EVALUATION OF THE MAIN ACHIEVEMENTS OF COHESION POLICY PROGRAMMES AND PROJECTS OVER THE LONGER TERM IN 15 SELECTED REGIONS

(FROM 1989-1993 PROGRAMMING PERIOD TO THE PRESENT)

(2011.CE.16.B.AT.015)

Case Study Galicia

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20 September 2013

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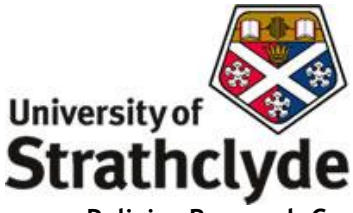

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PREFACE

This report presents the case study for Galicia (Spain) as part of the study 'Evaluation of the Main Achievements of Cohesion Policy Programmes over the Longer Term in 15 Selected Regions (from 1989-1993 Programming Period to the Present)' which is being managed by the European Policies Research Centre and the London School of Economics. The research was conducted over the period April 2012 to November 2012.

The case study was drafted by Andrés Faíña, Jesús López-Rodríguez, Paulino Montes-Solla, Cristina Calvo-Porral and Cosmin Bolea. The authors are grateful to a considerable number of individuals in Galicia, Madrid and Brussels who participated in the study and provided valuable insights as well as assistance in tracking down other interviewees. The complete list of interviewees and workshop participants is listed in Annex IV.

The authors are also grateful to Staša Filiplic, Graciela Martínez Ozón, Estefanía Linares Varela and José Faíña Rodríguez-Vila for superb research assistance.

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LIST OF ABBREVIATIONS

- ADIF Spanish Railway Infrastructure Management Body
- AIR Annual Implementation Report
- AVE Spanish High-speed Train
- CDTI Spanish Centre for Technological Industrial Development
- CSF Community Support Framework
- EC European Community
- EDAR Wastewater Treatment Plant
- EU European Union
- FEDEA Foundation for Applied Economic Studies
- ICO Spanish Institute for Official Credit
- ICT Information and Communication Technology
- JEREMIE Joint European Resources for Micro to Medium Enterprises
- JESSICA Joint European Support for Sustainable Investment in City Areas
- MNRE National Strategic Reference Framework
- MOPU Ministry of Public Works and Urban Development
- NOP National Operational Programme
- NSRF National Strategic Reference Framework
- OECD Organisation for Economic Co-operation and Development
- OP Operational Programme
- R&D Research and Development
- RDI Research, Development and Innovation
- RDP Regional Development Plan
- ROP Regional Operational Programme
- RSP Regional Strategic Planning
- RTDI Research, Technological Development and Innovation
- SEA Single European Act
- SMEs Small and Medium-sized Enterprises
- TEA Entrepreneurial Activity Rate
- TFNOP Technological Fund National Operational Programme
- UDF Urban Development Fund
- UTE Temporary Joint Venture
- ZAE Special Action Zone

EXECUTIVE SUMMARY

The regional development context

Two decades ago, Galicia was a peripheral region with poor external accessibility and internal connectivity, strongly dependence on low productivity primary sectors (agriculture and fishing) and was one of the poorest regions in Spain. A large proportion of the population lived scattered in rural areas without basic services (communications, phone lines, etc.). The region lacked efficient transport and environmental infrastructure and had low levels of educational attainment and technological knowledge, high unemployment and a fragmented entrepreneurial system based on small family-owned companies. On top of this, a process of adjustment in traditional activities such as shipbuilding and the chemical industry raised serious concerns about the future.

These deficiencies have been reduced over the last twenty years. Galicia has converged with the EU-15, reducing its GDP per capita gap by 8.7 percentage points from 50 to 59.5 per cent (73.8 per cent if compensating for the differences in prices between countries with purchasing power standards).

The relevance of ERDF programmes for Galicia

The ERDF programmes in Galicia consistently focused on the objectives of improving quality of life through convergence with European standards and the creation of employment, as well as preserving the environment, providing healthcare and educational services, and attaining a territorial and spatial balance. All of these objectives were identified as relevant in the analysis of the regional context. The strategy used to achieve this focused on two main areas:

- on the one hand, a policy of investments in transport infrastructures in order to improve accessibility from outside the region and internal connections in Galicia, as well as to provide the whole region with the basic services of electrical power, telephones, water and sanitation; and
- on the other, a policy of structural adjustment aimed at increasing competitiveness.

The effectiveness of ERDF spending

The ERDF programmes in Galicia focused on infrastructures and accessibility, and structural adjustments and the efficiency of the productive sector of the economy as a way of stimulating development and the creation of employment. The explicit objectives of the programmes generally coincided with implicit objectives. However, satisfying a wide range of different local interests (without suitable coordination) and supporting existing companies to halt Galicia's industrial decline in the 1980s and 90s were implicit goals that influenced the selection of projects.

During the first programming period of 1989-93, transport infrastructures (internal access and connectivity), environmental infrastructures (water supplies and purification plants) and basic services (electricity and telecommunications) were improved with the help of ERDF funds, and investments by companies in tangible assets (installations, machinery and industrial land) were also promoted in order to facilitate competitiveness and structural adjustment. In the next programming period between 1994-99, these measures were further expanded and a business policy

was introduced to reinforce managerial skills and business competitiveness. During the programming period of 2000-06, motorway access to central Spain and Europe was finally completed, and R&D&I policy measures were implemented reinforcing research and fostering the transfer of knowledge to the business sector.

During this period, Galicia suffered an ecological catastrophe, when 70,000 tons of highly sulphurous fuel was spilled by the tanker Prestige on Galicia's coast. However, a major reprogramming of ERDF and CF helped to support cleaning and environmental restoration projects in a very effective way. After 6 months the majority of the beaches were clean, and 4 years later the environmental situation had returned to normal. The current period of 2007-2013 focuses on providing support to the knowledge economy and business innovation, as well as to environmental issues.

Complementarities of ERDF funding with domestic policy

Coordination among EU Structural Funds and domestic policy in Galicia, as in most of Spanish Objective 1 regions, starts at the planning level. Successive regional strategic plans provided the foundation for regional development plans and the negotiation of the separate Community Support Frameworks (CSF). This procedure enabled tight coordination and complementarity between domestic and ERDF funding. The concrete priorities and fields of intervention to be supported by the ERDF were determined by the Galician Regional Operational Programmes and the different National Operational Programmes in a coordinated manner within the CSFs.

The coordination between the ERDF and the ESF was achieved considering the eligibility conditions of these for defining their roles in each of the joint actions such us the funding of fixed assets (buildings and equipment) by the ERDF and the funding of operating expenses (teachers' salaries, scholarships, etc.) by the ESF. This was the case in the field of vocational training and PhD scholarship programmes.

The specific nature of the NOPs has significantly facilitated the complementarities with the ROPs throughout the programme periods. The CF was instrumental in large transport infrastructure and environmental projects some which were of great importance to Galicia (the south motorway accessing central Spain, the solid waste management system, etc.). ERDF NOPs were mostly responsible for local infrastructure in environment and local development needs in smaller municipalities as well as regional incentives and scientific infrastructures and Research and Development. The large NOPs comprising regional incentives were well coordinated with the investment grants of regional governments. In the area of innovation, the large NOPs have played an important role in the region and from 2000 onwards, both the regional and national programmes have been increased significantly. Most of the actions can be considered as complementary but there is room for improvement in the coherence between R&D measures in national and regional OPs, especially in the field of the Technological Fund OP which, up to 2011, only impacted on a limited number of companies in Galicia.

The utility of ERDF programmes

Throughout the programme periods regional needs were met with varied levels of intensity. The external accessibility and internal connectivity of Galicia were enhanced with the reduction in

travel times and number of accidents as a result of an over 105 percent increase in road assets in the first three programme periods between 1989 and 2006. Rail assets were only increased substantially in 2000-2006, by 98 percent. These improvements are the result of ERDF investments.

Needs in environment were met with increases in the proportion of the population connected to wastewater networks as well as with the management of solid urban waste. However in 2002 the ecological catastrophe of the huge - 70,000 tons of oil - spillage dramatically increased needs for cleaning works and ecological reclamation measures. These were effectively carried out with the ERDF and Cohesion Fund support resulting in a nearly normalised ecological situation 4 years later.

In the early 1990s Galicia had an important need for structural adjustment and increased productivity, and the effort made resulted in a substantial rise in the relative shares of both services and industry. Especially during the year 2000s the region has developed a number of sectors which are competitive on a global scale (fish canning, food processing, wood, textile-garments), as well as an automotive cluster, accounting for 13.2% of Galicia's industrial employment and 28.6% of Galician exports. The extent to which these achievements are attributable to the ERDF is difficult to evaluate. ERDF-induced investment reached 6.1% of private fixed capital formation in the period of 2000-2006, and interviewees have reported that investment grants played an important role in helping to develop a number of dynamic companies and sectors in the Galician economy. However, in some cases these grants may have produced the undesired effect of prolonging the survival of some uncompetitive companies.

Additionally, the need for the enhancement of entrepreneurial and managerial capacities has been partly met, with an expansion in the number of indigenously owned companies, a rate which is now close to the Spanish average. Galicia has developed some competitive clusters in industries like automobile, fish-canning, food-processing, wood and textiles/clothing. They count with some leading multinational companies such as Citroen Hispania and Inditex–Zara Group, as well as many others companies of smaller size which are competitive in international markets. However, the large majority of Galician companies are still small, have little capacity for innovation and are lacking in innovation culture and management.

R&D and innovation capacity improved in Galicia, with scientific production increasing by 5 times between 1990 and 2005 (measured in terms of papers in ISI databases). Over twenty technological centres have been developed, and while these are still an emerging sector, they are well focused on the needs of the most important productive sectors in Galicia. These investments have had a significant impact throughout the economic system, notably by spreading awareness of the competitive importance of R&D and innovation so 9 per cent of companies with over five employees are now undertaking R&D, and 21 per cent are carrying out innovative activities. Responses to an online survey in the region considered that the ERDF has played an important role in promoting these results, and that R&D was the second most valued issue after transport infrastructure.

Regarding labour market needs, ERDF measures did not focus directly on employment with the exception of investments in education (vocational training and technical schools) and the regional investment grants made conditional to employment creation. Nevertheless, the vast majority of actions in infrastructure, support for SMEs, etc. were aimed at strengthening the economy and thus creating employment opportunities. Throughout the 1990s, the Galician economy underwent major adjustments in terms of productivity and a reduction in the total employed population, but from

2000 onwards Galicia reached high rates of growth and high levels of job creation, with the unemployment rate falling to 7.6 per cent in 2007.

Econometric simulations suggest that ERDF investment had an important effect on the rate of growth and employment, in comparison to a baseline scenario with the absence of ERDF investments. These results are convincing and are supported by the perceptions of the participants in the online survey. The strategy of improving external accessibility, internal connectivity and a closer integration with the North of Portugal, as well as undergoing an intense structural adjustment and promoting company investments in the region, seems to have worked during the growth cycle of the 2000s. Up until the onset of the current economic downturn, the Galician economy achieved a fast convergence with the rest of Spain and a significant improvement in the efficiency of the labour market.

Despite the persistence of a number of problems, there have been substantial improvements during the last programming periods in environmental conditions, solid urban waste management, as well as the natural and cultural heritage, largely due to ERDF and Cohesion Fund investment.

There was a significant increase in assets in the forms of public infrastructure and private capital in Galicia, and the region benefited from an intense fixed capital formation process, largely supported by the ERDF contribution. R&D expenditure in Galicia had increased rapidly until the onset of the current economic downturn, although it is still modest (1 per cent of GDP in 2007) and business R&D merely accounts for one half (0.5 per cent in 2007 vs. 0.2% in 2000).

Despite productivity increases during the growth cycle of the 2000's, Galicia possibly could have taken more advantage of the structural funds if more attention had been paid to the opportunity costs of investment projects and if companies and private bodies had played a more significant role in promoting innovation and internationalisation of small businesses. Progress in these areas would greatly help to ease the problems arising from the current financial and real estate crisis - which has adversely affected the region – and support Galicia in facing the challenges of increased global competition and delocalisation threats, stemming from the specialisation profile of its main productive sectors. Overall, Galicia has experienced a substantial modernisation of its physical, human and knowledge capital, as well as an improvement in the quality of life. Many problems still remain to be solved, but thanks to the ERDF investments Galicia is now in a much better position to make headway than it was 25 years ago.

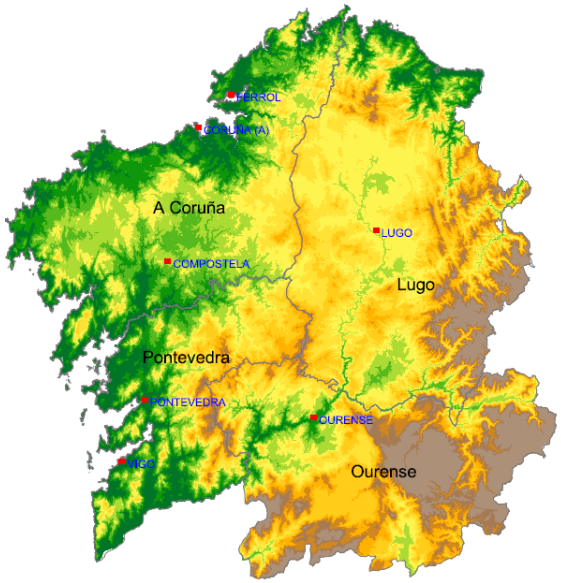
What learning has taken place?

Essentially, the Galician development experience illustrates the effect of enhanced accessibility in a peripheral region that has traditionally lagged behind. Improving access to a large, integrated market was the way to boost structural adjustment and productivity. The combination of the strong investment policy supported by the ERDF and increased competition in the single European market has proved to be a powerful vehicle for economic development and convergence in Galicia.

The framework of the Structural Funds facilitated strategic planning and action coordination as well as favouring a process of institutional learning. In this respect, the Structural Funds have had positive effects on the rationalisation of mechanisms of public decisions, especially by the enhancement of regional autonomy.

1. INTRODUCTION

Map 1: Galicia



Source: Ministry for Environment of the Galician Regional Government

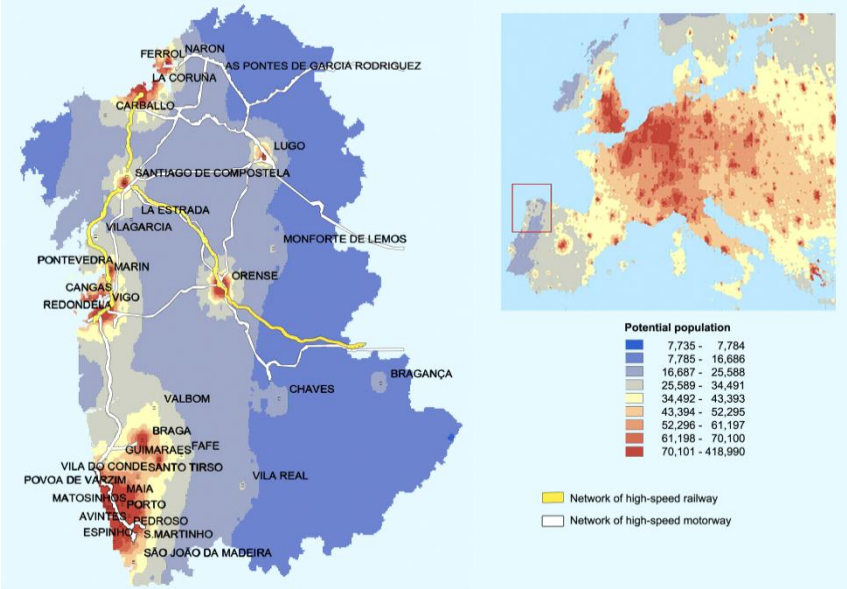
Galicia has a population of 2,738,933 inhabitants and has traditionally been a region marked by emigration.[1] Covering a total surface area of 29,574 square kilometres, it is in the extreme north west of the Iberian Peninsula. The region is located on major shipping routes, carrying the majority of the maritime traffic heading towards the English Channel and the main economic centres of the European Union, and is in a markedly peripheral position. The length of the Bay of Biscay and mountainous terrain hinder communications with the north of the Cantabrian coast, the centre and the rest of Spain, as well as the centre of Europe. Only to the south is there an adequate connection with the north of Portugal.

Galicia is a part of 'green' Spain, with a warm, Atlantic climate and high rainfall levels, and with a transition area in the interior of its south-west corner. Galicia's geography is marked by contrasts between the coast and interior, which is notably more mountainous. A total of 77 percent of Galicia's territory is occupied by low mountains and rolling hills, with countless rivers. Its coastline stretches a total of 1,500 kilometres, characterised by deep fjord-like estuaries occupying submerged river valleys, known as *rías*. These estuaries comprise a perfect natural environment with a wealth of fish and shellfish.

Galicia has its own clearly-defined culture and language, with strong links to the north of Portugal. In spatial terms, Galicia's Atlantic coast connects with the metropolitan area of Oporto, and the borderland is densely populated, especially in the area close to the River Miño.

[1] An estimated three million Galicians currently live outside of the region in other parts of Spain, Latin America and European countries, which were magnets for Galician emigration in the 1960s and 1970s (mainly Switzerland, France and Germany).

Map 2: Galicia in the spatial structure of Europe



Source: Lopez-Rodriguez and Faíña (2006)

The spatial structure of Galicia is relatively clearly divided in two, with its population concentrated along its Atlantic axis between the metropolitan areas of Coruña and Ferrol in the north and Vigo and Pontevedra in the south. The interior cities of Lugo and Ourense, in the north and south respectively, are connected to these metropolitan areas. The city of Santiago de Compostela, the region's capital, sits in the middle of the Atlantic axis, connecting these main cities.

Galicia has traditionally been organised in a different way to the rest of Spain. With a population density of 93.8 inhabitants per square kilometre, it contains a large number of small centres of population, with a very large rural population. Galicia occupies only 5.8 percent of Spain's surface area and has 6.13 percent of its population, but it contains 50 percent of the country's centres of population.

The isolation and remote position of Galicia in the westernmost *Finis Terrae* (Land´s End) of the continent is curiously combined with an ancient European tradition, the Way of St. James, which over the centuries has left a profound cultural imprint and served as a means of communication between Galicia and the rest of Europe. In recent times, the Way has brought religious and cultural traditions together with an offer of new leisure activities, sports and natural attractions, constituting a brand image for Galicia as well as an attraction for tourists and lovers of culture.

Taken as a whole, Galicia and the north of Portugal clearly comprise a Euro-region on Europe's Atlantic periphery. Since their entry into the European Union, the two countries have forged close cooperation links and have jointly coordinated investment projects and strategies.

Galicia and the North of Portugal were both eligible for Objective 1 status within the different Community Support Frameworks of Spain and Portugal. Moreover, in the Community Initiative ERDF programme INTERREG IIIA trans-border cooperation for Spain and Portugal, Galicia and the North of Portugal benefited from a related sub-programme. The Government of Galicia and the Coordination Commission of the North Region of Portugal (*Comissao de Coordenaçao e Desenvolvemento Regional*

do Norte, CCDR-N) constituted a cooperation body (Working Community of Galicia - North of Portugal), whose regular meetings coordinated the preparation and submission of projects.

This report combines and integrates different information from documentary sources depending on the availability in each programme period (Operational Programmes, annual progress reports and final reports), as shown in Annex V. The evaluation methodology used official documents, evaluation reports and basic statistics as resources and also drew upon the views of experts and several beneficiaries of major projects involved in strategy development and programme management. In addition, an online survey was carried out on the effects of the ERDF in Galicia and a workshop was organised with the aim of the exchange of information and views on these issues.

An online survey was undertaken to complement fieldwork and desk research, and enhance triangulation. This questionnaire was directed at 518 email addresses, comprising the interviewees, plus representatives from local authorities, firms, regional and local socio-economic partners, and interest groups. The questionnaire returned an overall response rate of 16.6 percent and a completion rate of 9.8 percent. The questions and a summary of responses are presented in Annex VII.

Due to the lack of original programme documents in the early stages, other sources of information were used. Thus, in the first programme period (1989-1993) the information was completed with the Community Support Framework (1989-1993) for the Objective 1 regions in Spain, the Regional Development Plan (RDP, 1989) of Spain (1989-1993) and the report on the ERDF Galicia (1989-1993) produced by the Directorate-General for Economic Planning and Community Funds of the Government of Galicia (Consellería de Facenda, 1995). This report was included in the edition of the 1994-1999 ERDF Galicia Regional Operational Programme, Xunta de Galicia (Consellería de Facenda, 1995).

Literature and reports from well-known Spanish institutions have also been used, as well as the regional database of the Spanish economy BD.MORES of the State Secretary for Budget and Expenditure (Minister of Finance and Public Administration) prepared by the International Economics Institute, University of Valencia. Separate databases have been built using information obtained from the documents and reports, and financial amounts have been allocated to various measures implemented in different programme periods. In addition, a database has been compiled on the achievements and results indicators collected from the final implementation reports of the Galicia Regional Operational Programme (ROP).

The report is divided into seven chapters. Chapter 2 contains a brief description of the economic and geographic characteristics of the region and an overview of the main development needs. Chapter 3 discusses the relevance of the explicit and implicit objectives in the different programme periods with regard to Galicia's development needs, commenting on how strategic responses were articulated and programmes tailored to the needs of the region. Chapter 4 presents a detailed analysis of the distribution of expenditure (planned and implemented) in each of the programme periods and their distribution across thematic axes. Chapter 5 gives a detailed analysis of the main achievements of Cohesion Policy in Galicia over the different programme periods and major themes of objectives/needs. It begins with an overview of achievements at the programme level for each period, and it finishes with a detailed analysis by thematic targets in each of the programme periods. Chapter 6 consists of the evaluation of achievements in relation to the objectives and

development needs (effectiveness and usefulness). Chapter 7 presents the main conclusions of the report. All expenditure figures are presented in Euros, 2000 prices, unless otherwise stated in the text.

2. REGIONAL CONTEXT AND ANALYSIS OF NEEDS

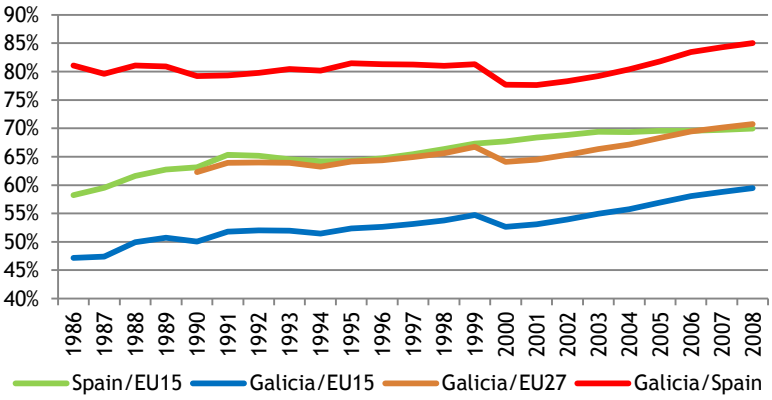
In the 1980s, when on the verge of joining the European Union with the rest of Spain, Galicia was facing a difficult economic situation. The region had extensive needs in terms of structural readjustments and the relatively small industrial sector, partly classifiable as dependent and as an enclave, was struggling with a downturn associated with the industrial restructuring process that followed from the crisis in the 1970s. This was the case with its large shipyards, chemical and fertiliser industry, pottery, textiles and other sectors. Widespread structural change was needed in order to stimulate the low productivity of the agricultural sector which, at the time, was the lowest in Spain.

Moreover, other major hurdles to development comprised limited access to external markets (foreign countries and the rest of Spain), poor communications between the urban areas within the region, and the isolation of the rural population, which was scattered throughout the territory.

Development, convergence and employment

As a result of the industrial adjustments and restructuring that took place, Galicia's relative development suffered a major setback. Between 1980 and 1985, the gap between the development of Galicia and Spain and the rest of the EU grew by 5.57 and 0.63 percentage points respectively. Galicia's GDP per capita in 1985 was 81 percent in relation to Spain, and 47 percent to the EU15.

Graph 1: GDP pc (in constant value € in 2000) of Galicia on Spain, EU15 and EU27



Source: Own elaboration with core team data.

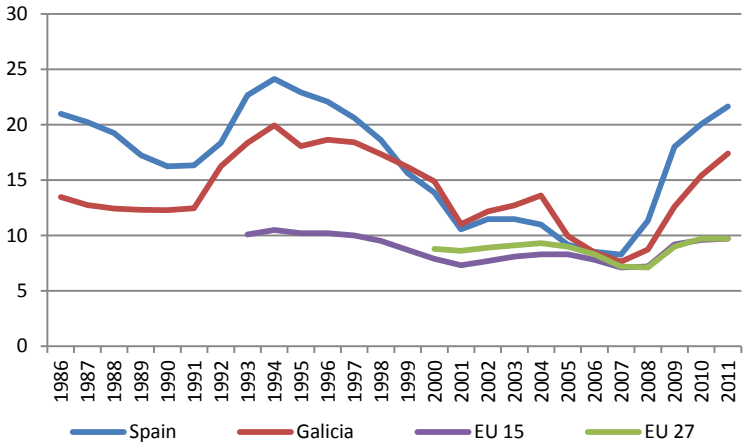
The situation changed following Spain's entry to the EU and Galicia's economy was capable of keeping pace with the Spanish economy during the 1990s. The result was a visible convergence with Europe, with Galicia's GDP per capita rising from 50 to 54 percent of the EU15 between 1990 and 1999.[2]

[2] The rate of convergence when considering GDP per capita at constant values in Euros in 2000 is lower than the usual one at purchasing power standard (pps). Galicia reduced the development gap with the EU15 GDP pc (pps) by 8 percentage points between 1996 and 2007 (rising from 65.7 percent to 73.8 percent of the EU15 average GDP per capita). With regard to the EU27, Galicia has seen convergence in the 11 years from 1996 to the beginning of the current economic crisis, climbing from 70 percent to 77.7 percent GDP per capita (7.7 percentage points).

However, the 1990s were not all plain sailing, as the Spanish and Galician economies were severely affected by the crisis of 1993, which halted growth and led to a major rise in unemployment levels. However, the economy was stabilised, growth returned, and in 1999 Spain adopted the Euro as its currency.

After the creation of the Euro and the widespread availability of credit at substantially low interest rates (in comparison to the usual situation in Spain), the Spanish and Galician economies grew quickly during the 2000s, until the arrival of the current economic crisis and recession. On the whole, between 1990 and 2008, Galicia converged with the EU15, reducing its GDP per capita gap by 8.7 percentage points from 50 to 59.5 percent. It also converged with Spain, albeit at a lesser rate and at a later stage, rising from 62.7 to nearly 70 percent of the GDP per capita during the same period.

Graph 2: Unemployment rate



Source: Based on unemployment rate, INE, 2012.

Unemployment became a major concern in Galicia at the end of the 1980s, due to the loss of jobs in industry and the widespread unemployment concealed by low productivity in agriculture. The convergence of the 1990s and early 2000s was mainly attributable to major adjustments and a slow process of job creation, associated with a slower growth rate in Galicia's population in comparison with other Spanish regions. However, in the 2000s Galicia had higher growth rates in its aggregate GDP than the rest of Spain and created a large number of jobs. The unemployment rate dropped from nearly 15 percent (in comparison to peaks of approximately 20 percent after the crisis of 1993) to 7.6 percent in 2007, the lowest level in recent history.

GDP per capita increases can be decomposed into labour productivity, employment and activity rate effects[3]. This productivity factor has been significantly relevant in Galicia, especially during the growth cycle of the 2000s. Spain experienced a development characterised by the loss of productivity (based on the increase in the activity rate, in-migration- and employment), whilst the development of the Galician economy was boosted primarily by the increase in productivity.

[3] The increase in the levels of GDP per capita may be easily decomposed in the following factors: Labour productivity, Employment rate and Activity rate by means of the following expression:

$$\frac{\text{GDP}}{\text{Population}} = \frac{\text{GDP}}{\text{Employed}} \times \frac{\text{Employed}}{\text{Active population}} \times \frac{\text{Active population}}{\text{Population}}$$

Table 1: Breakdown of the rate of growth of GDP pc in Galicia and Spain 2000-2005

	GDP per capita		Labour productivity	Employment rate	Activity rate
Galicia	14.0%	≈	+3.6%	+6.1%	+3.7%
Spain	7.7%	≈	-4.2%	+5.4%	+6.6%

Source: La Caixa (2007)

The positive development of Galicia's economy was cut short by the outbreak of the economic crisis and the subsequent recession and financial crisis affecting the Spanish economy. Unemployment levels returned to figures close to those of the 1980s, with extremely high unemployment amongst the young. Perspectives for growth are bleak and very close to the national average, dragged down by a more severe situation in the country's regions, which were hit harder by the property crisis.

Structural adjustment

At the end of the 1980s, agriculture and fishing represented 11.4 percent of the region's GDP (in comparison to 6.4 percent in Spain), employing 45.6 percent of the population (17 percent in Spain). The cattle-farming sector, specialising in milk and meat, contributed more than 60 percent to final agricultural production. Fragmentation into a large number of smallholdings and inefficiency in the production processes led to the agriculture-oriented provinces (the interior provinces of Lugo and Ourense) having the lowest output in terms of productivity in Spain. Fishing was very important in Galicia, contributing 5.1 percent of the GVA and generating 4.5 percent of jobs. Reduced access to traditional fishing grounds and excessive capacity hindered the modernisation of the sector.

Industry in Galicia produced 35.2 percent of the GVA, employing 22 percent of the active population. It was especially concentrated along the Atlantic axis (marked by the coastal centres of Coruña-Ferrol and Vigo-Pontevedra), and depended on a number of large industrial companies (motor vehicles, aluminium, cellulose, energy, petrol-refining and others) that were relatively disconnected from the rest of the economy, with important sectors undergoing restructuring processes (especially shipbuilding, chemical and fertiliser production, pottery and textiles). The remaining industrial fabric, comprising small family businesses, was relatively sparse and unstructured.

The tertiary sector contributed 57.4 percent of the region's GDP and generated 32.4 percent of its jobs (for Spain, in 1987 these figures were 61.6 and 61 percent). It was highly fragmented, in line with the dispersion of the population and the lack of an industrial structure to support its development. Business services (apart from accountancy and tax and labour law consultancy services) were practically non-existent.

Galicia's economy underwent a significant process of adjustment and diversification during the 1990s and the relative size of its industry and services grew significantly during the period of intense growth in the 2000s. This adjustment was especially significant in the agricultural sector, modernising and adjusting the size of the region's farms. The number of milk farmers was reduced significantly (from 61,000 to 14,600) between 1995 and 2007, at the same time that productivity multiplied by 5.5 (from 27.5 to 151,000 kilos per farmer). Agriculture and fishing continue to be extremely important for the Galician economy (27 percent in 1995 and 7.5 percent of jobs in 2007),

higher than the Spanish average (8 percent in 1995 and 4.4 percent in 2007). Industry grew to represent 30 percent of the region's total employment (higher than the Spanish average). The main manufacturing industry sectors are food processing associated with agricultural production, milk and poultry and fishing, with the sale of fish and canned products; mechanical products and transportation equipment (in the naval and motor vehicle clusters); and the garment industry (with a large multinational company, the Inditex Group, and other smaller companies). Apart from manufacturing industries, the construction industry is also important (representing around 13 percent). The service sector underwent a significant transformation and growth, especially in commerce, hostelry, business and financial services, approached the Spanish average (62 percent in Galicia compared to 67 percent in the rest of Spain). In terms of productivity and investments, the most dynamic sectors such as the food-processing industry and the transportation equipment sector surpass the Spanish average, although others are still suffering from significant productivity deficits.

The foreign trade sector was quite underdeveloped, but experienced major growth after joining the EEC. Galicia's foreign trade (exports plus imports) in proportion to the GDP grew from 26.1 percent in 1989 to 60.7 percent in 2007, with exports driven by the most dynamic clusters of the Galician economy tripling their contribution to the GDP (from 10.7 percent to 30.8 percent). The impact of the current economic crisis has caused a downturn in the volume of exports and foreign trade, to 27 percent and 51 percent of the GDP respectively.

Business capacity and human resources

The social structure of Galicia hindered progress and structural change. A large part of the population lived scattered in rural areas, with an ageing population, difficulties in access to urban areas, and low productivity from agricultural activities.

There were major deficits in the field of education and the workforce suffered from a lack of suitable qualifications (skill shortage/mismatch). Neither was the business culture particularly well developed in Galicia, and there were large deficits in business knowledge and managerial capabilities.

Between the urban centres and rural areas without access and services, the lack of industrial land suitable for business was a major factor limiting the installation of companies and the economic growth of Galicia in the early 1990s, Accordingly, Galicia's public authorities decided to provide adequate resources to improve the RTDI long-term perspective of the private sector.

Between 1996 and 2007, the total number of businesses in Galicia grew from 150,700 to 200,000, maintaining their proportion in relative terms with Spain at around 6 percent. However, due to the relative demographic stagnancy of Galicia, its business density (number of companies per thousand inhabitants) converged with Spain, rising from 55.6 to 72.2 (74.0 in Spain) between 1996 and 2007. Today, the vast majority of the region's companies (95 percent of the total) are still very small (fewer than 10 employees), while the most dynamic segment of companies with over 50 employees represents merely 0.7 percent of the total. This proportion is slightly lower than the Spanish average (0.9 percent), and the insignificant size limits the possibility of developing business strategies focusing on international expansion and innovation.

Innovation

In terms of higher education, Galicia had a university with a long tradition, the University of Santiago de Compostela, but it had no higher technical education schools, and it had major deficits in terms of resources and technological training. Now two more universities have been created in the region, together with several higher education engineering and information technology colleges.

On the whole, the technological profile of economic activities in Galicia is low due to reduced demand, although in recent years results have improved in terms of R&D. Between 1996 and 2008, internal expenditure on R&D grew from 0.47 percent to 1.04 percent of the GDP (1.35 percent Spanish average). Expenditure from the business sector is lower, but has grown at a relatively fast rate, from 0.11 percent to 0.50 percent of the GDP.

Considering innovation activities in their widest sense, European companies frequently innovate their production processes by means of acquiring machinery, equipment and software; in other words, this innovation is induced by their suppliers. These activities are highly significant in Galicia, and in 2004 represented 62.4 percent of total RTDI costs (€638.6 million in comparison with €398.5 million in internal R&D (Saez *et al.*, 2008).

Infrastructure and spatial structure

The structure of Galicia's population distribution was characterised by a dispersed settlement pattern and a predominance of rural villages, with 55 percent of municipal districts having less than 5,000 inhabitants and representing 18.3 percent of the population. The majority of Galicia's population of 2.8 million was concentrated in medium-sized municipalities, and only one-third of the population resided in the region's seven largest cities, the only ones which had a truly urban nature. The population was concentrated along the coast on the Atlantic axis, with significant differences between the more-developed and urban coastal provinces, Coruña and Pontevedra, and the interior areas of Lugo and Ourense. Today, the differences in terms of income between rural and urban Galicia and the interior and coastal areas have reduced significantly. The differences that persist are mainly connected to the concentration of economic activities and the greater presence of agricultural activity in the province of Lugo.

The extremely dispersed nature of the population (with 71 percent of settlements with under 50 inhabitants) raised the cost of providing economic services of general interest, and in 1990s rural Galicia, telecommunications (telephones, telegraphs, telex and the internet) and electrical energy networks served few areas and had serious problems with quality (power losses and outages). There was a large need for the development of rural areas and the modernisation of an agricultural and livestock sector specialising in milk farms. Today, these needs have largely been resolved, and most homes in rural Galicia are equipped with telephones and internet connections, as well as electricity supplies, in generally acceptable conditions.

The absence or poor quality of transportation infrastructure hindered communications with the rest of Spain and Portugal (with 'the exterior') and between the different towns and cities of Galicia (internal connections). The general insufficiency of the road networks, the lack of motorways (with only one connecting Coruña, Santiago and Vigo) and the poor condition of the region's railway

networks (which were slow and had unsuitable sections) worsened the peripheral nature of Galicia, emphasising the isolation of large parts of the region. Today the network of roads and motorways has improved greatly, resolving both the external access to the region and connections between its towns and cities. The number of motorways has tripled (rising from 3.8 to 32.9 kilometres per thousand square kilometres between 1989 and 2010), reaching a level comparable to the Spanish and European averages. However, there are still some outstanding problems, such as the completion of the external connection with the Cantabrian coast. Improvement work has recently been carried out on high-speed railway links for passengers on the Atlantic axis between Coruña, Santiago and Vigo, and towards the rest of Spain from Ourense, although much work remains to be done on the connection with Oporto in Portugal and with other parts of the region, as well as on connections for trains carrying goods.

Due to its geography and dedication to the sea and fishing, Galicia has a large number of ports. However, in the early 1990s it had few facilities suitable for the modernisation and diversification of traffic and commercial activities. It also had difficulties in extending its scope of influence, due to poor overland communications with adjacent regions. Today the region's port facilities have been extended and modernised according to their specialist services (as fishing ports, marinas, commercial installations, etc.). The ports in the largest cities have been equipped and improved, and new outer harbours have been built in A Coruña and Ferrol.

Environment

Despite the region's rainy climate and availability of water resources, there were limited collection, regulation and distribution infrastructure, with notorious deficiencies in the supply and purification of water. In 1989, there were no drinking water treatment plants in extensive parts of the region, and only 63 percent of Galicia's population was connected to a public water supply. The situation was even more serious in terms of the cleanliness and conservation of the rivers and estuaries in the region, as only 54 percent of the population was connected to a public sewage system in 1989.

Correcting the environmental problems affecting the supply and purification of water, together with the collection and treatment of solid industrial, agricultural and urban waste, were major, unsolved problems in Galicia.

Today the situation has improved immensely, with the vast majority of the population having suitable drinking water and sewerage connections, although there are still deficits in wastewater purification plants (in terms of the number of structures and their operational capacity), and the urban solid waste management system is reaching its upper limit in terms of capacity.

Education and Health

The region suffered from major deficits in education with illiteracy levels in Galicia higher than the Spanish average, affecting 6.6 percent of the population in 1981. Primary education was well developed (covering 98 percent of the population), but only 65 percent of the population had secondary education. Today, secondary education is obligatory, with special programmes for young people who have problems obtaining the necessary qualifications. Improvements are required in the

educational and vocational training system, although there are no major needs for infrastructure and equipment.

The classic indicators used for health services (the number of doctors and beds per 1,000 inhabitants) point towards a comparatively deficient situation, with rates of 2.6 and 3.7 respectively, far removed from the average figures for Spain (3.4 and 4.7). Today there are more metropolitan hospitals, and local hospitals have been built together with numerous health centres.

Summarising, Galicia at the end of the 1980s was a peripheral region with low levels of external accessibility and internal connectivity, strongly dependent on low productivity primary sectors (agriculture and fishing). A large proportion of the population lived in rural areas in harsh conditions of isolation and without basic services (communications, phone lines, etc.). In the late 1980s, Galicia was one of the poorest regions in Spain with declining industries (shipbuilding, chemicals) and high unemployment concerns.

The level of education was low and the region lacked efficient transport and environmental infrastructure. These deficiencies have been reduced in the last decades, Galicia's economy underwent a significant process of adjustment and diversification during the 1990s and the relative size of its industry and services grew significantly during the period of intense growth in the 2000s, when high levels of job creation were reached and unemployment fell to 7.6 percent in 2007. On the whole, between 1990 and 2008, Galicia converged with the EU15, reducing its GDP per capita gap by 8.7 percentage points from 50 to 59.5 percent. However, since 2007, the Galician economy has been impacted by the current financial and real estate crisis and the unemployment rate grew to over 15 percent in 2010.

3. PROGRAMME EVOLUTION AND RELEVANCE

3.1 Explicit and implicit strategies and their evolution

Spain's entry into the European Union was a central aspect of Galicia's economic policy in the mid-1980s. A significant competence of the regional government of Galicia (according to the 1978 Constitution) was the elaboration of the development strategy of the region. Work progressed on the strategy for development and on the preparation of projects for presentation to the ERDF. The first economic plan for Galicia for the 1986-1988 period was prepared in July 1985, focusing on the challenge of integration into the EU (at that time, the European Community) from the dual perspective of 'adapting the regional economic structure to the conditions of its competitors', and 'participating in the regional development programme' (Xunta de Galicia, 1985). The opportunity to strengthen cooperation links with Portugal was considered a priority and, from the outset, work began on projects and proposals in coordination with northern Portugal.[4]

In general terms, the objectives explicitly formulated and the objectives pursued in an implicit way were widely coincident, but there are two aspects that should be mentioned. On one hand, during the first programme periods, structural adjustment and investment aid also searched for the implicit goal of curbing Galicia's industrial decline by supporting larger companies and local industry; on the other hand, project selection was often performed with the implicit goal of meeting different local targets without thoroughly evaluating demand and appropriate coordination amongst them.

Economic growth and the creation of wealth and employment were the main objectives of the different plans and programme periods. The underlying theory used to achieve these objectives emphasised the need to improve access from outside of the region and to strengthen its internal communications, as well as to extend the availability of basic economic services such as electricity and telecommunications in rural areas. On the other hand, attention was drawn to the need to increase productivity and make structural adjustments to the productive base of the economy. As a result, the strategy would have to focus on actions aimed at increasing and modernising transport, communications and energy infrastructure throughout the whole region, as well as facilitating the creation and modernisation of enterprises and productive sectors by means of a system of grants and incentives for investment.

The objectives of improving access to Galicia from the outside and links between the different parts of the region were explicitly detailed in all programme periods, and work began in the first programme period from 1989-93. However, connections with the rest of Spain and the north of Portugal were delayed in the first programme period as a result of not being implemented by the central government, and this objective was included in successive programme periods.

The dispersed, fragmented nature of population distribution in Galicia, especially in its rural areas, was dealt with by an investment policy based on a large number of small projects distributed throughout the whole of the region. The aim of improving access to transport networks and the provision of basic services such as local infrastructure, sewage or electricity in a large number of locations provided some kind of coverage to the implicit aim of satisfying different local interests.

[4] By 1985, a common proposal had been produced on infrastructure in the River Miño basin (marking the frontier between both countries).

Structural adjustments made to the primary sectors absorbed a large part of the European structural and agricultural development funds (the former EAGGF-Guidance) and the Financial Instrument for Fisheries Guidance (FIFG). These were used to finance adjustment and restructuring measures, and also to provide support for agriculture, fishing and canning industries. With regard to the ERDF, the policy for promoting investment for the installation and modernisation of enterprises in the earliest stages of the programme also achieved the implicit goal of halting industrial decline and facilitating the survival of industrial enterprises against the competitive backdrop of the creation of the European single market.

3.1.1 1989-93. The first programme framework: Organising and capitalising the economy to halt industrial decline and deal with structural readjustments

The regional development plan for 1989-93 (RDP, 1989) was designed in line with the new standards for European Cohesion policy, and served as the basis for negotiating the first Community Support Framework (CSF, 1989-93). The role of the Community Support Frameworks was to define the general structure for coordinating the interventions of the European Structural Funds. In collaboration with the respective authorities involved, the CSF establishes the problems and priorities for development that will be supported by the different European funds and how they are distributed amongst the regions in addition to defining Operational Programmes and the monitoring and control conditions. The Operational Programmes, which specify concrete objectives and priorities and the amounts of annual funding, are then approved.

The first CSF of 89-93 inaugurated the new era of Cohesion policy and also played an especially important role in providing operational coverage for the projects during the period. The first ERDF actions in Galicia began with the projects that were presented and approved in 1987 and 1988, the implementation of which overlapped with that of the CSF 1989-93. The CSF had an important function during this period, in which two Operational Programmes were designed for Galicia,[5] and provided the logic for the intervention of the Structural Funds.

The focus of the 1989-93 CSF was to provide fixed capital with the goal of increasing the performance and productivity of the Galician economy. Capital formation was provided mainly with the intention of increasing accessibility and domestic connectivity of the region (transport infrastructures), solving environmental problems connected to the lack of water supply and waste water management, and enabling access to basic economic services to a significantly wider population (electricity, telephone lines).

Transport infrastructure received the majority of the funding of the CSF (€704.3 million, 47.2 percent). Roads and motorways received the most significant part of this funding (€590.8 million, 39.6 percent). This was mainly destined for improving road links within the region as part of the regional government's projects, involving the roads connecting the north and south, and east and west, together with connections along the coast (€441.7 million, 29.6 percent). Projects carried out by the central government were delayed on the important northern motorway between Coruña and Lugo, and only (€149.1 million, 9.9 percent) of funding was received for some sections of national highways (Lugo-Ourense, Santiago-Mondoñedo and others).

[5] Focusing on different areas and distributing the additional sums of financing of indexations.

Investments made in railways were relatively small (€25.7 million, 1.7 percent). Investments in ports (€44.6 million, 3.0 percent) focused on the smallest regional ports in order to improve the support infrastructure of their different economic activities (fishing, goods, etc.). The remaining investments corresponded to local development (€56.2 million, 3.8 percent).

The result was that in practice, the objective of improving accessibility from outside of the region was limited to investments in airports of €43.1 million (2.9 percent). Amongst other improvements, major building work was carried out on the terminals of the three airports of Santiago, Coruña and Vigo.

The second priority area in terms of the volume of funding was the environment with environmental actions (€202.8 million, 13.6 percent) focused on the water supply, sanitation and purification infrastructure, and on a treatment plant for toxic and hazardous waste.

The next priority was the creation of infrastructure for the provision of economic services of general interest, telephones and electricity, which did not exist or were of defective quality in many parts of Galicia, as a result of the highly dispersed and fragmented nature of the population in the territory. Over 11 percent (€170.3 million) of CSF total funding was allocated to telecommunications and electricity networks. The improvement and digitalisation of communications and telephone networks absorbed a significant part of the funding (€67.6 million, 4.5 percent), half of which was used for a wide-reaching plan to bring telephone lines to rural villages. Another important action involved investments in electrical power lines (€102.8 million, 6.9 percent).

Structural adjustment measures in industry and services absorbed nearly €146 million (9.8 percent) of the resources. They consisted of investment grants for the installation, expansion and modernisation of enterprises, together with regional incentives to attract enterprises and investment to underdeveloped areas. Tourism was also promoted, with formulas adapted to the climate and resources of Galicia (rural tourism, spas, etc.).

Healthcare services were improved with the construction of a hospital and health centres (€104.1 million, 7.6 percent), and secondary education was extended with new vocational training centres (€6.7 million, 0.4 percent).

Lastly, innovation projects in technological institutes and laboratories (€24.4 million, 1.6 percent) focused on providing services and knowledge to sectors such as ornamental rocks and mineral processing. With the aim of overcoming the lack of a qualified labour force and technological capital in the region, a number of higher education centres were created for technologies, engineering, IT and marine sciences (€43.5 million, 2.9 percent).

3.1.2 1994-99. The second CSF: Strengthening the capitalisation and organisation of the territory: towards overcoming the region's isolation

In the second programme period from 1994 to 1999, the amount of Structural Funds increased significantly as a result of the Delors II package. ERDF funding in Galicia rose by 83 percent, enabling the shift in priorities toward the development of road access from outside of the region with the northern highway between Coruña and Lugo.

The problems encountered in the previous period were overcome and the 1994-1999 CSF was structured according to the standard form with the Regional Operational Programme (ROP) of Galicia being the most important OP with an expenditure of €2.7 billion (75.7 percent) and with several other ERDF operational programmes coordinated nationally. Galicia also received funding from the Cohesion Fund (€471.2 million, 13.2 percent), intended for TEN and environmental infrastructures. Other ERDF programmes were the NOP for regional incentives, including regional support funding (€33.1 million, 0.9 percent), local environmental funding (€82.4 million, 2.3 percent), and funding for local infrastructure and support for local initiatives (€124.6 million, 3.5 percent). Although they did not strictly form a part of the CSF, other important sources for projects in Galicia were the ERDF Community Initiatives, Urban I (€35.8 million, 1 percent) as well as the INTERREG II for cross-border cooperation (€120.6 million, 3.4 percent).

The total expenditure in regional infrastructure (transport, telecommunications and electrification) more than doubled, absorbing 62.3 percent (€2.2 billion) of the financial volume of the CSF 94-99.

Transport infrastructure accounted for 53.8 percent (€1.9 billion) of the framework funding, 47.7 percent of which focused on actions for roads and motorways (€1.7 billion). The most important actions were carried out by the central government in several sections of the North West highway (the NVI road from Coruña-Lugo towards Madrid), other sections of national roads, and actions in urban areas (close to the main cities). The regional government continued with work on implementing the main north-south and east-west links and coastal roads.

Actions in ports (2.7 percent of the CSF, €98 million) focused on improving infrastructure in the large ports of general interest for the State (Vigo, Ferrol and others) and in the regional ports without any particularly noteworthy interventions.

A series of relatively routine projects were carried out on the railways (improvement and maintenance work, stations and terminals, renewal of tracks) using 2.9 percent (€103.6 million) of the CSF funding, but the underlying problems of routes and commercial speeds remained.

An important amount of funding 8.5 percent (€303.8 million) continued to be dedicated to enhancing the telecommunications and electricity infrastructure in extensive parts of Galicia, especially in rural areas. In the field of telecommunications (5.5 percent, €196.3 million,) work was carried out to extend and modernise digital transmission networks and systems, and to improve rural telephone networks, adapting them to new technology and providing access to the integrated digital services network. In the field of electrical energy (3.0 percent, €107.5 million) the external connection for high voltage lines was completed and funding was provided for the electrical improvement plan to ensure the suitable quality and continuity of service.

Investments in the environment continued to be given great importance, growing significantly in absolute terms to 44.7 percent (€454 million), although falling to 12.7 percent in relative terms.

The value of funding for the promotion of productive activities was 6.3 percent of the CSF's total expenditure, distributed amongst the areas of structural adjustment (3.6 percent, €129.4 million), associated with attracting and stimulating investment in the region, and strengthening enterprise policy (2.6 percent, €94.3 million). The economic promotion policy was strengthened with the creation of the Galician Institute of Economic Promotion (IGAPE) which, amongst other activities,

was responsible for managing the global grant aimed at facilitating financing for SMEs (interest rate subsidies), providing support for entrepreneurs, and the creation of enterprises and different business support services.

Important amounts were dedicated to healthcare (7 percent), building regional hospitals and specific specialised healthcare areas in Galicia's main hospitals.

In education (2.4 percent), funding focused on vocational training centres, secondary schools and schools of engineering to cover a gap in human and technological resources in the region, although buildings of faculties with little demand or already present in Galicia were also built or refurbished.

Only small amounts (€18.6 million, 0.5 percent)[6] were devoted to innovation.

3.1.3 2000-06. The third CSF: Completing accessibility and opening up to innovation: the Prestige era

The 2000-2006 framework coincided with the expansion of the EU to include the countries of Central and Eastern Europe, and a degree of stabilisation of the total volume of Structural Funds. However, the Berlin Summit held in March 1999 reinforced the amount destined to Objective 1 regions and ERDF funding once again increased significantly in Galicia.

The disaster caused by the sinking of the oil tanker 'Prestige' in front of Galicia's coast led to a strategic reorganisation within this period in order to deal with the environmental consequences of the catastrophe and the oil spills. This major challenge was accompanied with the measures of the 'Galicia Plan' and initiated the project for a major outer harbour in Coruña, to improve maritime safety and avoid the additional risk that accidents of this kind would cause to the inner harbour of Coruña. Another previous accident caused by the tanker 'Aegean Sea', which caught fire at the entrance to the inner harbour of Coruña, had already been a cause for alarm in the 1980s.

The structure of the CSF 2000-2006 was based around the central element of the ROP of Galicia (an integral programme which, for the first time, also included the ESF and EAGGF-Guidance) for a total of 63.5 percent (€3.7 billion), with multiregional ERDF programmes also underway in Galicia, involving significant actions and investments in the following areas:

- Development of Productive Tissue and Competitiveness Improvement NOP (€304.1 million, 5.2 percent), focusing on enterprise policy, competitiveness and promoting exports and innovation.

- Research, development and innovation NOP (€232.6 million, 4 percent) focusing on research and technology in scientific investigation, technology and projects for enterprises and technology transfer.

- Information Society (€105.7 million, 1.8 percent).

- Local NOP (€236 million, 4 percent), focusing on local and urban development, specially aimed at local infrastructure and initiatives.

[6] The projects from the NOP for Scientific Infrastructure have not been included, as their total amount is unknown, and references are only from the mid-term evaluation of this programme.

- The Cohesion Fund (€966.5 million, 16.4 percent), although not strictly included in the framework, played a special role during this period as a result of its investments in large-scale transportation projects (trans-European transport networks, TEN-T) and in environmental actions.

- The INTERREG OP (which, strictly speaking, was not included in the CSF as the OP is an initiative of the European Union), especially in cross-border cooperation, was also extremely important in promoting cooperation between Galicia and the north of Portugal.

The total volume of ERDF investment and expenditure in the CSF 2000-2006 rose to €3.7 billion (63.5 percent). The majority of investments were focused on infrastructure (€2.5 billion, 43.6 percent), the environment (€0.5 billion, 7.8 percent) structural and business adjustments (€319.6 million, 5.5 percent) and innovation (€149.6 million, 2.5 percent).

The majority of the 63.5 percent of infrastructure investments focused on transport for completing the highways to connect the region with the rest of Spain and the different parts of the region with each other. Work was completed on the exterior access in the north from Coruña-Lugo to Madrid, and in the south on the highway linking Vigo, Ourense and Madrid (with the latter paid for by the Cohesion Fund). The external connection was extremely important in order to reduce the access time to Madrid and other parts of Spain and Europe, but so were the internal tranches of these highways, given that their cost-benefit analysis provided the highest values. The region also completed the dual carriageways and motorways network with the Santiago-Orense connection and the start of the Cantabrian motorway.

Investments and infrastructure in telecommunications ceased to play an important role in the programme, due to previous progress in rural telephony, providing coverage to more than 100,000 isolated rural homes and the liberation of the market that made it possible to provide financing due to the growth in infrastructure. However, work continued on investments to complete improvements in the electricity distribution network and to promote the gas network.

In relation to the environment, work continued on the construction of water supply, sanitation and purification infrastructure, whose costly investments absorbed a significant part of the total expenditure or investment for the period (5.9 percent). Funding also focused on the protection and regeneration of the environment (1.8 percent), aimed at preserving the condition of river banks, reservoirs and structures for collecting solid agricultural and urban waste, together with a special waste collection system, transfer structures, and the surveillance and control of environmental pollution.

During this period, as a result of the Prestige oil spill, significant efforts were focused on actions to clean and recover the coastline, absorbing €85 million (1.4 percent) of the total investment, re-enforcing investments from the ERDF with an extremely important proportion from the Cohesion Fund.

The Strategic Development Plan for Galicia of 2000-2006 (PEDEGA, 1999) developed the main lines of action for the period, primarily the creation of stable, quality employment by means of strengthening the productive base of Galicia's economy. The structural adjustment was aimed at supporting industrial and service activities of the main sectors in Galicia (foodstuffs, wood, ornamental rocks, metallurgy, shipbuilding, motor vehicles, etc.) (10.8 percent of total CSF). The

active employment policies of the new European employment strategy (from the Luxembourg Summit in December 1997) were included in the programme of the ESF. The guidelines of the Lisbon Strategy were explicitly formulated at the Feira Summit of 2000, although to some extent these were already in circulation and influenced the strategic direction of the programme.

The programme for 2000-2006 used the ERDF to fund the measures of the Galician R&D Plan, which complemented national programmes in this area with actions adapted to the specific needs and conditions of Galicia. The Lisbon Strategy enabled the strengthening of these goals in the final expenditure, after the distribution of the performance reserve of the Regional OP. These measures involved a significant proportion of the total expenditure (€524.3 million, 8.9 percent, €149.6 million in the ROP of Galicia, 2.5 percent).

Investments in healthcare (€149.2 million, 2.5 percent) focused on equipment and resources in hospitals, extending the primary healthcare network to highly dispersed centres of population and investing in specialised healthcare facilities to make up for specific shortcomings in hospitals in urban areas, as well as to reduce local disparities in the provision of hospital services.

Investments in education (€93.1 million, 1.6 percent) focused on buildings and equipment for training based on different local needs.

3.1.4 2007-13. The 4th NRSF: Innovation and Convergence

The previously named CSF, the National Reference Strategic Framework (NRSF) for 2007-2013 presents a considerable reduction in the ERDF funding for Galicia. The initial assignments for the ROP were reduced by nearly 32 percent, with a significant readjustment of the expenditure participation. The regional programme for Galicia is complemented by two ERDF national OPs, the NOP for the knowledge economy (6.8 percent of NSRF, €234 million destined for Galicia), mainly aimed at universities, public research centres and other institutions, and the NOP of the Technological Fund (12.3 percent, €420.8 destined for Galicia), mainly aimed at enterprises concentrating on the transfer of knowledge and business R&D. The Cohesion Fund does not have an initial programme for Galicia, although certain investments for Galicia are planned, such as the sanitation of the estuary of Vigo (€132.8 million eligible cost) and on ports (the logistics platform in the port of Vigo, and the second phase of the outer harbour of Coruña, €8.6 million).

The new approach consists of an important change in the priorities which is also backed by the regional development plan, the Strategic Framework of Galician Economic Convergence 2007-2013 (MECEGA) focusing on the policy of competitiveness and supporting innovation as factors to strengthen the process of convergence for Galicia's economy. The objective for the knowledge economy in the Operational Programme for Galicia and in the NOPs is to strengthen the competitiveness of Galician enterprises through research and technological development in order to foster innovation. Moreover, the use of ICTs in society is encouraged, mainly through the promotion and dissemination of information and communication technologies in SMEs and in citizen services, healthcare and public administration.

In order to enable comparability with the previous periods and allow gauging the relative weight attached to different priorities, the planned investments for the 2007-2013 period will be

considered, rather than the actual expenditure, due to the relatively small expenditure realised to date in many of the priorities.

Infrastructure remains the first priority, representing 34.6 percent of the total expenditure of the NRSF (including the initial NOP allocations to Galicia). However there is a major reduction in the value of the investment in real terms. The volume of investment is concentrated on highways and motorways (€616.8 million, 18 percent NSRF), TEN-T railways (€164 million, 4.8 percent), airports (€86.7 million, 2.5 percent) and ports (€211.4 million, 6.2 percent). The strategy is focused on completing the highways for external and internal connections in the Galician city network, as well as the high-speed railway passenger network.

There is a clear increase in investment in innovation, with a combination of resources destined for the regional authorities in the ROP of Galicia with the NOP of the knowledge economy and Technological Fund. In total, expenditure in this area stands at 24.7 percent (€849.3 million). The measures of the NOP for the knowledge economy (€234.6 million, 6.8 percent) are aimed at promoting R&D projects and facilities in mainly public universities and research centres, as well as providing facilities and equipment for specific technologies and in technology centres. The NOP actions of the Technological Fund (€420.8, 12.3 percent) are aimed at enterprise R&D in individual projects and cooperation projects between enterprises and research centres. Finally, the actions within the ROP for Galicia (€193.9, 5.6 percent) are concentrated on R&D with a special focus on the offer and needs of the economy and regional innovation system, on promoting information and communication technologies in enterprises, and on social services (health and education).

The third priority in terms of importance is the environment, the resources for which have increased to 22.9 percent (€801.8 million)[7]. The largest amount of investment is concentrated on sewage and water purification infrastructure (€402.7 million, 10.4 percent) and drinking water infrastructure (€73.8 million, 2.1 percent). There has been a significant increase in resources for promoting biodiversity and protecting nature (€141.1 million, 4.1 percent). The remaining investments are distributed between preventing flood risks (€38.6 million, 1.1 percent), the protection and development of natural heritage (€7.4 million, 0.2 percent), and air quality and pollution control (€7.5 million, 0.2 percent).

Structural adjustment is the fourth main priority, with an emphasis given to regional incentives and funding to support investment in the creation and expansion of enterprises. Enterprise policy has registered significant growth but ranks second from the bottom of the classification, because structural adjustment doubled its endowment, from €51.2 million in the previous period to €110.2 million in the current period. It consists of funding for SMEs, the creation of enterprises and promoting business services, the use of ICTs and promoting innovation, exports and international expansion.

Lastly, the smallest amount of expenditure corresponds to social welfare (€188.2 million, 5.5 percent), principally healthcare and care centres for the elderly and patients with Alzheimer's, and on educational centres (€19.6 million, 0.6 percent) focusing on primary and infant schools.

[7] The sewage project for Vigo in the indicative list of large projects the ERDF-CF OP has been taken into account, though it has not yet been approved by the Commission.

3.2 Relevance of programmes to regional needs

The regional development measures contained in the CSF for the different programme periods were based on plans produced in the region as a result of strategic discussions and formulas reaching a high level of consensus. It is considered that the CSFs for the different programme periods included the most relevant contents of the plans for Galicia from the first development strategies in 1985 and 1993, through to the strategic plans for 2000-2006 and 2007-2012. The most important features for evaluating the relevance of the strategic response and ERDF investments in the different programme periods are shown in Table 2.

The first programme period of 1989-1994 focused on areas that were of special importance for the development of Galicia:

- Increasing access from outside the region and internal communications in order to overcome the traditional isolation of large areas of Galicia, further aggravated by the peripheral nature of the region. The strategy focused on investments in infrastructure in order to increase economic and social benefits for Galicia with roads, highways and airports, electricity and telephone networks, environmental infrastructure (sanitation and purification) and the construction of educational centres.
- Promoting investment in Galicia's productive sectors and their modernisation in order to halt industrial decline and foster competitiveness in the new internal European market. Although far from the expenditure on infrastructure, a considerable sum was invested in needs for structural adjustments and business development.
- The construction of secondary and higher education centres to support the qualification and skills of human resources in Galicia. In the area of higher education, the creation of three universities led to some qualifications being duplicated, but ERDF funding was destined for higher engineering and technology centres, making it possible to create an offer that had been virtually absent in the region before.

From the 2000-2006 period onwards, the strategy for Galicia focused more closely on investments in RTDI, the transfer of technology and intangible assets for business competitiveness, although significant investments continued to be made in transport during this period with the completion of the roads connecting Galicia with central Spain and improving its accessibility. These measures were clearly aimed at dealing with relevant needs for the regional economy. Other important investments for the region were in water infrastructure (drinking water, sanitation and purification) and for the protection and preservation of the environment.

Table 2: Relevance of the strategic response and ERDF investments

	Regional need	Response	Project focus
89-93	Peripheral position of the region. Traditional isolation of large parts of Galicia. Environmental deficit. Halting industrial downturn and promoting competitiveness in new internal European market	Internal connections within the region External access Sanitation and purification Investment and modernisation of productive sectors in Galicia.	Transport infrastructure (roads and highways). Electricity and telephone networks. Airports Environmental infrastructure. Regional subsides and grants for investments in fixed capital for modernisation of technology and services
94-99	Peripheral position of the region. Traditional isolation of large parts of Galicia. Environmental deficit. Halting industrial downturn and promoting competitiveness in new internal European market	Access from outside of the region. Internal communications. Environmental deficit. Halting industrial downturn Regional development agency	North highway connection with central Spain and roads. Electricity and telephone networks Environmental infrastructure. Regional subsidies and grants for modernisation. Services for business and programmes to promote business culture and management skills
00-06	Peripheral position of the region and internal communications. Ecological disaster caused by the 'Prestige'. Growth & employment Innovation & technology	Improving access from outside the region and internal communications. Environmental projects. Galician Infrastructure Plan. Promoting productivity of productive sectors in Galicia. Competitiveness of companies R&D Plan. Regional innovation system.	Completing northern and southern highways providing access to central Spain. Cleaning and removing oil, recovering the coastline. Investments in infrastructure to support economic recovery. Shelter port (Outer harbour, Coruña). Creation of stable employment as a selection criterion for regional investment. Support for management skills and international expansion Research projects. Infrastructure and facilities, technology centres.
07-13	Peripheral position and internal communications Innovation & technology Preservation and protection of nature	Access from outside the region and internal communications via high-capacity road networks R&D Plan. Regional innovation system. Control of pollution and protected areas	Highways connecting with northern Spain. High speed rail link with Atlantic axis and Madrid R&D projects and facilities, technology centre network, transfer of technology and RDI for enterprises. Measurement and control systems, support for ecological systems and protection of biodiversity and environmental infrastructure

During the 2000-2006 period, the environmental situation took a dramatic downturn as a result of the spill of 70,000 tonnes of crude oil with a high sulphur content on the Galician coastline. This environmental disaster brought about a substantial change in the ERDF and FC programme in order to co-finance the clean-up and environmental recovery operations, involving removing the fuel oil, cleaning beaches and coastal areas, and recovering the marine environment,[8] as well as emergency investments in infrastructure to support the growth of the Galician economy and the most affected areas.

In general, the amount of funding provided for completing external access and internal communications within the region (completing the highways leading to central Spain and structuring the network between the main cities) was relevant for solving the region's problems stemming from its peripheral location and lack of internal connections. However, the investments in roads had a high opportunity cost, and apart from the external access roads, it is quite possible that the result was less than ideal due to the dispersed nature of Galicia's centres of population, and the implicit goal of satisfying local interests. In general, the infrastructure funded through the ERDF can be justified by its benefits, although considering the opportunity costs (renouncing other more beneficial projects) it is unclear whether the best possible situation has been achieved. Overall, net benefits are clearly positive, but could probably have been better without the numerous restrictions on the decision-making processes imposed by local features and if the scheduling of investment periods (for ports and transport infrastructure) had been better coordinated.

Finally, during the current period, the strategy has focused to a lesser degree on investments in roads and motorways, and more on pending tasks such as the high-speed passenger train network (along the Atlantic axis, and connections with Ourense and central Spain). Attention has been aimed at measures for meeting needs in innovation and the transfer of technology, which now stand in second place, closely behind investments planned for environmental sustainability and the preservation of nature. This new strategic direction is relevant and appropriate, although Galicia still lacks some important features in its railway network, especially in terms of goods trains and connections with new ports, as well as with the north of Portugal (the extension of the Galician Atlantic axis to the city of Oporto) within the Galicia-Oporto TEN corridor. The delay in this important objective for the Galicia-North of Portugal Euroregion is due to the impact of the economic downturn.

The different developmental requirements in the thematic areas considered in the study and the evaluation of how they have been dealt with based on the implicit objectives in the expenditure that has actually been made in the ERDF programmes are shown in Table 3.

The overall allocation of funds in the different programme periods may be considered adequate. In the first programme periods, the structural adjustment priorities were focused on infrastructure and the modernisation of companies, as well as technological processes in order to curb industrial decline. However, from 2000, priorities were shifted emphasising innovation. The business development policy begins in 1994-1999. The criteria of not allocating very high amounts to new

[8] The final expenditure of the CSF on the environment, €1,210 million, is 2.6 times the initial allocation of the ROP.

policy lines without previous experience was considered reasonable in order to facilitate proportionate spending and an adequate selection of projects.

The most important aspects are:

- The lack of attention focused on the need for external communications (connections with central Spain) during the 1989-1993 period was compensated for with airport investment and with subsequent progress in building highways and motorways, resulting in Galicia being in a comparable situation to the rest of Spain.
- The importance of the structural adjustment in halting the industrial downturn was relevant during the first periods, but the shift in emphasis to promoting growth and employment during the 2000s was appropriate.
- Insufficient attention was paid to the promotion of internationalisation and small businesses.
- The roll-out of the business competitiveness policy in the mid-1990s was relevant to tackle the lack of managerial skills in the region.
- Investments in vocational training, secondary and higher education in technological areas (engineering, IT, marine sciences) during the first three programme periods are also relevant.
- Promoting innovation policies from the 2000-2006 period onwards was a strategic change towards the right direction.

Table 3: Needs and imputed objectives for eight thematic axes

	1989-1993		1994-1999		2000-2006		2007-2013	
Thematic axis	**Needs**	**Imputed objectives**	**Needs**	**Imputed objectives**	**Needs**	**Imputed objectives**	**Needs**	**Imputed objectives**
Enterprise	++	3	++	4	++	4	++	3
Structural adjustment	++	5	++	5	++	5	+	3
Innovation	++	2	++	3	++	4	++	4
Environmental sustainability	++	5	++	5	++	5	+	3
Labour market	++	3	++	4	++	4	++	3
Social cohesion	++	3	++	4	=	3	=	3
Spatial cohesion	++	5	++	5	+	4	=	3
Infrastructure	++	5	++	5	++	5	+	4

Needs Scale (evaluation of the region at the start of the period)
++ Very high need: the region is highly deprived on this axis
+ High need: the region is somewhat deprived on this axis
= Average need: the region is around the national mean on this axis
- Low need: the region is above the national mean on this axis
-- Very low need: the region is already a European frontrunner on this axis

Imputed Objectives
5 Very high effort, this axis is a central aspect of the regional development strategy
4 High effort, this axis is an important element in the regional development strategy
3 Average effort, this axis is included in the regional development strategy but not particularly important
2 Low effort: this axis is only marginally considered in the regional development strategy
1 No effort at all on this axis

4. EXPENDITURE ANALYSIS

4.1 Financial allocations

European funds have allocated €17.6 billion to Galician regional development policy throughout the last 25 years. Table 4 illustrates the European structural aid that Galicia received throughout the programme periods, whereby Structural Funds allocated substantially increasing amounts of aid to Galicia up until the current period of 2007-2013 when the amount was significantly reduced. The aid allocated to the region was also considerably increased with the new Cohesion Policy (Delors Package I, 1989-1993) and in 1994 the Delors Package II, which followed the European Union Treaty. The share of Structural Funds for Objective 1 regions was enlarged together with the expansion of the EU, and Galicia received a 35.6 percent increase in European aid in the 2000-20006 period. However, Galicia's development aid has decreased by 26 percent in the current period.

Table 4: Funds in Galicia (in million Euros, in constant 2000 prices)

EUROPEAN AIDS	86-88	%	89-93	%	94-99	%	00-06	%	07-13 (p)	%	TOTAL	%
ERDF ROPs	*117*	*39%*	*822*	*71%*	*1,733*	*36%*	*2,457*	*38%*	*1,791*	*37%*	*6,923*	*39%*
ERDF NOPs					*145*	*3%*	*578*	*9%*	*501*	*10%*	*1,225*	*7%*
COHESION FUND	-	-	-	-	*675*	*14%*	*773*	*12%*	*493*	*10%*	*1,942*	*11%*
Subtotal ERDF CSF + CF	117	39%	822	71%	2,554	53%	3,809	58%	2,785	57%	10,089	57%
Community Initiatives	-	-	73	6%	136	3%	226	3%	54	1%	489	**3%**
ESF	102	34%	41	4%	202	4%	385	6%	298	6%	1,028	**6%**
EAGGF / EARDF	80	27%	216	19%	333	7%	689	11%	738	15%	2,056	**12%**
FIFG / EFF	-	-	-		370	8%	559	9%	356	7%	1,285	**7%**
ESF/EAGGF/FIGGF National	-	-	-		1,214	25%	852	13%	618	13%	2,684	**15%**
TOTAL	300	100%	1,152	100%	4,809	100%	6,520	100%	4,847	100%	17,632	100%

Source: ERDF expenditure table and complementary information from DG for Planning and Community Funds of Galicia.
(p) Initial allocations. CF amount was computed from the indicative project list in the initial version of the ERDF Cohesion Fund OP.

The European Regional Development Fund (ERDF) and the Cohesion Fund (CF) have contributed the largest amount of structural aid to Galicia, amounting to 57 percent (46 percent ERDF) of total structural assistance. The largest contribution from the ERDF reached 71 percent of total aid in 1989-1993, stabilising at approximately 49 percent in the later programme periods.

The initial allocations of expenditure in the different programme periods through ERDF programmes are described in Table 5 below and are connected to ERDF aid according to the expenditure percentage, which must be undertaken by domestic players. These co-financing rates are set separately for the different priorities and have been reduced from a range of 40-50 in 1989-1993 to 30-40 in the following period and 25-35 in 2000-06.

Galicia had two separate ERDF regional programmes in the period from 1989 to 1993 for different priorities of the CSF. Initial allocation information is unavailable for the ROP and most of the CSF programmes in this period. Information on actual CSF expenditure is provided by the report on the 1989-1993 ERDF implementation edited by the regional government, which is the only document available (Consellería de Facenda, 1995). Expenditure is broken down by priorities, but information on the expenditure distribution by different programmes is not available.

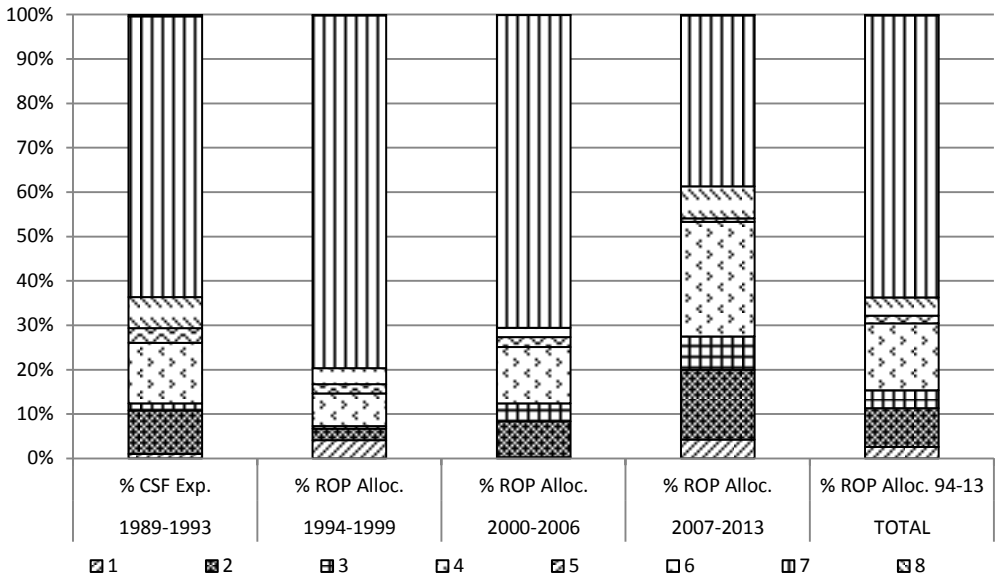
Table 4 shows the initial financial allocations in Galician ROPs. It does not include information on NOPs initial allocations due to the fact that until the beginning of the current period the NOPs did not specify the funding allocation to the different Spanish regions. Similarly, the Cohesion Fund also refrained from defining initial allocations for different regions. 1989-1993 figures correspond to actual expenditure in the whole CSF, as ROP initial allocation figures are unavailable.

Table 5: Galicia ROP 1989-2013, Initial financial allocations (in million Euros, constant 2000 prices)

	1989-1993		1994-1999		2000-2006		2007-2013		TOTAL	
AXIS	CSF Expend.	% CSF Expend.	ROP Alloc.	% ROP Alloc.	ROP Alloc.	% ROP Alloc.	ROP Alloc.	% ROP Alloc.	ROP Alloc. 94-13	% ROP Alloc. 94-13
1	14.71	1.0%	105.62	4.1%	9.93	0.3%	110.19	4.3%	225.73	2.6%
2	146.19	9.8%	67.06	2.6%	281.83	8.1%	406.91	15.7%	755.81	8.7%
3	24.41	1.6%	14.67	0.6%	140.56	4.0%	193.88	7.5%	349.10	4.0%
4	202.83	13.6%	189.05	7.3%	445.19	12.7%	668.98	25.8%	1,303.22	15.0%
5	50.16	3.4%	55.21	2.1%	77.78	2.2%	19.60	0.8%	152.59	1.8%
6	104.14	7.0%	92.85	3.6%	71.64	2.1%	188.15	7.3%	352.63	4.1%
7	943.70	63.2%	2,045.86	79.4%	2,463.01	70.5%	996.66	38.5%	5,505.53	63.6%
8	6.37	0.4%	5.77	0.2%	4.29	0.1%	5.29	0.2%	15.35	0.2%
TOTAL	1,492.5	100.0%	2,576.1	100.0%	3,494.2	100.0%	2,589.7	100.0%	8,660.0	100.0%

1.- Enterprise; 2.- Structural Adjustment; 3.- Innovation; 4.- Environmental sustainability; 5.- Labour market; 6.- Social Cohesion; 7.- Infrastructure and Spatial distribution of economic activity; 8.- Unspecified

Graph 3: Percentages of initial financial allocations of ERDF in Galicia ROP



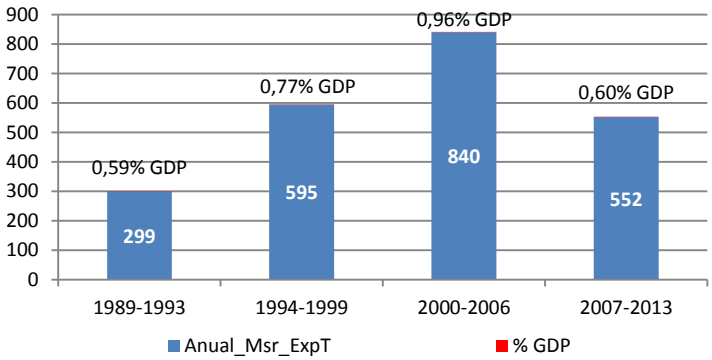
Source: Own elaboration based on Regional Operational Programmes.
1.- Enterprise; 2.- Structural Adjustment; 3.- Innovation; 4.- Environmental sustainability; 5.- Labour market; 6.- Social Cohesion; 7.- Infrastructure and Spatial distribution of economic activity; 8.- Unspecified

As seen in the graph above, regional Infrastructure is the main thematic axis throughout the whole period analysed. Nevertheless, its relative importance has been declining with every programme period, from 79.4 percent in 1994-1999 to 38.5 percent in 2007-2013. The second most important axis is Environmental Sustainability, the relative weight of which has increased in every programme period, growing from 7.3 percent in 1994-1999 to 25.8 percent in 2007-2013. The next most important axis is Structural Adjustment, with a growth in relative weight from 2.6 percent in 1994-1999 to 15.7 percent in 2007-2013. This strong growth is due to the fact that the measure of Regional Incentives was part of the NOP up until the current 2007-2013 period, when it was included in the ROP for Galicia. To define the fourth most important axis, joining the priorities Enterprise and Innovation has been considered, as they are impossible to separate in some periods. As one priority, it presents strong growth, from 4.7 percent in 1994-1999 to 11.8 percent in 2007-2013.

These figures showing changes in the weight of the different thematic axes provide a general illustration of the main evolution of expenditure along the programme periods. However, when looking at the total CSF figures, significant differences in the percentage amounts can be observed (see table 6 in the next Section).

4.2 Expenditure compared with allocations

Graph 4: Average annual expenditure of ERDF



Source: Own elaboration based on programme axes and periods.

By looking at the share of GDP generated through the investments of the ERDF programmes in Galicia, an estimate regarding the effect of the ERDF on the Galician economy can be made. The total expenditure conducted through ERDF investments in the separate programme periods has been annualised, considering the different time spans of the programme periods (Graph 4). The ERDF annualised investments amounted to €299 million per year in 1989-1993 and increased by 99 percent in the following period of 1994-1999, increasing to €595 million. Following another increase to €1,794 million (41 percent) in 2000-2006, the average annualised investment was reduced to €552 million (-34 percent) in the current period of 2007-2013 according to Galicia's initial allocations in the ERDF and CF. A significant proportion of Galicia's GDP was mobilised through ERDF investments, ranging from approximately 0.6 percent in 1984-1989, to 0.96 percent of GDP in 2000-2006 and back to 0.6 percent of GDP[9] forecasted for the current period of 2007-2013. The percentage of GDP mobilised by ERDF investment is significantly higher in 2007-2013, as the total forecasted GDP for this period is significantly higher than the GDP of 1989-1993. This range follows a similar pattern to that of the annual average investment, which increased to 0.8 and 1.0 percent from 1994-1999 to 2000-2006.

The distribution of expenditure across different priority themes for all the ERDF programmes in Galicia can be seen in Table 6. Initial allocations and implemented expenditure are categorised by priorities in line with the objectives and main needs addressed by ERDF programmes. These categories of spending have been developed in order to facilitate the comparison between the different programmes. The expenditure table included in Annex II is based on the priorities and shows similar findings.

[9] The regional GDP for the years 2009-2013 is approximated by the percentage change in GDP Eurostat forecasts.

Table 6: Funds by thematic axis in Galicia (in million Euros in 2000 and in percentages)

	89-93	1994-1999			2000-2006			2007-2013			
Targ.	CSF Total Exp.	ROP Alloc.	ROP Exp.	CSF Total Exp.	ROP Alloc.	ROP Exp.	CSF Total Exp.	ROP Alloc.	ROP Exp.	CSF Total Alloc.	CSF Total Exp.
1	14.7	105.6	87.4	94.3	9.9	15.8	52.7	110.2	27.8	110.2	27.8
2	146.2	67.1	75.5	129.4	281.8	303.8	649.8	406.9	49.3	406.9	49.3
3	24.4	14.7	18.6	18.6	140.6	149.6	524.3	193.9	61.6	849.3	61.6
4	202.8	189.1	183.7	454.0	445.2	461.3	1.210.1	669.0	162.9	801.8	162.9
5	50.2	55.2	82.5	84.4	77.8	86.3	93.1	19.6	10.8	19.6	10.8
6	104.1	92.8	88.2	289.2	71.6	106.8	149.2	188.1	37.4	188.1	37.4
7	943.7	2,045.8	2,163.6	2,497.3	2,463.0	2,605.4	3,197.4	996.7	508.0	1,480.1	584.8
8	6.4	5.8	1.8	2.5	4.3	1.6	3.1	5.3	1.0	5.3	1.0
Total	1,492.5	2,576.1	2,701.2	3,569.8	3,494.2	3,730.6	5,879.6	2,589.7	858.6	3,861.4	935.5
	89-93	1994-1999			2000-2006			2007-2013			
Targ.	CSF Total Exp.	ROP Alloc.	ROP Exp.	CSF Total Exp.	ROP Alloc.	ROP Exp.	CSF Total Exp.	ROP Alloc.	ROP Exp.	CSF Total Alloc.	CSF Total Exp.
1	1.0%	4.1%	3.2%	2.6%	0.3%	0.4%	0.9%	4.3%	3.2%	2.9%	3.0%
2	9.8%	2.6%	2.8%	3.6%	8.1%	8.1%	11.1%	15.7%	5.7%	10.5%	5.3%
3	1.6%	0.6%	0.7%	0.5%	4.0%	4.0%	8.9%	7.5%	7.2%	22.0%	6.6%
4	13.6%	7.3%	6.8%	12.7%	12.7%	12.4%	20.6%	25.8%	19.0%	20.8%	17.4%
5	3.4%	2.1%	3.1%	2.4%	2.2%	2.3%	1.6%	0.8%	1.3%	0.5%	1.2%
6	7.0%	3.6%	3.3%	8.1%	2.1%	2.9%	2.5%	7.3%	4.4%	4.9%	4.0%
7	63.2%	79.4%	80.1%	70.0%	70.5%	69.8%	54.3%	38.5%	59.2%	38.3%	62.5%
8	0.4%	0.2%	0.1%	0.1%	0.1%	0.0%	0.1%	0.2%	0.1%	0.1%	0.1%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: Own elaboration drawing from expenditure database.

1. Enterprise; 2. Structural Adjustment; 3. Innovation; 4. Environmental sustainability; 5. Labour market; 6. Social Cohesion; 7. Infrastructure and Spatial distribution of economic activity; 8. Unspecified.

Due to the fact that a majority of the measures in infrastructure and spatial equilibrium themes are in accordance with transport or other types of spending on infrastructure such as electricity, and due to the emphasis given to the unlocking and territorial connectivity of infrastructure investments, transport infrastructure and industrial land have been grouped together with actions oriented to the spatial rebalancing of economic activities.

The data in Table 6 refers to the amount (in millions of Euros at constant value in 2000) of ERDF programme investments including CSF total expenditure amounts in the different programme periods with the total allocation amount given for the current period. In addition, the national co-financing for initial allocations and expenditure of the ROP is given.[10] CSFs encompass the largest ERDF programme, the Galicia Regional Operational Programme, as well as other smaller multi-

[10] In the first programme periods, information regarding initial allocations to Galicia in NOPs is not available. Moreover, in 2000-2006, the Galicia CSF merely includes a reference to the total amount allocated to NOPs for Galicia including the ERDF, ESF and EAGGF.

regional/national programmes acting in the region (NOPs).[11] The structure of CSFs is explained in further detail in Chapter 3.

The report on the 1989-1993 ERDF implementation edited by the regional government is the only document available (Consellería de Facenda, 1995). This document only includes data on the regional and multi-regional sections of expenditure implemented in the whole CSF, and it does not break down the expenditure within the 1989-1993 CSF according to the different regional and national Operational Programmes operating in Galicia at that time. Moreover, the distribution of expenditure by priority themes is not yet significant for the current period of 2007-2013 due to differences in measures' maturity rates; for this reason, Table 6 includes initial allocations to give an indication of the move towards the emphasis on innovation and competitiveness in Galicia's development strategy.

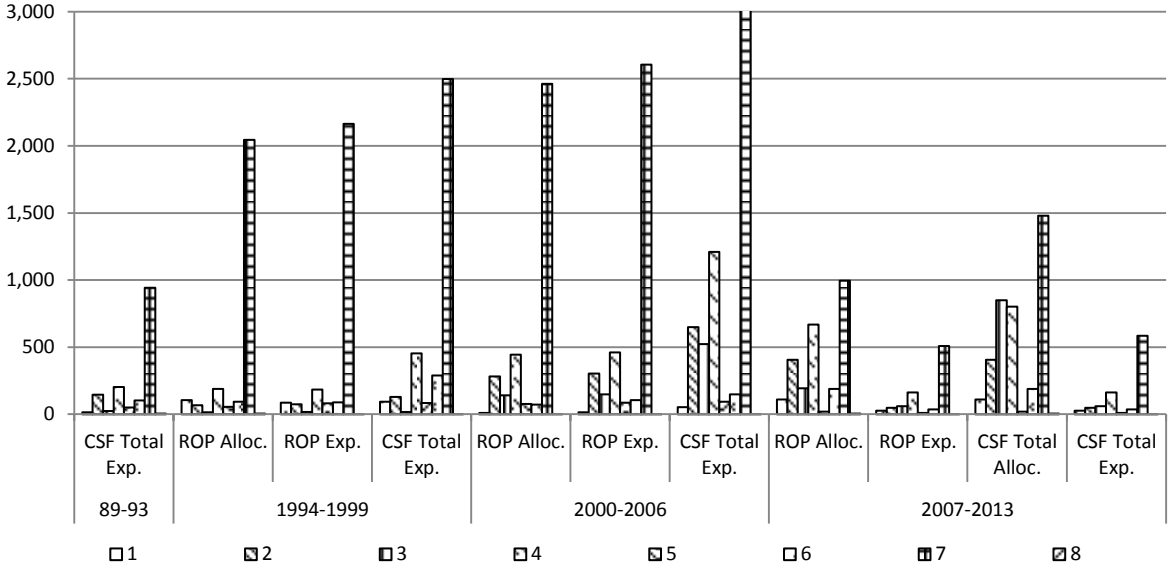
The actual Galicia ROP expenditure has exceeded initial allocations by 10.5 and 6.7 percent in the 1994-1999 and 2000-2006 programme periods respectively. In 1994-1999, the value of initial allocations was increased to compensate for the effects of inflation and exchange rates on the real value of ECU (European Currency Unit), and the newly created performance reserve was not included in initial allocations in 2000-2006. Because of these changes, the relationship between initial and actual allocations in Euros must be considered in order to accurately assess the realisation of the plans defined in the ROPs. Furthermore, the implementation of the regional development strategy cannot be evaluated by merely looking at the changes in the share of the separate priorities' actual expenditure in the different ROPs, as these are included within the broader framework of the CSFs. This holds true in the case of Galicia, as expenditure on infrastructure has been increased substantially through the Cohesion Fund.

Graph 5 shows the distribution of initial and actual expenditure allocations in the ROP and in the whole CSF by priorities and in the separate programme periods between 1989 and 2012. With the exception of expenditure for enterprise and business development in 1994-1999, which only reached 87 percent of initial allocations, mainly due to a delay in the approval of the Global Grant,[12] implemented expenditure equalled or surpassed initial allocations in most priorities.

[11] These programmes are reported in the first section of Chapter 3. The expenditure in Galicia of the 1994-99 NOP for Scientific Infrastructure is not available. The expenditure of the NOP for Regional Incentives for the initial periods in Galicia has been estimated with the information provided in the annual reports of the SDG for Regional Incentives, Ministry of Finance.

[12] Expenditure in some measures may also be greater than the initial allocations defined in the programme, because the financial gap is filled with more national funding. Closing adjustments allow some flexibility amongst different measures and bring claims of ERDF aid in line with the total amount of aid allocated.

Graph 5: ERDF expenditure by programme periods (in million Euros in 2000)

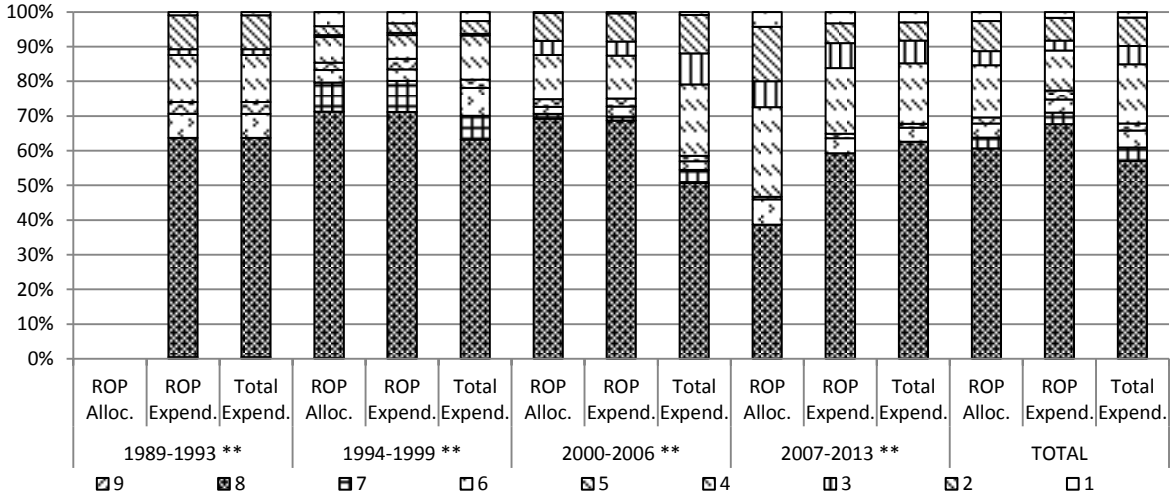


Source: Own elaboration drawing from expenditure database.

1. Enterprise; 2. Structural Adjustment; 3. Innovation; 4. Environmental sustainability; 5. Labour market; 6. Social Cohesion; 7. Infrastructure and Spatial distribution of economic activity; 8. Unspecified

Graph 6 illustrates the proportions of initial and actual allocations in the Galicia ROPs and in the actual expenditure of the entire CSF.

Graph 6: ERDF expenditure by thematic axis (in percentage)



Source: Own elaboration drawing from expenditure database.

1. Enterprise; 2. Structural Adjustment; 3. Innovation; 4. Environmental sustainability; 5. Labour market; 6. Social Cohesion; 7. Infrastructure and Spatial distribution of economic activity; 8. Unspecified

In the 1989-1993 period, expenditure in regional infrastructure amounted to 63.2 percent of total ERDF funding, followed by environmental sustainability with 13.6 percent, social cohesion with 7.0 percent and structural adjustment with 9.8 percent of funding. In the second programme period, regional infrastructure absorbed 70 percent of total ERDF funding, followed by environmental sustainability with 12.7 percent, social cohesion with 8.1 percent and structural adjustment and enterprise policy with 6.2 percent. In the 2000-2006 period, the share of expenditure in regional infrastructure still remained relatively high at 54.3 percent of total ERDF funding, followed by

environmental sustainability with 20.6 percent, structural adjustment with 11.1 percent, enterprise policy (innovation and enterprise) with 9.8 percent and finally in social cohesion has been used 2.5 percent of total CSF funding. In the current period, the relative share of regional infrastructure has been reduced to 38.3 percent of the total ERDF allocations, followed by innovation with 22 percent, environmental sustainability at 20.8 percent, and lastly structural adjustment and enterprise policy means of 13.4 percent of allocations and social cohesion a 4.9 percent.

The changes in the percentage structure of allocated and actual expenditure in the ROP have been insignificant. The main amount of the increase in ROP funding in 1994-1999 was distributed amongst infrastructure (€116 million), construction of higher education centres (€27 million) and social cohesion to a lesser extent. This absorbed the allocation surplus (€125 million) and the expenditure deficit in enterprise policy (€18 million). In the period of 2000-2006, the largest part of funding awarded to the well-performing programmes in the second part of the period was distributed to transport infrastructure amounting to €147 million, with social cohesion following far behind with €35 million and structural adjustment and enterprise policy allocated €27 million. Expenditure in all the priorities exceeded initial allocations. However, the ERDF strategy for the regional development of Galicia results from the structure of the actual expenditure of CF and all ERDF programmes within the CSF, which to some extent renders these considerations insignificant. Due to the fact that only global indications of total funding for Galician NOPs were given in earlier periods, initial allocations by priorities are solely available for the current programme period of 2007-2013.

The data show the basic characteristics of the different programmes' strategic approaches. The most important areas of investment in the early programme periods were transport infrastructure, environment and structural adjustment, whereby the largest proportion of expenditure was used for the capitalisation of Galicia. Transport infrastructure remained important in the 2000-2006 period, but greater emphasis was placed on environment and the intangible elements of RDI, enterprise policy and structural adjustment. Even though it would be premature to evaluate spending in the current period of 2007-2013, initial allocations suggest a shift towards a competitiveness strategy in accordance with the guidelines of the Lisbon Strategy.

5. ACHIEVEMENTS ANALYSIS

5.1 Reported & actual achievements

Chapter 5 cover achievements from both Regional and National OPs. However, Section 5.1 mainly refers to ROPs, because NOPs are multi-regional and do not set targets for individual regions, as is the case with Galicia.

5.1.1 Programme-level achievements

The assessment of reported achievements is mainly based on data provided by the final programme implementation reports. These data are presented in the tables in Annex III for regional and multi-regional programmes with actions in Galicia.[13] Additional data were obtained from planning documents, other reports and statistical data. Indicator systems were designed by central government Managing Authorities for each separate programme period and have evolved over time. An exception was the first programme period of 1989-93, where no quantitative objectives were defined as it was the first attempt at the new planning instruments in the then recently created European Social and Economic Cohesion Policy.

For the purposes of this analysis, a reduced set of homogeneous indicators suitable for aggregation was selected for each programme period.

Despite the progress experienced by the target and indicator system, they have had a limited role in programme management and have mainly been used to account for output to members of the monitoring committees. The problem lies in the difficulty of defining accurate expected indicators (objectives or targets) due to the limited information available with Managing Authorities and beneficiaries which were unused to setting multi-year forecast targets. Moreover, the wide scope of programmes encompassing many different priority areas made accurate forecasting difficult. This was a common problem shared with Objective 1 regions across Spain in the 1994-1999 period when first attempts at forecasting were made.[14] In addition, the deep economic crisis of 1993 coincided with the timing of designing the plans and affected the economic context of projections. With the increasing information and feedback obtained from early implementation measures, predictions were periodically amended and revised to better fit the changing situation facilitating the definition of targets in the ensuing years.

The final reports of the various forms of intervention provide valuable and reliable qualitative and quantitative information about numerous indicators upon completion of the projects.

[13] The tables of Annexe III show the Galician ROP for the 1994-1999, 2000-2006 and 2007-2013 periods, as well as the NOPs related to the 2000-2006 period on R&D, Competitiveness, Information Society and Local Operational Programme. Regarding the Galician ROPs for 1989-1992 and NOPs for 1994-1999, there is no information available on indicators. Nevertheless, NOPs from 2000-2006 and from 2007-2013 do not set specific targets for Galicia, and performance indicators are not distributed by regions in the NOPs of 2007-2013.

[14] This problem was resolved by the decision adopted by the monitoring committees to periodically revise programme targets. The situation for the whole of Spain was described in this manner: 'Only some of the programmes established target output information which enables a comparison between actual outputs achieved and targets. Even where targets were established, significant reprogramming decisions have meant that in many cases the value of these targets had diminished by the end of the programme' (CEET, 2003, p.58).

The formats and concepts of the indicators vary across programmes, and although it is possible to establish some general comparisons, it is necessary to analyse the achievements in the context of programme periods. The following analysis of the separate programme periods mainly focuses on Regional OPs due to their wide scope across regional needs whereas NOPs focus on specific needs.

In the 1994-1999 period, the first set of indicators was established, and these were improved and reduced in number in the following periods. Table 7 shows the targets set in the initial programme documents, the amended targets defined in later documents, and reported achievements in the final implementation reports for the three programme periods from 1994 onwards. NOPs and the CF did not set targets for separate regions and information on indicators is unavailable for the 1994-1999 period, with the exception of some large projects in the CF.

Table 7: Reported achievements in all periods

	1994-1999			2000-2006				2007-2013		
	ROP Initial Targets	ROP Amended Targets	ROP Reported Achiev.	ROP Initial Targets	ROP Amended Targets	Reported Achievements		ROP Targets 2013	Reported Achievements	
						ROP	NOP		ROP	NOP
Total jobs created (no.)	23,535	20,407	26,684	22,410	84,806	78,880	17,015	9,400	841	-
Jobs created in infrastructure (no.)	23,535	12,180	16,754	-	69,914	67,754	10,448	-	-	-
Jobs created industry & services (no.)	-	8,227	9,930	22,410	14,892	11,126	6,567	9,400	841	-
Private induced investment (M€)	136.8	948.9	1,198.7	713.5	2,060.0	1,878.3	1,742.4	1,611.6	387.1	0.5
Beneficiary companies (no.)	1,085	1,011	6,099	850	1,637	2,264	16,352	18,427	10,355	
Motorways and expressways (km)	200	199	232	361	260	223	180	113	36	-
Roads (km)	1,917	940	947	600	876	631	674	301	176	-
Renewed railway (km)	138	110	171	223	190	291	-	-	-	-
Co-financed RDI projects	300	86	86	-	2,650	2,584	385	3,493	2,990	91
Collaborative projects on R&D companies and research centres (no.)	-	-	-	200	250	319	4	1,640	1,193	-
R&D centres created (no.)	-	-	-	5	2	2	9	2	-	-
R&D centres benefitting (no.)	-	-	-	-	40	40	48	96	25	2
Jobs associated. People involved in the projects (no.)	-	360	382		448	437	6,320	9,573	4,199	-
Supply networks created/improved (km)	-	608	623	433	267	136	1,141	364	152	-
Population connected to supply networks (thousands of inhabitants)		406	406	-	484	547	-	400	100	-
Wastewater networks created/improved (km)	-	-	-	-	219	181	1,205	462	117	-
Population connected to wastewater networks (thousands of inhabitants)	-	588	1,220 *	-	759	1,499	-	1,445	200	-
Source: Reported achievements Database										
* 620 thousand inhabitants correspond to the CF Project for the Integrated Environmental Regeneration of Ría de Vigo										

In the period of 1994-1999, when it quickly became apparent that the initial targets were no longer relevant due to the forecasting difficulties described above, these targets were significantly revised in the reprogramming process early on in the programme period. Moreover, it was difficult to forecast targets eight years prior to the actual completion of the programme. This is applicable to the increase in the amended target of induced investment; the target for beneficiary companies was not amended, but finally reported achievements exceeded the target by far. Other revised targets such as RDT projects and roads were revised downwards.

The achievements reported by the Managing Authorities in the final programme report were collected from reports on realised projects and consist of reliable information regarding the outputs, supported by the budgetary controls of regional and central governments.

In the 2000-2006 period, NOPs continued to refrain from establishing separate targets at the regional level but targets and indicators were further developed. New ones were also created in the Galician ROP. However, errors in determining initial target values remained in this period, whereby amended targets are still present in reprogramming processes.

The performance objectives at the programme level reflect the new strategic emphasis on R&D and innovation and technology transfer. Targets and reported achievements of R&D projects for research groups increase considerably, as well as the number of collaboration projects involving companies and researchers in scientific and technological centres. The initial target is amended upwards, and reported achievements on collaborative projects greatly exceeded its amended target. To a large extent, this corresponds to a forecasting mistake, but according to the experience of the programme implementation it also reflects good transmission of the new strategic R&D throughout the business sector.

Roads and motorways remain an important priority, large investments were made to complete the motorway network in the 2000-2006 period. The ROP indicators show a downward revision of initial targets for motorways, but additional construction of 180 kilometres through the CF must be taken into account, resulting in a total of 403 kilometres.

The induced investment was concentrated on business measures and structural adjustment. Its value rose to €3.6 billion, representing a significant portion (6.8 percent) of Galicia private capital formation at that time. This indicator was obtained based on the investment requirements in regional investment grants and it merits credibility, though some extent of double-accounting might be possible for companies applying for more than one aid.

The indicator of total created employment shown in Table 7 (95,895 jobs in 2000-2006) representing 8.9 percent of the employed population is credible, but heavily dependent on job creation in constructing transport infrastructure, namely 78,202 reported jobs (gross). This amount is computed from labour input estimates made by civil engineers. It deserves credibility but does not really correspond to permanent job creation by ERDF because it depends on the activity level of the construction sector. Meaningful job creation is linked to measures in enterprise and structural adjustment, whereby reported achievements reached 17,693 jobs representing 1.6 percent of the employed population. This figure is reliable, given that beneficiary companies were usually asked to present contracts proving new job creation and that the figure corresponds to the high economic growth and employment creation of Galicia in this period.[15]

In Galicia, as in most of Spanish regions, the 2007-2013 programme was improved with the setting of additional targets in several priority areas and an increased efficiency in their forecasting, enabled by experience acquired in the previous periods. Initial targets have been specified for 2013, with the novelty in this period being the setting of medium-term targets for 2010 with the

[15] Moreover, in this period job creation requirements for awarding regional investment aid were focused on stable employment, implying that beneficiary companies must send copies of social security forms for a number of years after receiving the grant.

intention of increasing the ongoing monitoring system. Unfortunately, both the programme and the information system used for the entry of reported achievements were delayed, which resulted in a low implementation rate of the first set of complete official achievements reported in 2010. As a result, 2011 achievements are used in this analysis[16]. NOP information has been obtained from the programmes' Annual Implementation Reports (AIRs), but it is relatively sparse as these reports usually do not provide disaggregated indicators by region.

In this programme period, the economic crisis has had a severe impact on the realisation of achievements, whereby some priority areas have experienced a significantly larger time lag than others. For example, the enterprises priority area has been affected by the credit crunch with achievements of 2013 targets in the range of 10 percent to 29 percent in 2011. Whilst the environment and motorway infrastructure projects are more difficult to evaluate due to their complexity and long maturity terms, projects in the field of R&D have achieved a large proportion of their set targets.

5.1.2 Analysis by theme

Business development

The priority of Business development was allocated the amount of €189.5 million through ERDF programmes until the end of 2011, equivalent to approximately to 1.6 percent of total investments across the study period. This amount varied over the periods, from 1 percent of funds spent in 1989-93 to 2.6 percent in 1994-99, to 1 and 3 percent in the 2000-06 and 2007-2013 programmes respectively (as for the current programme, spending is still underway, the figures correspond to the CSF's initial allocation).

The first enterprise policy measures of the 1989-1993 programme period focused on infrastructure (installations) and material resources for enterprise services,[17] and providing land for businesses and industries in different areas, as well as creating service centres such as the Crafts Centre in Lugo and the Industrial Design Centre in Ferrol.

During the 1994-1999 programme period, apart from some actions of the regional government to promote business services and the Intersector Competitiveness Plan (PIC), business development policy began with the creation of the regional development agency, the Galician Institute of Economic Promotion (IGAPE) and the Global Grant included in the 1994-1999 ROP. The IGAPE managed a series of measures from national programmes in cooperation with the central government, as well as a number of its own projects, as follows:

- providing interest rate grants for investments by SMEs;
- the Integral Improvement Plan for Galician Enterprise (PIMEGA) – non-repayable subsidies for projects analysing companies' situations and contracting advisory services for enterprises; and

[16] The system management information on indicators took almost three years to become operational and was not effective until 2011. Currently, the system works well and provides detailed and accurate information, but unfortunately, for management purposes, comes at a time when the execution suffers from depression and the severity of the economic crisis in Spain and Galicia.

[17] A total of 90 subsidies were granted to industrial service companies and business associations, with an average investment of €26,671, with beneficiaries receiving an average subsidy of €12,310.

- SME Initiative, managed in collaboration with the central government, to provide advanced business information services.

Interest rate subsidies were granted for loans given to SMEs to carry out business investment projects, mainly in fixed assets, to a value of €194.5 million, with total induced investment reaching €1.6 billion (5.2 percent of Galicia private fixed capital formation in 1994-1999 period). The subsidies were mainly aimed at retailers (8 percent of investments), the foodstuff industry (11 percent) and the fishing sector, which received the most significant amount of investment (15 percent). A total of 9,789 jobs were created (1 percent of employed), and a further 156,095 were maintained (15.7 percent of employed).

The PIMEGA Programme promoted management skills and improving the competitiveness of enterprises. Non-repayable subsidies were granted for carrying out projects analysing companies' situations, contracting advisory services for enterprises in order to define organisational structures, design quality systems, design certification programmes, develop improvements in management, or to implement competitive improvements.

A total of 1,225 companies benefited from the PIMEGA programme, accounting for 7.1 percent of the employed population in Galicia. A total investment of €23.4 million was made, representing an average investment of €19,087 per company (Rodríguez and Varela, 2000). The number of companies that benefitted from the programme and their importance in terms of employment in the region endorse the impact of the programme on the regional economy.

- The PIMEGA Programme provided courses for 4,056 entrepreneurs and directors. The material taught on the PIMEGA courses (through the ESF) affected a wide area of the region, as the attendees came from all over Galicia. This was important at the time, impacting the immediate future, as it transmitted a message highlighting the importance of management skills and business innovation.
- In addition to the courses, a postgraduate intern with suitable qualifications was appointed to collaborate with beneficiary companies in implementing the projects (partly co-financed with the ESF). A total of 216 PIMEGA subsidies were granted between 1993 and 1998. Out of the 1,225 companies (0.8 percent of enterprises in 1999) that decided to implement an improvement plan through this programme, 17.6 percent decided to include an intern in their team, causing a double effect whereby companies took advantage of an improvement plan and the interns acquired experience by working directly with company management and learning about the application of new organisational methods.
- During the 1990s, it helped Galician companies to overcome quality deficiencies. The number of companies with quality certification rose from 100 in 1990 to over 1,000 in 1999.

The monitoring report of the actions carried out by the IGAPE is supported by a series of positive assessments from the business owners involved.[18]

[18] For example, a businessman working in the graphic arts sector stated that thanks to the subsidy provided by the PIMEGA plan, 'there has been an improvement in the level of professionalism, and the knock-on effect this has for the company'. Another businessman working in the vehicle components sector noted that 'The PIMEGA plan is one of the most effective and agile tools to provide support for businesses. The formula based on Training+Consultancy+Interns has been especially useful for launching improvement projects in an effective way'. Another businessman from the fashion and garment-manufacturing industry stated that 'The PIMEGA

The programmes helped to improve the business culture and management skills of Galician companies, as a result of which their turnover and competitiveness was improved. In a comparative study (Rodríguez and Varela, 2000) of the companies that benefited from the PIMEGA subsidies and the companies that did not, it was found that the beneficiaries increased their income by 11.13 percent, compared to 8.75 percent for the non-participants. The economic turnover of the participating companies increased by between one and two percent.

The SME initiative promoted advanced business information services, benefitting a total of 297 companies with a total induced investment of €30.1 million (0.1 percent of Galicia private fixed capital formation in 1994-1999 period). The global funding was aimed at supporting the creation and modernisation of SMEs, taking shape in the form of investments in all of the different promotional activities of the Galician Institute for Economic Promotion (IGAPE), consisting of funding for SMEs, the promotion and creation of enterprises, promoting investment and marketing, supporting organisation, quality and technology, continuous improvement projects, an institutional services network and promoting telecommunications. The beneficiaries of this action were SMEs that were either Galician or which had their main centre of activity in the region, individual entrepreneurs, companies, associations or groupings of entrepreneurs and public bodies, companies belonging to sectors of special strategic interest, companies with viable innovative ideas, young entrepreneurs and companies with a capability to implement new technologies or commercial innovation programmes in products and processes. These actions resulted in 3,098 beneficiary companies (1.9 percent of enterprises in 1999), the modernisation and extension of 2,695 companies (1.7 percent of enterprises in 1999), and the creation of a total of 8,113 new jobs (0.8 percent of employed).

During the 2000-2006 period, the previous actions continued and new actions were implemented for promoting exports and competitiveness. The IGAPE continued to carry out actions during this period with:

- The Diagnostics and Action Plans Programme, which was a continuation from the previous PIMEGA Plan. The new programme continued to promote the organisational capital of enterprises in order to achieve competitive improvements in SMEs. Direct subsidies were granted for the provision of analytical and support services for projects expected to improve the competitive position of SMEs. A total of 947 companies benefited from the programme mainly in terms of business management and organisation. The total induced investment was €39.8 million (0.1 percent of Galicia private fixed capital formation in the 2000-2006 period).

- Through the Competitiveness NOP, the IGAPE collaborated in managing the SME Consolidation and Competitiveness Plan, as an offshoot of the SME Initiative, focusing on innovation in business techniques and innovation culture. The most important actions focused on quality control (663 projects), design (543 projects), IT areas (77 projects), management innovation (34 projects) and cooperation between enterprises (8 projects). The certified expenditure for these actions amounted to a total of over €24 million.

plan was a valuable experience both at a personal level and in strictly professional terms, and confirmed the belief that these forums helped to rationalise the management of business interests'.

As intermediary bodies in the business world, the Chambers of Commerce supported innovation and electronic signatures in enterprises:

- The Individual Support for Innovation Plan, with a relatively small cost (€377,000) consisting of two stages: an individual diagnosis (168 diagnoses) and a second stage involving the innovation support plan (26 diagnoses).

- Digital census and electronic signatures in business activity. Publicity and promotional actions were designed and carried out with businesses, issuing a considerable number of certificates (4,987) and carrying out 11 workshops. The action involved a cost of €54,000.

During the 2007-2013 period, actions focusing on the consolidation and competitiveness of SMEs have continued with the INNOEMPRESA Programme to support innovation in SMEs (stemming from the SME Consolidation and Competitiveness Plan implemented in the previous period). During this new period, a total of 301 projects have been financed, benefitting 389 companies with a total induced investment of €4.5 million. Moreover, a total of 156 projects were funded, aimed at promoting innovation and entrepreneurialism in SMEs, the majority of which were managed by the IGAPE.

Different actions to promote exports were carried out in the ROP Galicia and the Competitiveness NOP. Many of them continue lines undertaken in previous periods, such as the Initiation Programme for Foreign Promotion (PIPE), interest rate subsidies for foreign trade and international projects of the Spanish Institute of Foreign Trade (ICEX), trade missions and exhibitions supported by the Galician Exports Promotion Plan (FOEXGA).

In summary, projects concerning interest rate subsidies, as well as the PIMEGA project, can be considered successful. Furthermore, actions of the SME initiative were interesting, but when dealing with multiple small projects it is more difficult to assess their results. The same goes for projects regarding competitiveness and innovation in companies being continued in the 2000-06 period and currently. These are projects of consultancy services to SMEs strongly focused on quality and management innovation, processes and products. However, it is difficult to qualify them as successful without more in-depth consideration.

A large number of relatively small-volume projects are performed by the ICEX, the FOEXGA plan, and the chambers of commerce to promote exports, either to individual companies or in commercial missions. This is a plurality of actions which are difficult to comment upon without more detailed consideration.

Between 2000 and 2006, a series of business incubators (also referred to as Enterprise Initiative Centres) were set up to facilitate the start-up and consolidation of new business projects. The success of the incubators[19] varied greatly depending on their management, but on the whole they facilitated projects for young entrepreneurs (with an average age of 34) and a high level of qualifications (67 percent with university degrees) for new IT and professional services companies.

[19] The benefits of the business incubators can be seen in the statements made by the entrepreneurs involved: 74 percent recognised that they were of great help and that their business would not have developed in the same way without them, while 94 percent of those who were interviewed considered that the incubator facilities were useful. They also referred to the improvements that could be made to the incubators, giving them an overall score of 4.5 points out of 5.

The survival rate has been high and the average annual turnover was considerable (€230,819). The majority were micro-companies with a good turnover but dependent on a small number of customers, and only 6.6 percent of them had international customers. From 1999 onwards, a total of 880 companies were created, generating 2,987 jobs (0.3 percent of employed) (Ferreiro, 2010).

Structural Adjustment

Structural adjustment received €974.7 million of funding up until 2011 from ERDF programmes studied this report until the end of 2011, equivalent to around 8 percent of the overall expenditure across the study period. This amount differed over the periods, with 10 percent of funds spent in 1898-93 to 4 percent in 1994-99, to 11 and 5 percent in the 2000-06 and 2007-2013 programmes respectively (as for the current programme, spending is still underway, the figures correspond to CSF's initial allocation).

The classic measure for the promotion of industrial activity in areas with delayed development is the regional incentive aid schemes. Since Spain's entry into the EU, the central government, through a Decree published in 1987, adapted regional incentives to European competition policy and financed investments in Objective 1 regions such as Galicia through the ERDF. These measures focused on attracting and promoting significant investments. They were complemented with similar subsidies from the regional government, which were coordinated between both governments in order to respect the subsidy caps (the total amount of funding was typically well below the maximum limit) and the items that were susceptible to funding.

The regional governments also created other subsidies of lower amounts for wider areas in order to facilitate improvements in terms of quality, the modernisation of equipment and processes, and adjustments in specific sectors such as mining.

There are no indicators for the 1989-1993 period, although information is available for a later date in the ROP for Galicia for 1994-1999 (Consellería de Facenda, 1995) on regional measures, and the Regional Incentives Report (General Directorate of Promotion and Incentives, 1990; Rodríguez and Varela, 2000).

The Regional Incentives system funded 941 projects with an induced investment of €2.94 million, leading to the creation of 13,575 new jobs (1.5 percent of employed in the period). The types of projects that received funding were mainly new establishments (508 projects), expansions (406 projects) and modernisations (27 projects). The projects mainly focused on the industrial transformation sector (with an induced investment of €2.34 million), the agro-industry sector (with an induced investment of €288,538) and the retail trade sector (with only €25,131).

During the period of 1994-1999, the previous measures continued, introducing the creation of employment as a criterion for selecting projects for the Regional Incentives system. The main results achieved were:

- Between 1993 and 1998, Regional Incentives financed an investment of €1.1 billion, with a subsidy of €211.7 million, leading to the creation of 4,800 jobs (0.5 percent of employed) and the maintenance of over 18,000 jobs (1.8 percent of employed). The investments were focused on the main sectors in Galicia (the chemical industry, wood, motor vehicles, hostelry and others). External participation was small (3 percent), although the

participation of capital from outside of Galicia represented nearly 30 percent of the total investment, leading to the creation of a large number of jobs (1,758 new jobs, 0.2 percent of employed, and maintaining a further 7,398 jobs, 0.7 percent of employed).

- Investment grants from regional government supported investment projects for firm creation and modernisation. The selection criteria led to a focus on projects in the most affected areas where industrial restructuring had taken place. The total induced investment was €392.5 million, with a subsidy of €39.4 million, resulting in the creation of 3,094 new jobs (0.3 percent of employed) and the maintenance of a further 12,188 (1.2 percent of employed). The majority of the jobs that were created and maintained were in the wood, motor vehicle and garment sectors.

During the 2000-06 period, apart from some regional government actions promoting technology upgrading of productive processes, structural adjustment actions continued mainly through investment aids, which in the regional government remit were linked to the creation of stable employment. The main results were:

- A total of 1,083 subsidies for the creation of Stable Employment were granted for the purpose of modernising and expanding SMEs, together with 323 subsidies for job creation resulting in 7,857 new jobs (0.7 percent of employed), with an induced investment of €1,520.5 million from the companies (2.7 percent of Galicia private fixed capital formation in the period).

- The regional incentives during the 2000-2006 programme period were structured in Galicia through the NOP for competitiveness. A total of 338 projects were supported, with a total induced private investment of €1,573.7 million (2.8 percent of Galicia private fixed capital formation in the period). This led to the creation of 6,500 new jobs (0.6 percent of employed) and the maintenance of a further 29,000 (2.9 percent of employed) (although this indicator is relatively difficult to estimate). The average size of the projects was quite significant (€4.6 million) and the average investment per job created was quite high (€241.8), with the creation of an average of 19 jobs per project.

In the 2000-2006 period, investment grants and regional incentives proved to be highly effective in fostering private fixed capital formation. Induced investment by beneficiary companies amounted to €3 billion, representing 5.5 percent of the private fixed capital formation in the 2000-2006 period. By contrast, in the current period this measure is not performing well due to the fall in companies' investments associated with low demand and credit crunch problems.

Tourism and Culture

The objectives in the area of tourism and culture focus on promoting rural tourism, recovering and maintaining cultural resources on tourism routes, the promotion of Galician culture and contributing towards its diffusion and recognition, providing heritage with sustainable and economically beneficial uses, remodelling cultural buildings and restoring historical heritage and producing an attractive offer in tourist destinations that capitalises on values and promotes heritage elements of cultural and artistic interest to tourists.

During the 1989-1993 period, subsidies were provided to private companies and families to refurbish manor houses, stately homes and traditional farmhouses to be used as tourist accommodation and to promote spa tourism in rural parts of Galicia.

During the 1994-1999 period, new spas were opened and others that had been closed were refurbished. These included investments in Mondariz, Guitiriz, O Incio, Cenlle, Baiona and Arnoia. New rural tourism establishments and spas led to a major increase in the amount of accommodation available to the public, with around 1,800 beds in a total of 184 refurbished houses and spas. Work was also carried out to renovate and maintain cultural resources on the main tourism routes in Galicia, renovating 127 monuments. Other elements of the region's historical heritage and cultural buildings were refurbished, including work on the cathedral of Santiago de Compostela, the construction of a new building for the Museum of Fine Arts in Coruña, and the extension and refurbishment of the Archive of the Kingdom of Galicia.

During the 2000-2006 period, subsidies were granted for the creation of rural tourism establishments and to improve the spa and hotel offer, with a total of 54 new buildings, 2,108 more beds and 880 new jobs (0.1 percent of employed). The network of museums was modernised and extended, seeking to enhance their potential to attract new visitors. Work was also carried out on remodelling and equipping archives and libraries. The most important action involved the Auditorium of Ourense. In order to promote resources of artistic and cultural interest to tourists, work was carried out to refurbish traditional buildings, extending the network of state-run Parador hotels and refurbishing other buildings. In addition, a total of 250 monuments and 33 landscape sites of special interest were renovated, creating 63 jobs (0.01 percent of employed).

During the current period, due to the priority given to the tourism sector in Galicia, the aim is to improve services with the refurbishment and modernisation of spas to attract tourists, the creation and improvement of sports facilities, tourist areas and beaches, eliminating architectural barriers that hinder access to them.

Subsidies will also be provided to local bodies to promote tourism, developing plans, promotional programmes and international publicity campaigns for Galician tourism, providing an integrated offer.

The reported achievements fit well with the development of rural and thermal tourism in Galicia. The tourism offer until the 1980s was almost entirely coastal tourism, but throughout the 1990s and the following decade, significant changes were made. In addition to the Way of St. James, rural tourism expanded with the number of rooms increasing from 1,262 rooms in 1993 to 3,180 rooms in 2000.

Between 1985 and 1998, the percentage of foreign visitors to Galicia was below 10 percent, which shows the low internalisation of Galician tourism. In 1998, the total number of tourists visiting Galicia represented 6.3 percent of Spain's total of approximately 2 million tourists, a figure double to that in 1985 (Rodriguez and Guisado, 2002).

The increase in the number of tourists in Galicia was due in part to the investments of ERDF programmes. On one hand, the investment in the preservation and dissemination of the cultural and natural heritage of The Way of St James was used as a driver for branding the region; on the

other hand, investment supported the formation of the tourism offer, especially rural and thermal tourism. The increase in the accessibility of Galicia by road favourably affected the affluence of tourism from the rest of Spain.

The number of establishments providing accommodation in rural tourism increased by 113 percent between 2001-2010, from 3,274 to 7,002, but according to the INE (National Institute of Statistics) the room occupancy in 2010 was 16 percent, two points below the Spanish average.

Thermal tourism is strongly displacing rural tourism in both supply and demand. The thermal offer is far more closed, with guests spending a majority of their time on the premises, generating little social and economic dynamics in the environment.

Rural tourism ceased being a priority and became a secondary offer facing serious problems related to extremely low occupancy rates. Rather than generating synergies, thermal and other types of tourism are leading to intense rivalry. Due to the current economic crisis, the prospects are not encouraging (Santos Solla, 2012). At present, rural tourism is experiencing an adverse situation caused, on the one hand, by the competition in the form of thermal tourism and, on the other hand, by the emergence of low-cost airlines at Galician airports, bringing more tourists to the city and therefore considerably increasing urban tourism.

Innovation

The regional and multi-regional ERDF programmes reviewed in this study, had invested €628.9 million in innovation by the end of 2011, equivalent to approximately 5.3 percent of the overall expenditure across the study period. This amount fluctuated over the periods, from 1.6 percent of expenditure in 1898-93 to 0.5 percent of expenditure in 1994-99, to 8.9 and 6.6 percent in the 2000-06 and 2007-2013 programmes respectively (spending is still underway for the current programme, the figures correspond to the CSF's initial allocation).

In the early stages of programming, the developments in innovation were conducted primarily through the NOP of Scientific Infrastructure, which supported equipment purchases in universities and research centres. The Galician ROPs launched actions for the construction and equipping of certain technology labs (rocks and minerals, etc.), aimed at offering technology services to companies. There are few data for the 1989-1999 period, and the achievements reported in the 1994-1999 programme period are limited. They focused on the important issues of the moment such as:

- Research projects for waste utilisation companies and the creation of an environmental laboratory in Galicia.
- The use of information technology in some major culture-related projects. These included actions involving the Galician information highway, the Virtual Library of Galicia, the creation of the Galician Multimedia Centre and the Virtual Way of St. James. The latter project, a multimedia geographical land model, reached approximately 300,000 visits during the St. James year 1999, when 488,000 tourists from abroad visited Santiago.

In the 2000-2006 period, innovation policy was driven by the joint action of the NOP of research and development and expansion of the innovation strategy in the Galicia ROP according to the

Galician RD Plan. The main objectives were to provide support for the implementation of research projects in universities and research centres, to increase scientific and technological knowledge resources, to boost knowledge and technology transfer and business R&D, and to reinforce the regional innovation system and increase Galicia's capacity to innovate and connect with the productive fabric.

The main outputs and results can be grouped in research projects, scientific-technological infrastructure and equipment, technology transfer and research and technology centres. These are the three main items shown in Table 8.

Table 8: Outputs and results

Area	Actors	Outputs / Results
Research projects	Universities and research centres	915 national research projects. 2,190 regional RTDI projects, 13,605 researchers.
	Research and technology centres, universities and enterprises	117 Industrial and Technological Research Projects. Agricultural and agri-food technological research (242), biomedical and health (359). 57 projects for RTDI centres. 323 RTDI cooperative projects among Technology Centres and enterprises. 535 participating companies (438 SMEs).
	Enterprises and technology centres	11 projects of technological industrial development, relatively large projects in the fields of genetics of eucalyptus, cooled and frozen diet products, plastic and ceramic materials, ITCs, etc. Specific research projects in automotive industry and welding technologies.
Scientific-technological Infrastructure and equipment	Universities and research centres	77 scientific and technologically sophisticated equipment to be shared by different research groups in order to optimise its profitability. Equipment for agro-food and biomedical research (large number of small projects). 86 projects for scientific equipment in Galician universities and grants for general services for research in the Galician universities.
	Technology transfer	8 projects for relatively large scientific and technology equipment for technology transfer in vector computing, welding technologies, genomics and proteomics.
Research and Technology Centres	Non-profit, private and universities	27 projects Biotechnology Research Building and strategic areas of biochemistry, pharmacogenomics and proteomics, Biology Research Centre Communications Technology Research Centre, Civil Engineering and Construction Technologies Centre and the Antennas laboratory and Marine Sciences Station. Creation of the Galician Automotive Technology Centre (GATC) and the Textile and Garment Creation Training Centre (TGCTC).

Research projects:

- Research teams and groups in universities, public bodies and research centres (public or non-profit) were awarded ERDF co-financed grants to stimulate scientific and technological research according to the national RTDI plan (915 through the NOP of RTD) and regional RTDI plan (2,190 through the Galicia ROP). Both national and regional projects are awarded (with reports from external evaluators) through public calls. They include funding for university research groups and other research centres for carrying out RDI projects, but in the case of regional projects applications are limited to Galicia and specific regional interest is taken into account.

- Through the RTD NOP, research and technology centres, universities and enterprises are given incentives for undertaking RTDI projects linked to technological industrial, agro-food and biomedical and health research. Whereas, through the Galicia ROP, cooperative RTDI projects amongst companies, research groups and technology centres are encouraged to tackle strategic areas of research from Galicia's regional development perspectives. In total, 323 cooperative projects among companies and technology centres were reported.
- Some relatively large projects for companies and technology centres were granted in Galicia for technological industrial development (genetics of eucalyptus, diet products, plastic materials, ITCs, etc.), as well as specific research projects in key sectors of the Galician economy, automotive industry and welding technologies.

Scientific-technological Infrastructure and equipment was awarded to:

- Universities and research centres, including technologically sophisticated equipment to be shared by different research groups, as well as smaller equipment in agro-food, biomedical and health technologies. Moreover, general services for research and other scientific equipment in Galician universities were co-funded through the Galicia ROP.
- Large scientific-technology equipment was awarded for technology transfer purposes to research and technology centres, including vector computing, laser-welding technologies and genomics and proteomics.
- The Galician Information Highway was completed, a large network structure providing broadband access and connecting the main nodes in the region.
- The Galician Automotive Technology Centre (GTC) and the training and design-oriented Textile and Garment Creation Training Centre (TGCTC) were created. Moreover, 27 research and technology centres were reinforced with new infrastructure and equipment.

In the late 1990s, technology centres did not reach 10 in number, but nowadays, largely due to ERDF financing, there are over 20 in existence. The distribution of Galicia's technology centres fits relatively well with the main sectors of the productive structure of the region (Ministerio de Economía y Hacienda, 2005).The larger projects and research infrastructure listed above fit into a number of major Galician high-technology research specialisations in chemistry, pharmaceuticals, biotechnology, energy and agri-food (La Caixa, 2007, p.80). Moreover, they enhance the Supercomputing Centre of Galicia (CESGA), a unique scientific and technological infrastructure created in Galicia through ERDF support. One of the newly created technology centres was oriented towards the automobile cluster (generating 11 percent of industrial employment and over 30 percent of Galician exports). In addition, the equipment and research capabilities in other centres related to technologies relevant for the Galician economy were strengthened, such as metallurgy, marine science, the ICTs, civil engineering numerical methods, and others.

Currently, Galicia has over 20 technology centres (TCs) with approximately 1,200 researchers but overall, technology is still an emerging sector. Nevertheless, most of these Galician technological centres have relatively good sustainability prospects. An important portion of these centres (including the three largest ones which employ around 50 percent of researchers in Galician TCs) are private institutions based on metallurgical, automobile, fish canning and other industries, whilst most of the others are well established in the National Research Council (CESGA), regional universities and regional agencies linked to important sectors of the Galician economy.

These measures have resulted in an increase in Galician R&D resources. The expenditure on R&D over GDP was 0.64 percent in 2000, 0.8 percent in 2004, increasing to slightly over 1 percent of GDP in 2007, even though it remains far below the Spanish average and that of the most advanced regions.

A large part of RTD investments were focused on strengthening the universities, which have become the chief innovation agents of Galicia, representing 0.89 percent of GDP and 41 percent of RTD employment.

This is largely due to the weakness of the Galician business sector in RTD, which is reflected in the volume of business expenditure on R&D, at 0.39 percent of GDP, and the percentage of research staff in companies, which reached only 0.3 percent in 2006.

RTDI and equipment projects have contributed to fostering research in universities and the public research system and to the increase in scientific and technological knowledge as well as high quality research. Scientific production has increased from 438 publications in 1990 to 1,107 in 1996, and high-quality publications experienced a large increase to reach 2,453 publications in ISI databases in 2005.

The majority of Galician companies are small, have little capacity for innovation, and a small technological base. Most Galician companies are also lacking in innovation culture and innovation management. These companies do not have the tradition of establishing external collaboration and procedures of 'open innovation', enabling them to overcome the limitations of their size and lack of technological resources. For this reason, conducting collaborative projects between companies and research and technology centres represents a positive accomplishment in Galicia. In fact, the realisation of 323 collaborative projects involving 535 companies is quite significant, since it reaches 31 percent of the companies with more than five employees carrying out RTD activities in Galicia.

The programme evaluation pointed out that the results reveal an effective transmission throughout the economic system (from the number of companies mobilised and collaboration projects between enterprises and technological centres), whereby '*the effect of the ROP on the R&D system in Galicia has been especially important in the case of the enterprise sector, as out of the total investment made by these enterprises, 15 percent has been associated with the Programme. Apart from the numerical data on the different indicators in relation to R&D, which are very positive, it is especially important to note the strategic importance this aspect has in the regional policy of Galicia and in the development of the ROP*' (Ministerio de Economía y Hacienda, 2005).

The entire regional innovation system in Galicia is rather modest, and universities play an important role within it. However, interviewees reported that Galician R&D plans have also been very important and have had a lasting effect by spreading awareness of the competitive importance of R&D and innovation. Moreover, 66 percent of the participants in the online survey considered the effect of ERDF programmes on increased R&D and innovation in enterprises as 'equal or superior to quite significant'. It was the second-most-valued issue after transport infrastructure.

R&D expenditure in Galicia is modest, but it increased quickly up to the outbreak of the current economic crisis. Total R&D expenditure in Galicia reached 1 percent of GDP in 2007 (0.6 in 2000),

whilst business R&D was merely 0.5 percent (0.2 percent in 2000). In spite of that, the proportion of Galician companies involved in innovative actions is much higher than that of companies investing in R&D. Twenty-one percent of Galician companies were involved in innovation activities with a similar amount of expenditure as 9 percent of companies investing in R&D (Sáez *et al.*, 2008; IGE, 2007).

In the 2000-2006 period, a number of measures were undertaken to encourage the development of the information society:

- As a part of the process of facilitating the entry of Galician private sectors into the knowledge society, projects were carried out to foster the incorporation of new technologies into the productive and management processes of companies, as well as promoting the development of the ICT sector in Galicia. The main reported achievements were 132 beneficiary companies (providers of ICT services) and 512 jobs created (0.05 percent of employed), and these figures seem reasonable, representing around 0.4 percent (in 2007) of the companies in the ICT sector in the region. A total of 105,589 homes were reported to have been connected to the internet, with a total of 115,409 users of the networks created, representing an increase of 49 percent in network users in the region. The ratio is credible, but some doubts may be raised about whether this result could be directly attributable to ERFD.

- In citizens' services sectors, the reported achievements are credible and refer mainly to cultural and e-administration areas.

- Computer and multimedia projects were implemented in schools, as well as increasing the number of connections for administrative areas and classrooms in schools, to create intranets.

- The Galician Library Network Project connected 300 libraries to the internet.

- The records and databases of graphic and alphanumeric data from urban and rural property registries have been computerised and updated. Moreover, a number of new lines and networks (1,124) were installed to improve procedures and expand e-administration. Output indicators record 355,902 users and 1,103 centres with new connections.

During the current 2007-2013 period, programme implementation has been delayed and adversely affected by the impact of the financial crisis. Programmes are still underway but limited information on achievements is available. The main outputs and results in the RTDI area are 1,999 RTDI projects (64 in the NOPs) for research groups and teams in universities and research centres carried out, as well as 37 RTDI equipment and infrastructure projects (27 in the NOPs) including the laser application centre of AIMEN (Northwestern Metallurgical Research Association), an oceanographic ship, the scientific and technological park CITEXVI in Vigo, etc. The number of participants reached 2,856 with 837 of the RTDI projects implemented in cooperation with companies, with an induced private investment of circa €10 million. In the knowledge transfer area, outputs and results include 740 projects with 341 SMEs, as well as 16 RTDI centres benefiting.

305 innovative and technological investment projects in SMEs have been supported through investment grants with €65 million of induced private investment, leading to the creation of 49 (gross) jobs.

Moreover, the use of ICT in society has been fostered through lines of action mainly involving the promotion and dissemination of information and communication technologies in SMEs (3,732 benefited companies and €11.6 million of induced private investment), as well as in citizen services (civil registers and ICT equipment in Courts), healthcare (ICT equipment in the Galician Health Service) and public administration (e-administration).

Environmental Sustainability

The regional ERDF programmes analysed in this paper, invested the sum of €2,029.9 million in environmental sustainability until the end of 2011, equal to around 17 percent of total expenditure across the study period. The amount differed over time, from 13.6 percent of expenditure in 1989-93 to 12.7 percent of expenditure in 1994-99, to 20.6 and 17.4 percent in the 2000-06 and 2007-2013 programmes respectively (as for the current programme, spending is still underway, the figures correspond to CSF's initial allocation).

Interventions in the early stages focused on environmental structures connected with water supplies, as well as the collection and treatment of wastewater.

With regard to drinking water, the main objectives were to provide supply infrastructure in different parts of Galicia, based on the needs of the main centres of population and areas of different densities, as well as in rural areas in order to reduce the increasing loss of population and to provide and improve wastewater purification and sanitisation infrastructure.

With regard to water supplies, 64 Drinking Water Treatment Plants (DWTP) were operating in Galicia in 1989, with a treatment capacity of 8,758 l/sec, prepared to serve this maximum performance to 3.1 million inhabitants. During the 1989-1993 period, work was carried out to improve and expand supply structures and clean rivers, watercourses and irrigation systems.

During the 1994-1999 period, work continued in different parts of Galicia to capture and supply water (regulation dams, connections, pumps, purification plants, primary distribution network, etc.), including major projects to provide water supplies, the improvement of water treatment infrastructure, and increasing the distribution networks and storage capacities. Reported achievements are 623 km of new distribution networks with an additional 400,000 persons served.

During the 2000-2006 period, water supplies to centres of population and large-scale infrastructure were built. This led to significant improvements to the network, with new conduits covering a total of 1,220 kilometres. A total of 116,600 inhabitants were connected to the new supply remedying 75 days a year of inefficient supply, transporting 19.7 hm^3 of drinking water through the new conduits, with a regulation volume of 50,000 m^3 in new tanks.

Table 9: Evolution of DWTPs in Galicia

Year	No.	Capacity (l/s)	Capacity (m3/d)	Equivalent population
1989	64	8,758	756,676	3,152,816
1994	96	10,059	869,100	3,621,248
2000	172	13,709	1,184,485	4,935,356
2007	231	14,973	1,293,635	5,390,147
2011	259	16,244	1,403,467	5,847,779

Source: Augas de Galicia (2000).

In 2011, the amount of Drinking Water Treatment Plants in operation rose to 259 stations, with a treatment capacity of 16,244 l/sec, serving 5.8 million inhabitants at maximum performance.

Thus, between 1989 and 2011, 195 new DWTPs were implemented (the number has multiplied by 3), with the processing capacity increasing by 85 percent. Consequently, the equivalent of 3.4 million people are served by regular drinking water systems, which means that most of the Galician population now has better access to drinking water.

It is also important to point out that many of the DWTPs that operated in 2011 have been improved through Structural Funds, so that proper treatment of drinking water is now almost guaranteed in Galicia.

With regard to purification plants, the situation of sanitation systems was very poor in most of the main population centres of Galicia early in the 1989-1993 period. In 1989, only 13 wastewater treatment plants (WWTP) existed, and Santiago de Compostela was the only principal city with enough treatment capacity. The other 12 WWTPs were placed in smaller towns. During the 1989-1993 period, the sanitation system situation was considerably improved and 22 treatment plants were built, bringing the number of operational WWTPs to 35.

Water sanitation and purification projects were carried out in a number of cities. The result has been a reduction in the contamination of the region's rivers, estuaries and coasts, improving water sanitary conditions, and making them more attractive as tourist destinations. The quality of the treated wastewater was also improved. In 1989, the requirements relating to the treatment of urban waste water (directive 91/271/CEE Framework Directive for Water) were complied with by merely 13.6 percent of the contaminant load (0.4 million of the equivalent population), whereas at the end of the programme period in 1993 this ratio had increased to 21.6 percent of the contaminant load (0.6 million out of a total of 2.9 million of the equivalent population).

During the 1994-1999 period, investments were increased in sanitation, resulting in a total of 101 wastewater purification plants built for 600,000 inhabitants in different municipal districts. As a result, the degree of compliance with the 91/271/EEC Framework Directive for Water reached 84 percent of the equivalent load (2.53 million population equivalent out of a total of 2.9 million).

Table 10: Evolution of waste water treated and recycled

	Waste Water Treated			Waste Water Recycled			% Water Recycled on Treated		
	Spain	Galicia	% Spain	Spain	Galicia	% Spain	Spain	Galicia	% Spain
2000	0.189	0.137	72.53%	0.018	0.000	0.00%	9.5%	0.0%	0.0%
2006	0.307	0.245	79.85%	0.030	0.001	1.95%	9.9%	0.2%	2.4%
2010	0.283	0.298	105.19%	0.029	0.001	1.80%	10.1%	0.2%	1.7%

Unit: m3/hab./day.

Source: Spanish National Institute of Statistics (INE).

During the 2000-2006 period, large-scale sanitation infrastructure was built together with water purification plants, in order to help preserve and regenerate water resources. A total of 81 new wastewater purification plants were built, supplying 1,320,036 people, and creating 7,035 jobs (0.7 percent of employed) during the construction phase, leading to significant improvements in the collection and transportation of wastewater, controlling the quality of surface and underground water, and sludge management.

Table 10 shows the actual 217 percent increase in wastewater treated during the last programme periods, whereby the gap in wastewater treatment in relation to Spain was overcome, reaching 105 percent of the Spanish average in 2010. At present, Galicia has 151 urban wastewater treatment plants, multiplying the initial capacity by 343 plants reaching the equivalent of 10,000 inhabitants in 1989, with a total treatment capacity at the equivalent of 3,400,000 inhabitants.

However, the objective was to complete the treatment of wastewater discharges and to solve some operational problems hindering the optimal work of some of the plants. Sanitation and wastewater is in the remit of local governments, but many of them lacked financial capabilities for heavy investments in building wastewater treatment plants and sanitation networks. Consequently, wastewater treatment plants were built by central and regional governments and transferred to the local government for their operation. However, in quite a few cases, local governments were not able to operate these plants adequately, nor to use the optimal treatment procedures. At the present time, a new law on water fees and prices is being prepared to allow the regional water agency, *Aguas de Galicia*, to collect water and sanitation fees to enable adequate staff and procedures for wastewater treatment.

The Ría de Vigo, one of most populated areas in Galicia, was suffering severe contamination, and the construction of nine treatment plants along the Ría's coast was begun in eight different municipalities. The project was financed through the Cohesion Fund and the total cost of the project amounted to €171.52 million. Due to the project, all the municipalities of Ría de Vigo are now provided with a system to collect and treat all urban wastewater produced by inhabitants, tourists and some commercial and industrial activities, corresponding to a total number of 620,000 population equivalent.

The case of the integral sanitation of the Ría de Vigo (EC, DG Regional Policy, 2012a) illustrates the value of environmental purification infrastructure which produced an immediately positive effect on the environment through the reduction in the contamination of the Ría, which was putting the entire ecosystem at risk, and enabled an increase in environmental quality. These interventions effectively improved water quality. The main benefits of the project are listed below:

- Recreational activities linked to the use of water and beaches are the main factors that have a positive effect on beneficiaries' quality of life. This effect has been evaluated through the inhabitants' willingness to pay for the wastewater treatment service and has been included in the ex-post Cost Benefit Analysis. The results are positive: a net present value of €46.81 million and an economic internal rate of return of 5.86 percent (at 2011 prices).

- The improvement in the Ría's water benefited tourism development, stimulating the development of tourist accommodation and a number of economic activities related to the use of beaches.

Using the cost-benefit methodology, the present value and the financial rate of return of the investment have negative values (-€292.14 million and -5.33 percent, respectively). Consequently, on a purely financial basis, the project would not have been viable and required subvention. However, the project (made viable by EU aid) had an overall positive impact on economic growth, welfare and the environment. Nevertheless, these effects could have been maximised through the more accurate planning of the interventions and project design by the Galician Water Agency (*Augas de Galicia*). Furthermore, increased regional funding for addressing the wastewater management issues throughout the region would also have contributed to the implementation of the best project option (EC, DG Regional Policy, 2012a).

With regard to **waste materials**, projects have focused on the collection, treatment and elimination of solid waste, as well as the creation of infrastructure for selective waste collection.

During the 1989-1993 period, work included the construction of a physical and chemical treatment plant for toxic and hazardous waste and adjacent facilities, in order to solve the problem of uncontrolled waste disposal in the area of Somozas (A Coruña).

In the 1994-1999 period, the Cohesion Fund financed the major SOGAMA project for the improvement and treatment of solid waste in Cerceda. In the absence of effective and urban waste compaction, the management became unsustainable and caused a large negative environmental impact. This led to the creation of SOGAMA in Galicia in 1992 to promote a new waste management system.

The SOGAMA project was completed in 2000 and became operational in 2001, serving a population of 1.8 million people. Nowadays, SOGAMA manages 81.4 percent of total waste generated in Galicia, 1.2 million tonnes of mixed waste per year, of which approximately 500,000 tonnes can be treated by incineration. The total investment cost of the SOGAMA project (€147 million) was co-financed at a 47 percent rate by the Cohesion Found.

SOGAMA contributed to the minimisation of environmental risks and polluting processes, the complete elimination of methane gas emissions, the reduction of uncontrolled landfills with remarkable environmental and landscape enhancement, and a clear improvement in the quality of life.

The SOGAMA project has proved to be highly suitable for the Galician urban dispersion and low population density (building intermediate transfer stations spread throughout the territory) and

solved an important problem of Galicia in early 1990s, that of a waste management system based on the waste spill in illegal landfills.

However, the project faced some problems, the first of which was the relatively poor environmental awareness of citizens regarding waste separation, which prevented taking full advantage of the project profitability, and secondly the uncertainty of the local government commitment to enter and effectively pay for the system, which limited the dimensions of the plant that is now unable to adequately meet the flow of urban waste generated in Galicia (EC, DG Regional Policy, 2012b).

With regard to **environmental activities**, in the 1994-99 period, this theme focused on the performance of studies for the rational exploitation and conservation of marine resources. During the 2000-06 period, the objectives focused on the recovery of ecosystems, on correcting ecological impacts in the coastal space and the preservation of biodiversity, through the protection and regeneration of the natural environment.

Galicia's geographical location, alongside one of the world's busiest shipping routes with a refinery in the city of A Coruña, means that it is regularly affected by accidents such as the 'Prestige' oil spill. Galicia has suffered 5 of the 11 most important tanker accidents in Europe and 10 percent of damage caused by oil spills in the whole world over the last 30 years.

The 'Prestige' disaster led to 77,000 tonnes of fuel oil being spilled onto Galicia's coastline, the fifteenth largest accident in terms of the number of tonnes spilled by a tanker in the world. It was also the largest accident in the last ten years in terms of the amount spilled and the amount of coastline affected (more than 1,000 kilometres).

The accident of the Prestige near the coast of Galicia generated an ecological catastrophe. Table 11 shows the portrait of the oil spill, the progress of the works to clean affected areas and an abstract of the environmental damages. Cleaning works and environmental restoration measures were supported by the ERDF and the CF and were carried out in an effective manner. After six months the most of the beaches were cleaned and four years later the environmental situation became normalised. However, the costs were considerably high both for the persons directly affected and for the citizens.

Among the damage caused by the 'Prestige', 1,000 km of shoreline were affected, 120,000 people were directly or indirectly affected (the fishing industry and related sectors), and cleansing costs and other technical aspects (mid-January of 2003) amounted to €950-1,000 million.

The disaster costs include the clean-up added to the recycling costs, the cleaning and the residues removal; application of pressurised hot water over the affected areas; and techniques of bioremediation and phytoremediation. An initial estimate of the costs of the clean-up process and biological regeneration of the shore approximates €895 million (Laxer, 2004).

Table 11: Prestige accident: damages and remedies

	Spilling	Cleaned areas	Environment condition
3 months	40,597.27 tonnes of fuel on the beaches	49,000 tonnes of sand collected; 45,000 m^2 of rocks, 7,200 ha of ocean floor	The situation is still critical; there is much to be done.
6 months	51,685.58 tonnes of fuel on the beaches (Nov2002-May2003)	88.5% of the Galician beaches (640) 61% of the sandy areas	The situation is very much better, almost all the beaches are cleaned. The beaches are considerably better.
4 years	None	finished	The environmental situation is normalised. Some areas of flora and fauna are still recovering.
10 years	none	finished	The local environment is totally recovered, there is no trace of waste.

The analysis of peoples' willingness to pay for the prevention of another similar fuel-oil disaster[20] reveals the willingness to pay approximately €55 on average per home, which, multiplied by the number of homes equals a social willingness to pay €774 million (Loureiro *et al.*, 2007). The conclusion is that the costs of the Prestige's accident are doubled when they are properly computed taking into account peoples' concern for the natural environment.

Infrastructure

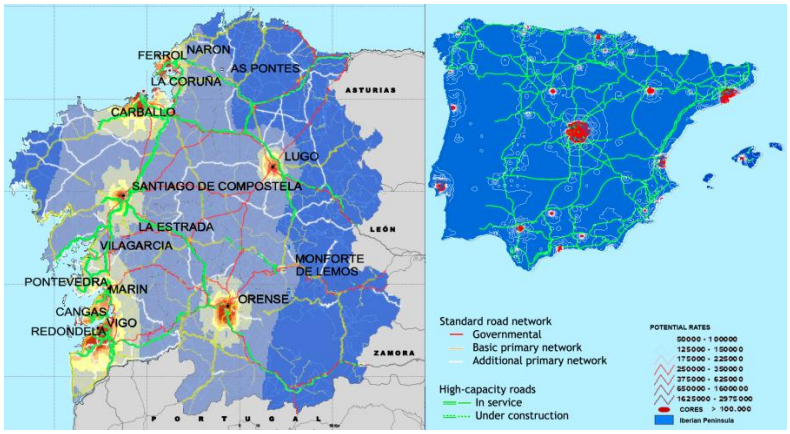
The ERDF programmes reviewed in this study, regional and multi-regional, invested €7,223.1 million in the theme of regional infrastructure endowment and spatial distribution activity up until the end of 2011, equivalent to approximately 61 percent of overall expenditure across the study period. This amount fluctuated over the periods, from 63 percent of expenditure in 1898-93 to 70 percent of expenditure in 1994-99, to 54 and 62 percent in the 2000-06 and 2007-2013 programmes respectively, whereby spending is still ongoing in the current programme with figures corresponding to CSF's initial allocation.

With regard to **transport infrastructure**, the main goal in the first programme period was to improve internal connections and networks within the region. To do so, a series of communication networks were established between different areas to create a main grid with two main axes running from north to south and from east to west. This involved improving the accessibility of the roads, in accordance with the need to improve communications with surrounding areas and connecting with Spanish and European road networks, as well as establishing a smooth communications network inside Galicia.

These goals were achieved through two actions. The first focused on the interior north-south and east-west axes, and the other on improving road infrastructure along the coast. Both sought to achieve a range of socio-economic effects, such as improving road safety, reducing driving times between areas, connecting the coast with the interior, improving the tourism and services sector, and connecting markets.

[20] Implemented by means of a questionnaire based on the contingent valuation method.

Map 3: Galicia territorial articulation



Source: Own elaboration with the Master Road Plan of Galicia, 2012.

During the 1994-1999 period, four main actions were carried out: the first focused on national highways (10 sections of the N-6 Northwest Highway), the second on national roads (several sections of the N-525, N-640 and N-6 national roads), the third focused on connections in rural areas (10 sections close to the main cities), and the fourth focused on improving connections with the main north-south and east-west roads and with Portugal.

During the 2000-2006 period, work continued to focus on roads and motorways, aimed at connecting the high-capacity roads with metropolitan areas and the interior of the region and improving the network of conventional roads. In this case, two main measures were carried out: firstly on conventional roads and highways (between Madrid-A Coruña and the Cantabrian highway) and secondly on motorways (the Santiago-Dozón section of the Santiago-Ourense motorway, and the major AP-53 motorway project from Santiago to Alto de Santo Domingo in Ourense).

During this period, another large-scale project was carried out through the Cohesion Fund on the southern access to the centre of Spain with the Rias Baixas (A-52), which apart from connecting Vigo and Ourense, completed the access to Benavente and the centre of Spain, through the southern exit via Portillas del Padornelo and the tunnel of La Canda.

Table 12: Reported achievements of roads and motorways

Reported achievements *	94-99	00-06	Total
New Highway (km) ERDF+CF	232	393	625
Renewed road (km)	869	605	1474
Roads and fast tracks (km)	78	25	103

Source: Own elaboration based Galicia OP data.

* Reported achievements for central government actions in 1989-1993 are unavailable.

According to data from EUROSTAT, Galicia's highway network grew between 1994 and 2009 (the last year used for certification for the period 2000-2006) by 722 kilometres, with reported achievements showing that 87 percent were co-funded by the ERDF and CF. Consequently, from the beginning of the 1990s until 2010, Galicia went from being a region with serious communications deficiencies to having infrastructure slightly above the national average, with its number of motorways rising from 47.5 percent of the Spanish average in 1990 to 116 percent in 2010, although

it is important to note that a peripheral region with a dispersed population such as Galicia has a greater need for these types of communications.

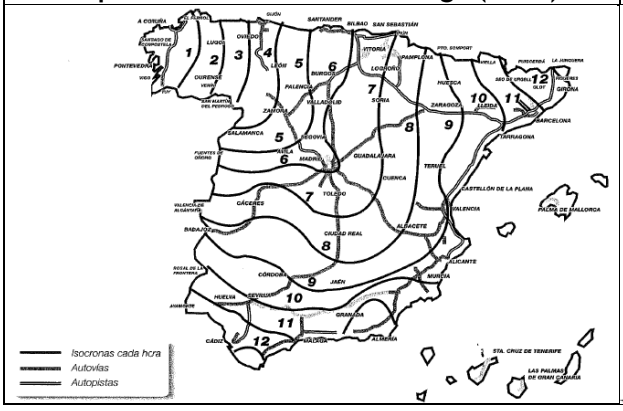
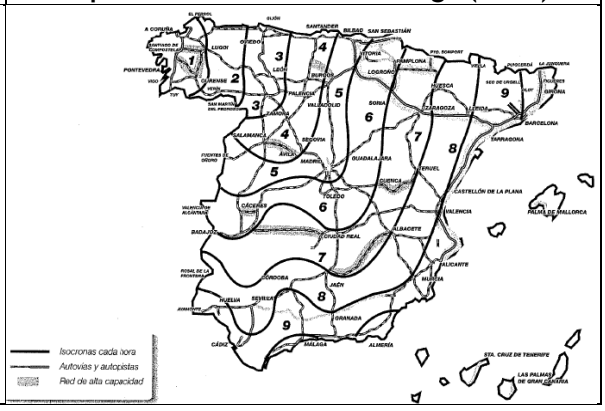
During the 2006-2010 period, according to data from the Galician Institute of Statistics (IGE), the amount of traffic on Galicia's highways rose by 52.3 percent. This effect of rising traffic on the new highways (from 755 vehicles per km to 1150 vehicles per km) has been accompanied by a relative stagnancy of conventional roads (from 5587 vehicles per km to 5376 vehicles per km).

This change has had a beneficial effect on road safety (since the accident rate is greater on roads than on highways), leading to a reduction in accidents with fatalities: statistically speaking, road deaths in Galicia fell from 366 in 2004 to 237 in 2010, a decrease of 64 percent. Although in Galicia this reduction is mainly attributable to improvements in the road network, a number of other factors have also been implied as having led to the reduction in accidents including improvements in driving regulations and improved vehicle standards.

Galicia's highways connect the region's interior urban areas, creating relatively uniform and high-quality access routes, as practically all of its towns and cities are within one hour of Santiago de Compostela (see triangle 1 on Map B). The reduction in travelling times in Galicia has led to the increased closeness and improved connectivity between the most distant areas, traditionally found in the south of Galicia (Ourense-Verín).

Improved access in the region has led to a reduction in travelling times, and the shrinking of the map of Spain. Previously, it took two and a half hours just to reach the neighbouring region of Castile-León. Map B shows how Madrid is now situated between isochrones 4 and 5, compared to its previous position in isochrone 6 (Map A) and that the frontier with France and Andalusia is now situated between isochrones 8 and 9 (Map B), compared to its previous location between isochrones 11 and 12 (Map B).

Map 4: Isochrones from Santiago

Map A: Isochrones from Santiago (1993)	Map B: Isochrones from Santiago (2006)
	

Source: The economic effects of the highways in Galicia (Pérez Touriño, 1998).

The effects are extremely positive, especially for distances of up to 5 hours from Santiago, with isochrones reaching as far as the south of the Region of Madrid which previously, without the highways, barely reached the border between Zamora and Salamanca.

Table 13: Motorways in Galicia

Highway	Time saving Light vehicles (min.)	Time saving Heavy vehicles (min.)	Time saving (m€)	Saving of accidents (m€)
Rías Baixas				
Porriño-Ourense	63	49	3,751	149
Ourense-Benavente	88	49	983	214
North-West				
A Coruña-Lugo	31	16	1,450	166
Lugo-Benavente	82	40	1,125	150
TOTAL	-	-	2,574	315

Source: 'The economic effects of the highways in Galicia' (Pérez Touriño, 1998).

The result has been a reduction in travelling times and regional imbalances, connecting previously remote regions such as the south of Galicia. The new high-capacity road networks have meant that the peninsula as a whole, and Galicia in particular, now has relatively uniform levels of accessibility, with a high technical quality. The accessibility of the more remote areas has been increased. In 2006, 71 percent of the population had an access time to any motorway under 15 minutes, while only 0.9 percent of the Galician population had an access time higher than one hour. The decrease in travel time and the improvement of the connections has positively influenced the economic activity in many small towns in inner Galicia.

The social benefits brought about by transport infrastructure include those derived from reductions in terms of time, accidents and vehicle operating costs. Benefits are mostly made in cost savings due to the reduction in the number of accidents and the direct benefits resulting from reductions achieved in travel times. Naturally, the total amount of benefits depends on the traffic flows captured by the new motorway. The motorways connecting Galicia with the central Spanish network (Coruña-Lugo-Benavente and Porriño-Ourense-Benevente) generated a present value (time savings multiplied for road traffic with discount rates between 4-6 percent) of approximately €738.69 million and €1,217.3 million for the north and south Galician access motorways respectively.

However, the transport system in Galicia still presents significant problems in relation to the lack of interconnection between and within modes. The lack of intermodal logistics centres, as well as connections between modes, results in an inefficient freight distribution network. This inefficiency leads to the dominance of road transport in freight haulage, associated with severe problems caused by the transit of heavy goods vehicles (EC, DG Regional Policy, 2009).

During the current period of 2007-2013, the aim is to complete the connection with trans-European networks, to promote intermodality, and to improve transport communications within the region and road safety.

With regard to **railway projects**, rather unsubstantial projects were carried out in the periods of 1989-1993 (renewing tracks, improving tunnels and safety, etc.) and 1994-1999 (improvement and renovation work, as well as work on passenger and goods terminals).

In the 2000-2006 period, modernisation and construction work on tracks for high-speed trains in the Atlantic axis Coruña-Santiago-Vigo (Trans-European Network) commenced. During the current period, work has continued on the high-speed line Coruña-Santiago-Vigo and the high-speed train line Coruña-Santiago-Ourense for a connection with the rest of Spain.

With regard to **airport projects**, the aim has been to improve and adapt airport structures in the region (A Coruña, Santiago and Vigo). During the 1994-1999 period, work was undertaken in the three Galician airports, including a helicopter and light aircraft hangar, refurbishment of the runway and remodelling of the control tower in Coruña, remodelling of the control tower, runway and landing strip in Santiago and the refurbishment of the electrical control system and extension of the runways in Vigo.

During the 2000-2006 period, further work was carried out in the three airports, including the extension of the terminal in A Coruña, a new control tower and emergency power system in Santiago and the extension of the car park in Vigo.

During the current period, work has been undertaken in all three airports with the car parking facilities and a new electricity supply system in Coruña, the extension of the terminal in Vigo and the new airport terminal building in Santiago.

Santiago is a regional airport whilst the Coruña and Vigo airports fall into the local category. These three cities are located close to each other, with Santiago in the centre of the most populated metropolitan areas, Coruña and Ferrol in the north and Vigo-Pontevedra in the south. The Galician airport dynamism has resulted in strong growth in the number of passengers over the past years from 1,421,621 in 1991 to 3,744,783 passengers in 2005. This represents a cumulative increase of 163.4 percent (133.8 percent above the Spanish average). Santiago is the main airport in Galicia, both in the number of passengers (48.1 percent in 2005) and in the number of operated flights and companies. However, due to the major push of the other two airports of Vigo and A Coruña (211.3 and 370.1 percent of accumulated increase, respectively), there is a clear tendency towards a reduction in its regional share. The problem lies in defining the role corresponding to the airports and the access systems from the major metropolitan areas of Galicia.

The improved air accessibility has a positive effect on business clusters (tourism, textiles, automotive, construction, shipbuilding, telecommunications, etc.) and even on citizens' quality of life.

With regard to **port projects**, the aim of the 1989-1993 CSF was to carry out refurbishment work on ports and their associated commercial facilities in order to facilitate the transportation of goods and to support fishing and tourism activities in order to improve the economy of small coastal towns.

During the 1994-1999 period, the Xunta carried out two types of actions: the first consisted of improving port infrastructure (building and extending quays and sea walls, building new shore ramps, and improving operating conditions on quaysides by increasing draughts); and the second consisted of the specialisation of ports for unloading products of aquaculture (building and extending quays and building new unloading ramps exclusively for fishing and shell-fishing activities and improving the areas around ports to facilitate their integration in urban centres).

In the ports of general interest, the State Port Authority carried out improvement work on the infrastructure of different Galician port authorities, which included extending the docks and developing commercial and repairs areas, extending the Fernández Ladreda dock for the port authority of Ferrol-San Ciprián, the commercial dock and seafront promenade in Marín, and the new Ferrazo dock in Vilagarcía de Arosa.

During the 2000-2006 period, actions in the port sector focused on promoting functional diversification. The Ports of Galicia public company carried out work in 66 ports belonging to the regional network, with 1,745 lineal metres of sea walls, dredging 407,000 cubic metres to increase draughts, carrying out improvement and development work on 570,673 square metres of port areas and creating 5,698 new moorings. These actions helped to improve the region's port infrastructure, enhancing their connections and access.

In turn, the State Port Authority carried out actions in different port authorities (Ferrol, A Coruña, Marín-Pontevedra, Vigo and Vilagarcía de Arousa), but the largest projects have been financed through the Cohesion Fund.

The inner harbour of Coruña contains Galicia's petrol terminal, on the edge of the city and with an oil pipeline close to the urban area. Tanker accidents and the possibility of fires, similar to that which occurred with the 'Aegean Sea' in 1992, pose a serious risk to the city. Following the Prestige[21] disaster, it was considered necessary to move potentially hazardous and polluting maritime traffic from the centre of the bay of Coruña, by building an outer harbour at a distance from the city centre.

Map 5: Coruña outer port future expansion

Source: Outer port (2011).

The main purpose of the outer harbour is to solve safety problems in the maritime corridor in front of the Galician coastline, which carries a large amount of goods vessels into Central Europe and the English Channel.

The outer harbour has already opened for goods vessels and it may be the site of the new petrol products terminal for Galicia, although the company in charge has still not made the decision to relocate. The recent decision by Petróleos Mexicanos (PEMEX) to request the location of its logistics

[21] Preceded by others: the Erkowit (1973), Urquiola (1976) and Aegean Sea (1992).

centre for distributing bulk liquids for Europe has increased the possibilities of it becoming a logistics centre for the distribution of petrol products and other bulk products. However, there are still some problems to be solved, as revealed by the report from the European Court of Auditors for the 2000-2006 period, which highlights the absence of suitable highway or train access from the dock.

The 2000-2006 Cohesion Fund financed Stage 1 (construction of a seawall measuring 3,360 m, a breakwater measuring 215 m, a quay measuring 900 m, a port esplanade covering 150 hectares and road access to Sabón industrial estate) with aid of €257.54 million. For Stage II (involving the construction of an additional seawall measuring 391 m), the 2007-2013 Cohesion Fund has provided additional aid.

The outer harbour of Ferrol, in Cape Prioriño, specialises in supplying coal to the As Pontes power station, and has a biodiesel, plant oil and methanol plant. It also has a multi-purpose terminal and container terminal, allowing it to specialise and service container vessels due to its maximum draught of 20 metres. It is still not competitive in this area, as it needs rail connections to improve the operation and communications of this terminal. Following the completion of Stage 1 in 2005 (involving the construction of a quay measuring 858 m and the improvement of adjacent areas) to extend the port with a subsidy of €38.5 million from the 2000-2006 Cohesion Fund, Stage II was requested and awarded in 2008 (involving the construction of a quay measuring 657 m, the construction of a wharf measuring 145 m, new control buildings, multiple-use buildings and the construction of access roads and railway connections) with aid from the 2007-2013 Cohesion Fund of €26.2 million.

Territorial Development

In the field of territorial development, work was mainly directed at eliminating the imbalances existing in terms of infrastructure and basic services by improving production conditions through electricity supplies in rural areas, the integral development of rural areas by improving road network conditions, conditioning and developing urban spaces with parks and open areas for leisure and relaxation, facilitating communications by building bus stations and by improving the infrastructure and equipment of urban fire fighting and rescue services. During the 1989-1993 period, electricity supplies were provided to different municipalities throughout the whole region in order to improve production conditions.

The distribution of the population and the complexity of the Galician orography, in addition to weather conditions, conditioned the development of telecommunications in the region for years. Following the traditional system consisting of pole lines and wires, in the late 1980s €1.4 billion were required in order to bring the phone to the entire region.

The problem was that outside of the city centres and urban areas, the telephone service was not accessible to the majority of the people at affordable prices. This was due to the demand of an installation fee for the amount of the costs of the laying of the line from the nearest point, which often reached very large quantities (on average, it meant a cost for the phone line applicant of €2,792, exceeding €9,000 in some cases). The ERDF support provided investments in network infrastructure in order to solve the problems of access.

In late 1995,102,000 rural isolated houses were upgraded from near total isolation to have telephone lines available. This was due to the involvement of Total Urban Area for phone purposes of Galicia as a whole.

The Rural Telephone Plan has been included in the ERDF Operational Programme of Galicia (1994-1999). The allocated funding was €29,171 million.

Finally, after these actions the number of telephone lines in service in Galicia per 100 inhabitants (1997) was 34.87, the number of phone lines in service being 971,228.

During the 1994-1999 period, work was undertaken on sanitation networks, normally underground, to provide centres of population with the necessary conditions of health and hygiene, to provide basic road networks in order to overcome deficient communications, and to provide water and lighting, focusing on municipal districts in the interior of the region. These actions were aimed at correcting the imbalances existing in the basic infrastructure and services in 307 municipal districts with less than 50,000 inhabitants in order to improve their socio-economic development. Road networks were constructed with the aim of developing rural areas. The Local Cooperation Fund project contributed towards improving small local infrastructure in the smallest municipal districts of Galicia.

A very large number of local infrastructure small projects in municipalities with small population were financed through ERDF by the Local Fund Galicia ROP 1994-99. Small infrastructure ranged from underground sanitation networks to lighting networks. In particular, the 2000-2006 Local NOP financed many local infrastructure projects, and 674 kilometres of small local roads whose relevance is hard to assess were constructed or either renovated. Largely, it seems to be part of a manifestation of the underlying objective of addressing multiple local interests across the region.

Social Cohesion

The regional and multi-regional ERDF programmes reviewed in this study invested €580 million in the theme of social cohesion up until the end of 2011, equivalent to circa 5 percent of the overall expenditure across the study period. This amount fluctuated over the periods, from 7 percent of expenditure in 1898-93 to 8 percent of expenditure in 1994-99, to 2.5 and 4 percent in the 2000-06 and 2007-2013 programmes respectively (in the current programme, spending is still underway, and the figures correspond to CSF's initial allocation).

In the case of **Educational Facilities**, the aim is to raise the educational level of the population for individual, social and economic benefits. To do so, a series of actions have been carried out in order to provide educational infrastructure in line with future needs, enabling all students to have access to educational facilities, thus correcting the imbalances in terms of the school attendance rate and inequalities in terms of geographical distribution in the region. In order to achieve this objective, actions have been carried out in all of the analysed periods.

During the 1989-1993 period, the level of the existing educational facilities was improved, helping to increase the level the workforce's qualification and the development of the labour market. This was achieved by the creation of the Institute for the Welfare of Seamen of the Maritime Vocational Training Centre of Bamio, the construction of a vocational training centre in Narón (A Coruña) and the construction and equipping of the School of Agricultural Engineers in Lugo, the School of

Information Technology in A Coruña, the Polytechnic School of Foodstuff Technology in Ourense, the School of Marine Sciences in Vigo, and the School of Civil Engineers in A Coruña.

During the 1994-1999 period, three actions were carried out in the field of education: one for the creation and improvement of educational centres, consisting of building work, expansions and improvements of centres in the three university campuses in Galicia and in secondary schools, vocational training centres and language schools; another action aimed at improving technical and professional training, involving the construction of a Higher School of Hostelry of Galicia; and a third action involved the integration into the labour market of people with specific difficulties, with the construction of a socio-cultural centre and the provision of equipment in penitentiary centres.

During the 2000-2006 period, the General Secretariat of Education created 35 new educational centres, improved a further 68, and installed a total of 232,000 new pieces of equipment. These interventions included the refurbishment of centres and the creation of new centres for the implementation of academic courses in line with the business fabric and social needs of each location, an example of which is the construction of an Infant Education Centre in Milladoiro (Ames), or the construction of the Official Language School of Vilagarcía and the Music Conservatories in Santiago and Pontevedra.

During the current 2007-2013 period, the goal in the area of education has been the improvement and extension of educational centres and the provision of equipment. The largest interventions have been the extension of the Dionisio Gamallo Fierros secondary school in Ribadeo (60 new places) and the construction of the Milladoiro Secondary School due to a high demand for school places in the area surrounding Santiago de Compostela. Equipment has also been provided to 22 vocational training centres, with 189 different didactic elements. To date, payments in the period of 2007-2011 for this area stand at €13.68 million (73.12 percent of programme implementation).

All these investments in education in Galicia led to an improvement of secondary education figures, reducing the rate of illiteracy from 3.3 in 1991 to 1.1 percent in 2001 and the school dropout rate fell from 29.3 percent in 2000 to 20.8 percent in 2011, especially amongst the male population (decrease in dropout rate of over 12 percent).

In the 1990s, engineering careers were developed in Galicia supplying a deficit of human capital in this field. Careers such as Civil, Shipbuilding and Computer Engineering were created. This laid the foundations for research activities during the late 1990s and concluded with the construction of the Technological Innovation Centre of Building and Civil Engineering (CITEC) and the Investigation Centre of TIC (CITIC). The number of graduates at Galician engineering schools in 2003 was 2,010, increasing to 2,431 in 2009 (20 percent).

In the area of **healthcare and social facilities,** the goal is to ensure the social welfare of all citizens, resulting in the need to implement a basic network of healthcare and social services covering the entire region.

During the 1989-1993 period, primary healthcare facilities were insufficient and required efforts by the authorities to create an infrastructure adapted to all of the municipal districts in the region. This led to the construction and establishment of basic facilities in specialised healthcare centres

including the Regional Hospital of Verín, the General Hospital of Galicia in Santiago de Compostela, and primary healthcare centres in Galicia's four provinces. Due to the construction of these primary healthcare centres, the healthcare network reached more than 50 municipal districts in the region, thereby improving healthcare coverage for highly dispersed centres of population.

During the 1994-1999 period, work continued on the creation of healthcare infrastructure (primary healthcare units and services) and specialised centres, with the construction of regional hospitals in Barbanza (Ribeira) with the creation of 86 beds and the Costa da Morte (Cee) with 72 beds. Specialised healthcare infrastructure, such as the Juan Canalejo hospital in A Coruña, was modernised.

During the 2000-2006 period, the Galician Health Service focused on improving the accessibility, safety and comfort of health centre users, as well as improving their quality level and adapting them to the use of new technologies. Improvements were carried out in health infrastructure and equipment belonging to the Galician Health Service (SERGAS), including the refurbishment or improvement of five hospitals by means of integrated plans: Arquitecto Marcide (Ferrol), the Ourense Hospital Complex, Montecelo (Pontevedra), Juan Canalejo (A Coruña) and the radiotherapy and nuclear medicine building at the Clinical Hospital of Santiago.

The 2007-2013 Operational Programme for Galicia aims to refurbish and improve health and social centres in order to facilitate living conditions for the elderly and people in care.

Actions have focused on refurbishing and reconditioning premises such as the healthcare centre for sufferers of Alzheimer's, the Torrente Ballester home for the elderly in A Coruña, a day-care centre in Mera, and the opening of new centres such as the José Otero-Carmela Martínez Foundation home for the elderly in Santiago de Compostela.

5.1.3 Institutional factors affecting achievements

From the time of Spain's entry into the EU, central and regional governments have collaborated in the programme and the management of the Operational Programmes. The establishment of specialised general directions (DGEP) in economic planning and management of European funds has facilitated the coordination and the design of appropriate mechanisms for instrumentation. The dialogue and coordination between central and regional government DGEPs was continuous and managed to channel most to the problems.

The steps taken by various levels of government on the regional territory were coordinated according to their fields of competence. There are no noteworthy issues in this regard, except the complementarity between the Galicia's regional development policy and the Structural Funds, as well as the integration between the programmes' annuities and the budgets of the central and regional governments. Both issues will be discussed in the sections on complementarities and strengths in implementation. Nevertheless, the budget instrumentation of the annual Operational Programmes merits some comment.

The planning-programming-budgeting cycle in Galicia (as in other Objective 1 regions of Spain) was completed with the integration in the budget of the beneficiary bodies and the ERDF-allocated funding, so that the ERDF annual funding allocations were written as appropriations in the budget of beneficiary bodies, to be spent in line with the eligibility conditions determined by the

programme. The procedure had the effect of facilitating the implementation of the funds and their pursued achievement.

The coordination with local levels of government was carried out appropriately, in general terms. However, a certain imbalance between the competences and the financial and technical capabilities of local authorities in Galicia posed problems for the wastewater treatment procedures. The central and regional governments built wastewater treatment plants and transferred them to the municipalities, but the future operating conditions were not studied and agreed, in many cases local governments did not provide technical staff or the most appropriate treatments for purification. Legislation is currently being prepared that would allow the Galician Water Agency to collect fees for the purification services in order to secure adequate provision.

Regarding solid urban waste, the regional government with funding from the Cohesion Fund, launched a project for the collection and controlled incineration to produce electricity (SOGAMA), whose viability and dimensions depended on the adhesion of local governments to the system. This political issue was not solved properly and impeded to take full advantage of the potentialities of this project. Nowadays, the SOGAMA plant is close to its capacity limits and cannot cope with the expected growth of urban solid waste in Galicia.

Other small municipal infrastructure has had maintenance problems, due to lack of demand and difficulties in covering operating costs. Some cases include a nature interpretation centre, an astronomical observation room, and a fountain with water impulsion in Galician small towns.

5.2 Complementarities and synergies

Coordination among EU Structural Funds and domestic funding in Galicia, as in most of Spanish Objective 1 regions, starts at a planning level. The successive regional strategic plans provided the grounds for the Regional Development Plans and the negotiation of the separate Community Support Frameworks (CSF). Consequently, the Galician ROP and the different NOPs determined the concrete priorities and fields of intervention to be supported by ERDF programmes. Eligibility conditions and project selection criteria, as well as annual funding allocations are introduced in the budgets of the beneficiary bodies (generally public bodies). This procedure facilitates a tight coordination and complementarity between domestic and ERDF funding. In Galicia, ERDF funding used to be matched with the Spanish fund for supporting investment in less developed regions (Inter-territorial Compensation Fund, FCI). At an implementation level, coordination between investments from European funds and national funds are facilitated through the budgetary procedures ruling project selection criteria and public spending.

5.2.1 Complementarity between ERDF-funded programmes

Coordination between the ERDF and other EU funds is mainly carried out as part of the planning of the Community Support Framework (CSF), whereby the different types of Operational Programmes (OPs) that will be implemented in order to develop the priorities defined in the CSF are designed. The negotiation of the CSF for the different programme periods based on the strategies and development plans for Galicia allows for complementarities and synergies between investment from European Structural Funds and the corresponding funds from the regional and central governments,

which are the main agents responsible for the programming and implementation of Structural Funds in Galicia.

The eligibility conditions[22] are frequently used to assign specific priorities to each of them. This is normally the case when investments in fixed assets (buildings and equipment) are funded with the ERDF, and operating expenses (teacher's salaries, grants, etc.) are funded with the ESF. In Galicia, a large number of schools and vocational training centres have been equipped by the ERDF with the educational programmes linked to entry into the labour market partly funded by the ESF, as well as training courses for the unemployed and young people.

As previously mentioned in Chapter 3, the CSFs of the different programme periods are structured around a major ERDF Regional Operational Programme (ROP), focusing on the territory of the region, and in which Galicia's development requirements are dealt with through investments from the regional and central governments based on the different spheres of responsibility. In addition, a number of National Operational Programmes (NOPs) are underway in Galicia from the central government for the Objective 1 (convergence) regions in Spain, focusing on specific areas.

The specific nature of the national programmes has considerably helped the complementarities and synergies with the regional programme in the different programme periods. In the first programme periods, the NOPs were responsible for infrastructure and local development needs in small and medium-sized municipalities, as well as for environmental issues and water infrastructure. The Cohesion Fund contributed significantly to transport infrastructure (the southern motorway access to central Spain connecting the territory along the Portuguese border) and to environment (the solid urban waste management system, the sanitation of Ria de Vigo, etc.). The remaining regional development needs dealt with by ERDF NOPs were regional incentives and research and technological development.

The classic measure of regional incentives (regional funding) was managed as a national programme[23] but was well coordinated with regional investment aid. This coordination was facilitated as the management process was carried out in Galicia by the body, which was also responsible for managing the same funding from the regional government. Incentives were granted between the central and regional governments in a coordinated manner in order to guarantee conformity with the aid limits permitted by Competition Policy, although in general the funding was significantly below the maximum limits. The result of the coordination process was good, and the regional incentives encouraged investment in Galicia, attracting approximately 30 percent of the capital from outside of the region during the 1990s. Throughout the 2000s, they also contributed towards the capitalisation of Galician industry during the period of growth.

Within the sphere of enterprise policy, actions by the central government in the early 1990s were carried out via the SME Initiative, continuing with the Consolidation and Competitiveness Plans for Small Enterprises (PCCP) as part of the Competitiveness NOP (for the 2000-2006 period) and with the INNOEMPRESA project (included in the ROP for the current period). These actions (referred to in Section 5.2) were aimed at promoting enterprise culture and management in areas such as

[22] Used to describe the conditions that determine the types of expenditure that can be financed by different funds.

[23] This was managed as a national programme in the initial programme periods, then formed a part of the Competitiveness NOP in 2000-2006, and it has finally been included in the Galician ROP in the current period.

information technologies, quality and design, and were managed in Galicia through the regional development agency, the IGAPE, which helped to strengthen synergies with regional actions and reached a relatively important number of companies (545), approximately one percent of the companies in Galicia.

In the area of Research and Development, the NOP for scientific infrastructure covered aid for universities and research centres during the initial programme periods, extending their scope from infrastructure to research projects (2000-2006 Research and Development NOP), as well as the transfer of technology and research in enterprises with the two NOPs for the Knowledge Economy and the Technological Fund for the current period, 2007-2013. As a result of encouraging the development of regional innovation systems in the regional programmes, coordination between the different types of ERDF programmes increased. In terms of infrastructure and research projects, investments from the central government generally correspond to the measures of the National R&D Plan. The actions carried out by the Galician government are complementary, focusing on Galicia's universities and research centres, paying special attention to projects' importance for regional development, especially for the transfer of technology and cooperation in enterprises. The regional funding for R&D in enterprises focuses especially on the features of SMEs in Galicia, whilst the national funding from the Centre for Industrial Technological Development (CDTI) in the Technological Fund NOP is aimed at larger, more ambitious projects which only affect a small number of companies in Galicia.[24] Despite the apparent successes, there is scope for improving coherence between R&D measures in National and Regional Operational Programmes (Applica-Ismeri-wiiw, 2007).

[24] To solve this problem, an agreement was reached between the regional government and the CDTI in order to launch a new line in the second half of 2012, ERDF-INTERCONECTA, adapted to the needs of Galician SMEs, although there is still no information available on its results.

6. ASSESSMENT OF ACHIEVEMENTS AGAINST OBJECTIVES AND NEEDS (EFFECTIVENESS AND UTILITY)

6.1 Overall achievements of ERDF programmes measured against programme objectives (effectiveness)

Effectiveness is defined as the degree to which programmes achieve the objectives set out. Objectives at different levels include the overarching programmes objectives, and other specific ones defined in relation to the intermediate objectives pursued as a way to achieve the overall programme objectives. Consequently, the assessment of effectiveness requires considering the extent to which the indicators and achievements obtained with different actions contribute to the realisation of programme goals. This is the logic of intervention and the way intermediate objectives are related to the overall objectives.

A preliminary question is whether the overall objectives of promoting the development of Galicia were within the reach of the ERDF programmes. As mentioned in Section 4.2, the annualised volume of ERDF expenditure at different periods ranged from a low of 0.6 to a maximum of 1 percent of regional GDP. Accordingly, ERDF investment had enough capacity to influence the economic development of Galicia.

A first glimpse of the effectiveness of the different programmes is the degree to which the objectives set were achieved. In Annex III, the reported achievements and the target achievement rates are shown. As mentioned in Section 5.1, the learning process in the construction of systems of indicators and in the setting of targets was not easy. Both in the 1994-1999 and the 2000-2006 periods, relevant prediction mistakes were made in the setting of targets. Therefore, they had to be amended to maintain their significance in accordance with the feedback information resulting from the implementation of programmes. As can be seen in the tables of Annex III, the majority of the indicators are concentrated in a range ± 20 percent of the objectives. For this reason, in this section the most significant achievements in relation to the intermediate objectives included in the several thematic axes of the study are used.

The ERDF programmes in Galicia strive to achieve the improvement in the quality of life and convergence with European standards through economic development and the creation of employment. In order to achieve these ultimate goals, the following instrumental objectives were set: first, increasing the accessibility and internal connectivity of the region which, in the first programme periods included improving accessibility to the telecommunications and electricity networks; and second, the conservation and improvement of the environment. The diversification and enhancement of the productive base (structural adjustment) was also assigned significant importance, followed by the improvement of human resources (skills, knowledge and employability). These objectives were largely financed by the ERDF programmes and were specifically designed to indirectly impact on the productivity of the economy and its ability to generate employment opportunities.

The theory to boost the employment and growth potential was based, on the one hand, on overcoming the factors of external and internal isolation (disconnection between the different parts of the region) and increasing market access and regional market integration, by means of investment in the creation of regional infrastructure (transport, electricity, telecommunications).

On the other hand, it focussed on strengthening the competitiveness of the productive system by fostering agriculture productivity, supporting the industrial decline of the 1980s, and encouraging the diversification of industry and services. Accordingly, the goal was to encourage productive investment to increase private capital formation and upgrade industry and services through a system of economic promotion in order to support business initiatives. ERDF contributed significantly to the achievement of these objectives (structural adjustment and business policy) through the funding of regional incentive schemes and small business support measures.

The aims and development needs of Galicia evolved with changes in the economic context. Nevertheless, the objectives of improving the quality of life through convergence with European standards and the creation of employment were consistently present, as well as those of environmental preservation, the provision of health and educational social services, and territorial and spatial balance. Since the 2000s innovation has gained importance becoming a key instrument in the achievement of competitiveness and sustainable growth potential in a globalised world.

Table 14 shows the main objectives, outputs and achievements of the ERDF programmes from 1989 up to 2011. The main achievements regarding the general goals of convergence and employment are considered, as well as the most representative in relation with selected thematic axes.

Table 14: Objectives and achievements in the different programme periods[25]

Prog.	Aggregate objectives / targets	Output	Achievements
89 - 93	Convergence GDP pc and employment		0.5% convergence Spain (lost in the crisis 1993) 79.45% GDP pc EU15 in 1993 Increased unemployment (18.34%)
	Accessibility and connectivity objectives		Δ Capital in Railway 89-93: -2.6% Δ Capital in Roads 89-93: 38.3%
	Environmental protection		More than 400,000 equivalent population benefiting in sanitation and purification Δ Capital in Hydro 89-93: 32.1% Δ Capital in Ports 89-93: 60.5%
94 - 99	Convergence GDP and employment Creation of IGAPE Agency		3.3 pp, 54.7% GDP pc EU15; Unemployment reduction (16.19%) 56,400 decrease of employed population
	Accessibility and connectivity objectives Rural Telephone Plan	Roads and highways 1,127 km new/improved 16,754 jobs in construction	Δ Capital in Roads 94-99: 46.9% 2,958 vehicles/day average intensity of traffic Δ Capital in Ports 94-99: 41.8 %
	Water supply, water treatment plant and environmental protection	623 km supply networks	600,000 beneficiary people by water supply and sanitation Δ Capital in Hydro 94-99: 12.2%

[25] Δ – Increase of; PFCF – Private Fixed Capital Formation; GERD – Gross Domestic Expenditure on RD; PFC – Private Fixed Capital during the programme period; Δ Capital– Increased amount of Capital during the programme period.

Table 15: Objectives and achievements in the different programme periods [26] (Continued)

Prog.	Aggregate objectives / targets	Output	Achievements
	Structural adjustment and business development	Regional Incentives: 18,000 jobs PIMEGA: 4,056 entrepreneurs IGAPE: 3,098 beneficiary companies representing 1.9% of total companies in 1999.	Δ Stock K Private 94-99: 14.2 percent
00 - 06	Convergence GDP pc and employment		5.4 pp, 58% GDP pc EU15 Unemployment reduction to 8.48%
	Accessibility and territorial connectivity	871 km highways/roads new/improved 81 km new high-speed railway line	3,274 vehicles/day average intensity of traffic Δ Capital in Roads: 19.9%, Δ Capital in Railway 00-06: 98.5% Δ Capital in Ports 00-06: 56.8%
	Improvement of the Environment conditions	103 WWTP new or extended 212 ha. reforested areas	1.5 million equivalent people connected to wastewater treatment plant, 54.2% of Galicia population in 2006 Δ Treated wastewater 00-06: 79% Δ Capital in Hydro 00-06: 10.9%
	Competitiveness Structural adjustment	338 Projects (reg. incentives) 3,857 benefiting companies representing 2.1% of total companies in 2006. 331 SMEs created (0,4% of total SMEs) Regional Incentives: 338 projects IGAPE: 1,325 projects	Δ Private Capital 00-06: 18.9% Induced Private Investment: 6.1% of PFCF Δ 25% companies with more than 50 employees Job creation 1% of employed population
	Objectives in RTDI Promote regional innovation system	2,584 Projects RDI 40 Renovated centres 111 Equipment	Δ Capital in R&D 00-06: 139.8% 12 Patents GERD from 0.64% to 0.89% between 2000-2006 Business RTDI from 0.21% to 0.39% of GDP between 00-06
07 - 13	Convergence GDP pc and employment		0.7 pp, 59.5% GDP pc EU15 in 2008 Increased unemployment (over 17.41% in 2011)
	Environmental objectives Nature conservation biodiversity	116 km Sanitation networks 152 km of supply networks	Δ Treated wastewater 07-10: 11% 200,000 Additional population served (water treatment)
	Business development Structural adjustment	3,309 beneficiaries companies representing 4.2% of total companies in 2011. IGAPE: 156 projects	Easy access for SMEs to capital and finance 700 job creation (0.1% of total employed in 2011) -4% companies with more than 50 employees
	Fostering Regional Innovation Systems and knowledge transfer	25 RDI benefited centres 1,193 RTDI projects in collaboration with business and research centres	GERD from 1.04% to 0.96% between 2008-2010 Business RTDI from 0.50% to 0.43% of GDP between 08-10 2,575 Jobs associated project participants
	Consolidation / Quality Transports	212 km of new/ renovated roads	3.9% of road network

Regarding the global target of converging with the EU, Galicia reduced the development gap with the EU15 by 8.7 percentage points between 1990 and 2008, increasing its level of GDP pc from 50 percent to 59.5 percent of the EU15 average between those years. Galicia also converged with Spain, even though at a slower pace, from 62.7 percent to 70 percent of the Spanish GDP pc in the same period. Which part of this fact is attributable to the ERDF is a complex question.

[26] Δ – Increase of; PFCF – Private Fixed Capital Formation; GERD – Gross Domestic Expenditure on RD; PFC – Private Fixed Capital during the programme period; Δ Capital– Increased amount of Capital during the programme period.

The fixed capital formation process in order to overcome the Galician economy gaps in infrastructure (electricity, telecommunications, transport, etc.) generated positive externalities on the efficiency and productivity of Galician economy. This effect was strengthened by fixed capital investments in companies' private assets. Convergence and productivity figures, as well as macroeconomic model simulations provide favourable evidence of those productivity effects in the Galician economy.

Taking the relative importance of ERDF investment in the fixed capital formation of the Galician economy into consideration, with values between 0.6 percent and 0.9 percent of the regional GDP in the different programme periods, it is reasonable to attribute a significant part of the Galician economy's growth to the ERDF. It has been noted that the GDP per capita convergence of the Galician economy was achieved due to the lower rate of population growth in Galicia (Armesto and Lago, 2010; Armesto, 2008). Nonetheless, the report from La Caixa (2007, p. 10) on the Galician economy concludes that convergence was reached 'by the higher growth in labour productivity'.

Structural adjustment measures and the strong fixed capital formation of the economy[27] favoured by the ERDF investments increased productivity and more than compensated for the lower growth of the activity rate in Galicia.

By means of more sophisticated simulations, the report on the intermediate evaluation of the Galician ROP of 2000-2006 (Ministerio de Economía y Hacienda, 2005) applies the Hermin model to Galicia in order to quantify the macroeconomic impact of the Community intervention. The assessment found 'real positive effects in the Galician economy and good performance in terms of achievement of the desired impacts'. Likewise, by means of a macroeconomic simulation model for capturing the long-term effects of improving the productive efficiency of the economy, ERDF programmes were found to have had a significant effect on the growth rate and employment generation in the economy of Galicia. Moreover, these effects remained after the completion of financial aid (Cancelo *et al.*, 2005).

The evidence from the online survey is also favourable to the positive effects on the Galician economy attributable to ERDF programmes. The opinion of the participants in the online survey on the impact of ERDF programmes was 'quite positive' or 'higher' with 84 percent, while the 'positive' or 'very positive' responses reached 54 percent.

The results in terms of employment creation, obtained using macroeconomic model simulations also show a significant impact on the employment generation compared to the alternative scenario (no ERDF assistance or the baseline). The development of the Galician economy (previously discussed in Chapter 2) shows that convergence in the 1990s was primarily achieved through a process of productivity adjustment with relatively low rates of employment creation. However, in the 2000s, the Galician economy created a large number of jobs (214,500 between 2000-2007), and the unemployment rate fell to 7.6 percent in 2007. A significant part of this result may be considered attributable to the impact of ERDF programmes to stimulate the growth of Galicia's economy. This impact was assessed as equal to or greater than 'quite significant' by 65 percent of the participants in the online survey.

[27] The volume of total assets of the Galician economy between 1990 and 2007 increased by 84 percent (148 percent in public equity and 75 percent in private fixed equity).

With regard to the overall effectiveness of the implementation of the programmes, the response from the online survey provided clearly positive evaluations from 71 percent of the feedback in the first two programme periods, 1989-93 and 1994-99. This positive evaluation was maintained in the 2000-2006 period with 65 percent of favourable responses. However, for the current 2007-2013 period the proportion of feedback that agreed with the effectiveness of the implementation decreased to 31 percent, although 60 percent were slightly in favour. The overall evaluation is highly influenced by the opinion of 2007-2013, where the proportion of feedback that agreed on the level of effectiveness amounts to 41 percent of the total, while those who slightly or almost agree reached 63 percent.

Examining the evaluation of the different programme periods based on the different thematic areas, there is not enough information to make an evaluation of the 1989-93 period. It is known that work on access to central Spain was delayed and had to continue over successive periods (being completed in the 2000-2006 period), although there is no firm basis to support an opinion.

With regard to effectiveness in the first programme period of 1989-1993, there are not enough data to undertake the assessment. The objectives are known, but it is difficult to assess the achievements. The ex post evaluations for the period (FEDEA, 1994; Sequeiros, 1994) give a positive assessment of the achievements in road infrastructure, but central government proceedings were delayed in the construction of road access to Galicia and external accessibility was mainly improved through investment in airports. The evaluation of environmental achievements was also positive but no statements were given regarding achievements in company policy and structural adjustment.

In the 1994-99 period, transport infrastructure was reinforced by connecting to the road network in Spain with the upgrading and building of over one thousand kilometres of roads and an increase of 47 percent in the total amount of capital invested in roads. Moreover, effective investments were carried out in the provision of basic economic services, electricity and telephone to most of the region's population. In particular, a very effective plan to bring telephone access to rural areas was carried out. And consequently developments in regional infrastructure are positively assessed.

The traditional policy of investment aid for regional purposes fulfilled its role of investment generation through the creation of 10 thousand jobs and an induced investment of €1.2 billion (3.9 percent of private fixed capital formation), leading to a positive assessment of structural adjustment in the period.

The regional development agency supported over three thousand companies, representing 1.9% of companies in 1999. Moreover, the PYMEGA programme of managerial skills development had over 4,000 participants, whereby recorded statements of some well-known Galician businessmen attending the programme testify of its useful nature. For these reasons, business policy receives a positive assessment too in this period.

Spatial cohesion also deserves a positive assessment due to the effort and effectiveness in rural telephony, as well as in rural tourism and in the small local infrastructure programme. As for social cohesion, the construction of two regional hospitals and the modernisation of specialised health care infrastructure deserve a positive assessment for the rapprochement of health services to the new population areas.

In the field of innovation results are in line with the average effort. Expenditure in this field was 0.5 percent of the total in the period and the limited reported achievements were focused in research projects for waste utilization and the use of ITC in cultural related projects.

The poor employment generation and the significant loss of over 56,000 jobs led to an unemployment rate of 16.2%. Therefore, the programmes cannot be assessed to have been effective in generating employment. However, this was arguably as a result of the 1993 crisis

In the 2000-2006 period, the central access routes to Galicia were completed, and this was a major action that effectively solved the problem of the region's external accessibility and internal connectivity by road, significantly reducing travelling times. For light vehicles, travelling time from the main Galician cities Coruña/Vigo to Benavente in central Spain was reduced by approximately two hours (around 25%) whereas the travelling time between Vigo and Ourense within Galicia was reduced by one hour (around 30%).

Innovation policy can also be considered effective given the realisation of 2,500 RD projects, whereby 353 projects were cooperative among companies and research and technology centres. Business RTDI increased from 0.21 to 0.39 percent of GDP in the period with total RTDI expenditure increasing from 0.64 to 0.89 percent. Innovation became a real strategic objective and was effectively implemented, particularly with regard to its adaptation and fit with the needs of the main regional productive sectors.

The business policy benefited over 3,800 companies representing 2.1 percent of total companies in 2006 with 331 SMEs created (0.4 percent of SMEs). The structural adjustment policy continued to reach positive results with investment grants encompassing over 1,600 projects, the result of which was an induced private investment of 6 percent of private fixed capital formation in the period.

In the sphere of employment, the newly introduced requirements for creating stable employment in regional investment grants took advantage of the demand pull during this period. The job creation indicator reached 1 percent of the employed population. The economic growth in 2000, with its impact on employment, also contributes to the positive appraisal of this need.

The Prestige ecological disaster dramatically increased the environmental needs of Galicia, but in spite of the large scale spills of highly sulphurous fuel, cleaning and ecological restoration problems were solved with high efficacy. Spatial cohesion acquired a new dimension with the shock measures to counterbalance the contractive effects of the disaster and to support the most affected areas, particularly Finisterre. Their concentration on industrial ground infrastructure to some extent lessened their effectiveness, but the environment assessment remained clearly positive.

In the current period, during which operations are still ongoing, the initial delay and the economic crisis are contributing to limited results. The initial objectives were particularly focussed on the environment, R&D and business policies. However, transport infrastructure still remains important. Taking current implementation into account, projects in the field of R&D have achieved a large proportion of their set targets, but the enterprise priority area has been affected by the credit crunch with achievements of 2013 targets in the range of 10 to 29 percent in 2011. The environment and motorway infrastructure projects are difficult to evaluate due to their complexity and long maturity terms.

Table 16: Achievements compared with imputed objectives for eight thematic axes

	1989-93		1994-99		2000-06		2007-13	
Thematic axis	**Imputed objectives**	**Achieve-ments**	**Imputed objectives**	**Achieve-ments**	**Imputed objectives**	**Achieve-ments**	**Imputed objectives**	**Achieve-ments**
Enterprise	++	n/a	+	4	+	4	=	Ongoing
Structural adjustment	++	n/a	++	4	++	4	=	Ongoing
Innovation	-	n/a	=	3	+	4	+	Ongoing
Environmental sustainability	++	n/a	++	4	++	5	=	Ongoing
Labour market	=	n/a	+	2	+	4	=	Ongoing
Social cohesion	=	n/a	+	4	=	3	=	Ongoing
Spatial cohesion	++	n/a	++	4	+	4	=	Ongoing
Infrastructure	++	n/a	++	4	++	5	=	Ongoing

Objectives scale, start of period

++ Very high effort, this axis is a central aspect of the regional development strategy
+ High effort, this axis is an important element in the regional development strategy
= Average effort, this axis is included in the regional development strategy but is not particularly important
- Low effort: this axis is only marginally considered in the regional development strategy
-- No effort at all on this axis

Achievements scale, end of period with respect to beginning of period

5 Very high achievement, the results for this axis are considerably above expectations given the effort put in it and ex-ante conditions
4 High achievement, the results for this axis are above expectations given the effort put in it and ex-ante conditions
3 Average achievement, the results for this axis are those which could be expected given the effort put in it and ex-ante conditions
2 Negative achievement, the results for this axis are below expectations given the effort put in it and ex-ante conditions
1 Very negative achievement, the results for this axis are considerably below expectations or even nil

6.2 Overall contribution of ERDF programmes to regional development (utility)

In this study, *utility* refers to the ERDF contribution to improving the regional development situation of Galicia. On the whole, the key issue is to explain how Galicia has reached a higher level of development, considering the major problems and needs of the region and how its main parameters have evolved.

The new geographical economy provides a model for the peripheral regions (Redding and Schott, 2003) which is relevant for the case of Galicia. The distance to markets implies a competitive disadvantage (access costs) which is compensated by lower average wages and lower relative remuneration of qualified labour. The low accessibility imposes a penalty on investment in human knowledge and capital by creating a strong association between peripherality, low productivity, low wages and low educational attainment (Lopez-Rodriguez *et al.*, 2007). Investments in infrastructure for increasing accessibility to markets enable this causal link to be broken and expand the profitability of investments in order to raise productivity.

At the end of the 1990s, Galicia was a peripheral region with low levels of external accessibility and internal connectivity, strongly dependent on low productivity primary sectors (agriculture and fishing), and it one of the poorest regions in Spain. In addition to this, a process of adjustment in traditional industries such as shipbuilding and chemicals raised serious concerns about the future. Low levels of educational attainment and technological knowledge, high unemployment and a fragmented entrepreneurial system based on small family-owned firms were also additional weaknesses hindering regional development prospects in the region.

The development of Galicia was coincident with the removal of frontiers and the unification of the European internal market. It was based on a structural shift linked to a strong investment policy on the capitalisation of the economy and sectoral structural adjustment policies in order strengthen the productivity and competitiveness needed to face the European market.

The investments in public service infrastructure brought energy and phone lines to most regions of Galicia at affordable prices. This fact was decisive for the diversification of the economic activities in the rural areas and for restructuring Galician agriculture specialising in dairy farms, meat and poultry. The percentage of population connected to sanitation services rose to 3.4 equivalent inhabitants in 2007.

The development policy of peripheral regions, as is the case in Galicia, has been characterised as designing infrastructure and transport networks with criteria of solidarity and spatial inclusion. In some cases, such guidance has had a cost in terms of efficiency, and other opportunities with a higher rate of return and social benefit have been neglected.

In the Galician experience, the implicit objective of paying attention to many different local interests has probably implied a kind of project fragmentation in order to distribute them among many scattered locations. Many infrastructure projects were carried out without a sufficient coordination of different local interests, and this may be the case with a number of small local roads (674 kilometres in 2000-2006 period) whose relevance is hard to assess. Largely, it seems to be part of a manifestation of the underlying objective of addressing multiple local interests across the region.

The investments in transport infrastructure covered a significant range of the Galician economy needs. In first place, it is worth mentioning the capitalisation of ports (an increase of 281 percent), which provided facilities for small fishing ports as well as for the ports in the major cities. These ports, La Coruna, Ferrol-San Cibrao and Vigo account for 90.2 percent of the maritime traffic freight, which increased by 32.9 percent between 1995 and 2005 (less than the Spanish ports average of 53.5 percent).

The increase in air accessibility resulted in a sharp rise in the number of passengers in recent years, rising from 1.4 million of passengers in 1991 to 3.7 million in 2005. This represents an increase of 163.4 percent (exceeding the 133.8 percent of the Spanish average). Thus, the improvement of air accessibility has had a positive impact on the quality of life of Galician citizens, as well as in the business world where air communication is essential for all internationally focused sectors such as fashion, automotive, etc.

The investments in roads and motorways improved internal connectivity and increased the external accessibility of the region. The roads and motorways capital increased by 170 percent and the Galician motorways endowment slightly extended the Spanish average. The external accessibility by road ceased to be a problem in Galicia (except for connection with the Cantabrian axis which is yet to be finished).

The motorways approached Galician production to the Spanish and European markets, and also brought the most developed centres' competition closer to Galicia. This was quite significant for structural adjustment. The companies and sectors of the Galician economy reacted by raising their productivity levels. The 1990s were an adjustment period in which many low productivity activities were reduced when the industrial decline of the 1980s was halted. The 2000s were a period of strong growth and job creation, but in contrast to the rest of Spain, the Galician growth was based on productivity (La Caixa, 2007).

The effects of trade barriers' relaxation and the increased competition were immediately noticed in the foreign sector. Thus, the volume of foreign trade increased steadily, going from 15 percent in 1990 to 80 percent in 2007. The exports' response was very dynamic, growing since the mid-1990s at a higher rate than the Spanish average.

Changes in the production structure of the economy were significant. Since the early 1990s and especially in the 2000s, Galicia has seen a substantial rise in the relative shares of both services and industry, with industry accounting in the late 2000s for some 30 percent of total employment (higher than the national average) and services converging fast to the national average (around 62 percent in Galicia versus 67 percent in Spain). Within manufacturing, food processing and especially metal manufacturing and transport equipment (linked to shipbuilding and automobile facilities in the region) are the main sectors of activity, followed by textiles. Outside manufacturing, construction forms a large part of the economy (around 13 percent), while trade, hospitality and financial/business services have seen significant rises since the late 1990s.

Galicia has developed some competitive clusters in the automotive sector (accounting for 13.2 percent of Galician industrial employment and 28.6 percent of Galician exports), fish-canning, food-processing, wood and textile-garment. They count with leading multinational companies such as Citroen Hispania and Inditex–Zara Group, as well as many others companies of smaller size which are competitive in international markets.

The investment aid programmes co-financed by the ERDF played an important role in the structural adjustment of industry in Galicia. They provided a major part for the formation of private fixed capital (6.1 percent of it was contributed by the induced investment of ERDF aid in 2000-2006).

The ERDF programmes directly supported the structural adjustment of the Galician economy through investment aid for regional purposes. Written reports and testimonies of the responsible officers in the first programme periods pointed out the relevant role played by regional incentive schemes in facilitating the competitive upgrading and financial readjustment of an important part of Galician companies, though in some cases this aid might have had the undesired effect of prolonging the survival of uncompetitive companies. Former managers of regional incentive aid schemes have reported in interviews that investment aid played a very important role in supporting Galician industry and in developing some of its most dynamic sectors.

The interviewed managers of beneficiary companies supported by ERDF underlined that investment grants played a crucial role in the success of many business projects with high wealth and job-creation effects by softening financial and risk business development barriers.

However, a recent analysis has shown a certain tendency to maintain stable lines and sectoral patterns in the operation of investment aid schemes (Sánchez and Campo, 2011). At the present time, some opinions favour increasing the weight of financial instruments (private equity and reimbursable loans) in order to give the incentive system a more efficient design.

During the workshop in Santiago, a vibrant debate was held on the design of investment grants. It was pointed out that in quite a few cases these grants have merely helped to capitalise companies without really inducing a shift towards a more R&D-based competitive strategy.

At the start of the 1990s, Galicia did not have more than a couple of higher education establishments for engineering, and its human and technological resources were very limited. The first steps were taken with the help of the ERDF in the scientific infrastructure of the region's universities, and in the construction of technological centres in the fields of engineering, IT, marine sciences and foodstuffs. To a large extent in the 2000s, the modernisation of enterprises focused on the acquisition of machinery with up-to-date technology, and R&D was a virtual unknown.

The improvement in productivity conditions and the foreign sector of the Galician economy facilitated companies' awareness towards innovation. Therefore, it was possible to strengthen R&D policy in the 2000-2006 period, when the emphasis was placed on the transfer of knowledge and technology to business.

Currently, Galicia has little more than 20 technology centres with approximately 1,200 researchers, and overall it is still an emergent sector. The entire regional innovation system in Galicia is rather modest, and universities play an important role within it. However, interviewees reported that Galician R&D plans have been very important and have had a lasting effect by spreading awareness of the competitive importance of R&D and innovation. Moreover, 66 percent of the participants' answers to the online survey considered the effect of ERDF programmes on increased R&D and innovation in enterprises as 'equal or superior to quite significant'. It was the second-most-valued issue after transport infrastructure,

R&D expenditure in Galicia is modest, but increased quickly up to the outbreak of current economic crisis. Total R&D expenditure in Galicia reached 1 percent of GDP in 2007 (0.6 in 2000), whilst business R&D was merely 0.5 percent (0.2 percent in 2000). In spite of that, the proportion of Galician companies involved in innovative actions is much higher than that of companies investing in R&D. Twenty-one percent of Galician companies were involved in innovation activities with a similar amount of expenditure as 9 percent of companies investing in R&D (Sáez *et al.*, 2008; IGE, 2007).

Apart from the learning process on regional development policy, goals and instruments, the most important ERDF contribution to the Galician economy in the last two decades has been the intense capitalisation process. ERDF funding has facilitated completely changing the region by, on the one hand, investing in public infrastructure and, on the other, investing in private capital in firms and in the productive sector.

Programmes in Galicia were mainly designed from the supply side and demand analysis did not play a very significant role, so that opportunity cost could be higher than desired. On the other hand, private sector operators played a secondary role in designing and implementing most of the measures of the programmes. Consequently, programmes' capabilities to trigger and consolidate a market expansion may have been limited to some extent by these features, especially in areas such as the promotion of innovation and the internationalisation of SMES.

The current situation in Galicia is very different from two decades ago. Road accessibility with the rest of Spain and the motorways network is above the Spanish level. Most of the Galician population is served by water systems, and the sewage plants and the systems of environmental risk protection have been substantially improved.

Galicia has experienced a very important process of structural adjustment; it has opened up to foreign trade and has converged in terms of per capita GDP and levels of development with the EU. Nowadays the knowledge system, the entrepreneurial management capacities and the regional system of innovation with engineering schools and R&D centres still remain modest, but they have been substantially improved in the last 10 years. Problems remain to be solved, and the region has to cope with the challenges of increased global competition and the current financial crisis, but overall Galicia is in a much better position to find its way ahead.

Table 17 summarises the relationship between the importance of the regional needs and the achievements attained in the main programming periods. The information on achievements is not available for the initial period (1989-1993), and at the time of producing this report, assessment of the 2007-2013 period was still ongoing.

Table 17: Needs compared with achievements for eight thematic axes

	1989-1993		1994-1999		2000-2006		2007-2013	
Thematic axis	**Needs**	**Achieve-ments**	**Needs**	**Achieve-ments**	**Needs**	**Achieve-ments**	**Needs**	**Achieve-ments**
Enterprise	++	n/a	++	4	++	4	++	Ongoing
Structural adjustment	++	n/a	++	4	++	4	+	Ongoing
Innovation	++	n/a	++	3	++	4	++	Ongoing
Environmental sustainability	++	n/a	++	4	++	5	+	Ongoing
Labour market	++	n/a	++	2	++	4	++	Ongoing
Social cohesion	++	n/a	++	4	=	3	=	Ongoing
Spatial cohesion	++	n/a	++	4	+	4	=	Ongoing
Infrastructure	++	n/a	++	4	++	5	+	Ongoing

Needs Scale (assessment of the region at the beginning of the period)
++ Very high need: the region suffers from significant deficiencies in this axis
+ High need: the region suffers from certain problems in this axis
= Average need: the region ranks around the national average in this axis
- Low need: the region is above the national average in this axis
-- Very low need: the region is already a European leader in this axis

Implicit objectives
5 Very high effort: this area is of central importance to the regional development strategy
4 High effort: this area is an important element in the regional development strategy
3 Medium effort: this area is included in the regional development strategy, but is not particularly important

2 Less effort: this area is of marginal importance in the regional development strategy
1 There is no effort in this axis

In the initial periods, Galicia's development needs were very high across all of the thematic axes. Significant progress was made during the 1994-1999 and 2000-2006 periods in policies affecting SMEs and structural adjustment, although significant needs still remain in these areas. The current economic crisis has once again exacerbated the need for structural and labour market adjustment in Galicia. The thematic axis for the labour market was marked by relatively few achievements, and needs remained high due to the downturn in the total number of people in employment during the period 1994-1999. The relatively positive achievements attained in the following period (2000-2006) did not significantly reduce Galicia's needs, which once again worsened as a result of the current crisis and economic depression.

The most important achievements were in transport infrastructure (except for railways) and the environment, in which regional needs were significantly reduced. Whilst such achievements were by no means remarkable, it was nevertheless possible to significantly reduce Galicia's needs in the axes of social and spatial cohesion.

Finally, in the innovation axis, achievements increased from the 1994-1999 period onwards, although the region's needs in this area are still very high and enhanced innovation is one of the most effective means of dealing competitiveness problems and structural change in the regional economy.

6.3 Key elements of success and failure

6.3.1 Good practices and successes

Among the key factors of success, as happens with most Spanish Convergence regions, reference must be made to the framework of planning and programming of EU funds and the organisation and management capabilities of the Spanish public administration. On one hand, the central government and regional governments collaborated effectively in planning and development programming. On the other hand, the framework of the Structural Funds facilitated strategic planning and action coordination as well as favouring a process of institutional learning. In this respect, as noted in the evaluation by CADMOS (EC, DG Regional Policy, 1991), the Structural Funds have had positive effects on the rationalisation of preparedness mechanisms of public decision-making, especially in the field of regional autonomy.

Strategic planning in Galicia has taken into account the weaknesses and potential for development in the region, strategic plans and EU funds, forecasts and central government plans that influence the region. The case of the Strategic Plan of Galicia 2000-2006 (PEDEGA, 1999) and the current Framework for Convergence (MCEGA, 2006) as the basis for the 2000-2006 and 2007-13 programme periods is paradigmatic in this respect.

The following projects should be highlighted as successful examples of good practice:

- Firstly, the Rural Telephone Plan has solved the problem regarding the lack of telephone service outside of the city centres and urban areas and also allowed the population access at affordable prices. This plan provided a great number of telephone lines (971,228).

- Secondly, the SOGAMA project has focused on the collection, treatment and elimination of solid urban waste, as well as the creation of infrastructure for selective waste collection. SOGAMA has proved to be highly suitable for the Galician urban dispersion and low population density and solved a relevant problem of Galicia concerning the waste management system, based on the waste spill in illegal landfills.
- In third place, the PIMEGA Programme promoted managerial skills and competitiveness in enterprises.
- Finally, the south motorway Rias Baixas (A-52) allowed access to the central road network of Spain and efficiently connected the axis along the Portuguese border encompassing the main cities of Vigo, Ourense, Verin and Northeast Portugal.

Other factors worth mentioning are:

- Closing the planning-programming-budgeting cycle: once Operational Programmes were approved, the annual allocations to the series of actions in programme documents were incorporated into the budgets of the managing bodies (mostly public entities). In this way, they could start the processes of project selection, and go ahead with implementation, in accordance with the conditions and priorities established in ERDF programmes.
- The creation of an administration specialised in planning and managing European funds: The general directions of EU funds and central government planning and regional governments played a role of horizontal coordination with sectoral managers (public works, industry, agriculture, environment, etc.) which was decisive not only in the planning and programming phases but also in those of management, implementation and monitoring. Those in charge of funding and planning in regional and central governments maintained a very fluid level of contact and dialogue (with regular meetings, 'Economic Forum') to review and discuss the various issues related to planning, implementation and monitoring ERDF programmes.
- The technical capabilities of the country: Spain had human resources and highly qualified professionals in the fields of management and construction of infrastructure (administrations, schools and bodies of civil engineers, construction companies, etc.), allowing them to undertake major projects and investments and so take advantage of ERDF financial aid. A side effect, which was to some extent unplanned, was training. This training of an important sector of engineering and construction companies and infrastructure managers with extensive international exposure was largely at a central level, but also occurred on a smaller scale at regional level.

6.3.2 Bad practices and failings

The factors of success mentioned in the above section may also have had other less desirable impacts. The management of EU funds was predominantly carried out by the public administrations. The central and regional governments (and their agencies and organisations) were the main protagonists in conceiving and designing the programmes as well as their main executors. By contrast, the weight of private bodies (companies, non-profit organisations and other institutional sectors) was and is still very modest. Finding new solutions and actions for a 'smart specialisation' may be limited by the excessive weight of public managers in designing the new measures needed.

The predominance of public administrations in EU funding programmes has led over time to dispense the contributions of private beneficiaries to co-finance a portion of the eligible costs which are no longer used in ERDF programmes in Galicia nor in the rest of the country.[28] Normally, such a measure limits the leverage effects of programme. In times of crisis and a need for strong consolidation of public finances, such a practice adds additional rigidity. Moreover, it may hinder the presentation of new initiatives tailored to the needs of businesses and other intermediary institutions. Companies, clusters, associations, scientific and technological centres could surely assume a greater role in the design and management of measures in ERDF programmes.

An important lesson that can be derived from the Galician experience is to pay more attention to provisions creating adequate conditions for the operation and sustainability of investment in some types of infrastructure, particularly when operational competences are in the remit of local governments. This is the case with environmental infrastructure such as wastewater treatment (WWT) plants or the solid urban waste (SUW) management plant of SOGAMA. It may well be that the entire treatment capacity of new WWT plants built by the regional government, with the support of ERDF, have not been optimally employed because of the difficulties some municipalities face when having to provide technical staff and the necessary funding for this operation. In a similar way, the lack adequate agreements and/or provisions ruling the SUW issue has limited the dimensions and profitability of the SOGAMA plant, which could hardly manage the expected growth in the amount of SUW in Galicia.

Finally, the experts interviewed frequently pointed out major problems with escalating audit charges and perceived risk in ERDF procedures. Many managers and project sponsors are concerned about the difficulties, the cumbersome procedures and excessive inspection charges, and the frequent requests for documentation that substantially raise management costs and divert a great deal of effort and energy.

In this sense, it should also be noted that the experts, beneficiaries and stakeholders who participated in the survey indicated that there has been a decrease in the flexibility of the programmes over time. This affects the ability of programmes to accommodate changes to the socio-economic needs, in general, and to the needs of the final beneficiaries in particular. Thus, those polled would like a design that is more receptive to regional needs. They believe this can be achieved by using the evidence gathered in the evaluations, ensuring greater flexibility in programmes, and simplifying the administration of funds for the beneficiaries of the projects.

[28] Almost all of the domestic matching funds are paid by national, regional or local governments: private investors expenditure in current Spanish programmes cannot be considered as matching funds for co-financing ERDF expenditure.

7. CONCLUSIONS

7.1 EQ1: To what extent did the programmes address regional needs and problems over time?

EQ1a: What were the initial regional needs and problems and what has been their evolution?

At the end of the 1980s, Galicia was a peripheral region with low levels of external accessibility and internal connectivity, strongly dependent on low productivity primary sectors (agriculture and fishing). A large proportion of the population lived in rural areas in harsh conditions of isolation and without basic services (communications, phone lines, etc.). It was one of the poorest regions in Spain with declining industries (shipbuilding, chemicals) and high unemployment.

The main regional needs in the initial programming periods comprised first of all the necessity to overcome the lack of regional transport infrastructure, in order to improve the accessibility and internal connectivity of the region as well as to enable wider accessibility to the telecommunications and electricity networks. The conservation and improvement of the environment also represented a significant need due to the insufficient networks for drinking water distribution, waste water and solid waste management. Thirdly, the diversification and competitive enhancement of agriculture and industry was also a significant need, followed by the improvement of the economy's business and managerial capabilities, and human resources skills, knowledge and employability. Lastly, the need for innovation was high but was only tackled in later periods due to a lack of resources.

These needs were largely addressed by the ERDF programmes (and the Cohesion Fund). These programmes were specifically designed to indirectly impact on the productivity of the economy and its ability to generate employment opportunities. Deficiencies in the field of regional infrastructure have been reduced significantly in the last decades with transport networks comparable to Spanish and EU standards, with the exception of rail connections and with a high level of rural accessibility to telecommunications and electricity networks. Furthermore, the need for environmental measures has been reduced considerably with the improvement of water distribution, waste water and solid waste management.

Galicia's economy underwent a significant process of adjustment and diversification during the 1990s and 2000s, when the relative size of its industry and services grew substantially. The region has developed an automotive cluster (representing 13.2 percent of the regional industrial employment and 28.6 percent of the Galician exports) and some competitive sectors with interesting business initiatives in clothing/textiles, telecommunications/audiovisual, food processing, shipbuilding, etc. In business policy and managerial capacities, important increases were achieved in exports and entrepreneurial density (increased to 72 companies per thousand inhabitants ion 2007, close to the Spanish average of 74). Needs in the field of human resources were met with the expansion of university programmes and the creation of new engineering schools, as well as secondary schools and vocational training.

Between 1996 and 2008, increasing attention was paid to the need of innovation with internal expenditure on R&D growing from 0.47 to 1.04 percent of GDP (1.35 percent Spanish average). Universities play an important role in Galician R&D, representing 0.89 percent of GDP and 41 percent of RTD employment. Expenditure from the business sector is lower, but has grown at a

relatively fast rate, from an initial 0.11 percent to 0.50 percent of GDP in 2010 (well below the national average of 0.71 percent, however). Nonetheless, the proportion of Galician companies involved in innovative actions is much higher (21 percent) than that of companies investing in R&D (9 percent) with expenditure at a similar amount. On the whole, the technological profile of economic activities in Galicia is low due to reduced demand, although results have improved in terms of R&D in recent years.

On the whole, between 1990 and 2008, Galicia converged with the EU15, reducing its GDP per capita gap by 8.7 percentage points, from 50 to 59.5 percent. High levels of job creation were achieved during the 2000's growth cycle and unemployment fell to 7.6 percent in 2007. However, since 2007 the Galician economy has been impacted by the current financial and real estate crisis, resulting in a recession and the renewed growth of the unemployment rate to over 16 percent.

EQ1b: What was the strategy of ERDF programmes in each programme period? What has been their evolution?

The development strategy for Galicia evolved over the different programme periods based on the region's needs and the priorities assigned to them. The first programme period of 1989-1993 focused on providing transport infrastructure (internal access and connectivity) and basic services (electricity and telecommunications), as well as environmental infrastructure (water supplies and purification plants) and on structural adjustments based on promoting investment in tangible assets (installations, machinery and industrial land).

In the following programme period (1994-1999), investment in regional infrastructure was maintained with the promotion of external access (the northern highway leading to central Spain) and the expansion of access to basic services, as well as investments in environmental infrastructure which now included the system for solid and urban waste management (SOGAMA). Structural adjustment was maintained and a business policy was introduced to provide support to entrepreneurs and business services (foreign markets, information and communication technologies, managerial skills and others).

The 2000-2006 programme period mainly focused on investment in regional infrastructure to complete the external access by road to central Spain Investment in infrastructure for basic services had been completed in the previous programme periods. Whilst RDI policy and the transfer of knowledge to the business sector emerged as an important priority at this time, strengthening environmental preservation and protection remained the second most important priority. Moreover, the oil spill caused by the Prestige tanker close to Galicia's coast brought about a sudden change in the region's needs, and major reprogramming was carried out in order to deal with the environmental catastrophe caused by the spill.

The current, 2007-2013, period still prioritises investment in regional infrastructure (external access to North Spain and railways). However, the size of investment allocated to this priority has been reduced in this period due to less available EU funding overall. Most notably, innovation has become the second most important priority with enlarged support given to the knowledge economy and business innovation. Investment in environmental issues continues, with environmental infrastructure and the increasing importance given to the control of pollution and protected areas.

EQ1c: What were the priorities and objectives of ERDF programmes of each programming period? What has been their evolution? Were the objectives SMART?

The ultimate goals of the ERDF programmes in Galicia were the improvement of the quality of life through convergence with European standards and economic development, and a sufficient supply of employment to be achieved through the strengthening of the competitiveness of the productive sector. The aims and development needs of Galicia evolved with changes in the economic context. Nevertheless, if the ultimate goals remained unchanged throughout the study period, the strategies for their achievement differed throughout the programme periods, with the objective of employment generation largely sidelined in the first two programme periods due to the significant structural adjustment needs in order to eliminate low productivity jobs and hidden unemployment, especially in agriculture.

The programmes strived to achieve the aforementioned overarching goals through investment in regional infrastructure, environmental preservation, structural adjustment, business policy and innovation, as well as the provision of health and educational social services, and territorial and spatial balance. Intermediate objectives focused on increasing external accessibility and the region's internal connectivity. On the other hand, development objectives concentrated on strengthening the competitiveness of the productive system and structural adjustment, encouraging the diversification of industry and services.

The first programme periods concentrated on regional infrastructure (transport, electricity distribution, telecommunications), though external motorway accesses to central Spain were completed in the 2000-2006 period. Environmental infrastructure and nature protection were important throughout the different periods whereby environmental needs experienced a dramatic upturn with the ecological disaster caused by the tanker ship Prestige, which led to the construction of a large outer port in Corunna in order to increase maritime safety.

Structural adjustment and regional investment grant schemes were of great importance in halting the industrial downturn and boosting industrial modernisation during the first programme periods; in the 2000-2006 period, these measures were reoriented to promoting growth and stable employment. The rollout of the business competitiveness policy commenced in the mid-1990s and was continued by the Galician development agency with the regional and national projects to foster managerial skills and advisory services for SMEs. Finally, innovation policy reached strategic importance in the period of 2000-2006 and was further developed in the current programme period.

With regard to the 'SMARTness' of objectives, the following comments can be made:

- Specific objectives were not set in the 1989-1993 programme period. However, in the following (1994-1999) period, numerous objectives with overly detailed output targets were set. A small number of result targets were also set, focused on employment creation mainly stemming from transport and environmental infrastructure. In 2000-2006, specific objectives were extended to encompass result targets in employment, induced private investment and beneficiary companies in the enterprise policy areas. Similarly, many specific output objectives were set in the current programme period but result targets in employment creation were limited to job creation and were defined in full time equivalent terms. Jobs creation at the construction stage is no longer computed.

- Objectives were generally measurable, however forecast errors were substantial in the 1994-1999 period, and it was necessary to amend targets through a reprogramming process. In 2000-2006, target value predictions still contained errors, but indicators were more comprehensive, which enabled a more efficient output in reporting to monitoring committees and in final implementation reports. In the current period (2007-2013), the definition of objectives (especially output targets) has been greatly improved and intermediate targets for 2010 have been set, which has facilitated ongoing programming monitoring.
- Overall objectives were attainable in 1994-1999 despite the lack of managerial experience in target setting. In the 2000-2006 period, objectives were attainable but the unexpected Prestige accident led to a significant reprogramming process, reassigning resources to ecological restoration and an investment plan to reactivate the Galician economy. Finally, targets have been attainable in the current programme period but the high impact of the economic and financial crises has affected their achievement, especially in areas highly dependent on private investment.
- The majority of objectives set were relevant throughout the programme periods. However, in 1994-1999 numerous output targets were set, some of which could be considered overly detailed and not specifically relevant. This was improved in the 2000-2006 period by reducing the number of irrelevant objectives and defining increasingly relevant output targets such as employment creation and induced private investment. In the current period, the number of objectives was further reduced and refined, resulting in increased relevancy.
- In 1994-1999 as well as in 2000-2006, forecasting errors resulted in the setting of amended objectives and therefore this cannot be considered timely. Alternatively, in the current period initial objectives were set in a precise manner (with intermediate values included for 2011) but the late approval of the programme as well as the effect of the financial crises has impeded timely implementation.

In summary, it can be said that SMART objectives have improved throughout the programme periods but they have yet to be fully achieved.

EQ1d: What has ERDF support been spent on in each programme period? Have there been significant transfers from initial allocations of ERDF resources to other priorities in any period?

The majority of the ERDF expenditure was for regional infrastructure throughout all programme periods, whereby the proportion of allocated funds to this priority drops significantly in the current period, from over half in the three preceding periods to 38% currently.

In the first programme period regional infrastructure (transport, electricity and telecommunications) amounted to 63.2 percent of total ERDF expenditure, followed by environmental sustainability (water infrastructure), social cohesion (health and education) and structural adjustment (regional incentives) with 13.6, 7.0 and 9.8 percent of expenditure respectively.

In the 1994-1999 period, regional infrastructure (including the commencement of motorway access to central Spain) was greatly prioritised, absorbing 70 percent of expenditure, followed by

environmental sustainability (expanded to include a solid waste management system) with 12.7 percent. Other important lines of investment were social cohesion with 8.1 percent, as well as structural adjustment and enterprise policy with 6.2 percent of expenditure. In 2000-2006, ERDF investment in electricity and telephone infrastructure were reduced considerably but nonetheless, regional infrastructure absorbed 54.3 percent of expenditure for the completion of the motorway access to central Spain and for the investment plan to counterbalance the effects of the Prestige oil spill on the Galician economy. Moreover, 20.6 percent was dedicated to the environment priority and was spent on the environmental infrastructure (sewage systems and water purification) and on the restoration and cleaning of beaches and affected areas of the Galician coastal line. 11.1 percent was used for structural adjustment and enterprise policy, closely followed by innovation at 8.9 percent which started to gain momentum in this period. Lastly, social cohesion absorbed 2.5 percent of funding.

Expenditure figures for the current period are not indicative of the actual relative weight of priorities and themes, given the differing rates of realised expenditure across the various priorities. According to allocations, 38.3 percent is dedicated to regional infrastructure mainly intended for access to Northern Spain, ports and railways. An important change is represented by the fact that innovation has become the second largest priority with allocations of 22 percent, closely followed by environmental sustainability at 20.8 percent. Structural adjustment and enterprise policy are allocated 13.4 percent and finally social cohesion has been allocated 4.9 percent.

In general, the actual expenditure was greater than initial allocations, exceeding these in a wide range of priorities. Indexations to compensate for the changes in prices and exchange rates in the first programme periods and the reallocation of the so-called performance reserve in 2000-2006 resulted in a significant increase in the funding amount, which was redistributed amongst different priorities. The most important change in priority allocations affecting the whole CSF (including the Cohesion Fund) occurred in the 2000-2006 period on account of the Prestige oil spill, whereby the majority of additional funding was allocated to environment and regional infrastructures.

The main amount of the increase in ROP funding in 1994-1999 and 2000-2006 was reoriented towards the construction of transport infrastructure, with other thematic axes following far behind (higher education centres and social cohesion in 1994-1999, and structural adjustment and enterprise policy in 2000-2006).

7.2 EQ2: To what extent do ERDF achievements meet regional objectives and needs in each programming period and across all periods?

In the first programme periods, achievements were attained in regional accessibility and territorial connectivity, water supply and sanitation. However, external accessibility by road to the rest of Spain was not completed until a large effort in 2000-2006. Prior to this period, the main achievements in external accessibility were made through airport improvements. In the area of internal connectivity, objectives were met and roads were built to create a network with two main axes running from north to south and from east to west. Moreover, environmental water infrastructures (distribution and sewerage) were created and a system for solid waste management was established, meeting objectives in the priority of environment. Innovation was not given great importance in the first periods but nonetheless objectives were met with research projects for waste utilisation, the use of ITC in the cultural related projects implemented, and the purchase of

scientific equipment in Universities and research centres. Important achievements were recorded in education, especially in secondary education (vocational training) and in higher engineering and technical schools, as well as in the field of structural adjustment. Moreover, interesting achievements were reached in enterprise policy where the regional development agency supported overt three thousand companies (1.9 percent of all companies in 1999) and started a programme of managerial skills development.

Few ERDF measures such as investment grants and investment in education focus directly on employment, but the vast majority of actions in infrastructure and other fields were nonetheless aimed at strengthening the economy and creating employment opportunities. Despite these actions and investment grants (regional incentives) which were aimed directly at supporting regional investment and employment generation, the important structural adjustment experienced by the Galician economy throughout the 1990s prevented significant employment creation until the 2000s (the unemployment rate fell to 7.6 percent in 2007). In the 2000-2006 period, investment and employment creation were stimulated largely by the investment grants in ERDF programmes, the induced investment of which amounted to 6 percent of private fixed capital formation in the period. Moreover, there was an important convergence in GDP per capita which grew from 50 percent of the EU15 average in the early 1990s to 54.7 percent in 1999 and to 59.5 percent in 2008.

The accumulated assets in environmental infrastructure have benefited a large proportion of the population, but operational problems have limited the positive effects of water purification in some municipalities.

In the field of RTDI, interesting achievements have been attained in public research through scientific publications, patents and projects awarded in the European Research Framework Programme. From 2000-2006 onwards, more ambitious business RTDI and technology transfer objectives have been set, aimed at the private sector, and an important proportion of innovative Galician companies have entered into cooperative research projects with research groups and technology centres. Private-sector investment in RTDI has increased rapidly, but a significant difference remains between Galicia and the Spanish average.

The current economic crisis has had a deep impact on the Galician economy resulting in a prolonged recession and an unemployment rate of over 17.4 percent in 2011. The decrease in company investment in the current period of 2007-2013 has inhibited positive effects from the traditional regional incentive grants. The need for the enhancement of RTDI in the business sector has become all the more important in order to enable sustainable competitiveness and to best cope with the prospected scenario of low economic growth.

EQ2a: What are the reported achievements of each programming period?

Reported achievements fundamentally focused on outputs (motorway kilometres, number of RTDI projects, etc.), but several referred to results such as jobs created and induced investment, and others captured specific information, such as intensity of traffic or number of patents. In general, the information on reported achievements improved throughout the programme periods, but there is a lack of information regarding the extent to which economic development and changes in regional needs are attributable to ERDF interventions.

Information on achievements in the 1989-1993 period is sparse, making it difficult to evaluate.

In 1994-1999, reported achievements increased, the main indicators of which included:

- The upgrading and building of over one thousand kilometres of road (a 47 percent increase in total capital invested in roads) as well as the provision of basic economic services (electricity and 971,228 telephone lines) to most of the region's population.
- Investment aid for regional purposes, resulting in the creation of approximately 10,000 jobs (1 percent of employed population) and an induced private investment of €1.2 billion (3.9 percent of private fixed capital formation). Moreover, a specific programme, the PIMEGA for the development of managerial skills, had over 4,000 participants representing a large proportion of relevant Galician companies (accounting for 7 percent of the employed population in the region).
- Investment in environmental infrastructure (waste water collection and treatment) as well as urban solid waste management through the SOGAMA project (serving over 60 percent of Galician population and managing 80 percent of USW).

In 2000-2006 the main reported achievements encompassed:

- A significant reduction in travelling times from Galicia to central Spain (by approximately 25 percent, and by around 30 percent between Vigo and Ourense within Galicia).
- A business policy which benefited 2.1 percent of companies. The job creation indicator reached 1 percent of the employed population.
- The innovation policy, which through over 2,500 projects increased business RTDI from 0.21 to 0.39 percent of GDP. Total RTDI expenditure increased from 0.64 to 0.89 percent.

Achievements still have to be reported for the current period (2007-2013), and at the time of writing this report, the information was still incomplete and fragmented for a series of important priorities.

EQ2b: To what extent were objectives achieved in each programming period?

The general objective of GDP per capita convergence with the EU average was affected by the economic crisis in the last year of the 1989-1993 period, which led to a rise in the unemployment rate to 18.3%. During the period 1994-99 the gap in terms of GDP per capita in relation to the EU average (15 member states) was reduced by 3.3 percent, although few new jobs were created and the unemployment rate only decreased to 16.2 percent. The 2000-2006 period saw growth, with the gap in the GDP per capita decreasing by 5.4 percent and the unemployment rate dropping to 8.5 percent. Finally, in the current period (2007-2013), the financial crisis and the resulting economic depression have halted the process of convergence, with unemployment once again rising to 17.4 percent in 2011.

The degree of compliance with the specific objectives defined in programmes varied. The setting of specific objectives began in the period 1994-1999. A large number of specific output targets were set, together with a lower number of results-based targets. The latter were mainly job creation, induced private investment and the number of beneficiary companies. These objectives were achieved in most cases, although the targets that were initially set suffered from major forecast errors and it was necessary to amend the targets in the re-programming process. During the period

2000-2006 a good level of compliance with objectives was generally achieved, although it was also necessary to re-programme a number of objectives in order to compensate for forecasting errors. Finally, in the current period (2007-2013), the realisation of objectives has been affected by the delay in the commencement of the programme and by the decrease in business investment due to the economic crisis.

EQ2c: To what extent were needs met in each programming period? To what extent can observed changes in regional needs and problems be imputed to ERDF programmes over time?

Regional needs were met with different levels of intensity. In the 1989-1993, 1994-1999 and 2000-2006 programme periods, the degree of external accessibility and internal connectivity of Galicia was increased with the reduction in travel times and number of accidents due to an increase in road assets of over 105 percent. In a different manner, rail assets in Galicia have only seen a substantial increase in the 2000-2006 period (98 percent). These improvements are clearly attributable to ERDF investments.

A similar effect can be seen in hydrological infrastructure with increases in the population connected to the wastewater networks and in the volume of wastewater treated, as well as in the plant for the treatment and controlled incineration of most of the solid urban waste generated in Galicia.

In 2002, the accident of the Prestige spillage of 70,000 tons of oil on the coast of Galicia generated an ecological catastrophe. Cleaning works and environmental restoration measures were supported by the ERDF and the CF and were carried out in an effective manner. After 6 months, most of the beaches were cleaned and it took 4 years for the environmental situation to become normalised.

There has been a large need for structural adjustment in Galicia and it has been largely met with actions taken in the early 1990s, the benefits of which have occurred mostly in the 2000s when there was a substantial rise in the relative shares of both services and industry. The region has developed some competitive sectors on a global scale (fish canning, food processing, wood, textile-garments), as well as an automotive cluster, accounting for 13.2 percent of Galician industrial employment and 28.6 percent of Galician exports. The extent to which these achievements are attributable to the ERDF is difficult to evaluate. ERDF induced investment reached 6.1 percent of private fixed capital formation in the 2000-2006 period, and interviewees reported that investment grants played an important role in helping to develop some dynamic companies and sectors in the Galician economy. However, in some cases these grants may have produced the undesired effect of prolonging the survival of some uncompetitive companies.

The needs in the field of RTDI improved in Galicia, with a five-fold increase in scientific production between 1990 and 2005 (ISI databases). Over 20 technological centres have been developed and whilst these are still an emergent sector they are well-focused on the needs of the most important productive sectors in Galicia. To an important extent, these efforts have been transmitted throughout the economic system and have had a lasting effect by spreading awareness of the competitive importance of R&D and innovation (9 percent of companies with over 5 employees were involved in R&D and 21 percent carried out innovative activities). Evaluators and interviewees, as well as opinions expressed in the online survey, estimated that the ERDF played an

important role in promoting these results. R&D was the second-most-valued issue after transport infrastructure.

EQ2d: What have been the complementarities and synergies of ERDF interventions with ESF, EAGGF/EAFRD, and with domestic regional policy interventions?

Coordination and complementarities amongst the different EU Structural Funds are usually reached at the CSF level through their eligibility rules. Investment in educational infrastructure is financed by the ERDF whilst current expenditure for vocational training and PhD scholarships is undertaken by the ESF.

Coordination among EU Structural Funds and domestic funding in Galicia, as in most Spanish Objective 1 regions, starts at the planning level. The successive regional strategic plans provided the grounds for Regional Development Plans and the negotiation of the separate Community Support Frameworks (CSF). Consequently, the Galician ROP and the different NOPs determined the concrete priorities and fields of intervention to be supported by ERDF programmes.

Regarding coordination among ERDF programmes, the specific nature of the national programmes has considerably aided the complementarities and synergies with the regional programme in the different programme periods. In the first programme periods, the NOPs were responsible for infrastructure and local development needs in small and medium-sized municipalities, as well as for environmental issues and water infrastructure. The remaining regional development needs dealt with by the NOPs comprise structural adjustment and enterprise policies and, fundamentally, research and technological development.

EQ2e: What has been the overall contribution of ERDF programmes to regional development?

Econometric simulations suggest an important effect of ERDF investment on the rate of growth and employment, in comparison to the baseline scenario with the absence of ERDF investments. These results are convincing and are supported by the perceptions of the participants in the online survey. The strategy of improving external accessibility, internal connectivity and a closer integration with the North of Portugal, as well as undergoing intense structural adjustment and promoting company investments in the region, seems to have worked during the growth cycle of the 2000s. Up to the outbreak of the current economic crisis, the Galician economy achieved a fast convergence and substantial job creation with a significant improvement in labour productivity, over the Spanish average.

Despite the persistence of several problems, environmental conditions and solid urban waste management, as well as natural and cultural heritage, have improved substantially in Galicia in the most recent programme periods, largely due to ERDF and CF funding.

The accumulated assets of public infrastructure and private capital increased notably in Galicia and the region benefited from an intense capitalisation process, largely funded with the ERDF contribution. However, the large majority of Galician companies are small, have little capacity for innovation, and are lacking in innovation culture and innovation management. R&D expenditure in Galicia increased quickly up to the outbreak of the current economic crisis, but is still modest (1 percent of GDP in 2007), and business R&D merely accounts for one half (0.5 percent in 2007 vs. 0.2 percent in 2000).

Galicia has developed some competitive clusters in the automotive sector (accounting for 13.2 percent of Galician industrial employment and 28.6 percent of Galician exports), fish-canning, food-processing, wood and textile-garment. They count with leading multinational companies such as Citroen Hispania and Inditex–Zara Group, as well as many others companies of smaller size which are competitive in international markets. The region has been adversely affected by the current financial and real estate crisis and must face the challenges of increased global competition and delocalisation threats stemming from the specialised profile of its main productive sectors.

Overall, Galicia has experienced substantial modernisation of its physical, human and knowledge capital, as well as an improvement in the quality of life. Many problems still remain to be solved, but due to the ERDF investments Galicia is in a much better position to forge its way ahead nowadays than it was 25 years ago.

7.3 EQ3: What are the main lessons learnt on the effectiveness and utility of ERDF interventions

One of the most important lessons learned from the Galician experience relates to the effect of accessibility in peripheral lagging regions. Enhanced accessibility to a large integrated market is a good way to boost structural adjustment and productivity. The combination of the strong investment policy supported by ERDF and increased competition in the single European market has been demonstrated as a powerful vehicle for economic development and convergence.

The framework of the Structural Funds facilitated strategic planning and action coordination as well as favouring a process of institutional learning. In this respect, as noted in the evaluation by CADMOS (EC, DG Regional Policy, 1991), the Structural Funds have had positive effects on the rationalisation of preparedness mechanisms of public decision-making, especially in the field of regional autonomy.

However, programmes in Galicia were mainly designed from the supply side and demand analysis did not play a very significant role. Further, private sector operators played a secondary role in designing and implementing most of the measures of the programmes. Consequently, programmes' capabilities to trigger and consolidate a market expansion may have been limited to some extent by these features, especially in areas such as the promotion of innovation and internationalisation of SMES.

EQ3a: What are the main good/bad practices?

Strategic planning in Galicia has been used as the basis for negotiating the CSF and elaborating the ROP. The case of the Strategic Plan of Galicia 2000-2006 (PEDEGA, 1999) and the current Framework for Convergence (MCEGA, 2006) as the foundation for the 2000-2006 and 2007-13 programme periods is paradigmatic in this respect.

Specific examples of good practice should be mentioned: (i) The Rural Telephone Plan providing telephone service outside of city centres and urban areas; (ii) SOGAMA for the collection, treatment and elimination of solid urban waste; (iii) the PIMEGA Programme promoting managerial skills and competitiveness in enterprises; and (iv) The south motorway Rias Baixas (A-52), which allows access to the central road network of Spain and efficiently connects the axis along the Portuguese border encompassing the main cities of Vigo, Ourense, Verin and Northeast Portugal.

Other factors worth mentioning are:

- Closing the planning-programming-budgeting cycle: Once Operational Programmes were approved, the annual allocations to the series of actions in programme documents was incorporated into the budgets of the managing bodies (mostly public entities). In this way, the processes of project selection and implementation could be started, in accordance with the conditions and priorities established in ERDF programmes.
- The creation of an administration specialised in planning and managing European funds: The general directions of EU funds and central government planning and regional governments played a role of horizontal coordination with sectoral managers (public works, industry, agriculture, environment, etc.), which was decisive not only in the planning and programming phases but also in those of management, implementation and monitoring. Those in charge of funding and planning in regional and central governments maintained a very fluid level of contact and dialogue (with regular meetings, 'Economic Forum') to review and discuss the various issues related to planning, implementation and monitoring ERDF programmes.
- The technical capabilities of the country: Spain had human resources and highly qualified professionals in the fields of management and construction of infrastructure (administrations, schools and bodies of civil engineers, construction companies, etc.), allowing them to undertake major projects and investments, and so take advantage of the ERDF financial aid. A side effect, which was to some extent unplanned, was training. This training of an important sector of engineering and construction companies and infrastructure managers with extensive international exposure was largely at a central level, but also occurred on a smaller scale at regional level.

The Galician experience shows the importance of paying more attention to provisions creating adequate conditions for the operation and sustainability of investment in some types of infrastructure, particularly when operational competences are within the remit of local governments. This is the case with environmental infrastructure such as wastewater treatment (WWT) plants or with the solid urban waste (SUW) management plant of SOGAMA. It may well be that the entire treatment capacity of new WWT plants built by the regional government, with the support of ERDF, have not been optimally employed because of the difficulties some municipalities face when having to provide technical staff and the necessary funding for this operation. In a similar way, the lack adequate agreements and/or provisions ruling the SUW issue has limited the dimensions and profitability of the SOGAMA plant, which could hardly manage the expected growth in the amount of SUW in Galicia.

Finally, the interviewed experts frequently pointed out major problems with escalating audit charges and perceived risk in ERDF procedures. Many managers and project sponsors are concerned about the difficulties, cumbersome procedures, and excessive inspection charges, as well as the frequent requests for documentation which substantially raise management costs and divert a great deal of effort and energy.

EQ3b: What conclusions can be drawn for improving ERDF programme design, implementation, results-based management, achievements?

Based on Galicia's experience, a number of recommendations can be proposed in order to improve the design and implementation of ERDF programmes.

Firstly, it is necessary to reduce the weight of top down decisions and excessive public sector leadership in the design and implementation of programmes. A broad range of actors should be involved, with greater participation from business representatives (enterprises, associations, clusters, etc.), as well as non-profit organisations, technological centres, and science and technology parks. There should be a greater focus on demand in terms of the design of the programmes, placing a greater emphasis on bottom-up approaches in order to introduce greater knowledge of the market and companies, and to implement dynamic/entrepreneurial discovery processes.

Increased participation from the private sector (both enterprises and non-profit organisations) would not only help in enabling a market-focused approach, but implementation roles could also be open to intermediary organisations linked to business, technology and institutional interests (companies, business associations, foundations and other non-profit institutions). Consortia and partnerships would make it possible to define agreements with clearly defined goals and results-oriented management in order to promote efficiency and effectiveness.

Secondly, the decision making process should be improved. On the one hand, greater attention should be focused on the opportunity costs of the different actions and projects, and on the other, the design and financial/economic sustainability of investments in infrastructure and equipment should be improved, paying greater attention to operational and maintenance costs.

Thirdly, financial instruments (guarantees, loans, equity financing) should play a greater role and their function should be reinforced by involving managers with expertise in venture capital and new business development. Special emphasis should also be placed on the design of mixed instruments making use of financial engineering mechanisms and partially repayable grants, the latter for viable projects involving high risk or greater start-up obstacles. Instruments of this kind should also be used in urban and local development projects.

Fourthly, the monitoring and evaluation processes should be reinforced and mechanisms should be implemented for connecting them together, as well as for increasing their influence in decision making processes.

Finally, the experts interviewed frequently pointed out major problems with escalating audit charges and perceived risk in ERDF procedures. Simplification and coordination measures should be adopted to curb cumbersome procedures and excessive inspection charges, as well as the frequent requests for documentation which substantially raise management costs and divert a great deal of effort and energy. In this sense, measures should also be implemented for ensuring greater flexibility in programmes to accommodate changes to socioeconomic needs, and simplifying the administration of funds for project beneficiaries.

8. ANNEX I – ANALYSIS OF PROJECT SAMPLES

8.1 AIMEN Technological Centre

Underlying problem and context for the project

The AIMEN facilities are located in the Technology Centre Armando Priegue (Porriño, Pontevedra). AIMEN was founded in 1963 and registered in 1967 as a private non-profit organisation, due to the need for a laboratory or test centre for the metal-mechanical, shipbuilding and automotive industry. In a context characterised by low national and regional economic competitiveness, AIMEN's mission is to become a technological and strategic partner for its associates, and to the contributing to the improvement of the technological capabilities of the Galician industrial structure. AIMEN's main objective is to improve competitiveness through developing RDI through in-depth knowledge of materials, the supply of high-tech equipment, and the application of laser and bonding technologies. Therefore, its activity comprises knowledge transfer to industry, conducting RDI collaborative contracts.

Outputs and achievements

The AIMEN Technology Centre has conducted a total of 109 projects and 28 European cooperation projects, and it has prepared more than 100,000 technical reports. AIMEN has led 58 international projects for R&D, 43 of them belonging to the VII Research and Development Framework Programme. AIMEN has requested 3,145 national patents and obtained several quality certificates (ISO 1400, ISO9001, UNE160002 and V16000). Regarding the Operational Programme for Cross-border Cooperation (2007-2013) financed by ERDF, projects that should be highlighted include: the Cloudpyme Project, consisting of the promotion of Open Source Software technology (OSS) in SMEs; the Nanovalor Project, focused on product development incorporating nanotechnology; and the Phosil Project, focused on developing photovoltaic cells by using laser technology. On the other hand, among the projects financed by the VII Research and Development Framework Programme, examples include: the Creepimage Project, centred on the creation of a non-invasive optical system; the Reptile Project, focused on the development of a laser device; the MATCh Project, for designing orthopaedic components; the Orbital Project, consisting of the development of a laser welding head; and the CO-Patch Project, for reinforcing large metal structures. Nowadays, AIMEN's main sources of finance are R&D contracts, technology services and its own RDI projects.

Value-added

ERDF has produced a significant change in Galician industry. Before ERDF funds were available, the great majority of companies in the sector were unaware that their activities constituted RDI activity. Nowadays, the development and activities of RDI are jointly developed among all companies, through planned activities and open innovation. In this way, data on mobilising companies towards funding programmes for R&D are key in assessing the fulfilment of the ERDF objectives. AIMEN has achieved a major accomplishment in regional economic development: a dragging effect, attracting many companies and SMEs to RDI. Currently, AIMEN is established as a national technological reference point in laser technology, with large capacity for improving products and productive processes. AIMEN provided a remarkable increase to the value-added in sectors such as the metal-mechanical, the shipbuilding and the automotive industries.

AIMEN currently offers a wide range of services to the Galician industrial and business sector. Specially, the Laser Applications Centre, responsible for material-processing laser technologies and their application, and the Union Technology Plant, which aims to improve bonding technologies in the industry. AIMEN provides global solutions to market demands in the area of product development and optimisation, obtaining competitive advantages and differentiated products. Furthermore, AIMEN is active in the transfer of research results (TTO), collaborating in the diffusion of the technology.

Table 18: AIMEN financing sources

Period 1989-1990 STRIDE Programme			
Beneficiary	**Project**		**Certified Expenditure (€)**
Ministry of Industry and Commerce	AIMEN Scientific Equipment		2,792,308
Period 1994-1999 ROP Galicia ERDF			
Beneficiary	**Project**		**Certified Expenditure (€)**
Regional Government, Ministry of Industry and Commerce	AIMEN Northwest Metallurgical Research Association (Equipment)		492,387
Period 2000-2006 CSF (community Support Framework) ERDF (Co-financed by AIMEN in a 30 percent)			
Beneficiary	**Project**	**Programmed Expenditure (€)**	**Programmed Aid (€)**
DG Research Ministry of Education and Science	Study of prospecting on bonding technologies	68,000	47,600
DG Research Ministry of Education and Science	RDI Management System Implementation	24,000	16,800
DG Research Ministry of Education and Science	Welding Technology Monitoring Centre	63,760	44,632
DG Research Ministry of Education and Science	Welding Plant technical equipment	1,077,574	754,302
DG Research Ministry of Education and Science	Mechanical area technical equipment	79,126	55,388
DG Research Ministry of Education and Science	Metallography area technical equipment	68,144	47,701
DG Research Ministry of Education and Science	AIMEN Communication Network Computer Equipment	8,002	5.601
DG Research Ministry of Education and Science	Friction Stir Welding Equipment	807,000	564,900
Research General Office (Galicia Local Government, Xunta de Galicia)	Equipment and facilities	610,000	457,500
Period 2007-2013 MENR ERDF (Co-financed by AIMEN in a 30 percent)			
Beneficiary	**Project**	**Programmed Expenditure (€)**	**Programmed Aid (€)**
DG for Technology Transfer and Business Development (MINECO)	AIMEN Technology Centre Consolidation	32,490	25,992
DG for Technology Transfer and Business Development (MINECO)	AIMEN Technology Centre Consolidation	32,000	25,600
DG for Technology Transfer and Business Development (MINECO)	AIMEN Technology Centre Consolidation	6,250	5,000

Financing sources

In the years 1989-1990, the AIMEN Technology Centre received assistance from the STRIDE programme, for a total amount of 300 million pesetas for the purchase of scientific equipment. This programme was financed 30 percent by the Spanish Ministry of Industry and 70 percent by the EU. The introduction of the ERDF programme began in the 1994-1999 period, through expanding the Technology Centre. The Galician government (Xunta de Galicia) contributed 250 million pesetas for the construction of new buildings and facilities. In 2003, a strategic decision was made to enhance the union and laser-bonding technologies, given the lack of specialised centres in Spain. Subsequently, in 2009 the Galician Government reached an agreement with AIMEN and the Spanish Ministry of Economy and the ERDF regarding financing for the new laser technology building. It should be remarked that the Galician R&D Plan for 1998 had a major impact on the industry.

Conclusions

By means of the ERDF, AIMEN has created infrastructure to support industry and companies of the metal, mechanical, shipbuilding, and automotive sectors, as well as other industries with large presence in the Galician region. The AIMEN Technology Centre has been a key axis in bringing technology and innovation into the Galicia industrial and business sector, developing a trusted relationship with a qualitative leap of RDI, currently focusing on new laser applications and bonding technologies. AIMEN also generated an increase in competitiveness and added-value over the long term. The ERDF allowed the creation of an excellent technology and research centre like AIMEN, developing technological capabilities, innovation and performing a valuable service in a mature industry. Furthermore, the ERDF programme generated a clear dragging effect, by inspiring a large number of local companies and SMEs to take part in European programmes and increasing their sensitivity to RDI. Nowadays, these companies are working together through an open innovation system and AIMEN accompanies them throughout the RDI process. Therefore, it can be concluded that the AIMEN Technology Centre is a relevant case of substantial positive impact of the European Cohesion Funds, as reflected in the existing infrastructure and their use to support the industry in RDI.

8.2 SOGAMA Galician Environmental Society

Underlying problem and context for the project

Until 1998, the existing model of urban waste management in Galicia consisted of a total of 300 solid waste landfills, only one of which was managed according to applicable legislation, while the others had many irregularities and deficiencies. Despite the significant increase in the production of Solid Urban Waste (SUW), there were no regulations in place for the collection and processing of SUW and there was a lack of waste collection services in rural areas. In this context, SOGAMA (Galician Environmental Society) was created in 1992, with the Galician regional government owning 51 percent and Union Fenosa owning 49 percent in order to provide adequate processing for the total waste generated in the community. It also engaged in the production and distribution of gas and electricity. SOGAMA was conceived as an instrument of managing environmental policy in Galicia whereby its tasks include transportation, storage, treatment, removal of SUW, with Galician towns responsible for the collection and transportation of waste to the society's transfer stations.

Nevertheless, it only represents part of the waste management and treatment system adopted in Galicia.

Detailed description

The request for EU funding was made in 1996. However, the amount of waste managed by SOGAMA was much lower than initial expectations, as only 150 towns (47 percent of the total) endorsed the project. Therefore, the original project was revised and the incinerator capacity was reduced to half, to 500,000 tonnes annually. The Government of Galicia requested ERDF funding with the aim of improving the inadequate infrastructure for managing SUW in Galicia. The project consisted of building a set of facilities centralised in the town of Cerceda (A Coruña) for the selection, recycling and removal of SUW. More specifically, nine transfer stations, a plant for producing fuel derived from waste, one co-generation plant, a plant for electricity production from incineration of organic waste, and a plant for the separation of recyclable packaging were built. The SOGAMA project was completed in 2000 and became operational in 2001, benefiting a population of 1.8 million people. Nowadays, SOGAMA manages 1 million tonnes of mixed waste per year, of which only 500,000 tonnes can be incinerated, with the remaining amount deposited in the landfill site of Areosa.

The total investment cost of the SOGAMA project was €147 million whereby the European Commission co-financed 47 percent of the public investment expenditure made between 1997 and 2003, amounting to €71.84 million. The financing of the remaining 53 percent was provided by the shareholders of SOGAMA - the Galician regional government and private shareholders - over the period extending to 2008. The main goal of the project was to contribute to human health and environmental quality in the community, achieved through the centralisation of activities of waste separation and processing, recycling, treatment and removal of bulk waste, and the valorisation of non-recyclable waste with the aim of producing electricity. Galician towns collect the waste in the areas of their competence and have complete autonomy and freedom in deciding how to ensure the adequate management of SUW and whether to subscribe to SOGAMA services, in compliance with Law 7/1985 of the General Waste Plan of Galicia. Citizens are responsible for separating waste in their households and for paying the town council tax for waste collection and waste treatment services.

Outputs and achievements

The main objective of the SOGAMA project was to correct the defective, weak and extremely deficient SUW situation in Galicia, through its management and treatment. SOGAMA contributed to public health and to environmental quality. Social intangible benefits include the minimisation of environmental risks and polluting processes, the complete elimination of methane gas emissions, the reduction of uncontrolled landfills with remarkable environmental and landscape enhancement, and a clear improvement in the quality of life.

Value-added

Regarding the economic benefits, the results had a relevant impact on Galician economic growth, especially in the waste management industry, turning Cerceda into a town with consolidated industrial activity. The project has improved local knowledge and professional expertise in waste treatment, using the most innovative technologies. The project has also generated economic benefits through the treatment of non-recyclable waste through taxes as well as electricity

production. In terms of employment, SOGAMA currently generates 500 direct jobs and an additional 500 in related activities. Finally, SOGAMA also plays a limited role in the recycled products sector, providing a service for metal separation and lightweight packaging recycling, developing the recycled products sector.

The long-term sustainability of the waste management system is undermined by certain structural problems. Among them, the installation and plant capacity should be stressed, as it is not substantial enough to cope with the amount of waste collected, even when all treatment plants are running at full capacity. Another problem to solve is recycling treatment, which is still underdeveloped, and lastly, SOGAMA's location is not optimal, since it does not minimise the distance between the transfer stations and the treatment plants, resulting in high transport costs (EC, DG Regional Policy, 2012b).

Management and monitoring issues

The investment made for the creation of the transfer stations and the beginning of the activities between 1997 and 2008, are indicated below.

Table 19: SOGAMA project investment (in thousands of Euros, 2011 prices)

Year	*Total*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*
Planning	*12,773*	*8,543*	*1,655*	*2,562*	*13*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Ground	*12,926*	*3,910*	*0*	*0*	*5,227*	*289*	*186*	*15*	*618*	*568*	*924*	*532*	*145*	*208*	*304*
Buildings and Constructions	*33,166*	*0*	*8,374*	*15,328*	*6,096*	*3,103*	*51*	*9*	*28*	*4*	*0*	*14*	*1*	*158*	*0*
Plant and Equipment	*145,684*	*0*	*38,373*	*59,921*	*23,959*	*0*	*582*	*8,199*	*1,388*	*2,945*	*2,196*	*926*	*3,069*	*470*	*257*
Start-up costs	*35,508*	*0*	*15,181*	*18,633*	*1,694*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net Working Capital	*26,610*	*0*	*0*	*0*	*28,530*	*13,637*	*3,785*	*13,176*	*-1,255*	*8,726*	*2,354*	*-1,820*	*566*	*-2,644*	*5,672*
Contingencies	*7,902*	*0*	*637*	*2,128*	*5,137*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total residual Value	*-14,625*														
Total Investment	*259,944*	*12,453*	*64,221*	*98,571*	*70,655*	*17,029*	*4,604*	*21,398*	*779*	*12,243*	*5,474*	*-348*	*3,781*	*-1,808*	*6,233*

The SOGAMA balance sheet registered a high capital value in recent years, mainly due to the slow payment of Galician towns' taxes to SOGAMA. Moreover, when facilities began operations, SOGAMA continued investing in the project using its own resources, that of the Galician regional government and the Council of Vigo. Finally, the ERDF-funded project was monitored by the Spanish authorities, utilising an information system on the degree of development based on financial and material indicators.

Table 20: SOGAMA project financing sources

Total investment costs (2011 prices) **Financing sources and contribution rates on investment cost**		
Financing sources	**Total (millions of Euros)**	**Percentage (%)**
Cohesion Funds	99.6	36%
Galicia local government and the Council of Vigo	1.5	0.5%
Private shareholders, SOGAMA and loans	173	63.2%

Table 21: SOGAMA project certified expenditure

ERDF Cohesion Funds (1994-1999 period) **Project code: 1997ES16CPE039**	
Financing sources	Certified expenditure (€)
Share capital	31,967,190.00
FC EU Subsidy 97.11.61.047	71,902,800.00
Subordinated loan capital	25,729,328.73
Bank financing Project Finance	125,000,000.00

Conclusions

The SOGAMA project has proved to be highly suitable for the Galician regional context. Firstly, the project was adapted to the characteristics of the territory, such as the urban dispersion and the low population density, building intermediate transfer stations throughout the territory. Secondly, it solved a problem which affected Galicia in the early 1990s, that is, the lack of sustainability of the waste management system due to waste disposal in illegal landfills. Therefore, it can be concluded that this project was an appropriate valuable initiative, which achieved the proposed objective of providing a long-term sustainable solution to the management and treatment of SUW, complying with Spanish regulations and EU Directives. Furthermore, this financed project provided an integral effective solution to waste management in Galicia, with a high positive impact on economic growth. When comparing the results of the project to the previous conditions, high favourable impact can be deduced, made possible with the aid of EU Cohesion Funds.

8.3 Sociedad Textil Lonia

Underlying problem and context for the project

The Spanish textile industry is considered mature with limited growth opportunities in the domestic market, and Galicia has a clear industrial specialisation in this sector, which accounted for 1.4

percent of Galicia's GDP in 2009. The significant growth in exports of Galician textile companies should be noted, placing Galicia in third position in terms of the Spanish industry's volume of exports. In spite of the presence of the large multinational fashion company Inditex, the Galician apparel sector comprises a large number of SMEs characterised by fragmentation across the region. Another feature of the Galician textile sector are the smallholding companies, due to the small size of textile companies, the poor professional qualification and the specialised investment, given that the great majority of investments have focused on the design area and to a lesser extent on the production process and the diversification of the product portfolio.

Moreover, the Galician textile industry production model could be characterised as a dual model. On one hand, the first of these models corresponds to the business group Inditex, following a strategy focused on the medium-quality segment, offering low-cost products that incorporate trendy fashion, mainly targeting younger customers. On the other hand, a second productive model developed by many SMEs focuses on specialised production orientation, competing in the upper-medium segment of the market and offering higher quality. The activity of these companies is completed by a large number of workshops and textile cooperatives, which have traditionally conducted the labour-intensive tasks of cutting, manufacturing and finishing.

However, since 2005, this industry has clearly been threatened with the liberalisation of the textile and garment international trade and the removal of EU import quotas. This has led to an increase in competitive pressure in the sector, due to the entry of textile products from countries with lower labour costs, which has increased the locating of labour-intensive production tasks in countries such as China or India. This has resulted in a significant loss of employment in the industry and the destruction of part of the industrial infrastructure. Galician companies have taken advantage of the liberalisation process to internationalise, in response to the globalisation of markets and the new international division of labour, with strategies based on product differentiation.

In this scenario, the strategy followed by Sociedad Textil Lonia, the owner of brands Purification Garcia and Carolina Herrera, is based on a global, unified and quasi-integrated management model. This management model gives the company greater control over the production, distribution and commercialisation processes, as well as an enormous flexibility and agility in adapting production to market needs in a short period of time. The company is vertically integrated, managing and integrating the different stages of the value chain. The production system is a quick response system, characterised by a rapid response to changing consumer demands and flexibility in the production and marketing procedures. Sociedad Textil Lonia has adopted a strategy of creating and leveraging strong brands with high brand equity in the long term. This avoids structural decline in the long term, and it creates a sustainable competitive advantage over time, unlike competition based on low prices.

Detailed description

Sociedad Textil Lonia was established in 1998 in Ourense. The purchase of land in the industrial area of Pereiro de Aguiar and the construction of five buildings was performed with ERDF funds. The industrial premises were arranged in a linear form including the entire production process. ERDF funds were also used to acquire equipment for the implementation of the company computing equipment, cutting machines and ironing amenities. That year, Sociedad Textil Lonia launched the brand Purificacion Garcia to the Spanish market.

During the years 2001 to 2003, using ERDF funds, Sociedad Textil Lonia acquired new equipment for the sewing and ironing processes. The Carolina Herrera fashion brand was launched onto the Spanish market, and in 2002 it began its international expansion with the opening of the first store in the United States of America. In 2005, Sociedad Textil Lonia requested ERDF funds in order to expand its production capacity due to its international expansion. The company acquired new equipment, automated the internal transport of garments within the factory through an air transportation line and implemented an automatic cutting line, as well as new management software. On the other hand, five new buildings were built in 2006 with ERDF funding, doubling the total production capacity and the initial installation space, in order to increase the production capacity and accommodate new business lines such as the production of leather goods and luxury accessories. Finally, regarding the 2007-2013 OP, Sociedad Textil Lonia requested ERDF financing for the improvement of company internal control processes, the application of new information-communication technologies and for increasing the flexibility and efficiency of logistics operations in order to improve the time to market access. These projects were financed with ERDF funds, amounting to €24.97 million, with public co-financing of 20 percent by the Galician regional government.

Outputs and achievements

In the province of Ourense, which has a high unemployment rate, Sociedad Textil Lonia has created 1,907 direct jobs (2010 data) and approximately 2,000 indirect jobs. This fact is of great relevance in an industry that has been in steep decline since the international textile trade liberalisation in 2005. Another important fact is the profile of the Sociedad Textil Lonia employee. In a labour-intensive industry characterised by a low level of qualification and salaries, the employee profile is that of a young person aged between 30 and 40, with a higher educational background, experience and language skills.

Since its foundation in 1998, the company has experienced significant growth. The company had a €235 million turnover in 2010, with a gross operating profit (EBITDA) of €56 million. These figures make it the second Galician textile group, surpassed only by the multinational Inditex. Its rapid international expansion should be noted, since it currently has 560 points of sale, 70 of which are in foreign markets. Nowadays, 60 percent of the revenue comes from the domestic market, whilst the remaining 40 percent is obtained from foreign market stores.

Finally, it is important to emphasise the strategy of growth through diversification followed by Sociedad Textil Lonia. The company has carried out a remarkable extension of its brands, expanding the range of products to meet the growing demand for luxury brands and exclusive products. Therefore, in recent years, Sociedad Textil Lonia has brought a line of luxury accessories to market, such as handbags, scarves, jewellery, etc., a line of household linens, perfumes and even children's clothing.

Value-added

Sociedad Textil Lonia has created two fashion brands, which enjoy enormous prestige and reputation in both the domestic and international markets after only a very short period of time. These fashion brands are positioned in the market segment of luxury pret-á-porter addressing their products to the segment of customers with a medium-high (Purificacion Garcia) or high purchasing capacity (Carolina Herrera). Sociedad Textil Lonia currently competes with luxury brands in the

foreign markets for example, Prada, Luis Vuitton, Gucci, etc., following a differentiation strategy which provides high added-value for the customer, such as quality, design and exclusivity. Along with Loewe, they are the only Spanish companies competing in the luxury fashion market.

This project would not have been possible in such short period of time without the assistance of ERDF funding. Therefore, these funds have accomplished their goal of economic growth and development in a region with a large textile industrial tradition, but one that was immersed in a major restructuring process due to the international textile trade liberalisation, and with a lack of a clear strategy to compete against textile products from countries with lower labour costs (China, India, etc.). However, much of the success of the company is due to the founders' know-how, the brothers Domínguez, founders of the textile company Adolfo Domínguez, and their wide experience in the textile and apparel industry.

Management and monitoring issues

Sociedad Textil Lonia has been financed by ERDF funds for the implementation of five investment projects, since its foundation (1998) to the present. The total investment of ERDF funds amounted to €19.8 million.

The contribution of public funding, IGAPE and the Galician regional government accounted for 20 percent of the total.

Table 22: Sociedad Textil Lonia ERDF fund financing (in Euros)

Expedient	Granting organisation	Date	Project description	Investment executed and approved (€)	Public aid (€)
97/0001/OR	IGAPE	27/07/1998	Terrains, equipment and construction of buildings	9,405,917.57	1,251,617.86
OR/0214/P05	Xunta of Galicia (Regional Ministry of Finance				2,285,255.37
01/0037/OR	IGAPE	31/10/2001	Equipment (ironing and sewing amenities)	1,076,887.48	75,382.12
OR/0259/P05	Xunta of Galicia (Regional Ministry of Finance	07/04/2003			183,070.79
AF008.2001.1.351	IGAPE	17/03/2005	Equipment, cutting line automation chain, mechanised garments, air transport and the purchase of new management software	665,932.00	46,615.24
AF008.2005.1.71	Xunta of Galicia (Regional Ministry of Finance	06/04/2006	Construction of five new production buildings and new equipment	8,675,023.16	1,301,253.47
10.04.741.A.770.0	Xunta of Galicia (Regional Ministry of Finance	13/02/2008	Improvement of logistics, internal control, implementation of new ICT systems	60,906.16	
TOTAL				**19,823,760.21**	**5,143,194.85**

CONCLUSIONS

Following the analysis of investment projects financed with ERDF funds, it can be concluded that the goals have clearly been met, as they have allowed for the implementation of a successful industrial textile and apparel company in a short amount of time, which currently competes in

Spain and in the most demanding international markets (United States of America, The Middle East, Japan, etc.), and which offers high value-added brands and products, addressing the upper segment of the market. This investment project has enabled the creation of two luxury brands, Carolina Herrera and Purificacion Garcia, in a highly competitive environment characterised by products from countries with lower labour costs.

9. ANNEX II – STRUCTURE OF PROGRAMMES 1989-2013 IN GALICIA

Table 23: Galicia ROP 1989-93, Financial allocations and actual expenditure

Priority	Total initial allocation (I)	Total actual expenditure allocation (F)	Total public (€)												Private	
			EU						Domestic							
			ERDF (I)	ERDF (F)	ESF (I)	ESF (F)	EAGGF (I)	EAGGF (F)	Nat. (I)	Nat. (F)	Reg. (I)	Reg. (F)	Other dom. (I)	Other dom. (F)	Private (I)	Private (F)*
1.- Improved communications	n.a.	771,910	n.a.	440,000	n.a.	n.a.	n.a.	n.a.	n.a.	120,725	n.a.	211,186	n.a.	n.a.	n.a.	n.a.
2.- Industry, crafts sector and business services	n.a.	207,051	n.a.	114,868	n.a.	n.a.	n.a.	n.a.	n.a.	39,208	n.a.	46,908	n.a.	n.a.	n.a.	n.a.
3.- Tourism	n.a.	10,060	n.a.	5,330	n.a.	n.a.	n.a.	n.a.	n.a.	0,000	n.a.	4,730	n.a.	n.a.	n.a.	n.a.
4.- Agriculture and rural development	n.a.	12,798	n.a.	0,384	n.a.	n.a.	n.a.	n.a.	n.a.	0,000	n.a.	12,414	n.a.	n.a.	n.a.	n.a.
5.- Infrastructure to support economic activity	n.a.	477,623	n.a.	252,732	n.a.	n.a.	n.a.	n.a.	n.a.	101,155	n.a.	123,736	n.a.	n.a.	n.a.	n.a.
6.- Human resources	n.a.	6,684	n.a.	3,676	n.a.	n.a.	n.a.	n.a.	n.a.	0,000	n.a.	3,008	n.a.	n.a.	n.a.	n.a.
7.- Technical assistance	n.a.	6,374	n.a.	4,782	n.a.	n.a.	n.a.	n.a.	n.a.	0,000	n.a.	1,592	n.a.	n.a.	n.a.	n.a.
TOTAL	n.a.	1.492,500	n.a.	821,772	n.a.	n.a.	n.a.	n.a.	n.a.	261,087	n.a.	403,574	n.a.	n.a.	n.a.	n.a.

Table 24: Galicia ROP 1994-99, Financial allocations and actual expenditure

Priority	Total initial allocation (I)	Total actual expenditure allocation (F)	Total public (€)												Private	
			EU						Domestic							
			ERDF (I)	ERDF (F)	ESF (I)	ESF (F)	EAGGF (I)	EAGGF (F)	Nat. (I)	Nat. (F)	Reg. (I)	Reg. (F)	Other dom. (I)	Other dom. (F)	Private (I)	Private (F)*
1.- Territorial integration	1.690,290	1.780,872	1.070,448	1.130,862	n.a.	n.a.	n.a.	n.a.	468,714	480,483	151,127	169,527	0,000	0,000	n.a.	n.a.
2.- Development of economic tissue	372,856	384,491	247,288	268,930	n.a.	n.a.	n.a.	n.a.	5,189	21,409	120,379	94,152	0,000	0,000	n.a.	n.a.
3.- Tourism	26,271	31,951	16,419	19,969	n.a.	n.a.	n.a.	n.a.	0,000	1,494	9,852	10,487	0,000	0,000	n.a.	n.a.
4.- Agriculture and rural development	21,573	21,573	13,483	13,483	n.a.	n.a.	n.a.	n.a.	0,000	0,000	8,090	8,090	0,000	0,000	n.a.	n.a.
5.- Fisheries	12,053	12,053	8,739	8,739	n.a.	n.a.	n.a.	n.a.	3,315	3,315	0,000	0,000	0,000	0,000	n.a.	n.a.
6.- Infrastructure to support economic activity	367,084	367,070	220,178	216,582	n.a.	n.a.	n.a.	n.a.	28,632	23,523	118,275	126,487	0,000	0,000	n.a.	n.a.
7.- Human resources	80,179	101,385	58,131	73,504	n.a.	n.a.	n.a.	n.a.	7,289	5,205	14,759	22,677	0,000	0,000	n.a.	n.a.
8.- Technical assistance, monitoring and reporting	5,772	1,788	4,473	1,385	n.a.	n.a.	n.a.	n.a.	0,000	0,000	1,299	0,403	0,000	0,000	n.a.	n.a.
TOTAL	2.576,079	2.701,183	1.639,161	1.733,455	n.a.	n.a.	n.a.	n.a.	513,138	535,428	423,781	431,824	0,000	0,000	n.a.	n.a.

Table 25: Galicia ROP 2000-06, Financial allocations and actual expenditure

Priority	Total initial allocation (I)	Total actual expenditure allocation (F)	Total public (€)												Private	
			EU						Domestic							
			ERDF (I)	ERDF (F)	ESF (I)	ESF (F)	EAGGF (I)	EAGGF (F)	Nat. (I)	Nat. (F)	Reg. (I)	Reg. (F)	Other dom. (I)	Other dom. (F)	Private (I)	Private (F)*
1.- Improvement of competitiveness and employment, and development of production structures	270,68	297,94	192,52	213,55	n.a.	n.a.	n.a.	n.a.	16,67	0,00	61,49	57,99	0,000	0,000	n.a.	n.a.
2.- The knowledge society (innovation, R&D, the information society)	140,56	149,63	105,42	112,22	n.a.	n.a.	n.a.	n.a.	1,31	0,00	33,83	37,41	0,000	0,000	n.a.	n.a.
3.- Environment, natural habitats and water resources	502,58	527,35	383,64	401,73	n.a.	n.a.	n.a.	n.a.	61,49	25,10	57,45	33,14	0,000	0,000	n.a.	n.a.
4.- Educational infrastructure and strengthening of technical and vocational teaching	77,78	86,30	54,45	60,41	n.a.	n.a.	n.a.	n.a.	0,00	0,00	23,33	25,89	0,000	0,000	n.a.	n.a.
5.- Local and urban development	224,38	248,47	161,14	180,48	n.a.	n.a.	n.a.	n.a.	12,88	0,00	50,37	47,44	0,000	0,000	n.a.	n.a.
6.- Transport and energy networks	2.273,96	2.419,32	1.391,75	1.487,80	n.a.	n.a.	n.a.	n.a.	651,05	341,91	231,17	3,49	0,000	0,000	n.a.	n.a.
9.- Technical assistance	4,29	1,57	3,43	1,26	n.a.	n.a.	n.a.	n.a.	0,00	0,00	0,86	0,31	0,000	0,000	n.a.	n.a.
TOTAL	3.494,228	3.730,580	2.292,339	2.457,455	n.a.	n.a.	n.a.	n.a.	743,396	367,007	458,493	205,661	0,000	0,000	n.a.	n.a.

Table 26: Galicia ROP 2007-13, Financial allocations and actual expenditure

Priority	Total initial allocation (I)	Total actual expenditure allocation (F)	Total public (€)												Private	
			EU						Domestic							
			ERDF (I)	ERDF (F)	ESF (I)	ESF (F)	EAGGF (I)	EAGGF (F)	Nat. (I)	Nat. (F)	Reg. (I)	Reg. (F)	Other dom. (I)	Other dom. (F)	Private (I)	Private (F)*
1.- Knowledge economy	221,858	74,577	177,486	59,662	n.a.	n.a.	n.a.	n.a.	0,000	0,000	44,372	14,915	0,000	0,000	n.a.	n.a.
2.- Entrepreneurial development and innovation	428,869	59,426	300,208	47,541	n.a.	n.a.	n.a.	n.a.	63,338	6,143	65,322	5,742	0,000	0,000	n.a.	n.a.
3.- Environment, natural surroundings, water resources and risk prevention	576,578	135,139	403,604	108,111	n.a.	n.a.	n.a.	n.a.	105,836	11,061	67,137	15,967	0,000	0,000	n.a.	n.a.
4.- Transport and energy	1.045,530	522,534	683,543	418,027	n.a.	n.a.	n.a.	n.a.	231,512	62,738	130,476	41,769	0,000	0,000	n.a.	n.a.
5.- Sustainable local and urban development	274,498	51,486	192,148	41,188	n.a.	n.a.	n.a.	n.a.	3,925	0,724	31,167	3,794	47,257	5,779	n.a.	n.a.
6.- Social infrastructure	37,046	14,473	29,637	11,578	n.a.	n.a.	n.a.	n.a.	0,000	0,000	7,409	2,895	0,000	0,000	n.a.	n.a.
7.- Technical assistance, communication	5,292	0,969	4,234	0,775	n.a.	n.a.	n.a.	n.a.	0,000	0,000	1,058	0,194	0,000	0,000	n.a.	n.a.
TOTAL	2.589,670	858,604	1.790,861	686,883	n.a.	n.a.	n.a.	n.a.	404,611	80,666	346,941	85,276	47,257	5,779	n.a.	n.a.

10. ANNEX III: REPORTED ACHIEVEMENTS

10.1 (1994-1999) Galicia Regional OP

Axis	Axis name	Name of the indicator	Unity	Target	Reported Achievement	% TAR
1	Integration and territorial articulation	New highway	km	199	232	117%
		Autonomic roads	km	774	765	99%
		New or conditioned motorway	km	109	130	119%
		New roads	km	0	26	-
		Renewed roads	km	109	104	95%
		Optical fibre	km	993	996	100%
		Port docks	m	4,147	3,981	96%
		Shelter docks	m	6,123	6,060	99%
		Dockages	m	250	250	100%
		Direct jobs created	No.	5,618	8,468	151%
		Indirect jobs created	No.	5,103	6,778	133%
		Aircraft traffic	Thousands aircraft/year	42	43	102%
		Passengers traffic	Thousands passengers/year	2,376	2,513	106%
		Total traffic	cars/km.	803	1,196	149%
		Heavy traffic	cars/km.	145	214	148%
		Railway track restored or renewed	km	98	159	162%
2	Industry, services and crafts	Grant applications	No.	3.327	4.166	125%
		Jobs created	No.	8,227	9,911	120%
		Beneficiary firms	No.	154	3,098	2012%
		Created firms	No.	1	1	100%
		Induced investment	Million Ptas.	138,750	175,280	126%
		Potential buildable area	Thousand m^2	1,460	1,492	102%
		Urbanised area	m^2	1,627	1,630	100%
3	Tourism	Libraries remodelled or relocated	No.	1	1	100%
		Rehabilitated houses and spas	No.	379	184	49%
		Heritage monuments rehabilitated	No.	123	127	103%
		Restored monuments	No.	1	5	500%
		Museum remodelled or relocated	No.	1	1	100%
4	Agriculture and rural development	Rural roads	km	607	750	124%
		Number of day's wages	No.	54,505	60,812	112%
5	Fishing	Research campaigns at sea	No.	18	18	100%
		Report Scientific-technical produced	No.	96	96	100%
		Scientific observers on vessels	No.	124	124	100%
6	Infrastructure to support economic activities	Supply pipe installed	km	608	623	102%
		Direct jobs created	No.	727	795	109%
		Indirect jobs created	No.	75	75	100%
		New collector installed	km	287	302	105%
		Inhabitants benefited	No.	80,000	80,000	100%
		Improved or protected area	ha	1	1	100%
		Visitors of the 'virtual tour of St. James way'	No.	80,000	307,578	384%
7	Assessment of Human Resources	Classrooms	No.	24	24	100%
		Libraries	No.	2	2	100%
		Buildings of hospitality training	No.	1	1	100%
		Directs jobs created	No.	476	476	100%
		Indirect jobs created	No.	181	181	100%
		Training places	No.	969	969	100%
		Training centres	m^2	16,023	15,399	96%
		Occupational workshops	No.	56	56	100%
		Productive workshops	No.	8	8	100%

10.2 (2000-2006) Galicia Regional OP

Axis	Axis name	Indicator	Unity	Target	Reported Achievement	% TAR
1	Improving competitiveness and development of the business productive	Aid for creation	No.	232	331	143%
		Aid for modernisation and expansion	No.	1,673	1,983	119%
		Total granted aids	No.	1,913	2,322	121%
		Created jobs in the construction phase	No.	12,267	9,179	75%
		Beneficiary companies	No.	1,637	2,264	138%
		Beneficiary companies (SMEs)	No.	1,000	936	94%
		Private induced investment	million €	2,057.54	1,893.30	92%
		Conditioned surface	m^2	2,379,302	1,412,442	59%
		Occupied surface	m^2	660,000	251,575	38%
		Incubators built	m^2	6,003	5,827	97%
2	Knowledge society (innovation, R&D, information society)	Beneficiary centres	No.	40	40	100%
		Centres created (technological centres, Universities, etc.)	No.	2	2	100%
		Centres with grant	No.	70	57	81%
		Created jobs	No.	948	939	99%
		Maintained jobs	No.	1,000	754	75%
		Beneficiary companies	No.	3	5	167%
		Private induced investment	million €	33	33	100%
		Researchers involved	No.	15,000	13,539	90%
		Diffusion workshops	No.	200	194	97%
		Patents	No.	15	12	80%
		Collaborative projects between firms and research centres	No.	250	319	128%
		RDI projects co-financed	No.	2,650	2,584	98%
		RDI projects of environmental	No.	150	138	92%
		Scientific publications and informative	No.	20	38	190%
3	Environment, natural environment and water resources	Conditioning and/ or cleaning of riverbeds	km	176	92	52%
		Actions of recovery and restoration	No.	46	49	107%
		Pumping singular	No.	2	2	100%
		New conductions	km	1,202	1,213	101%
		WWTP new or expanded	No.	80	103	129%
		Created jobs in the maintenance phase	No.	177	274	155%
		Created jobs in the construction phase	No.	15,995	20,180	126%
		Canalisation	km	71	12	17%
		Increased supply to the population	m^3/year	19,700,000	19,700,000	100%
		Treatment, recovery and recycling plants	No.	22	34	155%
		Wastewater treatment plants	No.	1	1	100%
		Recycled plastic	Tm	137	136	99%
		Population benefiting by new distribution networks (inhabitants)	No.	465,998	546,874	117%
		Supply networks new and / or improved to urban areas	km	16	16	100%
		Improved riverside	km	303	783	258%
		Urban solid waste recycled	No.	57,468	50,413	88%
		Land reclamation	m^2	2,306,219	2,028,779	88%
		Coast recovered	m^2	246,721	393,238	159%
		Reclaimed marsh surface	m^2	13,520	7,520	56%
		Beach surface recovered or regenerated	m^2	51,206	101,915	199%
		Wastes removed in cleaning beaches	No.	67,498	62,663	93%

4	Educational infrastructure and strengthening vocational education	Centres established (or major upgrades),	No.	34	35	103%
		Centres renewed	No.	80	68	85%
		Created jobs in the construction phase	No.	850	747	88%
		Equipment of centres	No.	250,000	232,282	93%
5	Local and urban development	Conditioning (streets, roads, sidewalks)	m^2	3,890	3,960	102%
		Actions in buildings or monuments	No.	304	250	82%
		Bike path	m	1,050	1,050	100%
		Creation and recovery of green areas	m^2	1,138	1,138	100%
		Building restored and/or preserved	m^2	169,639	134,874	80%
		Buildings and other touristic and cultural infrastructure built	No.	210	54	26%
		Created jobs in maintained phase	No.	170	404	238%
		Stable jobs	No.	60	60	100%
		Created jobs	No.	2,177	1,321	61%
		Maintained jobs	No.	2,799	63	2%
		New bus stations	No.	30	36	120%
		Reformed hospitals	No.	5	2	40%
		Increased tourists	%	10	14	140%
		Private induced investment	million €	100.9	71.8	71%
		Landscapes rehabilitated or preserved	No.	35	33	94%
		New hotel rooms	No.	3,600	2,019	56%
		Directly benefited population	No.	20,667,662	18,202,403	88%
		New and improved local road network	km	1,464	770	53%
		New and improved network of supply	km	251	120	48%
		New and improved network of sewage	km	219	181	83%
		New and improved network of electricity	m	245	224	91%
6	Transport and energy networks	Actions in urban area	No.	12	18	150%
		New motorway	km	88	57	65%
		New highway	km	172	166	97%
		Conditioned road	km	812	605	75%
		New road	km	64	25	39%
		Creation or improvement of fishing port and sporting	No.	2	1	50%
		New or improved docks	m	2,500	3,070	123%
		Created jobs in the maintenance phase	No.	1,023	137	13%
		Created jobs in the construction phase	No.	51,199	45,699	89%
		Bus stations and stops	No.	42	90	214%
		Increased heavy traffic	cars/day	701	5,487	783%
		Increased total traffic	cars/day	4,221	82,995	1966%
		Lines of high speed railway	km	133	81	61%
		Solar Panels	m^2	10,000	24,813	248%
		Ports and marinas improved	No.	68	71	104%
		New berths	No.	2,519	2,667	106%
		Transmission electric power network built	km	3,764	5,305	141%
		Distribution gas network built	km	300	308	103%
		Renewal and upgrading of railway tracks	km	190	291	153%
		Time saved per user	h/year	2,912,582	3,785,784	130%
		Urbanisation or improvement of port area	m^2	3,830,000	2,637,080	69%

10.3 (2000-2006) Local OP

Axis	Type	Indicator	Unity	Target	Reported Achievement
3	Impact	Jobs created in the construction phase	No.	-	511
	Execution	Centres and facilities for environmental education	No.	-	2
		Installations for water supply	No.	-	2
		Plants for the treatment of waste water	No.	-	3
		Treatment plants, recovery and recycling MSW	No.	-	4
		Supply urban networks new and / or improved	km	-	44
		Wastewater network new and / or improved	km	-	133
		Soil recovered	m^2	-	15,948
		Improved riparian area	ha	-	25
		Area restored	ha	-	25
		Greenways	m	-	873
	Result	Population benefiting directly	No.	-	51,599
		Housing benefit directly	No.	-	30,331
5	Impact	Employment created during maintenance phase	No.	-	115
		Jobs created in the construction phase	No.	-	9,937
	Execution	Conditioning (streets, roads, sidewalks, etc.,)	m^2	-	46,478
		Support actions for local development	No.	-	240
		Parking areas created	No.	-	1
		Bike paths	m	-	0
		Centres established and assistance to host different types of collective	No.	-	4
		Creation and recovery parkland	m^2	-	105,606
		Buildings of renovated and / or preserved	m^2	-	416
		Buildings and other infrastructure built and cultural tourism	No.	-	1
		Equipment installed street furniture	No.	-	844
		Installations for water supply	No.	-	22
		Plants for the treatment of waste water	No.	-	27
		Treatment plants, recovery and recycling MSW	No.	-	19
		Projects sporting and / or recreational	No.	-	4
		New local road network and / or enhanced	km	-	674
		Supply networks new and / or improved	km	-	1,141
		Wastewater network new and / or improved	km	-	1,205
		Electrical supply networks constructed or improved	m	-	15,655
	Result	Population benefiting directly	No.	-	64,224
		Users benefit from the health services	No.	-	4,564
		Visitors per year	No.	-	24,918
		Housing benefit directly	No.	-	220,865

10.4 (2000-2006) R&D OP

Axis	Type	Indicator	Unity	Target	Reported Achievement
2	Impact	Jobs created	No.	-	174
		Jobs retained	No.	-	48
	Execution	Centres established (technology centres, universities…)	No.	-	9
		Centres that receive grant	No.	-	30
		Centres renewed (technology centres, universities …)	No.	-	18
		Business mobilised (Total)	No.	-	4
		Equipment R&D financed	No.	-	230
		Collaborative projects between companies and research centres	No.	-	4
		Collaborative R&D projects financed	No.	-	385
	Result	Induced investment on co-financed partners projects	million €	-	184.8
		Researchers involved	No.	-	6,320

10.5 (2000-2006) Competitiveness OP

Axis	Type	Indicator	Unity	Target	Reported Achievement
1	Impact	Analysts PIPE 2000 (men)	No.	-	9
		Analysts PIPE 2000 (women)	No.	-	26
		Jobs created	No.	-	6,393
		Jobs retained	No.	-	46,011
	Execution	Attendance at fairs	No.	-	678
		Aid granted (Total)	No.	-	1,329
		companies that benefited	No.	-	14,733
		Beneficiary enterprises (SMEs)	No.	-	16,019
		advertising inserts	No.	-	811
		Organizations helped support SMEs	No.	-	287
		Plans to start overseas promotion	No.	-	343
	Result	Private investment encouraged	million €	-	1,530.7
		Induced private investment in SMEs	million €	-	654.2
		Strengthen SMEs export,	No.	-	1.173
		SMEs that export for the 1st time	No.	-	445

10.6 (2000-2006) Information Society OP

Axis	Type	Indicator	Unity	Target	Reported Achievement
2	Impact	Population benefiting from the program PEBA	No.	-	714.245
		Population served	No.	-	1.440.346
	Execution	Applications developed and installed	No.	-	9
		TRAC lines activated	No.	-	71.040
		Projects of information technology systems and intelligent transportation services	No.	-	54
		Projects in areas of citizen services and public administration, telecommuting and special actions	No.	-	21
	Result	Actions taken	No.	-	26
		Students tested with virtual suitcase	No.	-	2.735
		Induced investment	million €	-	26.891.921
		No cities in which to implant	No.	-	1
		Agencies involved	No.	-	10
		SME's technological loan beneficiaries	No.	-	2.444
		Directly affected SMEs	No.	-	208
		Online Utilities Administration	No.	-	131
		Users benefit	No.	-	71.040

10.7 (2007-2013) Galicia Regional OP

Axis	Axis Name	Indicator	Unity	Target 2013	Reported Achievement	% TAR
1	Development of Knowledge Economy (R&D, Education, Information Society and ICT)	(10) Private induced investment	million €	188.3	92.3	49%
		(11) Number of projects in ICTs	No.	5,026	3,152	63%
		(4) Number of R&D+I projects	No.	3,493	2,990	86%
		(5) Cooperation projects between companies and research centres	No.	1,640	1,193	73%
		(9) Jobs gross created	No.	115	51	44%
		Job gross created (women)	No.	40	8	20%
		Centres of R&D benefit	No.	96	25	26%
		Applications developed	No.	40	65	163%
		Autonomous benefited	No.	2,200	2,177	99%

		Companies benefit	No.	4,207	4,044	96%
		Environmental projects	No.	549	31	6%
2	Development and Innovation	(10) Private induced investment	million €	1,756.30	374	21%
		(7) Number of projects in other investment in firms	No.	3,300	1,822	55%
		(8) Number of start-ups supported in other investment in firms	No.	385	151	39%
		(9) Jobs gross created	No.	9,285	790	9%
		Jobs associated, Number of women participating in the projects	No.	4,787	1,352	28%
		Jobs associated, Number of people participating in the projects	No.	28,042	13,971	50%
		Job gross created (women)	No.	4,102	60	1%
		Companies that have benefited Environmental Management Systems	No.	1,168	707	61%
		Autonomous benefited	No.	1,225	241	20%
		Companies new	No.	157	3	2%
		Companies benefit	No.	18,427	10,355	56%
		Autonomous women benefited	No.	605	61	10%
		Environmental projects	No.	414	375	91%
3	Environment, Natural Environment, Water Resources and Risk Prevention	(25) Additional population served by water supply projects of risk prevention	No.	400,000	99,598	25%
		(26) Additional population served by water treatment projects of risk prevention	No.	1,445,000	200,296	14%
		(27) Number of waste projects of risk prevention	No.	77	44	57%
		(31) Number of projects [Priority 53]	No.	142	97	68%
		Habitat restoration activities and species in Natura 2000 Network (UDS)	No.	84	4	5%
		Length of coastline affected	km	9	3	33%
		Treatment plants created and / or improved	No.	9	6	67%
		Supply networks created	km	320	123	38%
		Improved supply networks	km	44	29	66%
		Wastewater created	km	262	107	41%
		Area affected areas NATURA 2000	ha	313,500	36	0%
		Volume of wastewater treated and purified	m^3/day	801,193	46,125	6%
		Volume of industrial waste managed	m^3/day	7,345	4,197	57%
		Waste volume managed	m^3/day	4,226	2,415	57%
4	Transport and Energy	(13) Number of projects of transport	No.	109	59	54%
		(14) New roads	No.	83	15	18%
		(15) New roads (Network TEN)	No.	36	21	58%
		(16) Roads rebuilt or refurbished	No.	310	176	57%
		(18) New railroad	No.	26		0%
		(23) Number of projects of renewable energy	No.	2,950	1,373	47%
		Actions developed in airports	No.	30	18	60%
		Actions developed in ports	No.	10	3	30%
		Length of dikes	m	650	128	20%
		Projects including environmental measures	No.	1,981	1,745	88%
5	Regional and Urban Sustainable Development	(34) Number of projects of tourism and culture	No.	710	112	16%
		Tourism infrastructure new and / or improved	No.	358	65	18%

		New cultural facilities and / or improved	No.	19	348	1832%
		Number of projects of urban and rural regeneration	No.	446	40	9%
		Environmental projects	No.	240	28	12%
6	Investment in social infrastructure	(36) Projects in education infrastructure	No.	28	16	57%
		(37) Students benefited	No.	12,000	8,426	70%
		(38) Projects in health infrastructure	No.	5	2	40%
		Centres established or with large enlargements	No.	16	8	50%
		Equipped schools	No.	150	124	83%
		Childcare built	No.	34	19	56%
		Number of childcare places created	No.	1,400	1,028	73%
		New places in schools	No.	1,800	476	26%

11. ANNEX IV: LIST OF INTERVIEWEES

Name	Position (current and former roles where relevant)	Place	Date	Face to face / Telephone
Alejandro Arranz	Expert in regional policy, vast experience in Structural Funds Evaluation as member of the QUASAR team. Current position, Innovation adviser at Madrid City Council	Madrid	11/07/2012	Face-to-face
Anatolio Alonso	Deputy DG for ERDF, DG for EU Funds, Ministry of Finance, Spanish government	Madrid	11/05/2012	Face-to-face
Ángeles Gayoso	Vocal Adviser, Ministry of Finance and Public Administration	Santiago	18/06/2012	Face-to-face
Antonio Fontenla	General Secretary of the Confederation of Employers of Galicia (CEG)	Santiago	20/06/2012	Face-to-face
Carlos Monclús Díez de Ulzurrun	Financial controller of Superior Scale of Finance General Administration of the Galician	Santiago	20/06/2012	Face-to-face
Casto Varela Gesto	Economist and Expert in policy business	Santiago	18/06/2012	Face-to-face
Enrique Losada Rodríguez	Chairman of the Port Authority of A Coruña	Coruña	02/07/2012	Face-to-face
Enrique Manciñeira Alonso	Head of the Planning and Strategy of the Port Authority of A Coruña	Coruña	02/07/2012	Face-to-face
Ethel Mª Vázquez Mourelle	General Manager of the infrastructure Galician Agency	Santiago	18/06/2012	Face-to-face
Francisco Ferreiro	Expert in entrepreneurship, BIC Galicia	Coruña	04/12/2012	Face-to-face
Francisco Javier Rodríguez Seijo	General Manager of Planning of Galician	Santiago	20/06/2012	Face-to-face
Francisco Ramos	Community Funds Advisor	Santiago	20/06/2012	Face-to-face
Francisco Reyes Santías	Economist Unit of Epidemiology and Clinical Research of the Galician Health Service	Santiago	20/06/2012	Face-to-face
Gervasio Cordero Mestanza	Former advisor to DG Analysis and Programme Budget Ministry of Economy and Finance (1994-1999 and 2000-2006)	Santiago	18/06/2012	Face-to-face
Ignacio Castelao	Civil Engineer, ACUAMED (Mediterranean Water Society)	Madrid	04/12/2012	Skype
Ignacio Fernández-Huertas Moraga	Responsible person for INTERREG and Territorial Cooperation Programmes, DG for Evaluation, DG for EU Funds, Ministry of Finance, Spanish government	Madrid	11/05/2012	Face-to-face
Ignacio Martínez Huertas	Former Deputy DG for Evaluation, DG for EU Funds, Ministry of Finance, Spanish government	Madrid	28/03/2012	Face-to-face
J. Luis González Valvé	Head of the European Commission Office in Madrid	Madrid	11/05/2012	Face-to-face
Javier Aguilera Navarro	General Manager of IGAPE	Santiago	18/06/2012	Face-to-face
Joaquin Aurioles	Associate Professor University of Malaga. Spanish Regional Science Association	Malaga	12/11/2012	Email and phone
Jordi Torrebadella I Águila	Geographical Unit Spain, DG Region, European Commission	Brussels	06/06/2012	Face-to-face
Jorge García Reig	Deputy DG for Evaluation, DG for EU Funds, Ministry of Finance, Spanish government	Madrid	11/05/2012	Face-to-face
Jorge González Gurriarán	Professor of Economics and Business at the University of Vigo	Vigo	21/06/2012	Face-to-face
Jose Luis Gónzalez Valvé	Former officer at DG Regio, European Commission, current position Adviser at Sociedad Tecnica de Aguas	Madrid	12/07/2012	Face-to-face
José María Piñero	Director General, DG for EU Funds, Ministry of Finance, Spanish government	Madrid	11/05/2012	Face-to-face
Juan José Ares Fernández	Dean of the Faculty of Labour Relations at the University of Santiago de Compostela	Santiago	18/06/2012	Face-to-face
Juan José Lirón Lago	Director of European Grouping of Territorial Cooperation Galicia-North of Portugal	Santiago	20/06/2012	Face-to-face
Julio G. Sequeiros Tizón	Professor and Head of Department of Applied Economics at the University of A Coruña	Coruña	02/07/2012	Face-to-face
Laureano Lázaro Araujo	Retired, expert in Regional Development, former responsible person for EU Funds, 1989-93, Ministry of Finance	Madrid	11/05/2012	Face-to-face
Manuel Lago	Economist at Workers Commissions (CCOO)	Santiago	17/07/2012	Face-to-face

Name	Position (current and former roles where relevant)	Place	Date	Face to face / Telephone
María Gorriti Gutiérrez-Cortines	Deputy DG for Evaluation, DG for EU Funds, Ministry of Finance, Spanish government	Madrid	26/03/2012	Face-to-face
María Muñoz	Evaluation Service, DG for EU Funds, Ministry of Finance, Spanish government	Madrid	28/03/2012	Face-to-face
Norberto Penedo Rey	Area Director of Competitiveness of the Galician Institute for Economic Promotion (IGAPE)	Santiago	17/07/2012	Face-to-face
Alfonso Eirín Barrio	Financial Director of Textile Society Lonia	Ourense	12/11/2012	Email and Skype
Pascual Fernández Martínez	Professor at the Rey Juan Carlos University	Madrid	11/05/2012	Face-to-face
Pilar Morgade Saavedra	Deputy director for Business Innovation of the Department of Economy and Industry of the Galician Government	Santiago	18/06/2012	Face-to-face
Rocío Alonso	Head Management of AIMEN Financing Programs	Santiago	17/07/2012	Face-to-face
Rosa Cobo Mayoral	Former Secretary General of ERDF Administration of the Ministry of Agriculture, Food and Environment	Santiago	18/06/2012	Face-to-face

Workshop attendees (Santiago de Compostela, 30 October 2012)

Name	Position (current and former roles where relevant)
Ángeles Gayoso	Vocal Adviser, Ministry of Finance and Public Administration
Asunción Villa Álvarez	Head of Economic Area in SOGAMA, Inc.
Casto Varela Gesto	Economist and Expert in policy business
Cristina Quintela Sánchez	Head of Area of Finance of the Galician Institute for Economic Promotion (IGAPE)
Fernando Acuña Rúa	Member of the Monitoring Committees in Confederación Intersindical Galega
Francisco Ramos Mulero	Community Funds Advisor
Jesús Ángel Lago Gestido	Managing Director of AIMEN
Jorge González Gurriarán	Professor of Economics and Business at the University of Vigo
José Manuel Maceira	Confederation of Employers of Galicia (CEG)
Juan José Lirón Lago	Director of European Grouping of Territorial Cooperation Galicia-North of Portugal
Norberto Penedo Rey	Area Director of Competitiveness of the Galician Institute for Economic Promotion (IGAPE)
Cristina Calvo Porral	Lecturer at the University of A Coruña
Jesús López-Rodríguez	Associate Professor at the University of A Coruña
Andrés Faíña Medín	Jean Monnet Professor at the University of A Coruña
Francisco Javier Rodríguez Seijo	General Director of Planning of the Xunta de Galicia
Antonio Linares Seco	Staff of the Regional Minister of Industry of the Government of Galicia
Mª Teresa Pajaro	Responsible person for Interreg Program

12. ANNEX V: OVERVIEW OF SOURCES USED FOR THE CASE STUDY

Programme name	OP	AIR	FIR	Spend (by measure)	Evaluation reports	Strategic interviews	Operational interviews	External interviews	Stakeholder/ Beneficiary interviews	Workshop
Marco Comunitario de Apoyo (Galicia) 1989-1993	NO	NO	NO	YES	YES	YES	YES	YES	NO	YES
Plan de Desarrollo Regional de Galicia (PDR) 1989-1993	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO
Programa Operativo de Galicia 1994-1999; Xunta de Galicia	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES
Galicia PO FEDER 1994-1999	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES
PO Interreg II España-Portugal, Cooperación Transfronteriza, 1994-1999	YES	NO	YES	YES	YES	YES	YES	YES	NO	YES
Marco Comunitario de Apoyo (Galicia) 1994-1999	NO	NO	NO	YES	YES	YES	YES	YES	NO	YES
Plan de Desarrollo Regional de Galicia (PDR) 1994-1999	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO
Galicia Integrated Operational Programme 2000-2006	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES
Programa Operativo Integrado FEDER-FSE de Investigación, Desarrollo e Innovación, Objetivo 1, 2000-2006	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES
Marco Comunitario de Apoyo (Galicia) 2000-2006	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES
Galicia ERDF OP 2007-2013	YES	YES	NO	YES	NO	YES	YES	YES	YES	YES
Fondo de Cohesión 2007-2013	YES	YES	NO	YES	NO	YES	YES	YES	YES	YES
Marco Estratégico Nacional de Referencia (Galicia) 2007-2013	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES

13. ANNEX VI: REFERENCES

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14. ANNEX VII: SUMMARY OF SURVEY RESULTS

'A total of 518 contacts were invited to take part in the online survey for Galicia. This number includes 38 who were interviewed by the case study team, plus 480 additional invitees. The 480 additional invitees were broken down as follows: 7 percent were local authority contacts (selected senior administrators and political leaders in local authorities and bodies representing them); 72 percent were firms (whether beneficiaries or unsuccessful applicants); 5 percent were regional/local level political party representatives; 2 percent were regional/local social partners, third-sector organisations and trade unions; 1 percent were from other local interest groups; and the remaining 13 percent were from other organisations not classified within these categories (or which were unspecified). Such organisations included, for example, Spanish Government representatives above regional/local level and independent experts from various fields.

The overall response rate (i.e. those who started the survey and answered at least one question) was 16.6 percent, though the percentage of invitees who completed the entire survey (i.e. up to and including the final question) was expectedly lower at 9.8 percent. For the questions applicable to all, the response rates varied between 4.4 percent and 16.6 percent (there were also questions which related to each specific programme period only and these were filtered accordingly).

Within the above-mentioned categories, the breakdown of respondents was as follows (fully completed responses): 8 percent were local authority contacts; 51 percent were from the sample of firms; 10 percent were regional/local level political party representatives; none were from the category regional/local social partners, third-sector organisations and trade unions; none were from other local interest groups; and the remaining 31 percent were other/unspecified.

Proportionally speaking, 'other local interest groups' constituted the least responsive category in terms of responding to survey invitations. Respondents from regional/local level political parties had the highest completion rate, of 63 percent (i.e. the proportion of those starting who then progressed up to and including the final question). Individuals representing local authorities had the lowest completion rate, of 57 percent.

Selected responses are presented below.

1. What type of organisation do you represent? Please tick all that apply, e.g. if you have changed status throughout the period or if more than one condition applies (e.g. beneficiary and unsuccessful applicant, beneficiary and representative of local interest group).

	Answer		Response	%
1	Central Government Department/Agency		5	6%
2	Regional Government Department/Agency		10	12%
3	Local authority		9	10%
4	Political party or political constituency		3	3%
5	Firm		43	50%
6	Socio-economic organisation		4	5%
7	Interest group (e.g. environmental or social association/citizens' movement)		1	1%
8	None of the above (please describe)		11	13%

6. Was your involvement in the ERDF programmes direct or indirect?

#	Answer		Response	%
1	Direct		41	51%
2	Indirect		34	42%
3	Both direct and indirect		6	7%
	Total		81	100%

9. Please indicate in which of the following period/s your involvement in ERDF programmes took place (please tick all that apply):

#	Answer		Response	%
1	1989-93		11	15%
2	1994-99		18	24%
3	2000-06		38	51%
4	2007-13		54	73%

10. Could you please assess the extent to which the ERDF programmes delivered achievements in the fields outlined below (across the entire period, i.e. 1989 to date)?

#	Question	Very significant	Significant	Quite significant	Modest	None	Don´t know	Responses
1	Increase in numbers of new firms	4	15	16	17	1	7	60
2	Increased growth of existing firms	4	23	19	10	1	4	61
3	Enhanced competitiveness such as increased exports	4	22	16	9	3	7	61
4	Enhanced internationalisation, better marketing	1	17	19	13	3	8	61
5	Attraction of foreign investment	1	12	8	22	8	10	61
6	Site reclamation and premises for industry	9	15	14	12	3	6	59
7	Job creation	7	19	14	17	0	4	61
8	Shift to growth clusters	2	12	12	16	8	9	59
9	Growth in manufacturing	2	12	15	21	2	8	60
10	Growth in professional services	3	13	19	16	3	6	60
11	Growth in tourism and creative industries	2	16	17	15	2	8	60
12	Increased R&D and provision of technical support from public and non-profit sector	6	15	19	10	4	7	61
13	Increased R&D and innovation in business	6	16	24	8	3	4	61
14	Enhanced adoption of process technologies	6	14	20	8	2	8	58
15	Adoption of good practices in managerial processes	5	18	15	13	2	5	58
16	Improvement of environmental quality (e.g. waste and water treatment, decontamination of land, enhanced biodiversity.)	6	16	16	11	1	10	60

17	Reduction of energy consumption and Co2 emissions in productive processes	0	5	23	17	3	12	60
18	Development of environmental friendly transport systems, sustainable lighting/heating etc.	1	9	15	17	4	13	59
19	Labour market inclusion (e.g. re-integration of long-term unemployed and marginalised groups etc.)	3	5	10	25	5	12	60
20	Provision of community services for disadvantaged areas	3	17	12	11	3	13	59
21	Community development/social enterprise	3	7	18	18	2	12	60
22	Communications and infrastructure to improve accessibility to wider markets (e.g. ports, airports etc.)	17	19	5	6	4	7	58
23	Regional communications infrastructure for improved accessibility within the region	18	20	4	7	3	8	60
24	Overall improvement in image for the region	13	18	19	4	0	5	59
25	Other (please specify)	1	0	0	1	0	7	9

12. In your view, did the objectives of the ERDF programmes address regional needs?

#	Question	Yes, very significantly	Yes, significantly	Yes, quite significantly	Yes, but to a limited degree	No, not at all	Don't know	Responses
1	1989-93	9	8	13	3	0	26	59
2	1994-99	10	10	14	2	0	23	59
3	2000-06	7	17	15	4	0	16	59
4	2007-13	4	17	21	6	1	10	59
5	Across the entire period	6	15	21	2	0	15	59

13. In your view, was there ever a mismatch between regional needs and the ERDF support provided?

#	Question	Yes, a considerable mismatch	Yes, but not too considerable	No, ERDF programmes met the needs	Don't know	Responses
1	1989-93	3	13	13	30	59
2	1994-99	2	15	15	27	59
3	2000-06	4	19	15	21	59
4	2007-13	7	25	12	15	59
5	Across the entire period	3	21	14	21	59

19. For the entire period (i.e. 1989 to date), please rate the following statements. When a statement does not apply, please choose 'N/A' (not applicable)

#	Question	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree	N/A	Responses
1	The programmes entailed appropriate strategies	1	23	11	3	1	0	0	7	46
2	The programmes targeted support appropriately (via the selection criteria adopted)	0	17	14	5	1	0	0	8	45
3	The allocation of funding was in line with needs	1	18	10	6	2	1	1	7	46
4	The concentration of funding on selected fields enhanced the programmes' effectiveness	1	15	12	7	3	1	0	7	46
5	The concentration of funding on few, large projects enhanced the programmes' effectiveness	2	11	12	8	2	3	0	7	45
6	The design of the programmes was improved by the involvement of stakeholders	1	10	13	9	3	0	1	9	46
7	The programmes' strategy was enhanced by the use of evaluation evidence	0	12	10	8	4	1	0	10	45
8	Implementation was effective	1	18	10	7	2	1	0	7	46
9	The performance of the programmes was enhanced by ongoing monitoring of its implementation	1	14	9	11	2	2	0	6	45
10	The implementation of the programmes was enhanced by the involvement of partners/stakeholders	1	10	9	11	4	2	1	8	46
11	The programmes achieved a fruitful integration with	0	13	13	8	1	1	0	9	45

	other EU policies									
12	The programmes achieved a fruitful integration with domestic policies	2	16	12	9	0	0	0	7	46
13	The programmes were flexible enough to accommodate changing socio-economic needs	1	13	9	7	4	5	0	7	46
14	The programmes were flexible enough to accommodate changing recipients' needs	0	14	10	6	4	4	0	7	45
15	Other (please specify)	0	1	0	2	0	0	0	12	15
16	Other (please specify)	0	1	0	2	0	0	0	11	14

20. On the whole, could you assess the impact of ERDF programmes? For current programmes, please assess the level of impact which you anticipate they will have.

#	Question	Very positive	Positive	Quite positive	None/negligible	Quite negative	Negative	Very negative	Don't know	Responses
1	1989-93	10	10	10	2	1	0	0	19	52
2	1994-99	12	11	12	1	0	0	0	16	52
3	2000-06	12	12	17	1	0	0	0	10	52
4	2007-13	8	17	19	3	0	0	0	5	52
5	Across the entire period	9	19	16	1	0	0	0	7	52

22. Looking to the future, are there any aspects of ERDF design and implementation that would need to be improved to increase the extent to which support meets regional needs and enhance achievements?

#	Answer	Response	%
1	Programme design more responsive to regional needs via more use of evaluation evidence	23	44%
2	Programme design more respondent to regional needs via improved involvement of local authorities	14	27%
3	Programme design more respondent to regional needs via improved involvement of socio-economic partners and stakeholders	32	62%
4	Better targeting of interventions	21	40%
5	Increased funding concentration on key priorities	16	31%
6	Increased funding concentration on key target groups	7	13%
7	Increased funding concentration on fewer, bigger projects	5	10%
8	Increased funding of smaller projects	18	35%
9	Increased packaging of smaller projects	9	17%
10	Increased flexibility during the programme period to adapt programmes to changing needs	30	58%
11	Increased flexibility during the programme period to accommodate changing beneficiary needs	21	40%
12	Widening of eligible expenditure categories	16	31%
13	Better integration with other EU funding sources	18	35%
14	Better integration with domestic funding sources	19	37%
15	Simpler administration of the funds for programme authorities	18	35%
16	Simpler administration of the funds for programme beneficiaries	28	54%
17	Increased transparency in project selection	22	42%
18	Increased competitiveness in project selection	15	29%
19	Increased results-orientation in project selection	18	35%
20	Increased upfront funding for project beneficiaries (advances)	24	46%
21	Increased clarity on administrative requirements for project holders	24	46%
22	Other (please specify) ….	1	2%
23	Don’t know	3	6%