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### SECTORIAL DYNAMICS AND THE CONVERGENCE OF REGIONS OF INTERMEDIATE AND ADVANCED DEVELOPMENT IN THE EUROPEAN UNION

*This article uses the Valencian Community (Spain) as a case study to analyse, in terms of GDP per person, the convergence of regions of intermediate development with the most advanced ones within the European Union. The obstacles hindering this convergence and the paths the convergence takes are shown not only in the context of a growing interdependence in the world economy but also of European integration. The study clearly demonstrates how convergence only comes about as a result of the creation of employment, while the gap in productivity is getting ever wider. The explanation fundamentally stems from the lack of convergence of the production structure with the more advanced activities which predominate in the most developed regions. With the arrival of the economic crisis from 2007, a reversal has occurred of the process of convergence that had taken place during the previous phase of expansion.*

#### Introduction

The economic convergence of countries and regions has been an issue of great interest and one that has been the subject of articles that have approached it from different angles. The neo-classical model of exogenous growth has advocated that this convergence tends to take place when there exists a free movement of production factors and decreasing returns on capital. Other approaches, however, such as the models of endogenous growth, do not state that a process of convergence must necessarily take place. Underlying these theories is the thesis that technological progress is generated endogenously and the part played by other types of capital (human, for example) and the positive externalities they produce, is highlighted (Cuadrado and Maroto, 2008). From a critical point of view, moreover, it must be taken into account that along with the market forces there are other factors which come into play and condition territorial

development, like the institutional framework. In this way, differing types of behaviour may be found; not only convergence, but also divergence may be present.

This article aims to demonstrate the contradictory, complex nature of the convergence process of the regions of intermediate development, within a context such as the current one of the growing interdependence in the world economy (globalization) and, in the case of the European Union (EU), of significant advances in economic integration (the culmination of the single market, the adoption of the euro as common currency, the opening up to Central and Eastern European countries). The EU, furthermore, has always maintained regional convergence as one of the fundamental principles of its policy of territorial and social cohesion.

As a case study, we have chosen one of these regions, the Valencian Community (VC), which had a GDP per capita equivalent to 87,9% of the EU-27 average at the beginning of the period under study (1996). This region is also one that has a very close relationship with other countries, especially those in the EU, due to the fact that it is an important exporter of agricultural produce and also because of its specialisation in the area of tourism and also the traditional industrial sectors, which are subject to competition from emerging countries.

The period chosen for analysis was 1996–2006, which is long enough to be able to detect any convergent or divergent trends that take place. This is also a homogeneous period of uninterrupted growth, not only for the Valencian economy but also for the Spanish economy as a whole.

The VC is compared with the average behaviour of the most advanced regions within the EU, which were taken as those whose GDP per capita in 2005 was at least 30% above the EU-27 average. These

Table 1

<b>Gross domestic product (GDP) per inhabitant at current market prices in Purchasing Power Parities (percentage of annual average variation)</b>			
	<b>1996–2000</b>	<b>2000–2005</b>	<b>1996–2005</b>
EU27	5,92	3,58	5,09
Spain	7,68	4,89	6,97
Valencian Community (VC)	8,13	3,75	6,37
Average advanced regions (AR)	6,80	3,64	5,60
Difference VC-AR	1,32	0,11	0,77
<b>Gross domestic product (GDP) at current market prices in Purchasing Power Parities (percentage of annual average variation)</b>			
	<b>1996-2000</b>	<b>2000-2005</b>	<b>1996-2005</b>
EU27	6,15	4,02	5,51
Spain	8,33	6,83	8,76
Valencian Community (VC)	9,13	6,91	9,30
Average advanced regions (AR)	6,61	4,15	5,85
Difference VC-AR	2,52	2,76	3,45
<b>Annual average population (percentage of annual average variation)</b>			
	<b>1996-2000</b>	<b>2000-2005</b>	<b>1996-2005</b>
EU27	0,13	0,38	0,27
Spain	0,50	1,56	1,10
Valencian Community (VC)	0,76	2,66	1,86
Average advanced regions (AR)	-0,04	0,60	0,31
Difference VC-AR	0,81	2,06	1,55

Source: Own elaboration with data of Eurostat.

advanced regions (AR)<sup>1</sup> are: Wien, Salzburg, Tirol and Vorarlberg in Austria; Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest and Prov. Antwerpen in Belgium; Praha in the Czech Republic; Stuttgart, Karlsruhe, Oberbayern, Mittelfranken, Bremen, Hamburg and Darmstadt in Germany; Hovedstaden in Denmark; Pais Vasco and Comunidad de Madrid in Spain; Etelä-Suomi and Eland in Finland; Ile de France in France; Attiki in Greece; Southern and Eastern in Ireland; Lombardia and Provincia Autonoma Bolzano-Bozen in Italy; Luxembourg (Grand-Duché); Groningen, Utrecht, Noord-Holland, Zuid-Holland and Noord-Brabant in Netherlands; Stockholm in Sweden; Bratislavský kraj in Slovakia and Cheshire, Bedfordshire-Hertfordshire, Inner London, Berkshire-Bucks-Oxfordshire and Gloucestershire-Wiltshire-Bristol/Bath in United Kingdom.

#### **Sectorial dynamics and regional convergence**

The fact that disparity in per capita income has shrunk has been widely used by economists to establish regional convergence. If GDP per capita is used as an approach, we can see that there has been

a more marked increase in this indicator in the VC than in the AR (see table 1), in such a way that the gap between both types of regions has shrunk from the 65,6 percentage points that separated them in 1996, to 63,7 in 2000 and 63,4 in 2005.

There has, therefore, been convergence, but almost exclusively during the first half of the period in question (between 1996 and 2000), as, from 2000 to 2005, the GDP per capita in the VC has undergone only a very slight convergence with respect to the most advanced regions. However, this is not due to a smaller economic growth differential during the second period, but to a greater growth in the population (see table 1). The marked rise in the number of people residing in the VC, a rise shared by Spain as a whole, represents a distinguishing feature compared to the average figure in the AR and in the EU overall and can be explained by the spectacular growth in immigration<sup>2</sup>.

The GDP per capita, which we have used as an indicator of regional convergence, can be split up

<sup>1</sup> The criterion used for regional demarcation was NUTS classification level 2 of the EU.

<sup>2</sup> In the case of the VC, foreigners have gone from making up 2,26% of the population in 1996 to 14,5% at the beginning of 2006. So, the VC has become, along with Catalonia, the Community of Madrid and Andalusia, one of the four autonomous communities with the highest number of foreign residents.

Table 2

Labour productivity and employment in Valencian Community (VC) and the advanced regions (AR), in percentage of annual variation				
	Period	VC	Average AR	VC-AR
Labour productivity (GDP/employment)	1996–2000	2,65	5,89	-3,2
	2000–2005	1,38	2,92	-1,5
	1996–2005	2,02	4,62	-2,6
Employment per capita (employment / population)	1996–2000	4,95	0,63	4,3
	2000–2005	2,22	0,46	1,8
	1996–2005	3,68	0,54	3,1
Total employment	1996–2000	5,86	0,58	5,3
	2000–2005	5,18	1,08	4,1
	1996–2005	6,16	0,87	5,3

Source: Own elaboration with data of Eurostat.

into two components, apparent labour productivity (measured as GDP per worker) and employment per capita. As regards productivity, this grew rather more slowly in the VC than in the most advanced regions during the whole period 1996–2005, as, whereas the former saw a yearly growth rate of 2,02% (2,22% in Spain), the average rate in the AR was 4,62% (3,4% in EU-15). The gap in productivity growth between the VC and the AR was wider during the first years of the period (1996–2000) than in the second part (2000–2005) and is the result of following a much more intensive model of employment creation in the VC (see table 2).

Therefore, the convergence of the VC with the most advanced European regions in terms of GDP per capita stems exclusively from the employment/population ratio which has grown much faster than average in these regions, especially during the first years of the period in question. However, in terms of productivity and in spite of the low initial Valencian figures, there has been a divergence. Thus, in 1996, work productivity in the VC represented 90,3% of the EU-15 average, which dropped to 81,7% in 2005. The average of the AR, on the other hand, went from 117,9% to 127,8% in the same period, which, as a consequence, widened the gap between the VC and these regions from 27,6 points at the beginning to 46,1 points at the end of the period.

The marked rise in employment in the VC was the most significant feature of the period in question and, between 1996 and 2005, employment grew at an average yearly rate of 6,16%, compared with 0,87% in the AR. This growth led to the VC reducing the gap in the employment rate with the AR; in 1999, the rate in the VC was 11,2 points below the average of the AR but, in 2005, this gap had been cut to 4,7 points. This marked rise in employment has also led to significant increases in activity rates, especially those of women and, from 2000 onwards

it has been necessary to turn to the immigrants in order to respond to the national employment offer.

The negative growth observed in the Valencian productivity rate requires a more thorough analysis, since, as Paul Krugman (1990) says, «productivity is not everything, but, in the long term, it is almost everything». It is a measurement of how efficiently the inputs are used in the production of goods and services and, consequently, the growth rate, job availability and the population's income level depend on it. A growth in productivity also plays an important role in improving competitiveness, reducing production unit costs and, with this, improving the trade balance. It must also be taken into account that this slight growth in Valencian productivity came about in a context of the low growth rate of this variable at a national level and also in one of a worsening European position when compared with other developed countries, especially the United States.

Productivity growth depends on many factors, but, broadly speaking, these factors can respond to two differing streams of logic. On the one hand, it may come from a redeployment of productive resources from the least to the most productive sectors. On the other, they may respond to the fact that internal productivity within the same sector differs from territory to territory. The former leads us to analyse the sectorial change and is based on the notion that the least developed regions are increasingly directing their economic resources away from the sectors of agriculture, the traditional industry and the traditional services towards other industrial activities and more advanced services with higher productivity levels (see table 4). However, the productivity levels within the same sector may differ from region to region according to factors such as just how developed the infrastructures are (transport, communications or advanced services provided for businesses, for example), the regional innovation

Table 3

Share of employment in manufacturing total in Valencian Community (VC) and the advanced regions (AR)											
	VC				Average AR				AR-VC		
	1996	2000	2006	06-96	1996	2000	2006	06-96	1996	2000	2006
Manufacturing	100	100	100	—	100	100	100	—	—	—	—
Food products; beverages and tobacco	11,6	10,0	10,3	-1,3	11,9	9,8	11,7	-0,2	0,3	-0,2	1,4
Textiles and textile products	11,9	12,6	9,4	-2,5	3,4	4,6	3,3	-0,1	-8,5	-8,0	-6,1
Leather and leather products	12,8	—	8,1	-4,7	0,5	0,6	0,4	-0,1	-12,3	—	-7,7
Wood and wood products	5,7	5,6	5,0	-0,7	1,6	2,6	3,0	1,5	-4,1	-3,0	-2,0
Pulp, paper and paper products; publishing and printing	6,0	5,6	6,2	0,2	11,5	13,5	12,5	1,1	5,4	7,9	6,3
Coke, refined petroleum products and nuclear fuel	—	—	—	—	1,2	0,7	1,1	-0,2	—	—	—
Chemicals, chemical products and man-made fibres	3,2	3,5	4,0	0,8	10,0	7,7	8,0	-2,0	6,8	4,2	4,0
Rubber and plastic products	4,6	4,5	5,2	0,6	3,9	4,4	5,1	1,1	-0,6	-0,1	-0,1
Other non-metallic mineral products	12,5	14,3	15,7	3,2	2,9	3,3	3,4	0,5	-9,6	-11,0	-12,3
Basic metals and fabricated metal products	8,8	8,9	11,6	2,8	12,8	12,2	11,6	-1,2	4,1	3,3	0,0
Machinery and equipment n.e.c.	4,9	4,9	5,3	0,4	12,0	10,8	11,0	-1,0	7,1	5,9	5,7
Electrical and optical equipment	2,8	3,1	3,7	0,9	14,5	16,2	12,9	-1,6	11,7	13,1	9,2
Transport equipment	4,9	4,3	—	—	9,5	9,2	11,1	1,6	4,6	4,9	—
Manufacturing n.e.c.	—	11,3	10,3	—	3,6	5,4	4,7	1,1	—	-5,9	-5,6

Source: Own elaboration with data of Eurostat.

system, the size of the businesses, how qualified the workforce is or the methods of production management and human resources, among others.

As regards the sectorial change, it can be seen that in both the VC and the AR, agriculture has continued the trend started decades ago of a steady reduction in the proportion of total employment it represents. Between 1999 and 2007, this proportion in the VC dropped by 1,6 points and in the AR by 0,2, even though the proportion in the VC in 2007 was still greater (3,5% compared to 1,5%). The manufacturing industry also suffered in both areas, but rather more so in the VC (4,8 points compared to 2,7). In 2007, this sector made up 19,8% of total employment in Valencia and 17,1% in the AR.

Two sectors gained importance both in the VC and the AR, these being the service sector and construction. The distribution, however, was very different. In the AR, the service sector increased by 3,6 points (making up 73,9% of total employment in 2007) and 2,1 points in the VC (61,9% of total

employment in 2007). However, the importance of the construction sector remained practically the same in the first case (going from 6,6% to 6,8%), whereas in the VC it rose by 4,3 points (from 10,5% to 14,8%).

These data allow us to draw some early conclusions as to the causes of the negative growth in the Valencian aggregate productivity, as, even though it is true that the reduction in agriculture signifies the outflow of resources from a sector of low productivity and the convergence with the most advanced regions, the case of the construction sector is the exact opposite. The Valencian growth model has been overly dependent on this sector, which, when compared to the average in the AR, is clearly overgrown and represents one of the main explanations behind the divergent growth in productivity referred to above<sup>1</sup>. In the cases of the

<sup>1</sup> In 2004, work productivity in the Valencian agricultural sector made up 76,8% of the average of the economy and construction, 87,6% (see table 4).

industrial and service sectors, given the differing productivities of each of their sub-sectors, it is necessary to carry out a more detailed analysis, which we shall subsequently do.

As has already been pointed out, the importance of the Valencian manufacturing industry within the economy as a whole has suffered during the last few years, as has happened, although to a lesser extent, in the most advanced regions. In the case of the Valencian community, this drop stems basically from the traditional sectors which are what this region mostly specialises in. So, between 1996–2006, the proportion of total employment in the manufacturing industry represented by the sector “Textiles and textile products” dropped by 2,5 points; the “Leather and leather products” by 4,7 and the “Food products; beverages and tobacco” by 1,3. In the three cases, they are traditional sectors, with rates of labour productivity that are lower than average in the rest of the economy and also sectors that are greatly affected by the competition coming from the emerging countries (like China or India). The sectors which gain most in importance within the Valencian manufacturing industry are “Other non-metallic mineral products” (3,2 points)<sup>1</sup> and “Basic metals and fabricated metal products” (2,8). They are not advanced sectors and the productivity rate in the former is somewhat higher than average and that of the latter, somewhat lower (see tables 3 and 4).

In some activities which are generally more R+D intensive, as is the case of “Chemicals, chemical products and man-made fibres”, “Machinery and equipment n.e.c.” and “Electrical and optical equipment”, the gap between the VC and the AR has narrowed; but the percentages of specialisation in these industries in the VC are still a long way from those in the advanced regions (see table 3). Furthermore, as shall be seen, the productivity levels of these activities in the VC are lower than both the Spanish and the EU average and they are even lower than the average of the economy taken as a whole (apart from the chemical industry). Therefore, within the context of a general loss in the importance of industry in the economy, it does not seem that the structural change the Valencian industry is going through is of sufficient significance to counteract the feeble state of the aggregate productivity that we analysed previously.

As regards the services sector, economic publications have generally pointed out that it is made

up of activities with lower productivity levels and even that, given the rise in the importance of the services sector taking place in the developed economies, it leads to a decline in aggregate growth (Baumol, 1967). This theory, however, is increasingly being questioned by more and more authors and refuted by the most recent empirical information. The criticism centres on the need to establish the huge differences that exist between the various sub-sectors that are included within the services branch and which have some activities with a higher productivity rate than in the manufacturing industry and others with a lower one (Cuadrado and Maroto, 2006). This situation can be seen clearly if both the Valencian and Spanish cases are looked at, as the services as a whole have a level of productivity somewhat higher than average of the economy. This, though, is due to the behaviour of the “Market services”, as the “Non-market services” are rather less productive. Within the market services, “Financial intermediation” and “Real estate and business services” stand out due to their high productivity level. “Transport and communications” and the “Accommodation and catering” are also clearly above average where productivity is concerned, although their levels are not as high as the first two. The other activities have productivity levels that are below average of the economy and the levels of the “Households that employ household personnel” and “Commerce and repairs” are especially low (see table 4).

As has already been pointed out, the importance of employment in the service sector as a whole rose by 2,1 percentage points between 1999 and 2007, less than the AR average, where it rose by 3,6 points. This led to the gap between this sector in the VC and that of the AR going from 10,5 points at the beginning of the period in question to 12 points at the end. Nor does it seem that the Valencian services have converged at a sub-sectorial level towards the most advanced and most highly productive activities that the AR specialises in. So, although the proportion of total employment in the VC represented by the “Financial intermediation; real estate, renting and business activities services” went up by one point between 1999 and 2007, in the AR it did so by 2,3 points. Thus, the weight of this sub-sector in the AR went from being 7,1 points above that of the VC at the beginning of the period to 8,5 points at the end.

On the other hand, the proportion of total employment represented by the aggregate that comprises most of the more traditional services “Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods; hotels and restaurants; transport, storage and communication” has dropped slightly both in the VC

<sup>1</sup> This sector includes the tile industry which is one of great importance in the VC and one whose growth is linked to the housing boom.

Table 4

Labour productivity* in Valencian Community and Spain, 2004					
	Valencian C.		Spain		% VC/Sp
	Euros	% (VC=100)	Euros	% (Sp=100)	
<b>Agriculture, livestock and fishing</b>	28,133	76,8	26,908	68,8	104,6
– Agriculture, livestock, hunting, and forestry	28,035	76,6	26,747	68,4	104,8
– Fishing	30,012	82,0	29,753	76,1	100,9
– Energy	127,172	347,3	138,547	354,3	91,8
– Extraction of energy products, other ores and petroleum refinement	102,801	280,7	94,304	241,2	109,0
– Electrical energy, gas and water	137,570	375,7	167,536	428,4	82,1
<b>Industry</b>	32,115	87,7	38,303	97,9	83,8
– Food, beverages and tobacco	34,863	95,2	36,441	93,2	95,7
– Textile, manufacture, leather and footwear	21,059	57,5	22,475	57,5	93,7
– Wood and cork	23,221	63,4	23,124	59,1	100,4
– Paper; publishing and graphic arts	38,955	106,4	44,259	113,2	88,0
– Chemical industry	58,982	161,1	65,129	166,5	90,6
– Rubber and plastic	35,874	98,0	40,838	104,4	87,8
– Other Non-Metallic Ore Products	40,042	109,3	44,401	113,5	90,2
– Metallurgy and metallic products	30,605	83,6	40,165	102,7	76,2
– Mechanical machinery and equipment	34,478	94,2	41,464	106,0	83,2
– Electrical equipment, electronic and optical	34,261	93,6	40,160	102,7	85,3
– Manufacture of transport material	41,208	112,5	44,099	112,8	93,4
– Various manufacturing industries	24,701	67,5	23,403	59,8	105,5
<b>Construction</b>	32,081	87,6	35,972	92,0	89,2
<b>Services activities</b>	38,779	105,9	39,777	101,7	97,5
– Commerce and repairs	28,500	77,8	28,549	73,0	99,8
– Accommodation and catering	44,714	122,1	45,948	117,5	97,3
– Transport and communications	47,792	130,5	50,621	129,4	94,4
– Financial intermediation	89,552	244,6	93,654	239,5	95,6
– Real estate and business services	75,984	207,5	73,911	189,0	102,8
– Public Administration	30,093	82,2	33,912	86,7	88,7
– Education	36,087	98,5	37,424	95,7	96,4
– Health and social services	35,593	97,2	35,709	91,3	99,7
– Other services and social activities; personal services	34,969	95,5	33,691	86,2	103,8
– Households that employ household personnel	5,018	13,7	5,320	13,6	94,3
<b>Total</b>	36,619	100,0	39,105	100,0	93,6
– Non-market services	24,740	67,6	26,514	67,8	93,3

\* Gross added value at market prices / Employment.

Source: Own elaboration with data of National Statistics Institute: Spanish Regional Accounts. Base 2000.

and in the most advanced regions; 0,6 points in the former and 0,2 in the latter. The VC is still more of a specialist in this type of activity than the AR, with a difference of 4,8 points in 1999 and 4,4 in 2007. The growth in “Hotels and restaurants”, which forms part of these activities, has been more marked in the VC than in the AR due to the significant role placed by tourism in this region. The same thing has happened, but this time the differences are even greater, in “Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and

household goods”, which is the most important sector within the branch of Valencian services and is one whose level of productivity is quite a lot lower than average in the economy. However, in the VC, not only has the sub-sector of “Transport, storage and communication” grown a little less than in the AR but also, most significantly of all, the sub-sector of “Post and telecommunications” has declined compared to a substantial increase in the AR. This is a sector which is linked to the new technological paradigm and, subsequently, has a high productivity

level. It is also a sector whose importance in the VC is still far from reaching the level enjoyed in the most advanced regions.

Lastly, the role of the aggregate that includes public services and other collective and personal services, "Public administration and defence, compulsory social security; education; health and social work; other community, social and personal service activities; private households with employed persons; extra-territorial organizations and bodies", has only increased slightly more in importance in the VC than in the AR (1,8 points in the former and 1,5 in the latter) and, in 2007, the proportion of total employment in the VC represented by this sector was still 8 points less than in the AR.

In the VC, furthermore, the last few years have seen an increasing tendency towards personal services as seen through the hiring of domestic staff (basically immigrant labour), which is an activity with a very low productivity level. This reflects an important difference that exists between this community and the most advanced regions, especially the Scandinavian and Anglo-Dutch, which is connected to the differing paths that women take when joining the job market (Oliver, 2008). The Scandinavian model is based on the fact that there is a very high number of jobs on public offer, a great proportion of which are taken up by women, at the same time as they provide public services like childcare and care of the elderly which make it easier for women to enter the job market. The Anglo-Dutch model is based on part-time labour, which makes it easier for women to combine work and family. However, neither model has as significant a role in either the VC or Spain. When supplying collective services, the public sector is significantly less important than in the Northern European countries and part-time labour plays a much less significant role than in countries like Holland or the United Kingdom. In the case of the VC, the substantial increase in the number of people employed in domestic service seems to suggest women are taking a different path into the job market.

Summing up, what emerges from the data analysed is that the structural changes that have taken place in the Valencian service sector do not suggest a convergence with the most advanced regions of the EU. Rather, the opposite is true; where some of the most advanced and highly productive activities are concerned, such as financial intermediation, business services and telecommunications, the gap between the VC and the AR has widened. However, the VC has become more specialised in traditional services such as commerce or hotel and catering and, in the area of collective and social services,

the hiring of domestic staff is being promoted to the detriment of the public provision of said services.

Along with the negative effect that the sectorial change has had on convergence in terms of productivity, which has just been commented on, it must be pointed out that the levels of productivity of each sector in the VC tend to be lower than those same sectors when Spain is taken as a whole (see table 4) and that the levels in Spain, in turn, are below the EU average<sup>1</sup>. This reflects a less efficient use of the productive resources and does not represent a new phenomenon for the Valencian economy, but is linked to a long-standing specialisation in sectors which are more labour-intensive, have lower labour costs and smaller businesses. The lower capitalisation of the Valencian companies, the fact that they spend less on R+D and that their workforce is not as highly qualified and a competitive strategy which is more price-orientated represent another set of factors that make convergence with the most advanced European regions more difficult in terms of productivity.

The arrival of the economic crisis since 2007 has stopped the process of convergence which had been happening during the previous period of expansion<sup>2</sup>. Spanish per capita GDP has gone from 94,2% of the EU-15 average in 2007 to 92,6% in 2008. In the case of Valencia, this indicator which in 2007 was 90,6% of the Spanish average, sat at 89,4% in 2008. While the crisis has a worldwide dimension, its repercussions vary within different geographical areas, reflecting a greater impact in Spain and in the VC.

In Spain and in the VC the effects of the crisis are particularly serious in the labour market. During the period between the second quarters of 2007 and 2009 the EU-15 got rid of 0,5% of existing jobs, whilst in Spain this percentage increased to 7% and in the VC to 8%. As already emphasised in this paper, just as the convergence between Valencia and the more

<sup>1</sup> We can quote some examples to illustrate this, defining productivity as Gross Value Added / employment and using data for 2003 from the Groningen Growth and Development Centre, 60-Industry Database: when the sectors were taken as a whole, Spanish productivity was 68.4% that of EU-15; in "Agriculture" the 99,1%; in "Food, drink & tobacco" the 82,4%; in "Textiles" the 60,8%; in "Leather and footwear" the 43,5%; in "Chemicals" the 47,9%; in "Non-metallic mineral products" the 73,7%; in "Fabricated metal products" the 55,1%; in "Construction" the 61,6%; in "Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods" the 75,6%; in "Hotels and catering" the 176,9%; in "Communications" the 88,2%; in "Financial intermediation, except insurance and pension funding" the 87,1%; in "Education" the 73,1% and in "Health and social work" the 92,7%.

<sup>2</sup> Eurostat has not yet published regional data for this period so we cannot directly compare the VC with the AR, although we can indirectly do this by means of comparison with the EU-15 average.

advanced European regions has arisen exclusively from the creation of employment, so the drastic reduction in employment with the change in the economic cycle has led to a reversal of the process of convergence.

These data indicate the increased vulnerability of the Valencian economy in the face of the economic crisis. This vulnerability basically derives from the greater Valencian specialisation in sectors such as construction, traditional consumer goods and tourism. These are activities of a profoundly cyclic nature which are strongly affected by the fall in disposable income and in consumption. This combines with a very fragile labour market, with high levels of temporary employment, which has brought about the rapid adjustment of employment in response to the change in the economic climate.

### Conclusions

An analysis of the convergence between a European region of intermediate development, the Valencian Community, and the most advanced regions of the European Union over the last ten years has shown up the problematic, complex nature of this process in the context of the growing interdependence of the world economy and European integration. Thus, in spite of the substantial economic growth that has taken place in the Valencian economy, the convergence in terms of GDP per capita was not constant throughout the period in question, taking place almost exclusively during the first few years, between 1996 and 2000; since the substantial population increase that took place in the Valencian Community from 2000 to 2005, due to the significant influx of immigrants, counteracted the GDP growth differential.

In fact, the convergence of the Valencian Community with the most advanced European regions stems exclusively from the employment/population ratio, which is due to a much faster rate of job creation in the Valencian Community. The counterpoint to this, however, has been the divergence in terms of productivity that has taken place, leading to a widening in the gap between the Valencian community and the advanced regions.

The negative growth in Valencian productivity is linked primarily to the structural change that has taken place during this lengthy growth phase as, far from converging with the most advanced and highly productive activities, the opposite has happened. So, the proportion of total employment represented by the agricultural sector has continued to drop, as has historically been the case. The manufacturing industry has also suffered, particularly the traditional sectors which have been greatly affected by the

competition from the emerging countries. This reversal in the sectors with low productivity levels, however, has not led to a channelling of productive resources towards industrial activities and advanced services, which would have permitted a convergence with the most highly developed European regions. In the case of the Valencian Community, what is remarkable is that its economic growth has been overly dependent on the construction sector, which is clearly overgrown when compared to the most advanced regions.

A secondary reason for the lack of Valencian convergence in terms of productivity is that, broadly speaking, sectors in Valencia have lower levels of productivity than their counterparts in Spain and the European Union. This is linked to factors such as greater work intensity, lower labour costs, smaller businesses, reduced spending on R+D, a less qualified workforce and a competitive strategy that is more price-orientated.

With the arrival of the economic crisis from 2007, a reversal has occurred of the process of convergence that had taken place during the previous phase of expansion. The crisis has a greater impact on the Valencian Community than on more advanced European regions, above all in the labour market. The increased destruction of jobs that this brings has halted a process of convergence specifically based on the intensive creation of employment. Underlying the high vulnerability of the Valencian economy in the present crisis is its main productive specialisation based on traditional sectors of weak demand which are little intensive in technology.

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