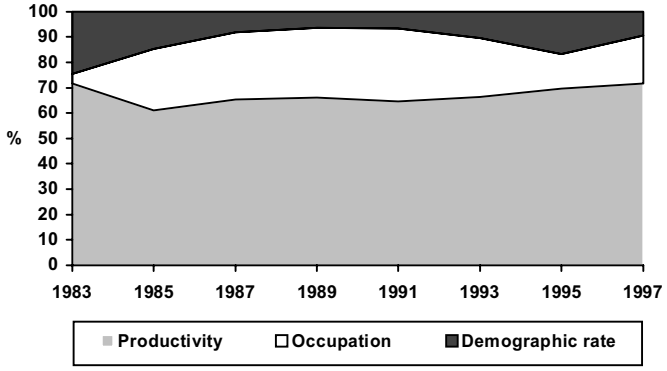
Chart 1 - Regional disparities in GDP per head in Spain, 1988-1998 (Standard deviation)

[12] Personal estimation from the information provided respectively by the *Fundación BBV's Base de Conocimiento Sophinet* and the *INE*.

In order to analyse the evolution of economic disparities between the Spanish regions Chart 1 has been elaborated, which shows the evolution of the standard deviation of the autonomous communities' GDP per head in the period 1988-1998.

As it is noted, since 1988 until 1993 there had not been practically any advance in the reduction of regional disparities and from that moment onwards there has been a slow but uninterrupted process of economic divergence among the Spanish autonomous communities.

The causes of the interrregional differences in income per head can be attributed to differences in average labour productivity, in occupation rates (factors related to labour market) and in demographic rates (demographic and sociocultural factors) among the various regions. In order to quantify the degree of influence of each one of these three factors on the interregional differences in Spain's GDP per head the factoring of the Theil index in the period 1983-1997 has been calculated following the methodology appearing in this paper's annex and the information provided by the *Fundación BBV's Base de Conocimiento Sophinet* on GDP, job, active population and total population for the seventeen autonomous communities. Chart 2 compiles the obtained results, *i.e*., the percentage distribution of the weight of the three factors pointed out in the explanation of the Theil index for Spain.



Source: Fundación BBV, *Base de Conocimiento Sophinet*. Personal elaboration.

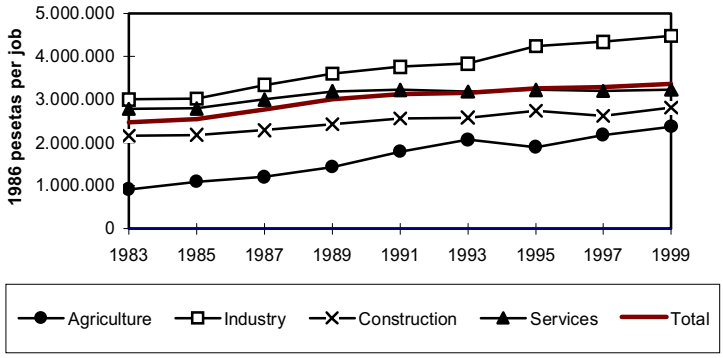
Chart 2 - Theil index factoring in Spain, 1983-1997

From the evolution of the contribution of these three factors to the differences in Spain, the following observations can be made. Firstly, the average labour productivity as the main factor responsible for the interregional differences through the whole pe-

riod of analysis is outstanding. In 1983, first year analysed, it accounted for 71.63 per cent of the differences registered, went on reducing its contribution up to 1991 (64.50 per cent) and since the 1993 economic crisis it started to gain a relative weight in accounting for the economic disparities in Spain, reaching up to 71.55 per cent in 1997. These results show overwhelmingly that eliminating the differences in productivity the economic interregional disparities in Spain would practically disappear, so the main objective of a regional policy must be to increase the average productivity in the least-developed regions, promoting investment in the various kinds of capital (public, human and technological) which, according to the various theoretical models pointed out in an epigraph above, contribute positively to an increase in productivity.

The action lines appearing in the three Community Support Frameworks for the Spanish Objective 1 regions approved up to the present moment back up these conclusions, as in all of them investment in productive infrastructures and in human resources training has taken a great importance as a key factor in the activation of self-development potential in a space (local and regional) environment, as well as in the spreading of development processes to other territorial environments.

The evidence of the high relative weight of productivity in accounting for interregional differences in Spain together with the fact that endogenous growth theories developed in the nineties give an outstanding role to the increases in productivity as a reflection of a higher efficiency in the use of factors which allows for a higher economic growth, suggest a deeper analysis of average work productivity in Spain in the last decades. To that aim, Chart 3 shows the evolution of average work productivity in real terms, total and per sectors, in Spain in the period 1983-1999.



Source: Fundación BBV, *Base de Conocimiento Sophinet*. Personal elaboration.

Chart 3 - Average work productivity per sectors in Spain, 1983-1999
(GDP in constant 1986 pesetas per job)

As it can be seen, the combined productivity of all sectors has grown uninterruptedly in real terms along the analysed period, going from 2,470,106 pesetas per job in 1983 to 3,359,529 pesetas in 1999, even though in that period employment also grew.[13] Nevertheless, in 1988 the productivity of the Spanish economy (measured in GDP per job) was equivalent to only 75 per cent of the average corresponding to the group of fifteen Member States of the Union (EU15).[14] By productive sectors, considering the whole analysed process, productivity has grown in real terms in all of them: 159.25 per cent in agriculture and fishing, 49.49 per cent in industry, 30.14 per cent in construction and 16.19 in services. These registered increases in productivity combine with a net reduction of employment of 42.48 per cent in the primary and of 5.63 per cent in industry, and with an increase in employment of 41.72 per cent in construction and of 47.21 per cent in services. This is, the positive tendency showed by the productivity of the primary sector and industry would be basically accounted for by the reduction of employment rather than by true improvements in efficiency as the gross added value in both sectors has registered increases under the average in the period 1983-1999 time (49.13 per cent in agriculture, 41.07 per cent in industry as opposed to 61.86 per cent of the Spanish economy). Finally, it should be pointed out that the productivity of the services sector, given the weight of this sector in the total employment and in the productive structure (63.59 and 61.17 per cent respectively in 1999) has practically determined the behaviour of the average productivity in the Spanish economy.

With respect to the occupation rate, second factor accounting for interregional disparities in Spain, it should be pointed out that its value indicates that the highest unemployment rate registered within the least-developed Spanish autonomous communities is a factor to be taken into account, with a contribution to the interregional differences in 1997 of 18.97 per cent. So, the Spanish Objective 1 regions reached in 1997 an unemployment rate of 24.1 per cent, well over the 17 per cent average of the European Objective 1 regions[15] and with the aggravating circumstances that, as it was analysed in a previous section, the regional disparities with respect to unemployment in Spain have increased in the last half of the nineties decade. These circumstances, together with the fact that the most productive sector (industry) has registered in the last two decades a negative increase in employment, support the orientation of the Community regional policy since the 1997 Treaty of Amsterdam towards the creation of job opportunities.

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[13] The figures which appear in this paragraph have been obtained by personal estimation from information provided by the Fundación BBV's *Base de Conocimientos Sophinet*.
[14] Eurostat and D.G. REGIO
[15] Eurostat and D.G. REGIO

Finally, the demographic and sociocultural factors in 1997 accounted for 9.48 per cent of the economic disparities between the autonomous communities. This behaviour corresponds to aspects over which the regional policy has little influence, at least in the short run.

CONCLUSIONS

Even though in the 1957 Treaty of Rome there appeared the concern about reducing the differences between regions, a Community regional policy was not provided for due to the predominance of the neoclassical model, so that it was expected that market economy and free trade between countries would be mechanisms suitable to foster the development of the most backward regions. Since 1986, with the signing of the European Single Act and later on the Treaty on the European Union (1993), the need to promote the economic and social cohesion between the European regions is acknowledged since, as it was predicted by the endogenous growth models, the Single Market could give rise to an increase in the economic disparities due to the initial differences existing between regions in allocation of resources, technological progress rates and scale economies. Therefore, the existence of a belligerent regional policy and of an active policy in order to promote employment are upheld.

In practice, these principles have given rise to a significant change in the distribution of the Community's budget since the end of the eighties in order to endorse financially the structural measures. However, the Community's global investing effort in the Objective 1 regions has been reduced in real terms in a 2.4 per cent from the period 1994-1999 to the following 2000-2006 one. Nevertheless, despite the existence of the Community regional policy, the analysis of the evolution of the regions' disparities in income per head and in unemployment rates per Member States confirms the conclusions of the endogenous growth models, so that the creation of the Single Market has favoured particularly the most dynamic regions of the various countries in the Union.

Finally, for Spain, it can be concluded that the integration within the EU has favoured an increase in the aggregate production and welfare. However, since the early years of the nineties there a slow but steady process of increase in the economic disparities between the Spanish autonomous regions seems to be happening. According to what is shown in the analysis of the Theil index factoring, the lower average productivity of the least-developed regions in Spain, with a high relative weight within the total population, would be the main factor accounting for the increase in the differences in GDP per head in Spain in the last few years. In short, the regional policy must continue

with the promotion of investment in the Spanish Objective 1 regions in the different kinds of capital which, according to the most recent models of growth, contribute positively to an increase in productivity.

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ANNEX

The regional GDP per head can be expressed as the product of the average work productivity, the occupation rate and a demographic rate in the following way:

$$\frac{\text{GDP}}{\text{population}} = \frac{\text{GDP}}{\text{,jobs}} * \frac{\text{jobs}}{\text{active population}} * \frac{\text{active population}}{\text{population}}$$

In order to quantify the degree of influence of each of the three former factors in the interregional differences in GDP per head, Esteban's methodology (1994, pp. 21-24) for the Theil index factoring can be followed, according to what appears next.

The Theil index is the one which most accurately allows the factoring of these three factors between the various regions. Such index is a part of the generalised entropy measures when ß→0:

$$I(\beta) = \frac{1}{\beta(\beta-1)} \sum p^i[(x^i/\mu)^\beta - 1] \qquad (1)$$

where:
ß is a parameter of social aversion to difference.
p^i is region i's relative population.
x^i is region i's GDP per head.
μ is the national GDP per head.
The limit of expression (1) when ß→0 is:

$$I = - \sum p^i \log \frac{x^i}{\mu} \qquad (2)$$

taking into account that:

$$x^i = \frac{X^i}{N^i} \; ; \; y^i = \frac{Xi}{Ei} \; ; \; e^i = \frac{E^i}{A^i} \; ; \; a^i = \frac{A^i}{N^i}$$

the following identity can be written:

$$x^i = y^i . e^i . a^i \qquad (3)$$

being:
X^i region i's GDP.
N^i region i's total population.
E^i region i's job.
A^i region i's active population.
y^i region i's average productivity per worker.
e^i region i's occupation rate.

a^i region i's demographic rate.

Replacing x^i's factoring in equation (2) the following is obtained:

$$I(x) = - \sum p^i \log \left(\frac{y^i . e^i . a^i}{\mu} \right) \quad (4)$$

However, it is known that:

$$\mu = y.e.a, \qquad \text{being: } y = \frac{X}{E} ; e = \frac{E}{A} ; a = \frac{A}{N}$$

Therefore, the Theil index (4) could be expressed as follows:

$$I(x) = \left(- \sum p^i \log \frac{y^i}{y} \right) + \left(- \sum p^i \log \frac{e^i}{e} \right) + \left(- \sum p^i \log \frac{a^i}{a} \right) \quad (5)$$

and the following can be written:

$$I(x) = I(y) + I(e) + I(a) \quad (6)$$

Expressing I(y), I(e), I(a) respectively the factoring of the inequality index corresponding to the average work productivity, the occupation rate and the demographic rate. These components allow to analyse the degree in which each of them contributes from a global perspective of the whole territory considered to the interregional inequality. This is, they inform of the contribution to Spain's inequality per factors.

But if for each of those indexes every component of its sumatory is considered (each region) the contribution of each region to the corresponding national inequality factor would be obtained. So,

$$\begin{aligned} I(y) &= I(y_1) + I(y_2) + ... + I(y_n) \\ I(e) &= I(e_1) + I(e_2) + ... + I(e_n) \\ I(a) &= I(a_1) + I(a_2) + ... + I(a_n) \end{aligned} \quad (7)$$

being: $I(y_i) = - p^i \log \frac{y^i}{y}$; $I(e_i) = - p^i \log \frac{e^i}{e}$; $I(a_i) = - p^i \log \frac{a^i}{a}$

So that the Theil index (5) would be the following:

$$I(x) = I(y_1) + ... + I(y_n) + I(e_1) + ... + I(e_n) + I(a_1) + ... + I(a_n) \quad (8)$$

Taking into account

$$\begin{aligned} I(x_1) &= I(y_1) + I(e_1) + I(a_1) \\ I(x_2) &= I(y_2) + I(e_2) + I(a_2) \\ &..... \\ I(x_n) &= I(y_n) + I(e_n) + I(a_n) \end{aligned} \quad (9)$$

the Theil index (8) can also be expressed as the sum of each region's contribution to the national inequality according to the following equation:

$$I(x) = I(x_1) + I(x_2) + ... + I(x_n) \quad (10)$$

The equation (10) tells about each of the n regions' contribution considered in terms of GDP per head to the interregional inequality. So, if a positive (negative) value is obtained in some of the addends, this would mean that the region at issue has a GDP per head lower (higher) than the national average. The Theil index factorings appearing in equations (5), (10) and (9) respectively express the contribution to the interregional inequality per factors, regions and per factors for each region.

SINOPSE

OS EFEITOS DA INTEGRAÇÃO EUROPÉIA NAS DISPARIDADES ECONÔMICAS REGIONAIS: ESPECIAL REFERÊNCIA AO CASO ESPANHOL

O objetivo deste trabalho e a análise dos efeitos da integração européia nas disparidades econômicas regionais dos estados membros, com especial referência ao caso da Espanha. Para esse efeito, o trabalho recolhe as principais conclusões dos modelos econômicos a respeito da integração econômica e convergência e a sua influência na política de desenvolvimento regional da União Européia. Para o efeito analisa-se a contribuição dos Fundos Estruturais ao desenvolvimento das regiões européias objetivo 1 e a evolução das disparidades regionais da União Européia em Produto Interno Bruto por habitante e em desemprego. Finalmente avalia-se a eficácia da política regional comunitária na Espanha.

Palavras-chave: integração econômica, política regional, disparidades econômicas, crescimento econômico e economia espanhola.

SINOPSIS

LOS EFECTOS DE LA INTEGRACIÓN EUROPEA EN LAS DISPARIDADES ECONÓMICAS REGIONALES: ESPECIAL REFERENCIA AL CASO ESPAÑOL

El objetivo de este trabajo es analizar los efectos de la integración europea en las disparidades económicas regionales de los Estados miembros, con especial referencia al caso de España. Para tal fin, el trabajo recoge las principales conclusiones de los modelos económicos respecto a integración económica y convergencia, y su influencia en la política de desarrollo regional de la Unión Europea. Asimismo, se analiza la contribución de los Fondos Estructurales al desarrollo de las regiones europeas objetivo 1, y la evolución de las disparidades regionales de la Unión Europea en Producto Interior Bruto per cápita y en desempleo. Finalmente, se evalúa la eficacia de la política regional comunitaria en España.

Palabras-clave: integración económica, política regional, disparidades económicas, crecimiento económico y economía española.