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Cohesion Policy Lessons From Earlier EU/EC Enlargements. Spain Case Study Report

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Content

1. Introduction

For several reasons, Spain can be regarded as an interesting case study for assessments of the impact of Cohesion policy on growth and cohesion. First, as one of the so-called 'Cohesion countries' characterised by a GDP per capita below 75 percent of the EU average, Spain has enjoyed substantial net inflows of money from the European Union (EU) since accession in 1986. Over the three subsequent financial perspectives up to 2006, Spain was the single largest beneficiary of the structural actions budget. In the 2000-2006 period, Spain accounted for almost 27 percent of total commitment appropriations. Second, Spain is a geographically large country in which there is a national constitutional commitment to reducing regional disparities: to 'promote conditions favourable to a more equitable distribution of income' and to 'oversee the establishment of a fair and adequate level of economic equilibrium between the different parts of the country'. Prominent regional differences are accepted as the principal focus for spatially differentiated policies. Although there is traditionally seen to be a north-south divide in Spain's regional development, disparities are less significant between NUTS 2 regions than they are between metropolitan and urban areas on the one hand, and rural, sparsely populated areas on the other. The most dynamic areas are metropolitan, whereas a range of other regions face particular challenges. Such regions include border regions, mountainous and sparsely populated areas, industrial structural adjustment areas, island and outermost regions, and those with high dependence on one narrow economic sector (such as construction or tourism). The regions in the south and on the Mediterranean coast have been most affected by the 2008-2012 crisis and particularly by the fallout from the bursting of the housing bubble. This translated into increased regional disparities in 2007-2011, reversing the convergence trends seen in the early/mid-2000s. The unemployment rate in Spain is the highest in the Eurozone at 22.9 percent. Youth unemployment stands at more than 50 percent, with rates much higher in some southern regions than in more industrial northern regions (Mendez 2012).

The EU's Structural Funds, along with the Cohesion Fund, have constituted the most significant set of policy instruments in terms of financial volume, funding an array of policy initiatives delivered through a combination of national and regional programmes. However, there are also established domestic regional policy instruments. Constitutional and administrative reforms are changing the institutional framework for the management and implementation of policy responses to these trends. A highly devolved system means that the autonomous communities have significant decision-making and implementation responsibilities with respect to economic development.

Based on qualitative analysis of strategic documents, evaluations and academic literature, the aim of this report is to describe the impacts of Structural Funds programmes implemented in Spain in the 1989-1993, 1994-1999, 2000-2006 and 2007-2013 periods. The report aims to shed light on the impacts of the Structural Funds programmes in relation to territorial cohesion and national growth. Moreover, the paper explores the existing evidence of impact on certain core policy areas, such as innovation and employment, as well as on institutional change. Section 2 provides a brief overview of structural economic development in Spain and Section 3 briefly describes the Structural Funds programmes implemented over the three periods, in terms of programme architecture, objectives and funding. Section 4 assesses the impact of the Structural Funds programmes in more detail and from a number of different perspectives: cohesion, growth, achievements in RTDI, knowledge economy and networking, achievements in increasing employment, environmental impacts and sustainable development, and community added value.

2. Economic Development in Spain

2.1 Macroeconomic Development

Spain recorded continuous convergence with the EU15 in terms of Gross Domestic Product (GDP) per capita at purchasing power parities over the period 1994 to 2003, from only 78.6 percent of the EU15 average to 87 percent of the average (Salmon 2005: 101-121). This reflected the strong relative growth of Spain in relation to the EU15, averaging higher growth of over one percentage point per year from 1995 to 2004. The national 'catching up' process continued until 2007: GDP per head in PPS terms surpassed the EU27 average over the period 2000-2007 (rising from 97 percent of the average to 105 percent) (Lopez-Rodriguez & Faiña 2010). At the same time, this period of GDP growth witnessed a decline in labour productivity across all sectors. Construction and the related real-estate boom played an increasingly important role in fuelling growth over the 2000-2007 period. The share of total employment in the construction sector in Spain, which was already well above the EU27 average (11.1 percent vs. 7.0 percent in 2000), increased further, reaching 13.1 percent of total employment in 2007 (against an EU27 average of 7.7 percent). Growth was also based on high levels of private borrowing to finance both company investment and real estate acquisition. With the onset of the global financial crisis in 2008, the macroeconomic and financial imbalances which had been accumulated in the high-growth phase (the real estate boom, excess debt and the loss in competitiveness), became factors of vulnerability. Spain went into recession in 2008 and remained there until 2010 when a modest recovery ensued, but subsequently became unstuck in the second half of 2011. Real GDP is expected to contract by around 1½ percent both in 2012 and 2013 (DG ECFIN 2013). The labour market has responded with unprecedented intensity to the shocks affecting the Spanish economy in the past four years. The dynamism of employment in the boom years, buoyed by the feedback loop between the expansion in construction and immigration, had led to an overestimation of the improvement in the fundamentals underlying the functioning of the labour market and in its ability to adjust to shocks. Accordingly, the potential extent to which this could (first) amplify the effects of the real estate crisis and (second) spread to the rest of the economy was underestimated. As a result, structural unemployment has reached very high levels; in 2012 the unemployment rate in Spain was the highest in the Eurozone at 22.9 percent. There has been general consensus, especially since the crisis, that the main obstacles to national (and regional) economic recovery are low productivity and a sectoral specialisation model that places excessive focus on infrastructure and construction (Godino, & Molina 2011).

2.2 Regional Economic Development

Seen from an EU perspective, Spain has performed comparatively well for much of the past decade in terms of certain indicators of wellbeing, with levels of GDP per head (in PPS) slightly above the EU average. However, the situation changed with the onset of the global financial crisis and there are considerable disparities between regions, especially at the NUTS 3 level. A particular concern is the high level of unemployment, which has soared from 2008, in relation to the EU average (see Table 1).

Table 1. Regional Disparities in Population Density, GDP, Unemployment, Employment and Household Disposable Income

	2001	2002	2003	2004	2005	2006	2007	2008	2009
GDP(PPS) per head NUTS 2									
EU27	19,800	20,500	20,700	21,700	22,500	23,700	25,000	25,000	23,500
Spain	19,400	20,600	20,900	21,900	22,900	24,800	26,200	25,900	24,200
Min	12,400	13,300	13,700	14,500	15,600	16,800	18,100	17,700	16,900
Max	26,200	27,400	27,600	28,700	29,900	32,300	34,100	33,600	31,900
Unemployment rates NUTS 2									
EU27	8.4	9.0	9.1	9.2	8.9	8.2	7.2	7.0	8.9
Spain	10.5	11.5	11.5	11.0	9.2	8.5	8.3	11.3	18.0
Min	3.1	4.2	5.7	5.5	5.6	5.3	4.8	6.4	10.9
Max	18.7	19.7	18.6	17.2	19.7	21	20.3	20.7	26.2
Employment rates NUTS 2									
EU27	50.0	50.1	50.9	51.1	51.7	52.6	53.3	53.7	52.5
Spain	46.8	47.4	48.5	49.6	51.5	52.7	53.4	52.4	48.6
Min	38.5	39.2	40.7	41.2	42.8	41	40.3	41.6	39.2
Max	54.6	55.5	55.9	56.6	57.4	59.2	59.2	58.3	55.1
Disposable household income (PPS) per head NUTS 2									
EU25	12,828.2	13,192.0	13,268.4	13,669.1	14,155.9	14,656.1	15,212.7	-	-
Spain	12,015.6	12,670.9	12,707.3	12,972.0	13,710.8	14,344.4	14,750.0	15,192.9	14,827.6
Min	8,868.2	9,421.6	9,524.9	9,770.7	10,556.2	11,210	11,745.5	11,676.1	11,315.8
Max	15,158.1	16,033.6	16,073.7	16,553.6	17,640.6	18,802.5	19,627.1	20,384.1	19,680.8

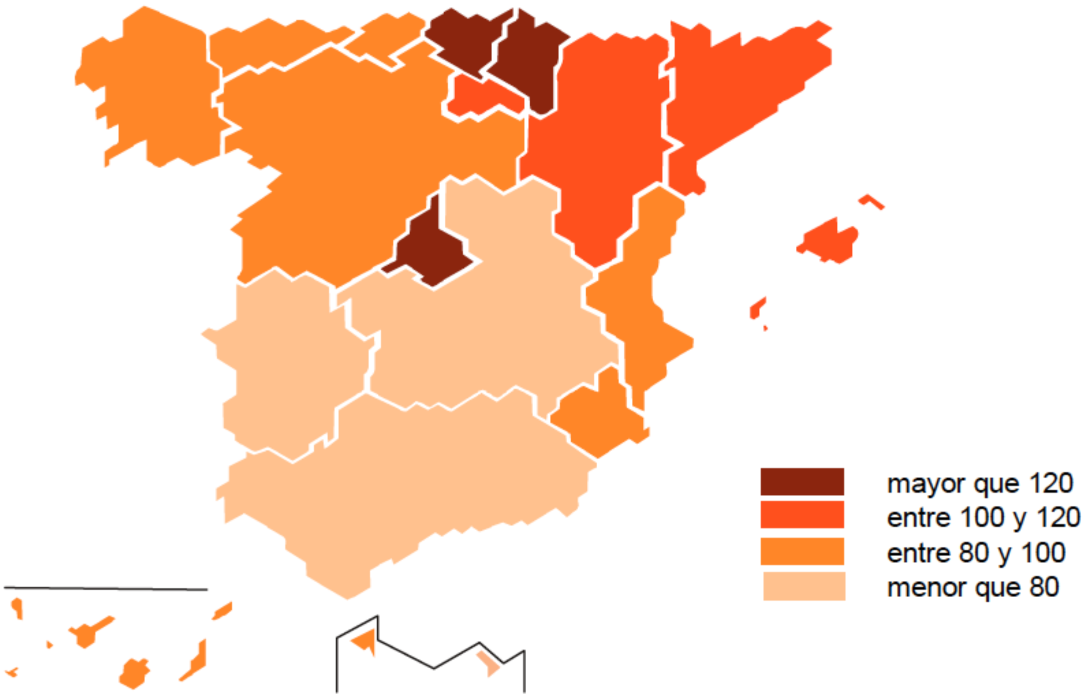
Notes: 1) Rows Min and Max provide data for the lowest- and highest-ranked regions respectively.

Source: Eurostat (2013)

Spain's national statistical office's economic accounts often highlight the Ebro axis (named after the river that crosses the regions of Catalonia, Aragon, La Rioja, Navarre and the Basque Country) as marking a distinct north-south division (Instituto Nacional de Estadística (2007). The boom of the 2000-2007 period was spread widely across all regions, the developments described above applying to a greater or lesser extent to all Spanish regions. Since the onset of the crisis, the regions in the south and on the Mediterranean coast have been most affected. The fallout from the bursting of the housing bubble has had a particularly marked impact on output and employment in construction and its associated sectors. This translated into increased regional disparities across the Spanish regions over the 2007-2011 period, reversing the convergence trends witnessed throughout the early/mid-2000s (see Table 3).

A 2011 bulletin (Instituto Nacional de Estadística 2012) distinguishes between four groups of regions on the basis of GDP per head relative to the national average (Figure 2): Extremadura, Andalusia and Castile–La Mancha (below 80 percent of the national average); Murcia, Canary Islands, Galicia Valencia, Melilla, Asturias, Ceuta, Castile and León (80-100 percent); Cantabria, Balearic Islands, Aragon, La Rioja, Catalonia (100-120 percent); and Madrid, Navarre and the Basque Country (above 120 percent).

Figure 2. GDP Per Capita In 2011



Source: Instituto Nacional de Estadística (2012) op. cit.

Table 3. Structural Indicators at Regional Level

	Population (% of total)		***Employment rate (%)***		***Household Income (Index)***		***R&D expenditure (% GDP)***	
	2000	**2010**	**2001**	**2010**	**2000**	**20008**	**2000**	**2010**
Andalusia	18.12	17.80	40.70	42.30	78.4	80.9	0.65	1.20
Aragon	2.94	2.86	47.60	49.57	107.3	110.7	0.69	1.15
Asturias	2.66	2.31	38.90	43.40	93.1	105.2	0.82	1.03
Balearic Islands	2.09	2.35	55.40	52.56	121.0	106.5	0.22	0.41
Canary Islands	4.24	4.51	49.60	44.28	92.8	86.6	0.47	0.62
Cantabria	1.31	1.26	45.20	48.16	99.1	106.8	0.46	1.16
Castile and León	6.12	5.44	42.90	46.44	96.4	104.7	0.64	1.06
Castile–La Mancha	4.28	4.46	44.00	45.70	84.0	81.7	0.56	0.71
Catalonia	15.46	15.98	52.90	51.66	115.5	112.0	1.06	1.63
Com. Valenciana	10.17	10.87	49.90	46.38	97.6	90.1	0.71	1.06
Extremadura	2.64	2.35	39.70	42.03	73.0	80.6	0.54	0.83
Galicia	6.75	5.95	44.20	46.18	85.1	93.5	0.64	0.96
Madrid	12.85	13.74	52.60	54.63	123.7	117.8	1.58	2.02
Murcia	2.84	3.11	48.20	47.72	84.6	80.8	0.69	0.94
Navarre	1.34	1.35	52.70	52.99	124.9	129.5	0.87	1.97
Basque Country	5.18	4.63	48.80	51.52	122.2	134.5	1.16	1.95
Rioja, La	0.65	0.69	48.20	51.02	115.6	107.0	0.57	1.08
Ceuta	0.19	0.17	-	41.78	91.3	98.5	-	0.09
Melilla	0.16	0.16	-	39.89	91.8	96.4	-	0.14
Total	**100.0**	**100.0**	**47.4**	**47.96**	**100.0**	**100.0**	**0.91**	**1.37**

Source: MPTAS (2011) Indicadores de Convergencia Comunidades Autonomas, Diciembre 2011, Ministerio de Politica Territorial y Administracion Local.

Nevertheless, the most significant disparities in Spain are not so much between NUTS 2 regions as they are between metropolitan and urban areas on the one hand and rural, sparsely populated areas on the other. The most advanced urban areas tend to have high industrial activity, population density, and metropolitan features (e.g. Madrid, Barcelona, Bilbao, Bizkaia, Seville, Valencia). Less-developed regions tend to: have border region status (Castile and León); have mountains or sparsely populated areas (Navarre, Extremadura, Aragon, Castile–La Mancha); have specific adjustment difficulties (old industrial areas suffering from unemployment and structural economic problems such as Asturias, parts of Andalusia, Galicia, Cantabria); be island regions (Balearic Islands); be outermost regions (Canary Islands); and/or have high dependence on one specific economic sector (construction or services, for example).

3. Structural Funds Programmes in Spain

3.1 Structural Funds 1989-1993

Spain's Cohesion policy programme architecture has been complex since its first experience of EU Structural Funds in the 1989-1993 period. Most of the 17 Spanish regions were classified as eligible for Objective 1 status (as regions lagging behind in economic development). But some seven regions, concentrated in the centre (Madrid) and in the north east of the country (Basque Country, Navarra, La Rioja, Aragon, Catalonia, and the Balearic Islands), were eligible in parts for Objectives 2 (regions suffering from industrial restructuring) and 5b status (rural regions with development problems). Moreover, the Spanish Community Support Framework (CSF) included national Operational Programmes (OPs), which were restricted to infrastructure projects. In addition, Spain chose to implement the CSF through single-funded programmes at national and regional levels (for ERDF, ESF and EAGGF). As a result, Cohesion policy in Spain in the 1989-1993 period was implemented through over 100 programmes.

3.1.1 Objective 1

In the 1989-1993 period, Spain received ECU 9,779 million under Objective 1. About 77 percent of Spanish territory obtained assistance under Objective 1 (the rest of the country was largely covered under Objective 2 and Objective 5b). The single Spanish Objective 1 CSF included national OPs, which were restricted to infrastructure projects, and the 13 regional programmes of the Spanish *Comunidades Autónomas*. The regional programmes covered individual regional policy strategies. Regional programmes mainly administered support to the productive sector, industry and agriculture, and education measures, but only a small share of infrastructure projects. Regional governments administered around 39 percent of Community funds in 1989-1993 and 34 percent in 1994-1999. It must be noted that the *Comunidades Autónomas* received significant policy competences and budgetary autonomy under the 1978 Constitution. In addition, Spain chose to implement the CSF through single-funded programmes (for ERDF, ESF and EAGGF). This permitted a simple implementation system. Hence, for the first CSF, Spain achieved an absorption rate of 76 percent of Community funds in 1991, andin 1993 virtually all payments had been made at national and regional levels.

Spanish Objective 1 regions received the highest share of the Structural Funds in the EU in terms of total volume. However, Community assistance, particularly in the first period, was less intensive with respect to contribution to GDP or per capita funding. Spain's Objective 1 regions annually received ECU 91 per capita in 1989-1993 and ECU 188 in 1994-1999. The Community's argument for lower development assistance relative to other Cohesion countries stressed that the development of the country as a whole was already more advanced. Considering the low intensity of Community assistance during this period, it must be noted that the generally favourable growth performance of Spanish regions in the 1989-1993 period was based largely on Spain's own efforts and not particularly on EU regional policy. As Structural Funds allocations to Spanish Objective 1 regions tripled in the 1994-1999, period their contribution to growth was expected to increase.

Objective 1 aid in Spain focused on upgrading infrastructure, which was considered to be the main bottleneck in the development of Objective 1 regions. 40 percent of the CSF was allocated to economic infrastructure projects and 14 percent to general communal infrastructure. Measures to improve vocational skills, also comprising active labour market policies, constitute the second priority of the first CSF (24 percent of Structural Funds). Nevertheless, under the first CSF there was less emphasis on human capital measures than one would expect in view of already soaring unemployment rates. Only a limited number of policy measures for the development of the productive sector was placed under CSF 1 and focused largely on the agricultural sector.

3.1.2 Objective 2

Spain was the second largest beneficiary under Objective 2 in the 1989-1993 period, receiving 1505.5 million ECU (24.5 percent of total Objective 2 funding). Seven areas of Spain obtained Objective 2 funding during this period. In contrast to other countries, in Spain, it was not common practice to use the Single Programming Document as a basis for the Objective 2 strategies at a regional level: a Social and Regional Reconversion Plan and a single CSF was developed for all Spanish Objective 2 regions. The CSF was a single framework of financial commitments within which regional authorities were able to design their own programmes. The Spanish regions were eligible in their totality; their strategies had a territorial emphasis and were designed to address the problems faced by the regions as a whole, rather than problems faced by more local, concentrated areas of assistance as in many other Objective 2 regions.

The most striking feature of the seven Spanish Objective 2 regions when compared to other European areas covered by this Objective was the shortage of basic infrastructure in the communications and environment sectors. Other weaknesses included low levels of technological innovation and a surplus of manpower coupled with a surplus of skills which firms did not need, as well as the predominance of small firms. In terms of unemployment, the Spanish regions presented higher figures than the Objective 2 average. Of the seven regions covered, Cataluña and Pais Vasco obtained almost 80 percent of the Structural Fund aid. The third region was Madrid, in which interventions took place in urban areas to the south and south east of the region, close to the capital. In the other four regions - Cantabria, Aragon (the conurbation of Zaragoza), Navarra and La Rioja - intervention focused on addressing problems in specific industrial sectors. With the exception of the first case, unemployment rates in these regions were lower than in the large industrial areas of Spain.

There was a relatively high level of expenditure on infrastructure projects in most Spanish regions (around 30 percent across all regions) although business support was also an important priority in terms of spending (around 18 percent). Investment in the productive environment accounted for almost 50 percent of the Objective 2 budget in Spain. The Basque region and Cataluña accounted for a high proportion of this total (ECU 401 and ECU 558 million respectively). In the three main regions, uneven spatial development had resulted in congested metropolitan areas such as the regional capitals, Barcelona and Bilbao, as well as the south of Madrid. Investment in transport infrastructure was thus a priority, accounting for a high proportion of total expenditure. ESF interventions amounted to 22.5 percent of the total CSF budget.

3.2 Structural Funds 1994-1999

Spain was the largest beneficiary of Cohesion policy funding in the 1994-1999 period. The country obtained ECU 34.44 billion from the Structural Funds, of which ECU 32.44 billion was distributed through mainstream programmes and ECU 2.87 billion through Community Initiatives. Regional expenditure was managed through Objective 1 interventions (including several multi-regional programmes and 13 regional programmes), eight Objective 2 programmes and seven Objective 5b programmes.

3.2.1 Objective 1

A single CSF served as a framework for Spanish Objective 1 programmes. The national government and the governments of the Objective 1 regions jointly elaborated a Regional Development Plan (RDP) which contained an analysis of the socio-economic situation of the regions, their priorities and an assessment of the financial resources needed to implement them. The European Commission took the RDP as the starting point of negotiations on the CSF.

Under Objective 1, the total value of the CSF was ECU 48,903 million . The CSF identified the following key barriers to growth: limited internal and external accessibility; deficiencies in basic infrastructure and social facilities; human capital deficiencies; and an insufficiently dynamic, competitive or innovative productive sector. On this basis, four operational objectives and associated measures were developed for the CSF (see Table 4).

The 1994-1999 CSF was delivered through sectoral or horizontal programmes, relating to agrofood industries and agricultural structures; fisheries; employment; vocational training; research, technological development and innovation (RTDI); and, scientific infrastructure. Overall, the horizontal OPs were allocated around two thirds of total CSF resources. In addition to these sectoral thematic programmes, the CSF was delivered through regional OPs in each of the twelve Objective 1 regions. Most OPs were based not only on the existing Regional Development Plans, but also on other national/regional strategies and other specific plans.

The regional OPs were allocated 34 percent of total CSF resources. The 1994-1999 CSF approved by the Commission established a regional distribution of funds fairly similar to the distribution established in the RDP, approximating the regional distribution of the population. The main differences were observed in the treatment of Extremadura and Valencia. The share allocated to Extremadura (the poorest Objective 1 region on the basis of GDP per capita) in terms of total Objective 1 Structural Funds resource, was significantly higher than its proportional share based on the total population of Objective 1 regions.

Table 4. Priorities And Measures, Spanish Objective 1 Programmes 1994-1999

1. Improvement of the production system
2. Development of the production system 2.1.a. Agrofood industry and agriculture structural measures 2.1.b. Other industries and crafts 2.2. Local development and support for business services 2.3. Industrial and craft zones 2.4. Formal vocational training specific needs 3. Tourism 3.1. Support for investment in the tourist sector 3.1.a. Subsidies 3.1.b. Specific training needs 3.2. Valorisation of cultural assets with a tourist interest 4. Agriculture and rural development 5. Fish 6. Support infrastructure for economic activities 6.4. Research, development and innovation 6.4.a. Subsidies 6.4.b. Specific training needs 7. Human resources strengthening 7.3. Vocational training 8. Technical assistance
2. Strengthening of human capital and improvement of the quality of life
1. Regional integration 1.7. Telecommunications 6.3. Protection and improvement of the environment 6.5. Health care facilities 7. Human resources strengthening 7.1. Training facilities 7.2. Strengthening of formal vocational training 7.4. Insertion and reinsertion of unemployed into the labour market 7.3. Vocational training 7.5. Integration into the labour market of special difficulties groups 8. Technical assistance
3. Regional integration
1.Regional integration 1.1. Motorways and roads 1.2. Railroads 1.3. Harbours 1.4. Airports 1.7. Telecommunications
4. Development of basic water and energy infrastructure
6. Support infrastructure for economic activities 6.1. Water 6.2. Energy

On the other hand, the share allocated to Valencia, a relatively rich region in comparison with other Objective 1 regions, was significantly lower than its proportional share (based on the total population of Objective 1 regions) would have been. The distribution of 1994-1999

CSF resources in Objective 1 regions seemed therefore to have been influenced by the prioritisation of balanced territorial development.

Generally, as Spain made considerable advances in infrastructure, it agreed with demands from the Commission to pursue a more balanced approach in the second Objective 1 CSF. In comparing the distribution of resources across programme objectives between the 1989-1993 and 1994-1999 periods, some significant changes can be noted (see Table 5). First, there was a significant increase in the share of resources allocated to the improvement of the production system (from 25.4 percent to 34.5 percent of total programme resources). At the same time, regional integration (mainly transport and communication infrastructure) received a lower proportion of resources than it did in the previous programming period, at around a quarter of total resources compared to a third before.

Table 5. CSF Objectives and Planned Distribution of Resources, 1989-1993, 1994-1999

Objectives	CSF 1989-1993 (%)	CSF 1994-1999 (%)
1. Improvement of the production system	25.4	34.5
2. Strengthening of human capital and improvement of quality of life	33.8	33.4
3. Regional integration	33.0	24.8
4. Development of basic water and energy infrastructure	7.8	7.3

Source: CSF 1989-1993 and CSF 1994-1999

3.2.2 Objective 2

The Objective 2 allocation for the 1994-1999 period was ECU 2.45 billion for the seven regions of La Rioja, Aragón, Baleares, Cataluña, Navarra, Madrid and País Vasco, each with an Operational Programme (combining ERDF and ESF), and an additional ESF programme covering all of the regions. The Structural Funds covered 20.4 percent of the population under Objective 2. The programmes covered three metropolitan areas (Madrid, Barcelona, Bilbao) as well as Spain's core industrial areas (the three Basque provinces, Saragossa, and the Barcelona province). Parts of Navarra, La Rioja, and one district of the Mallorca Island also qualified for Objective 2 funding (CSES 2003). Aims were based on ex ante strategies defined in the 'Plans for Regional and Social Reconversion'. This was seen as a preferable approach because it allowed for a comprehensive integration of Objective 2 plans into pre-existing regional and local strategies.

Each of the Objective 2 programmes had the same six basic priorities. Investment in the productive environment (direct aid to business, infrastructure such as business centres or technology parks, etc.) was generally the most important priority in terms of funding, accounting for 35 percent of overall Objective 2 allocations in 1994-1996 and 45 percent in 1997-1999. Other priorities related to: the environment (including the regeneration of industrial sites, which accounted for 4 percent of funding in 1994-1996 and 12 percent in 1997-1999); support for R&D, technology transfer and innovation (10 percent in 1994-1996 and 16 percent 1997-1999); transport and communication (28 percent of funding in 1994-1996 and 14 percent in 1997-1999); local and urban development; and technical assistance. Whilst the Objective 2 programmes shared the same overriding strategic aims, as in other countries, there were considerable differences in terms of the specific objectives of different priorities and measures, reflecting local circumstances.

Overall, there was a marked shift away from physical infrastructure as a central feature of Objective 2 programmes. The proportion of Objective 2 allocations to transport and communication infrastructure was reduced. The priority 'Protection of the Environment' mostly included measures which supported the regeneration of old industrial sites together with other interventions such as investment in utilities. However, this Priority was, after technical assistance, far less important than had previously been the case. An important difference between the two Objective 2 programming periods was the increased expenditure on Priority 3 ('Technology and Innovation'). The comparatively small increase in Objective 2 allocations for investment in environment infrastructure has to be seen against the background of the related actions of the Cohesion Fund.[1]

3.3 Structural Funds 2000-2006

Spain was the single largest beneficiary of the structural actions budget in the 2000-2006 period: its allocation was around €60 billion (in 2004 prices), accounting for almost 27 percent of total commitment appropriations across the EU15. Cohesion policy included a mixture of Objective 1 and Objective 2 headings as well as transitional programmes 'phasing' out of Objective 1 and into Objective 2. National, multi-regional and regional programmes were included.

3.3.1 Objective 1

Objective 1 funding in Spain in the 2000-2006 period amounted to EUR 38,096 million, compared to EUR 28,664 million for the 1994-1999 period. It is made up of two sub-headings:

- EUR 37,744 million for Galicia, Asturias, Castile-Leon, Castile-La Mancha, Extremadura, Valencia, Andalusia, Murcia, Ceuta- Melilla and the Canary Islands; and
- EUR 352 million for Cantabria as transitional aid.

In the 2000-2006 period, a CSF covered Objective 1 regions and the development strategy was defined through 23 OPs, 12 of which were regional (one for each Objective 1 region) and 11 multi-regional. The basic approach described in the 2000-2006 CSF was to focus intervention on the main factors influencing the competitiveness of the autonomous regions –the productive base, ICT, the natural environment and water reserves, human resources, the local and urban environment, transport and energy networks, rural areas and fisheries (Applica, Ismeri Europa & Wiiw, 2008).

The strategic objectives of regional development policy over the 2000-2006 period for Objective 1 regions were:

[1] As a nationally managed fund, supporting investment in basic infrastructure through large projects with a limited territorial dimension, detailed analysis of the impact of the Cohesion Fund is outside the remit of this research. Nevertheless, it is important to recognise the role it has played in processes of cohesion and growth in Spain. It has been a significant source of investment expenditure in transport and environmental infrastructure (e.g. EUR 3,543 million in 2007-2013) alongside the ERDF.

- promoting a real process of convergence (which absorbed around 70 percent of the financial resources mobilised under the CSF);
- fostering job creation (accounting for around 17 percent of total financial resources); and
- promoting sustainable development, social welfare and the quality of life (around 13 percent of resources).

An analysis of the allocation of resources by main policy area in Objective 1 regions indicates that over 58 percent of total Structural Funds support went to investment in human resources (22 percent) and infrastructure (36.5 percent) – i.e. in transport, telecommunications, energy and the environment. In the 1994-1999 programming period, the main emphasis in transport policy was the construction of motorways to increase the accessibility of Objective 1 regions and to link main economic centres to the rest of Europe. The programmes were aimed at addressing both the low quality of infrastructure and deficiencies in road networks. In the 2000-2006 period, support for transport in Objective 1 regions was focused on the improvement of inter- and intra-regional links, with particular attention given to: the completion of Trans-European Networks (TENs); ensuring adequate connections between them and regional networks; and modernising the rail, sea and air infrastructure (as well as building new infrastructure). Road construction therefore accounted for a relatively large share of funding. An increasing amount also went on high-speed rail and (sea) ports. Thanks to the contribution of the Structural Funds, Spain saw a marked improvement in transport infrastructure (ECORYS *et al.* 2006). In the environment and energy policy area, most resources were allocated to investment in main water supply (around 73 percent of the total), while the remainder went to water treatment (just under 16 percent), solid waste management (5 percent) and renewable energy (just over 5 percent). With regard to RTDI, the difference in the share of resources allocated between Objective 1 regions and other regions is striking. Whereas almost 28 percent of both EU and national resources in other regions (which were all assisted to varying extents under Objective 2) went to RTDI, the proportion in Objective 1 regions was only around 5 percent, most being provided by the ERDF. Although there are generous tax concessions in Spain for investing in RTDI activities, no private funding at all was reported in this policy area in Objective 1 regions. Although the scale of expenditure on RTDI varied between Objective 1 regions, in none of them did it exceed 1 percent of GDP. A striking element of the financial allocation in comparison with other Objective 1 regions in this period was the fact that virtually no private participation was included in Objective 1 interventions. Special emphasis was placed on improving the physical infrastructure of the country, in particular in transportation. A significant part of the funding in this policy area went to creating an 'innovation-friendly environment', which absorbed some 28 percent of the amount allocated and which included, in particular, measures to diffuse digital technology and to improve ability to use it (Del Castillo *et al.* 2006).

3.3.2 2000-2006 – Objective 2

The amount allocated to Spain under Objective 2 in the 2000-2006 period was EUR 2,651 million (1999 prices). It was broken down into two sub-headings:

- EUR 2,553 million for areas eligible for Objective 2; and
- EUR 98 million in transitional aid (for areas eligible under Objectives 2 and 5b in the 1994-1999 period but which were no longer eligible for Objective 2 in the subsequent period).

The Objective 2 programmes covered a variable part of the territory of seven regions: Catalonia, Madrid, Basque Country, Aragon, Balearic Islands, Navarre, La Rioja. Their priorities lay in the following areas:

- competitiveness and the 'productive fabric';
- the knowledge society (R&D, innovation, information society);
- environment, natural environment and water resources;
- transport networks and alternative energy sources; and
- local and urban development. Table 6 uses the 'Field Of Intervention' classification developed by the Commission to indicate the thematic orientation of Objective 2 programmes in Spain during the period.

Table 6. Structural Funds Allocated By FOI-2 Classification in Spain Objective 2 (2000-2006)

OI	% Obj. 2 in Spain
Productive environment	48.6
Agriculture	-
Forestry	-
Rural areas	0.3
Fisheries	-
Assisting large business	1.2
Assisting SMEs	16.5
Tourism	1.5
RTDI	29.1
Human resources	10.6
Labour market policy	2.1
Social inclusion	-
Education and training	-
Workforce flexibility. ICT	8.4
Actions for women	-
Basic infrastructure	40.3
Transport infrastructure	10.8
Telecommunication infrastructure	1.8
Energy infrastructure	0.8
Environmental infrastructure	11.7
Planning and rehabilitation	12.3
Social infrastructure	2.9
Technical Assistance	0.6

Source: Applica, Ismeri Europa & Wiiw, 2008.

3.4 Structural Funds 2007-2013

Over the 2007–2013 period, Spain has been allocated more than €35 billion in total; €26.2 billion under the Convergence objective (€3.5 billion from the Cohesion Fund), €8.5 billion under the Regional Competitiveness and Employment objective and €559 million under the European Territorial Cooperation objective. The central objective of the NSRF strategy is to ‘contribute to the Union's cohesion and balanced development, by means of joint and sustainable growth in both Spain and each of its Autonomous Cities and Communities’. This is translated into three strategic objectives, mirroring the Community Strategic Guidelines: making Spain a more attractive place to invest and work in; improving knowledge and innovation to strengthen growth; and more and better jobs. The stated objectives of the NSRF and Cohesion programmes have not changed. The 2009 Strategic Report stresses that the objectives and strategy remain valid and appropriate. Moreover, it argues that the strategy anticipated some of the current difficulties faced in the context of the economic crisis.

The 2007-2013 period has seen a considerable reduction in the number of multi-regional OPs managed at the national level (i.e. National Operational Programmes – NOPs). Whilst there were four ERDF NOPs in the 2000-2006 preiod covering the themes of competitiveness, information society, R&D and innovation and local development (as well as four ESF NOPs, one FIFG NOP and one EAGGF Guidance NOP), there are currently just two national ERDF programmes on the ‘Knowledge-Based Economy’ and on ‘R&D and Innovation for and by Firms’. The remaining funding is channelled through regional programmes (see Table 7).

Table 7. Cohesion Policy Allocations 2007-2013 in Spain, In Constant 2004 Prices

Programme	Fund	€ million	% of total
Convergence Andalusia	ERDF	6,072.4	19.3
Convergence Castile-La Mancha	ERDF	1,277.1	4.1
Convergence Extremadura	ERDF	1,402.1	4.5
Convergence Galicia	ERDF	1,944.5	6.2
Convergence Knowledge-based Economy	ERDF	1,306.8	4.2
Convergence Research, Development and Innovation for and by Enterprises - Technology	ERDF	1,995.0	6.3
Convergence Technical Assistance	ERDF	56.9	0.2
Convergence Cohesion Fund & ERDF OP	ERDF	1,204,0	3.8
Convergence Cohesion Fund & ERDF OP	CF	3,241.9	10.3
Convergence Castile-La Mancha	ESF	160.1	0.5
Convergence Extremadura	ESF	221.9	0.7
Convergence Galicia	ESF	318.1	1.0
Convergence Andalusia	ESF	1,025.5	3.3
Convergence Technical Assistance	ESF	29.9	0.1
Convergence/RCE Adaptability and Employment	ESF	3,833.9	12.2
Convergence/RCE Fighting Discrimination	ESF	340.0	1.1
Phasing-out Asturias	ERDF	357.6	1.1
Phasing-out Ceuta	ERDF	41.0	0.1
Phasing-out Melilla	ERDF	39.6	0.1
Phasing-out Murcia	ERDF	474.0	1.5

Phasing-out Asturias	ESF	91.2	0.3
Phasing-out Ceuta	ESF	9.3	0.0
Phasing-out Melilla	ESF	6.5	0.0
Phasing-out Murcia	ESF	68.5	0.2
Phasing-in Canary Islands	ERDF	913.4	2.9
Phasing-in Castile and León	ERDF	743.6	2.4
Programme	Fund	€ million	% of total
Phasing-in Valencian Community	ERDF	1,205.5	3.8
Phasing-in Canary Islands	ESF	106.6	0.3
Phasing-in Castile and León	ESF	113.9	0.4
Phasing-in Valencian Community	ESF	180.3	0.6
RCE Aragon	ERDF	144.7	0.5
RCE Balearic Islands	ERDF	95.1	0.3
RCE Basque Country	ERDF	213.5	0.7
RCE Cantabria	ERDF	79.0	0.3
RCE Catalonia	ERDF	602.5	1.9
RCE La Rioja	ERDF	28.9	0.1
RCE Madrid	ERDF	299.0	1.0
RCE Navarre	ERDF	41.8	0.1
RCE Aragon	ESF	66.1	0.2
RCE Balearic Islands	ESF	34.4	0.1
RCE Basque Country	ESF	54.2	0.2
RCE Cantabria	ESF	11.3	0.0
RCE Catalonia	ESF	252.6	0.8
RCE La Rioja	ESF	12.4	0.0
RCE Madrid	ESF	227.9	0.7
RCE Navarre	ESF	17.0	0.1
ETC	ERDF	495.8	1.6
Total		31,457.4	100

Source: EPRC calculations based on European Commission data.

In line with the Lisbon-agenda orientation of the new policy framework, the current ERDF programmes have a stronger focus on competitiveness themes (primarily RTDI) and less emphasis on basic transport and environmental infrastructure (see Table 8). Under the Convergence objective, this has been reflected in the doubling of the share of support for the knowledge economy (from 11.3 percent to 23.3 percent of ERDF spending), and the prioritisation of spending on earmarked categories. Under the Regional Competitiveness and Employment objective, 60 percent of funding is allocated to the 'Innovation, business development and knowledge society' Priority, up from 53 percent in 2000-2006. Most central government spending (just under 85 percent) under the RCE objective will be channelled through this Priority.

Revisions to ten regional ERDF programmes were made in December 2011 to address absorption challenges in response to the ongoing effects of the crisis and constraints on public finances. Specifically, the EU co-financing rate was increased from 70 percent to the maximum permitted rate of 80 percent (in Convergence, Phasing-in and Phasing-out regions and in some Priority Axes) and funding was reallocated across Priorities in some programmes.

Table 8: ERDF Expenditure Shifts by Priority, 2000-2006 To 2007-2013 (Current Prices)

Convergence objective, phasing-in & phasing-out	**2007-2013**		**2000-2006**	**Regional Competitiveness and Employment objective**	**2007-2013**		**2000-2006**
	€m	**%**	**%**		**€m**	**%**	**%**
1. Knowledge-society	4,281	23	11.3	1. Knowledge-society, business development & innovation	1,043	61	53
2. Business development & innovation	2,768	15	14	2. Environment & risk prevention.	242	14	15
3. Environment, natural habitats, water resources & risk prevention	3,388	19	21	3. Transport & telecommunications networks & services	193	11	12.5
4. Transport & energy	5,410	30	37.9	4. Local & urban sustainable development	217	13	17.3
5. Local & urban sustainable development	1,650	9	11	5. Technical assistance	21	1.2	-
6. Social infrastructures	737	4	0				
7. Technical assistance	113	0.6	0				
Total	**18,347**	**100**	**100**	**Total**	**1,715**	**100**	**100**

Source: Ministry of Economy and Finance, cited in Mendez 2012 op.cit.

3.4.1 Convergence

Over the 2007-2013 period, Spain has been allocated €26.180 billion under the Convergence objective (including €3.543 billion from the Cohesion Fund). This represents around 75 percent of total Cohesion policy funding in Spain for the period andfunds a range of programmes under the Convergence heading:

- 3 national Cohesion Fund programmes;
- 8 full Convergence regional programmes (4 ERDF, 4 ESF);
- 10 Convergence phasing out regional programmes (6 ERDF, 4 ESF); and
- 6 multiregional programmes (3 ERDF, 3 ESF).

The financial allocations in the current programming period are aligned with the main priorities and objectives of regional development policy in Spain. They are also aligned with the development and structural needs reflected in SWOT analyses which provide the rationale behind the planning and programming documents. In accordance with the main objectives of the Spanish programmes, the biggest share of funding is devoted to measures fostering the knowledge economy, business development and innovation. This represents 36 percent of the total in Convergence regions. The second largest share of funding is devoted to transport infrastructure and energy (the biggest proportion within this axis goes to transport infrastructure). This priority absorbs 29 percent of total funding in Convergence regions. Environmental infrastructure, risk prevention, environmental protection and preservation is the third priority in Convergence regions, representing 20 percent of total funding. In Convergence regions the smallest funding shares are for local and urban development (7.5 percent) and social infrastructure (4 percent). The strategic report of the Spanish NSRF underlined the fact that the focus of present ERDF programmes on issues such as R&D, innovation and business development has increased importance in tackling the challenges which have arisen in Spain since the financial and economic crisis (Lopez-Rodriguez & Faiña 2010).

3.4.2 Regional Competitiveness and Employment

Spain has been allocated €8.477 billion under the Regional Competitiveness and Employment (RCE) heading for the current (2007-2013) period. This represents around 24 percent of total Cohesion policy funding (in Spain, for the period) and is funding a range of programmes under the Convergence heading:

- 16 full RCE regional programmes (8 ERDF, 8 ESF);
- 8 'phasing in' regional programmes (5 ERDF, 3 ESF); and
- 6 multiregional programmes (3 ERDF, 3 ESF).

The greatest share of funding is devoted to measures fostering the knowledge economy, business development and innovation; this represents 66 percent in Competitiveness regions.

3.5 Changing Priorities And Focus

Initially, the main focus of Cohesion policy programmes was on infrastructure and accessibility, structural adjustment and the efficiency of the productive sector of the economy as a means of stimulating development and the creation of employment. During the first programming period

(1989-19930, the improvement of transport infrastructure (internal accessibility and connectivity), environmental infrastructure (water supplies and purification plants) and basic services (electricity and telecommunications) were key ERDF priorities. Private sector investment in tangible assets (installations, machinery and industrial land) was also promoted in order to facilitate competitiveness and structural adjustment. As Spain made considerable advances in infrastructure, it responded to Commission demands and pursued a more balanced approach in the 1994-1999 period. This applied to Objective 1 programmes, in which there was a significant increase in the share of resources allocated to the improvement of the production system, whilst transport infrastructure received a lower proportion of resources in comparison with the previous programming period. Similarly, there was a marked shift away from physical infrastructure as a central feature of Objective 2 programmes. More emphasis was placed on assisting the development of productive activities - especially amongst small firms - and there was increased expenditure on technology and innovation. This trend continued over the 2000-2006 and 2007-2013 periods, in line with the Lisbon Agenda orientation of the new policy framework. Across these periods, programmes developed a stronger focus on competitiveness themes and less emphasis on basic transport and environmental infrastructure. Under the Convergence objective, this is reflected in the doubling of the share of support for the knowledge economy between 2000-2006 and 2007-2013 and the prioritisation of spending on earmarked categories. In accordance with the main objectives of the Spanish programmes the biggest share of funding in the current programming period has been devoted to measures fostering the knowledge economy, business development and innovation - which represents 36 percent of the total in Convergence regions. The second largest share of funding has been devoted to transport infrastructure and energy (the biggest proportion within this axis goes to transport infrastructure). Under the Regional Competitiveness and Employment objective, 60 percent of funding is now allocated to the 'Innovation, business development and knowledge society' Priority, up from 53 percent in 2000-2006.

4. Impacts

Based on their stated objectives and priorities, analyses of Cohesion policy programme impacts can cover a range of fields. These include: processes of national growth and patterns of regional economic development; specific policy-fields covering economic, social and territorial cohesion; or added value (for instance, in institutional change and policy delivery). As one of the 'Cohesion countries' and one of the major beneficiaries of Cohesion policy across successive programme periods, there have been numerous studies on the relative achievements of European regional policy in the Spanish context. Section 4 reviews upon the evidence of its impacts on economic growth and territorial cohesion, as well as achievements in specific policy fields and policy delivery.

4.1 Cohesion

Reducing regional disparities has always been and remains the main aim of the Structural Funds programmes. Spain has benefited extensively from Structural Funds and the Cohesion Fund since 1988; up until 2004, over a quarter of all funding for European cohesion policy had been directed to Spain, equivalent to over 1 percent of Spain's annual GDP. It could, therefore, be anticipated that the development gap between lagging regions and the EU average would diminish over time. However, taken together, the results of studies are equivocal. A range of evaluations have indicated that Cohesion policy has represented a significant source of investment funding and made an important contribution to the economic growth of Spain's poorest regions, which themselves have made progress in converging with EU averages (See Table 10). In short, although the evidence is not conclusive, most of the studies conducted suggest that EU regional policy has had a significant favourable impact on income convergence in the EU. Nevertheless, there are also some studies that question the effectiveness of these interventions in reducing territorial disparities within Spain. It has been argued that the focus on financing infrastructure in the poorest regions stimulates the large-scale importing of products manufactured in the rich areas and is therefore counterproductive to convergence. Some tensions between Cohesion policy's redistributive function and overall efficiency have been suggested in the Spanish context (Villaverde & Maza 2009).

4.1.1 1989-1993

Studies have shown that Cohesion policy made a significant contribution to the economic growth of the poorest regions of Spain during the 1989-1993 period. According to a report prepared for the Commission on the economic impacts of the CSF in the Objective 1 Regions (1989-1993) (Beutel 1993), Community grants helped to avoid a deep recession in southern Spain at the beginning of the 1990s, contributing about 1.2 percent of additional growth in this area. Using an input-output model, the report identified that the CSFs in Objective 1 regions had a favourable effect; southern Spain's economy was expected to grow at an average annual growth rate of 2.4 percent during the 1989-1993 period (including the full impact of the CSF) - above the Community average of 2.1 percent. It was concluded that during the six year interval 1988-1993 Southern Spain would grow more slowly by 1.0 percent per annum if all Community grants were withdrawn. However, this was less than the corresponding growth rate of 3.6 percent for northern Spain. The financial contribution made by Objective 2 programmes to regional development was limited and Cohesion policy made a marginal contribution to the improvement of global regional indicators in terms of GDP, unemployment rates and employment levels. Objective 2 intervention in Spain is estimated to have helped to reduce unemployment rates by some 0.5-1.0 percent on average, with particularly marked impacts in Pays Basque and Cataluña. Thus the process contributed to the reduction of the development gap within Europe, but was too limited to reduce the development gap within Spain. Indeed, the Commission's First Cohesion Report noted that in Spain, development had been particularly uneven; growth had tended to occur most strongly in more favoured regions. This mirrors broader processes across the EU during a period in which divergence in per capita income between Member States was significantly reduced, while internal disparities increased within a number of countries, including Spain (CEC 1996).

4.1.2 1994-1999

In Objective 1 programmes, the general strategic objective was to reduce income and unemployment disparities between Objective 1 regions and the rest of the Spanish and EU regions. This was to be achieved by tackling constraints on growth faced by the Objective 1 regions. The evolution of the economic and social situation in Spain, and in the Spanish Objective 1 regions, during the programme period was positive. In 1995 average GDP per capita in Spanish Objective 1 regions was 65.4 percent of the EU average. Between 1995 and 2000 average GDP per capita in these regions increased by 18.4 percent, reaching 68.7 percent of the EU average. Again, however, the relative performance of Objective 1 regions within Spain was more modest. According to the Commission's ex-post evaluation of the Objective 1 programmes (CEET 2003), the contributing share of Objective 1 regions to total GDP barely changed. Thus, during the 1994-1999 programme period Objective 1 regions were in general able to reduce income disparities with respect to the EU average, but were not able to reduce income disparities with respect to Spain. It should be noted that the picture varied somewhat between Objective 1 regions. Andalucia, Canarias, Valencia, Extremadura and Murcia grew over the period relative to the national average. On the other hand, Aragón, Asturias, Castillas and Galicia were less successful in closing the gap. Employment rates in the Objective 1 regions also improved during the programme period. Between 1995 and 2000 employment increased by 20.8 percent and the unemployment rate decreased by 34.3 percent (from 24.9 percent in 1995 to 16.4 percent in 2000). These improvements were similar to those which were recorded in Spain as a whole, in which employment increased by 20.3 percent and the unemployment rate decreased by 40.2 percent (from 22.8 percent in 1995 to 13.6 percent in 2000). These rough indications point to a mixed result in terms of regional cohesion in Spain; only about 50 percent of regions receiving funds during this period succeeded in their convergence efforts.

4.1.3 2000-2006

From the mid-1990s up until the beginning of the 2000-2006 period, GDP per capita in Spain had progressively converged with the EU average. Although the rate of convergence was somewhat lower in the 2000-2006 period (or at least up to 2005), it was greater in Objective 1 regions. Employment and unemployment indicators included in the CSF suggested that there had been favourable progress in Objective 1 regions, with the proportion of the employed population aged 15-64 increasing from 50 percent in 1999 to 61 percent in 2006. Similarly, unemployment declined from almost 19 percent in 1999 to just over 10 percent in 2006. In Objective 2 regions, unemployment fell from 11.4 percent in 1999 to 6.5 percent in 2006. Overall, Structural Funds intervention contributed to the growth and development of lagging Spanish regions and to convergence between national GDP per capita and the EU average. Nevertheless, the disparity in employment rates across regions was also relatively substantial in Spain, reflecting persistent and notable differences in economic development between the regions. Across the EU, disparities in GDP per head between regions narrowed over the period 1995–2004. However, there was little change in Spain. For instance, the Barcelona region (defined at NUTS 3 level) was responsible for generating 14 percent of Spanish GDP, while Madrid generated 18 percent with a similar population (CEC 2007). A range of studies on the impacts of Cohesion policy on development processes over the period 1989-2006 have produced varying results, depending on their specific focus and methodological approach. These are summarised in Table 9. As can be seen, macroeconomic estimation with neoclassical models does not identify significant effects in terms of convergence rate. However most studies based on macro-econometric models (the HERMIN type and others) strongly suggest that funding had significant positive effects on regional growth rates (Lopez-Rodriguez & Faiña 2010).

Table 9. Evaluations Of Macroeconomic Impact Of Structural Funds In Spain 2000-2006

Authors	Methods	Area	Period	Results
Villaverde & Maza (2010)	Econometric estimation of a neoclassical model	Spain	00-06	No significant impact of EU Structural Funds in convergence speed and growth rates
Bande *et al.* (2010)	Descriptive analysis of labour market indicators Absence of econometric model to disentangle the effects of EU Structural Funds	Spain	99-08	Similar patterns of unemployment reduction and increasing activity rates across Obj. 1 and non-Obj. 1 regions in 1999-2006. Stronger impact of the crisis on unemployment rates in Spanish southern Obj. 1 regions (Andalusia, Canary Islands and Extremadura)
Pastor *et al.* (2010)	Econometric estimation of occupation rates against per head EU Structural Funds and Structural Funds for human capital	Spain	99-07	Positive impact of EU Structural Funds in narrowing the human capital gap between Obj. 1 and non-Obj. 1 regions
Escribá & Murgui (2010)	Estimation of the relevant parameters of a cost function to simulate the effects of EU Structural Funds	Spain	00-06	Impact of EU Structural Funds on productive private capital - of an additional 1 percent per year in Obj 1 regions and 0.4 percent in the Spanish economy as a whole
Mas (2010)	Growth accounting to estimate the impact capital stock in infrastructure in GVA rate of growth	Spain	00-06	Relatively small positive impact of infrastructure stocks in GVA growth rates - around 1 percent (Extremadura, Canary Islands slightly above) or less (Valencia 0.5 percent)
Gumbau-Albert & Maudos (2010)	Econometric estimation of an augmented production function with technological capital	Spain	87-06	Partial reduction of the technological capital gap in Obj 1. regions; RDTI investment partially funded with EU Structural Funds aid makes an important contribution to narrowing this gap
Sosvilla (2010)	Macroeconomic study of European Cohesion Policy in the Spanish Economy	Spain	88-06	Positive effect; accounting for a third of the 15 percentage points by which Spanish per capita income has converged with the EU15 average
Lima *et al.* (2010)	Computable general equilibrium model	Andalusia	00-06	Positive and relevant contribution of Structural Funds to regional growth
Sosvilla *et al.* (2004b)	Macro econometric model (HERMIN)	Castilla Leon	89-06	Positive impact of EU Structural Funds; average demand impact of 2.8 percent in real GDP and combined demand and supply impact of 2.97 percent
Marín & Pardo (2010)	Input-Output Analysis	Castilla Leon	00-06	Positive impact of Structural Funds on regional growth; accounting for around 10 percent of the increase in GVA and 10 percent in employment
Viaña & Ramirez (2010)	Descriptive statistics and regional indicators	Castilla la Mancha	00-06	Comment on HERMIN estimations and concerns about relatively low human capital funding through EU Structural Funds in the region
Sosvilla & Garcia (2005)	Macroeconomic model simulation (HERMIN)	Castilla la Mancha	00-06	A positive increase of 0.35 percentage points in the regional rate of growth
Marquez *et al.* (2010)	Supply side macroeconomic model simulation	Extremadura	00-06	EU Structural Funds investments accounted for around 3.8 percent of increase in regional GVA in real terms
Armesto & Lago (2010)	Descriptive statistics and economic indicators	Galicia	00-06	Comment on different estimations and concern about the rapid catching up of regional GDP per capita being associated

				with slow population growth
Cancelo *et al.* (2009)	Supply side dynamic macroeconomic model	Galicia	94-06	Significant increase of 5.5 percent in average regional GVA during the period and lasting effects well beyond the end of the programme
García & María-Dolores (2010)	Macroeconomic model and new human capital regional data	Murcia	94-05	Significant increases in regional capital endowments and GVA per employee
Gil & Soler (2010)	Input-output Table	Valencia	00-06	Significant increase of 5.27 percent in regional GVA, well above HERMIN model estimations

Source: Lopez-Rodriguez, J. & Faiña, A. (2010) op. cit., p.26

4.1.4 2007-2013

Over the current period, less developed regions in the south and on the Mediterranean coast of Spain have been most affected by the global economic crisis. The fallout from the bursting of the housing bubble has had a particularly marked impact on the construction industry and associated sectors, which play an important role in these regional economies. This translated into increased regional disparities between Spanish regions over the 2007-2011 period, reversing the convergence trends witnessed throughout the early/mid-2000s. Given the limited amount of relevant studies undertaken to date, it is difficult to assess the influence of Cohesion policy on this process. However, it is important to note the changing funding context for Cohesion policy in the 2007-2013 context. Due to national economic growth dynamics in the previous period, the accession of less developed Central and East European Member States and changes to EU allocation formulae, the overall level of Cohesion policy funding available for Spain dropped substantially, with a decline in total funding of more than 40 percent. The highest relative reductions were experienced in the phasing-in and phasing-out regions (63.9 percent and 60.9 percent respectively), followed by the Regional Competitiveness and Employment objective (47.6 percent). Reductions under the Convergence objective were less marked, with a fall of less than one fifth of the allocation in the 2000-2006 period. On the one hand, therefore, there is less total funding available to address the issue of growing regional disparities. On the other hand, the concentration of funding on less developed regions (under the Convergence heading) has increased (see Table 10).

Table 10. Structural and Cohesion Funds Allocations to Spain, 2000-2006 and 2007-2013 (€M)

	2007-2013	2000-2006	Change (%)	Regional ERDF/ESF receipts
Convergence	17,284	21,030	-17.8	Andalucía, Extremadura, Castilla la Mancha, Galicia
Phasing-out	1,331	3,400	-60.9	Asturias, Murcia, Ceuta, Melilla
Phasing-in	3,749	10,381	-63.9	Canarias, Castilla León, Valencia
RCE	2,926	5,579	-47.6	Aragón, Baleares, Cantabria, Cataluña, Madrid, Navarra, La Rioja, País Vasco
Cohesion Fund	3,242	12,322	-73.7	National
Territorial Coop.	*496*	*2,218*		Community Initiatives, Innovative Actions and others
OMR	*434*			
Tech. Fund	*1,995*			
Total	31,457	54,930	-42.7	

Source: Mendez (2012) op. cit.

4.2 Growth

In Spain, most if not all of the literature on policy performance is based on correlation analysis or econometric models and is undertaken by economists, sometimes linked to official programme evaluations. There is no consensus on the causal impact of the Structural Funds - they are considered to have had a positive impact by some authors and no effect by others. This is unsurprising given the range of models used, not to mention the complexity of the interventions being analysed and the methodological challenges involved in any assessment of impact on economic variables. Official evaluations of Cohesion policy in Spain have utilised the so-called HERMIN model across different time periods. In the 1989-1993 period it was estimated that Community grants helped to avert a deep recession in southern Spain (at the begining of the 1990s), contributing about 1.2 percent of additional growth, while the contribution made by Objective 2 programmes to growth was limited. According to the ex-post evaluation of the 1994-1999 Objective 1 programmes, GDP in Spain increased by more than one additional percentage point thanks to CSF expenditure. The results of HERMIN modelling by GEFRA/EMDS were published in the Fourth Cohesion Report. These show Cohesion policy as having had a significant positive effect in the 2000-2006 period, with absolute GDP again being higher by around 1 percent above the baseline (CEC 2007). It was estimated that the Objective 1 CSF led to an average annual increase in the growth rate of 0.38 percent between 1989 and 2006. This represents a yearly increase in GDP of €25.7 billion, which has allowed the total level of income per capita in Objective 1 regions to rise by an additional €637.7 per annum over the last 18 years (Yuill *et al.* 2009).

Looking across programme periods, the results of simulations by Sosvilla and Herce (2004) for Cohesion policy impact in Spain over the three programming periods from 1989-2006 indicate that the Structural Funds have had positive effects on a range of economic variables, generating greater impacts over time in line with increased allocations over successive periods (see Table 11).

Table 11. Hermin Model Results For Spain (Deviation from the 'No CSF' Scenario)

	1989-1993	1994-1999	2000-2006	1989-2006
Real Output*	7.90	25.80	42	25.70
Income p.c. **	200.35	654.15	1,027.15	637.73
Income p.c. Index***	1.33	4.01	5.76	-
Employment****	153.53	317.07	492.13	298.63
Unemployment rate*****	-0.12	-0.26	-0.15	-0.17
Labour productivity (1)	1.2	3.3	0.3	4.8
Private capital stock (2)	17.06	65.3	141.38	77.23
Public capital stock	5.31	21.74	45.43	25

Notes: (*) Difference in absolute values (annual average in €bn, 1999 prices). (**) Difference in absolute values (annual average in €, 1999 prices. (***) Difference in average index (EU15 = 100). (****) Difference in absolute values (annual average, thousands employed). (*****) Difference in percentage of active population. (1) Difference in productivity index (index base of 100 in 1988). (2) Difference in average stock over the period (in €bn 1999 prices).

Source: Sosvilla-Rivero, S. and Herce, J. A. (2004).

The HERMIN-Spain model has also been used to estimate the regional impacts of the Objective 1 CSF, and has been adapted in order to allow its application to specific Objective 1 regions (e.g. Andalucía and Castilla La Mancha) and certain Objective 2 regions (e.g. Madrid)(Yuill *et al.* 2009). For example, a Hermin model adapted to the economy of the Canary Islands was used to assess the impacts of the Structural Funds over the 1989-2006 period. The results show that the demand effects of the SF led to an implied average annual increase of two percent in real GDP above what it would have been without the Structural Funds (three percent including supply side effects). This implies an additional 0.78 percent of GDP growth per annum over the 1989-2006 period. An additional 7,587 jobs were created or safeguarded as a result of the Structural Funds (Sosvilla-Rivero et al., 2011). Further evidence asserting positive impact was provided by a qualitative review of a range of programme monitoring indicators (Viatia Remis & Ramirez Carrera 2010). In another study, the authors summarise the results of two previous impact studies on the Valencia region, one using the HERMIN model and another employing the input-output methodology. Both assert positive impacts, although the HERMIN model shows that effects have been lower than in other Objective 1 regions in Spain in terms of GDP per capita and employment. The input-output methodology showed that the Structural Funds increased output by EUR 9.4 million and created or maintained 131,500 jobs. Despite the positive impacts, the authors argue that the Structural Funds did not change the sectoral model of the regional economy (Gil & Soler 2009).

4.3 Achievements in RTDI, Knowledge Economy and Networking

Innovation support and support to R&D has become more prominent in Spanish Cohesion policy over recent programme periods. In the 1990s, the prioritisation of innovation support activity was limited, particularly in comparison with support for infrastructure development. However, in terms of financial size, the relative importance of Structural Funds support for RTDI policies has gradually increased. The tendency has been for innovation evaluations to focus on programme and project implementation, meaning that evidence of impact on regional development is limited.

4.3.1 1989-1993

During the 1989-1993 period, RTDI measures aimed to redress the extremely low levels of technological innovation amongst firms located in Spanish Objective 2 areas and to meet the need for further investment in RTDI infrastructure. Measuring the impact of 1989-1993 RTDI policies on levels of innovation and technology is challenging due to the lack of appropriate baseline indicators and targets, and the partial availability of even basic monitoring data. Evaluation studies noted difficulties in spending under related priorities because of poor coordination between the ERDF and ESF. The ex-post evaluation of the 1989-1993 Objective 2 programmes highlighted some lessons arising from the inclusion of RTDI support in these programmes (Ernst & Young 1997). First, it concluded that one of the most successful methods for improving innovation and technology transfer performance in many Objective 2 areas was the creation of supporting infrastructure, such as technology centres. This worked best where it built on existing regional RTDI strengths. A second area of transferable potential was identified as the provision of business support for new technology based startups, in which commercial acumen rather than technological expertise was lacking. Third, networking initiatives were also concluded to have been valuable actions for technology and innovation exchange.

4.3.2 1994-1999

During the 1994-1999 period, under Objective 1, a horizontal RTDI programme operated across ten Spanish regions. Total public expenditure on RTDI projects (ERDF and other public sector) was 158.84 million euros - representing 100 percent of planned public expenditure for the programme. In terms of implementation, regions with an established university infrastructure were able to absorb larger amounts of resources. 1,213 projects had been funded by the end of the programme.

Collectively, more than 60 percent of these were related to: food technology (30 percent); advanced production technologies (16 percent); and biotechnology, health and sport (15 percent). 74 percent of projects approved were submitted by universities, 12 percent by Scientific Research Councils and 14 percent by other research centres. Based on the ex-post evaluation of the Objective 1 programmes, Table 12 sets out the outputs and results achieved.

Table 12. RTDI Outputs and Results (Quantified and Qualitative) Spanish RTDI OP 1994-1999

OP	Outputs Achieved	Results Achieved
RTDI	1,213 projects to support innovation, R&D	Greater participation of university staff in research Greater collaboration between universities and the private sector
	Additional funding for university research	
	6,824 researchers involved in RTDI interventions and 2,939 contracts issued	
	1,446 firms involved in RTDI projects	
	117.43 million euros contributed by firms to RTDI projects	

Source: CEET (2003) op. cit., p. 61

Again, assessments of the impact of this support for RTDI on regional growth were limited by the absence of quantifiable benchmarks and targets. Nevertheless, during the programme period, activities under this heading in Objective 1 regions increased significantly. Thus, from 1994 to 1998 the R&D sector grew by 55.46 percent in real terms, more than doubling its GVA in the same period. Employment in R&D grew by 37.26 percent. As a result, the share of R&D in GVA in Objective 1 regions increased from 0.52 to 0.65 percent and the share of R&D employment in total employment from 0.35 percent to 0.44 percent. Therefore, it can be concluded that OPs made progress towards the priority aim of increasing the scientific, technological and R&D capacity of the Objective 1 regions. Nevertheless, an objective assessment of whether progress achieved met programme targets cannot easily be undertaken, given the lack of quantified priority targets. The implications for enhanced regional economic development and cohesion were not measured. Each of the regional Objective 2 programmes included a priority for R&D, technology transfer and innovation. Priority 3 - 'Support for Research, Technology and Innovation' - focused on the provision of R&D equipment and facilities for universities and technological centres, the creation of linkages between firms and research centres, training for researchers, etc. However, Priority 3 accounted for only 9.7 percent of total Objective 2 expenditure in the 1994-1999 period, which was not seen as being sufficient to fully implement the schemes (because of the inclusion of various universities in the 1997-1999 period, the percentage rose to an average of 13.3 percent) (CSES 2003).

4.3.3 2000-2006

Between 2000 and 2006, expenditure from the Structural Funds in Spain on RTDI, together with the information society, amounted to around EUR 4 billion. According to the Commission, this support covered: over 13,000 RTDI-based projects; nearly 100,000 researchers participating in projects; support for over 1,000 technology and research centres; the co-financing of most of 64 Spanish technology parks; support for technology-based activities to around 250,000 SMEs; and the investment of nearly EUR one billion in ICT infrastructure, reducing the gap with the EU average significantly (CEC 2009).

The 2000-2006 CSF for Spain for the Objective 1 regions had nine priority axes, of which one, 'Knowledge Society' (Innovation, R&D, Digital Society), related to RTDI-type measures. A multi-regional OP on Research, Development and Innovation - funded through the ERDF and the ESF - was allocated EUR 2.42 million, of which EUR 1.69 million came from the Structural Funds. For regional

OPs, the Objective 1 regions devoted almost 5 percent of total funds to RTDI, and the Objective 2 regions around 28 percent. All of these funds were provided by the ERDF. Under RTDI, the Structural Funds represented an important complementary source for national public and private resources, the contribution standing at around 17 percent of total executed R&D expenditure (data 2000-2005) (Del Castillo *et al*. 2006).

Overall, Structural Funds support increased the resources available for RTDI and helped to increase the priority afforded to this on the political agenda. The importance of RTDI activity was reinforced by the adoption of the National Reform Programme in 2005 (Applica *et al*. 2008). According to evaluations carried out for the Commission, the Structural Funds made a positive contribution to RTDI activity levels in general terms. Analysis of the impact of Structural Funds could not be differentiated from the impact of local RDTI policy. Moreover, a long timescale was needed to measure the impact of intervention measures on RTDI performance. Even so, Structural Funds evaluations have identified a positive impact through RTDI interventions, both by increasing the financial resources available and by affording higher priority to this type of activity on the political agenda. Due to the relative scale of spending involved, the quantitative importance of RTDI support (i.e. in economic terms), was greater in Objective 1 regions. There were also clear differences in impact between regions, largely due to the pre-existing situation. In regions like the Canary Islands and Castilla La Mancha, in which previous activity of this kind was scarce, the impact was lower because the political and social awareness was smaller and the lack of pre-existing infrastructures and networks was more influential. In Navarra, RTDI expenditure increased from 0.9 percent of GDP in 2000 to 1.9 percent in 2006, while the number of patent applications tripled between 2001 and 2007 (Del Castillo *et al.* 2006). In Illes Balears, where expenditure on RTDI has historically been very low, EU funding helped to establish a coherent policy in this area based on strengthening the links between businesses and research centres and increasing public outlay (public expenditure on RTDI increased by threefold between 2002 and 2006). In 2005, therefore, overall innovation expenditure in the Illes Balears doubled along with patent applications, though from a modest starting point in both cases. As a result of EU regional policy, Objective 2 regions - especially Cataluña, País Vasco and Navarra - were amongst the first regions in Spain to develop industrial cluster policies with large contributions from EU funding.

The multiregional Research, Development and Innovation OP and the RDTI-priority Regional Operational Programmes contributed to improving physical infrastructure and the RDTI workforce, in particular in Objective 1 regions. In these regions, a significant proportion of resources were used to support research projects and the improvement of university and research centre facilities and work teams. Technology transfer was one of the priorities, which had a strong focus on institutional development. For example, it supported the technology transfer offices of public research centres and the consolidation of university-business linkages. The most qualitative actions, or those with higher specific added value, were generally implemented in the frame of innovative actions.

ERDF support has helped Spanish regions to respond to major long term challenges (including that presented by globalisation), particularly through contributing to increasing RDTI expenditure and developing national and regional innovation systems. There is clear evidence that EU support has had a positive effect on RDTI activity and increased business investment in innovation; and has therefore enhanced the competitiveness of Spanish producers. In the case of Regional Competitiveness and Employment regions, the Basque Country case study undertaken as part of the ex-post evaluation of the ERDF in Objective 1 and 2 regions and the evaluation of the ICT aid scheme in Madrid demonstrated the contribution of the ERDF to fostering structural change in response to globalisation. In the case of Convergence objective regions, the evaluation of the programme aied at boosting innovation and business development in Andalusia indicated that ERDF-financed projects had helped bring about a change towards a more productive and innovative business sector (Lopez-Rodriguez & Faiña 2010).

Other studies assessed the role of technological capital in explaining inter-regional disparities in productivity, focusing on the contribution made by the Structural Funds towards closing the gap between Objective 1 and other regions. Analysis of R&D and innovation indicators showed that disparities had reduced over time - although they remained relatively high - and that the Structural Funds had contributed to this trend. The Structural Funds represented 16.7 percent of total investment in R&D in Spanish Objective 1 regions during the 2000-2006 period. The contribution made by the technological capital stock to productivity was estimated using an econometric equation, which showed that the elasticity of total factor productivity to variations in technological capital was in the order of 4 percent. Investment in other regions was also found to have high spillover effects (reflected in elasticity of 29.5 percent). The productivity levels of Spanish Objective 1 regions had converged with non-Objective 1 regions, although they remained 19 percent lower overall. The faster pace of technological capital growth in Objective 1 regions and the positive impact on productivity highlighted the importance of investment in RTDI (as supported by the Structural Funds) in regional convergence in Spain (Gumbau-Albert & Maudos 2010).

4.3.4 2007-2013

According to analyses from the 2007-2013 period, expenditure for RTDI activities covered by Axis 1 (Knowledge Economy) in regional OPs for pure Convergence regions, had fallen significantly below average levels. The weakness of regional innovation systems in these regions has made it more difficult to make rapid progress in spending. However, with respect to business development and innovation activities (Axis 2), pure Convergence regions have similar implementation rates to the average (Lopez-Rodriguez & Faiña 2010). The national coordination body for Structural Funds in Spain has undertaken an evaluation of the RTDI theme across all programmes. The focus of the evaluation was on the national OP Technology Fund rather than RTDI interventions in Regional Operational Programmes (ROPs). Key findings include (Muñoz, 2012):

- that there is adequate flexibility in relation to multi-regional distribution across three dimensions; time (need to meet N +2); geographical space – i.e. by region (need to meet the regional distribution); and between intermediate bodies;
- that excessive financial concentration in Convergence regions has created absorption difficulties due to the excess of funds in absolute terms and the lower absorption capacity of the productive sector, which has been compounded by the crisis (and which reduces the supply of projects);
- that there is excessive rigidity in the Regulation of the Fund (eligible projects) - the fund was designed for few, large infrastructure projects, as opposed to many small RTDI projects;
- that operational indicators are considered excessive, sometimes irrelevant or difficult to achieve for RTDI projects (jobs created, investment induced, etc.);
- that general implementation difficulties include;

    - delay in approval and implementation of the OP;
    - change in the management model compared to 2000-2006;
    - RTDI projects not developing in a single region and sometimes involving several, in different categories;
    - some companies or areas have reaching their 'investment ceiling';
- that impact of the crisis were;
    - a (negative) reduction in the financial capacity of enterprises, especially SMEs, especially in regions of convergence;
    - reduction in the amount spent by firms on RTDI;
    - companies entering bankruptcy and decertification of spending;
- that, management and control has not been streamlined;
- that the financial cycle has been too long;
    - with beneficiaries having to wait 6-24 months for payment;
    - the cycle becoming much longer than in 2000-2006;
    - with more complexity and the involvement of many actors (beneficiaries, Managing Authorities (MAs), Certifying Authorities, Audit Authorities, the Commission, the Treasury;
- that several measures have been taken to speed up implementation;
    - a capital financing instrument is being developed in collaboration with the Credit Institute and funded by JEREMIE to finance working capital in innovative companies, which would address the economic situation and absorption difficulties;
    - financing contracts with the regions singed to facilitate the implementation of the fund;
    - advances (a) from 25 percent of aid limited to €300,000 without collateral, and (b) from 75 percent of the assistance approved by the Credit Institute guarantee to firms through JEREMIE;
    - specific calls designed for Andalucia and Galicia to promote absorption;
    - there was an increased co-financing rate of 80 percent was agreed with Commission - domestic spending was reduced by €300 million to alleviate the problems of co-financing and absorption;
    - an RTDI network was launched, aimed at improving the use of funds through identification of Territorial Innovation Agents (ATIs) and innovation cooperation nodes in regions,
    - inclusion of major projects, technological leaders a need to streamline national and EU financial flows in order to speed up the transfer of funds to beneficiaries.

4.4 Achievements in Increasing Employment

With respect to employment, different evaluations have produced varied results across programme periods. For instance, according to ex-post evaluations, in the period up to 1993, 142,787 workers were dependent on the CSF for Objective 1, representing around 1.1 percent of the workforce in the areas covered. Total gross jobs attributed to Objective 2 funding in the period stood at 103,591). Studies of the 1994-1999 period found that the impact of Structural Funds programmes on the unemployment rate varied. During the initial implementation process the effects on the unemployment rate were positive thanks to the impacts on demand generated by the CSF. Nevertheless after the implementation process the demand side effects evaporated (CEET, 2003). According to calculations included in the Fourth Cohesion Report, employment gains as a result of Cohesion policy in the period 2000-2006 amounted to 0.7 percent above the employment rate baseline, or an increase of 133,500 jobs (CEC 2007). It should be reiterated that some of these gains would have been due to short-run demand effects, in the form, for example, of temporary boosts to construction. However, around half of the increase in GDP is attributable to supply side effects, which are important to sustain higher growth rates over the long term. The results of simulations by Sosvilla and Herce (2004) for the three programming periods between 1989 and 2006 (see Table 11) include estimations that, in terms of employment, almost 299,000 jobs were created or maintained each year as a result of the CSF. This implies that the unemployment rate would have been 0.17 percent higher in the absence of EU structural funding between 1989 and 2006 (Yuill *et al.* 2009).

4.5 Environmental Impacts and Sustainable Development

Cohesion policy has had a dual impact on the themes of environmental protection and sustainable development. On the one hand, across programme periods, significant efforts have been made to address environmental issues in Spain and achieve compliance with EU requirements. These efforts have been supported by significant national and EU resources. On the other hand, programmes have stimulated economic growth and the construction of transport, energy and telecommunications infrastructure. These developments have put pressure on the environment (Anton et al. 1999).

In the 1990s, environmental protection was a priority axis in each of the CSFs, with the main emphasis being protection of the physical environment. Under the ERDF, all Spanish programmes included infrastructure projects (mainly waste and sewerage infrastructure, networks for control and surveillance of environmental parameters, and the clean-up and re-use of regenerated land). Under the ESF they included relevant vocational training and employment aids. Other relevant actions were included in CSF Priority 1 (Business Development) and Priority 5 (Urban Development). Most projects were based on regional and local authority intervention; national level participation took place to a very limited extent in environmental projects (Bachtler & Taylor 1999).

In the period 2000-2006, considerable efforts were made to reverse environmental deterioration and achieve compliance with EU requirements. These efforts were supported by significant national and EU resources. There was significant growth in the supply of energy from renewable sources (24 percent of electricity supply), especially from wind power, which at the same time led to the creation of new jobs. In 2005, the electricity produced by renewable sources (48.190 GWh per year) in Objective 1 regions had already surpassed the target set in the CSF for 2006 (43.321 GWh a year). Large-scale public investment, with an EU contribution of more than EUR 2,850 million, was also made in improving the water supply through extending and modernising mains and sewerage systems and developing secondary and tertiary treatment facilities (to eliminate nutrients). In

Objective 1 regions, 98 percent of the population was connected to main drainage in 2006 as compared with only 79 percent in 1999, and the volume of waste water treated in 2006 was well above the target set in the CSF due to Structural Funds-supported investment in waste water plants. In Objective 2 regions, virtually the whole population was connected to main drainage systems by the end of the period. Nevertheless, despite the investment, full compliance with the Water Treatment Directive is still to be achieved (Applica *et al.* 2008).

The Spanish NSRF 2007-2013 notes that Spain has witnessed rapid economic growth over recent years, which has led to a general increase in the level of income per capita. The combination of these two factors, combined with urban growth, has led to an increase in the demand for energy and infrastructure and a related increase in the environmental impact. 'Environment, Sustainable Development, Risk Prevention' is Priority 3 in Spanish Convergence regions. It represents 20 percent of total funding and includes a series of interventions to improve the management and use of water resources and air quality, and the treatment of waste in urban areas. Measures to combat soil erosion and hydrological rehabilitation interventions are also included in response to climatic challenges. On the other hand, in Competitiveness regions, this priority accounts for only 5 percent, principally due to the fact that these regions are better endowed with systems for water treatment and the management and distribution of water supply (which are very costly and still require heavy investment in Convergence regions) (Lopez-Rodriguez, & Faiña 2010). Other priorities are also worth noting. Under Priority 4 in the Convergence regions and Priority 2 in the Competitiveness regions, the Transport and Energy headings include interventions to improve energy efficiency and the development of renewable energy technologies. In Convergence regions, interventions also cover traditional energy sources in order to develop networks where there is market failure. The 'Business Development and Innovation' Priority (P2 Convergence, P1 RCE) provides support for eco-innovation to guarantee sustainable development through the application of new techniques/technologies, which are more respectful of the environment and the utilisation of natural resources.

4.6 Community Added Value

The approach to managing and implementing regional development policy in Spain is embedded in and interlinked with the EU Cohesion policy framework and can, therefore, be defined as an integrated subsumed system. Although specialised units manage the Structural Funds, they are organisationally positioned within central government ministries or regional government departments and are composed of civil servants, headed by a director-general and answerable to a minister. In practice, MA responsibilities are shared with the regions (designated as Intermediate Bodies), especially under the ROPs, and for expenditure within their respective constitutional responsibilities. In other words, for each of the MA functions, both the central government and the equivalent body at the regional level (for example, the Department of Finance and Public Administration in the case of País Vasco) have formal responsibilities within their sphere of activity. The national Ministry of Labour and Social Affairs is the MA for all ESF NOPs and ROPs. Again, it fulfils these functions under the principle of 'co-responsibility' (shared management) with the regions. This integrated system sets the framework within which elements of Community added value have been identified during different periods.

4.6.1 1989-1993

The issue of added value was not a significant focus for evaluations of Spain's first programme period. However, it is worth noting that research carried out in the Spanish Objective 2 regions suggested that the 1988 Structural Fund reforms led to a 'remarkable' change at an institutional level with a much stronger emphasis on partnership building (Ernst & Young 1997).

4.6.2 1994-1999

According to ex-post evaluation of 1994-1999 Objective 2 Programmes, regional and local delivery mechanisms were strengthened through the implementation of Cohesion policy. For example, in the Illes Balears in Spain, which qualified for Objective 2 for the first time in 1994, Structural Funds programmes were also seen as having helped to develop partnership and delivery structures. This included the creation of the Association for the Economic Development of the Es Raiguer district, CDER (CSES 2003). The research also indicated that there were other benefits in terms of administrative capacity building and the longer term approach to programming. Objective 2 interventions were thought to have made a significant contribution to the development of new and improved management and monitoring techniques. In the region of Aragon, it was felt that Objective 2 had helped to introduce a new type of management culture, incorporating a more rigorous project selection process, new and more efficient management procedures, and the introduction of monitoring indicators with a strong focus on efficiency and effectiveness. The research feedback suggests that this new management culture filtered down to other departments dealing with other types of regional development work. On the other hand, there were indications of 'detracted value'; Objective 2 programmes were widely perceived as being more complex and time consuming to manage than national schemes. In the Illes Balears and Aragon region, for example, programme managers estimated that the additional workload was 40 percent higher in terms of the time commitment than were national or regional programmes. The workload involved in administering Objective 2 programmes, especially that related to financial control, was seen as duplicating national procedures.

4.6.3 2000-2006

A major trend in the 2000-2006 programme period was the decentralisation of the Cohesion policy implementation process relative to previous periods and the enhanced participation of a larger number of partners. Moreover, a new approach to Cohesion policy management was taken in 2000-2006, with fewer programmes and a stronger focus on integration. In past periods, each programme had been implemented in a relatively autonomous way, whereas in 2000-2006 strong efforts were made to adopt a more integrated approach to the use of Structural Funds resources across programmes. This integrated approach was accompanied by a more coherent general strategy, which was based on a synthesis of existing domestic policies. According to Commission evaluations of the period, the management model of Community policies had permeated into national and regional practices, resulting in more effective use of public resources (Applica *et al.* 2008). At the same time, the Structural Funds had promoted the incorporation of European priorities and objectives into local and regional policies, including increased prioritisation of RTDI expenditure. The Structural Funds enabled additional economic activity to take place and encouraged new initiatives. In terms of financial leverage, the co-financing requirement of the Structural Funds led not only to more resources but, in some cases, expenditure that would not have happened at all, or would have proceeded more slowly, without EU aid. Nevertheless, private sector involvement remained limited in Spain. The requirement for partnership resulted in a wider range of organisations participating in development projects and increased the level of expenditure. According to Commission evaluation, multi-annual programming had also brought about a more stable policy environment, encouraging longer term planning in Spanish regions and reducing the effects of political change on development policy. The strong emphasis of the Structural Funds regulations on accountability led to it becoming more embedded in practice, as well as a more results-based approach in financial management in regional governments. On the other hand, Structural Funds managers complained that the bureaucracy associated with programming was too complicated, demanding and costly. Another problem was the poor coordination between measures financed at regional and national level. As a result, in some cases, the two types of measure overlapped or duplicated each other, especially in the fields of RTDI and human resource development. This, accordingly, made it difficult to exploit synergies or establish explicit cooperation between different bodies in these cases. This was apparent in the field of RTDI, in which innovation policy was a regional competence whilst science and research policy was essentially a national competence (Del Castillo *et al*. 2006). During the 2000-2006 period, many projects financing RTDI infrastructure were decided upon by the national government through public calls in which universities and public research centres participated. In some cases, the RTDI infrastructure projects presented by universities and public centres were not regional priorities but were, nevertheless, financed by the national government. Regional governments were then forced to co-finance these projects, even though they were not part of their priorities.

4.6.4 2007-2013

One interesting change introduced for the 2007-2013 period was the creation of a new Advisory Committee on Evaluation and Monitoring, set up to enhance the strategic nature of programme management and implementation. The establishment of this body was largely a response to regulatory requirements demanding: annual implementation reports for each OP; analysis of the contribution of the OPs to the NRP on an annual basis; two Strategic Monitoring Reports; and ongoing evaluation activities. It is currently the responsibility of the committee to oversee the drafting of the NSRF Strategic Reports, to assess the need for ongoing evaluation and to ensure the quality of the monitoring system. The committee is composed of representatives from the EU, the national and the regional levels and, when necessary, may include external experts.

Another development in the Spanish context concerns the creation of six new sectoral networks covering: the environment; urban initiatives; innovation; R&D; gender equality; and social inclusion. The networks include permanent representation from the Commission, central and regional governments; as well as other actors relevant to the specific network (e.g. local authorities for urban initiatives and non-governmental organisations (NGOs) for social inclusion). Other experts or observers may also be invited to participate. At least one annual meeting is held for each network, supported by a permanent secretariat with responsibility for the diffusion of information to its members and the organisation of meetings.

5. Conclusions

As one of the so-called ‘Cohesion countries’ Spain has enjoyed substantial net inflows of money from the European Union and it was the largest beneficiary of the structural actions budget until the accession of Central and Eastern European states in 2004. As a result, the impact of Cohesion policy in a range of thematic areas has been substantial. Nevertheless, interpretations of the scope and characteristics of this impact vary. For instance, empirical findings on economic convergence reflect a very different picture depending on whether the focus is at the Member State or the sub-national level. Up to the onset of the global financial crisis in 2008, there was a tendency for per capita GDP in Spain to converge with the EU average. Prior to 2008, (initially) low income countries such as Spain grew faster, on average, than those with high incomes. However, assessments of convergence within Spain produce a different picture; regional GDP disparities have tended to remain entrenched or have actually worsened, particularly with the onset of the crisis. The role of Cohesion policy in these processes is still contested. The support provided by EU funding has certainly made substantial investment possible. Indeed, at present, when major fiscal consolidation is taking place through cutting public expenditure, ERDF financing has proved key to preventing sharp reductions in investment in various policy areas (Lopez-Rodriguez & Faiña, 2010). A range of studies have indicated that Cohesion policy has represented a significant source of investment funding and has made an important contribution to economic growth in Spain's poorest regions, which have made progress in converging on EU averages. Nevertheless, there are also some evaluations which question the effectiveness of these interventions in reducing territorial disparities within Spain. It has been argued that the focus on financing infrastructure in the poorest regions stimulates the large scale importing of products manufactured in the rich areas and is therefore counterproductive to convergence. Others have questioned the redistributive function of Cohesion policy. Cohesion policy has made a significant contribution to development under specific policy headings. Initially, there was a strong focus on projects aimed at developing basic infrastructure, including transport and environmental infrastructure in Spanish regions. These aided in the enhancement of accessibility and connectivity and the preservation of natural assets (although increased environmental pressure resulting from growth, in turn supported by Cohesion policy, has been noted in some analyses). More recently the focus has shifted somewhat towards support for innovation and the knowledge economy. Cohesion policy has made it possible to carry out a large number of RTDI projects which have constructed, equipped and/or supported universities, public and private research centres, technology centres and technology parks/units. They have also provided support to businesses and collaborative ventures. Nevertheless, studies have highlighted significant impact differences between regions due to variation in the strength of pre-existing RTDI infrastructure and networks. In terms of Community added value, there is evidence that the Cohesion policy management and implementation model has permeated national and regional practice, resulting in more effective use of public resources. At the same time, the Structural Funds have promoted the incorporation of European priorities and objectives into local and regional policies, including increased RDTI expenditure. On the other hand, the leverage of private sector investment through the Cohesion policy has been limited. Moreover, there is evidence of 'detracted value' in relation to the complexity and administrative costs of implementing Structural Funds programmes, coordination challenges across and between administrative tiers and the danger of administrative duplication.

6. Bibliography

Anton V., De Bustos A., Herce J.A., and Sosvilla-Rivero S., 1999, 'Environmental consequences of the Community Support Framework 1994-1999 in Spain', *Journal of Policy Modeling*, 21, 831-850

Applica, Ismeri Europa and Wiiw 2008, *Ex Post Evaluation of Cohesion Policy Programmes 2000-2006 financed by the European Regional Development Fund in Objective 1 and 2 Regions*, Work package 1: Coordination, analysis and synthesis.

Bachtler J., and Taylor S., 1999, 'Objective 2: Experiences, Lessons and Policy Implications', *Evaluation Report Series*, Brussels

Beutel J., 1993, *The Economic Impacts of the Community Support Frameworks for the Objective 1 Regions 1989-1993*, Report to the European Commission, April.

CEC, 2009 *European Cohesion Policy in Spain*, http://ec.europa.eu/regional_policy/sources/docgener/informat/country2009/es_en.pdf

CEC, 2007, *4th Cohesion Report*: *Growing Regions*, *Growing Europe.*

CEC, 1996, *First Cohesion Report, Directorate-General for Regional Policies*, Commission of the

European Communities, Luxembourg.

Centro de Estudios Económicos Tomillo (CEET), 2003, Member State Report Objective 1 Evaluation 1994-9 Spain, Report to the European Commission (Brussels: European Commission).

Centre for Strategy & Evaluation Services (CSES), 2003, Ex-Post Evaluation of 1994-1999 Objective 2 Programmes, Synthesis Report, European Commission, DG for Regional Policy, February 2003

Del Castillo J., Moreno J., Arriola J., and Barroeta B., 2006, *Strategic Evaluation on Innovation and the Knowledge Based Economy in relation to the Structural and Cohesion Funds, for the programming period 2007-2013* A report to: The European Commission Directorate-General Regional Policy Evaluation and additionality Country Report: Spain.

DG ECFIN, 2013, *Winter forecast 2013 - The EU economy: gradually overcoming headwinds*. http://ec.europa.eu/economy_finance/eu/forecasts/2013_winter_forecast_en.htm

ECORYS et al., 2006, *Strategic Evaluation on Transport Investment Priorities under Structural and Cohesion Funds for the Programming Period 2007-2013*. No 2005 CE.16.AT- 014, Synthesis Report

Ernst & Young, 1997, *Ex-Post Evaluation of the 1989-1993 Objective 2 Programmes: Synthesis Report*, DG XVI Series: Evaluation and Documents, No 4, Commission of the European Communities, Brussels.

Gil S., and Soler F., 2009, 'El impacto de los Fondos Estructurales Europeos en la Comunidad

Valenciana: 2000-2006', *Papeles de Economía Española*, 123, pp. 239-253.

Godino A., and Molina O., 2011, "Failed Remedies and Implications of the Economic Crisis in Spain", *OSE Paper Series*, Research Paper No. 6.

Gumbau-Albert M., and Maudos J., 2010, 'Fondos europeos, capital tecnológico y crecimiento económico de las regiones españolas', *Papeles de Economía española* 123, FUCAS.

Instituto Nacional de Estadística, 2012, *Producto Interior Bruto Regional: Año 2010*, Notas de Prensa, 24 de Marzo de 2011, Instituto Nacional de Estadística.

Instituto Nacional de Estadística, 2007, *Producto Interior Bruto Regional: Año 2006.* Notas de Prensa, 28 de Marzo de 2011, Instituto Nacional de Estadística.

Lopez-Rodriguez J., and Faiña A., 2010, 'Country report on achievements of Cohesion policy – Spain' *Expert Evaluation Network Delivering Policy Analysis on the Performance Of Cohesion Policy 2007-2013*, Task 2 report to the European Commission Directorate-General Regional Policy

Mendez C., 2012, 'Challenging times ahead: regional policy developments in Spain' *Regional Policy Developments in Europe: Country Reviews 2011-12*, EoRPA Paper 2012/2, European Policies Research Centre, University of Strathclyde, Glasgow.

MPTAS, 2011, Indicadores de Convergencia Comunidades Autonomas, Diciembre 2011, Ministerio de Politica Terriotrial y Administracion Local.

Muñoz M., 2012, *Evaluación Temática De I+D+I: El Fondo Tecnológico, RED IDI*, Madrid, 25/4/12.

Salmon, K. (2005) 'Adapting to European enlargement: Spain and the cohesion policy' *International Journal of Iberian Studies* 18.2 (2005): 101-121.

Sosvilla-Rivero S., Cova Alonso D. and Gonzalez Perez J.M., (2010), 'Canarias y la Política Regional Europea', *Papeles de Economía Española*, No. 123, 2010, pp. 136-156

Sosvilla-Rivero S., and Herce J. A., 2004, "La Política de Cohesión europea y la economía española: evaluación y prospectiva", Documento de Trabajo 2004-20R, FEDEA, Madrid.

Viatia Remis E., and Ramirez Carrera D., 2010, 'El impacto de los fondos estructurales europeos (2000-2006) en Castilla-La Mancha' *Fondos estructurales y convergencia regional*; (2010), nº 123

Villaverde J., and Maza A., 2009, 'Los fondos estructurales europeos y la convergencia de las regiones espanolas: 2000-2006' *Papeles de Economía Española*. # 123. March 2010

Yuill D.M., Mendez C., Wishlade F.G., Jesus Delgado M., and Murillo Garcia E., 2009, *Cohesion policy reform : some implications for Spain and its regions.* Presupuestos y Gasto Publico, 55 (2). pp. 49-75.