Regional Economic Policies: Four Country Cases

Gerson Javier Pérez V.

Peter Rowland

Banco de la República*

Abstract

This paper presents four case studies of economies with well-developed regional policies. These include the European Union, Spain, Italy and Brazil. These cases have been chosen because of their relevance when studying regional problems in Colombia. In all of the cases regional policy has had a relatively poor performance, since regional disparities have not been significantly reduced. However, one could argue that disparities would have been larger without these policy initiatives. Thus, the results highlight the difficulties in developing a successful regional policy.

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* The opinions expressed here are those of the authors and not necessarily of the Banco de la República, the Colombian Central Bank, nor of its Board of Directors. We express our thanks to Adolfo Meisel for helpful comments and suggestions. Any remaining errors are our own.

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1 Introduction

Regional policy exists because of the persistence of regional disparities in a range of variables, which have a large impact on the economic welfare of a nation's inhabitants. However, the existence of regional disparities in economic welfare is in itself not a sufficient condition to justify the development of a regional policy in a country. In fact, regional policy should be regarded as an important component of a broader economic policy that covers national policy objectives. It should be mentioned that regional disparities may cause severe problems, since they might indeed prevent the achievement of national policy objectives, such as providing adequate job opportunities or distributing income and wealth more equally. In addition, such disparities may have political and social consequences.

Colombia does currently not have a regional economic policy directed at reducing regional disparities. Even if moderate by Latin American standards, regional disparities in the country are both significant and persistent, and this might call for the development of such a policy.

The study presented in this paper is part of a project aimed at developing a set of policy recommendations that could define the foundation for a future regional economic policy in Colombia. The first phase of this project was to study the regional-policy initiatives implemented in other countries, and evaluate their effectiveness.

The paper presents four case studies, which we believe have particular relevance for Colombia. The European Union has a well-developed and relatively transparent regional policy to support the poorer regions of its member states. These policy initiatives have been extensively researched and documented. The enlargement of the Union, which is taking place this year, has, furthermore, resulted in a thorough reform of current policies and has also induced an interesting debate and considerable research in this area. Spain and Italy are both Latin countries with a long history of active regional policy. Both countries have implemented a large set of initiatives with mixed results. Finally, Brazil is the only Latin American country with a well-developed regional policy. It is also a middle-income country and has, thereby, many similarities with Colombia.

The remainder of the paper is organised as follows: Section 2 presents the main instruments used for regional policy and discusses their impact. The case studies of the European Union, Spain, Italy and Brazil are presented in section 3, 4, 5 and 6 respectively. section 7 concludes the paper.

2 Regional Economic Policy: Some Definitions and Instruments

This section presents some regional policy instruments that are available for decision makers.[1] Those instruments can be classified as *macro-policy* and *micro-policy* instruments. From a regional point of view, policy instruments are designed either to influence the allocation of productive resources or to change the level of income and expenditure in specific regions. In that sense, macro-instruments are concerned with changing aggregate regional income and expenditure, while micro-instruments of regional policy are concerned with the design of incentives to allocate capital and labour between regions and industries.

In practice, *macro-policies* are designed to have different impacts in different regions. The effect of that impact depends on the objective the macro policy is pursuing. That is, deliberately introducing a regional dimension into the macroeconomic management of the national economy so that changes in output and employment can be induced in specific regions. For example, a depreciation of the exchange rate or an expansion of the economy through fiscal or monetary policies will have different effects in the output and employment of different regions. Regional economies, furthermore, tend to respond differently to national shocks.

The major objective of *micro-policies* is to cause labour and capital to allocate in areas (or regions), which they would normally not choose. There are various ways in which micro-policy instruments can be used to induce a reallocation of labour and capital, as illustrated by figure 2.1 and 2.2.

[1] This section builds on the discussion in Baron, Perez and Rowland (2004).

Figure 2.1: Policies to reallocate labour

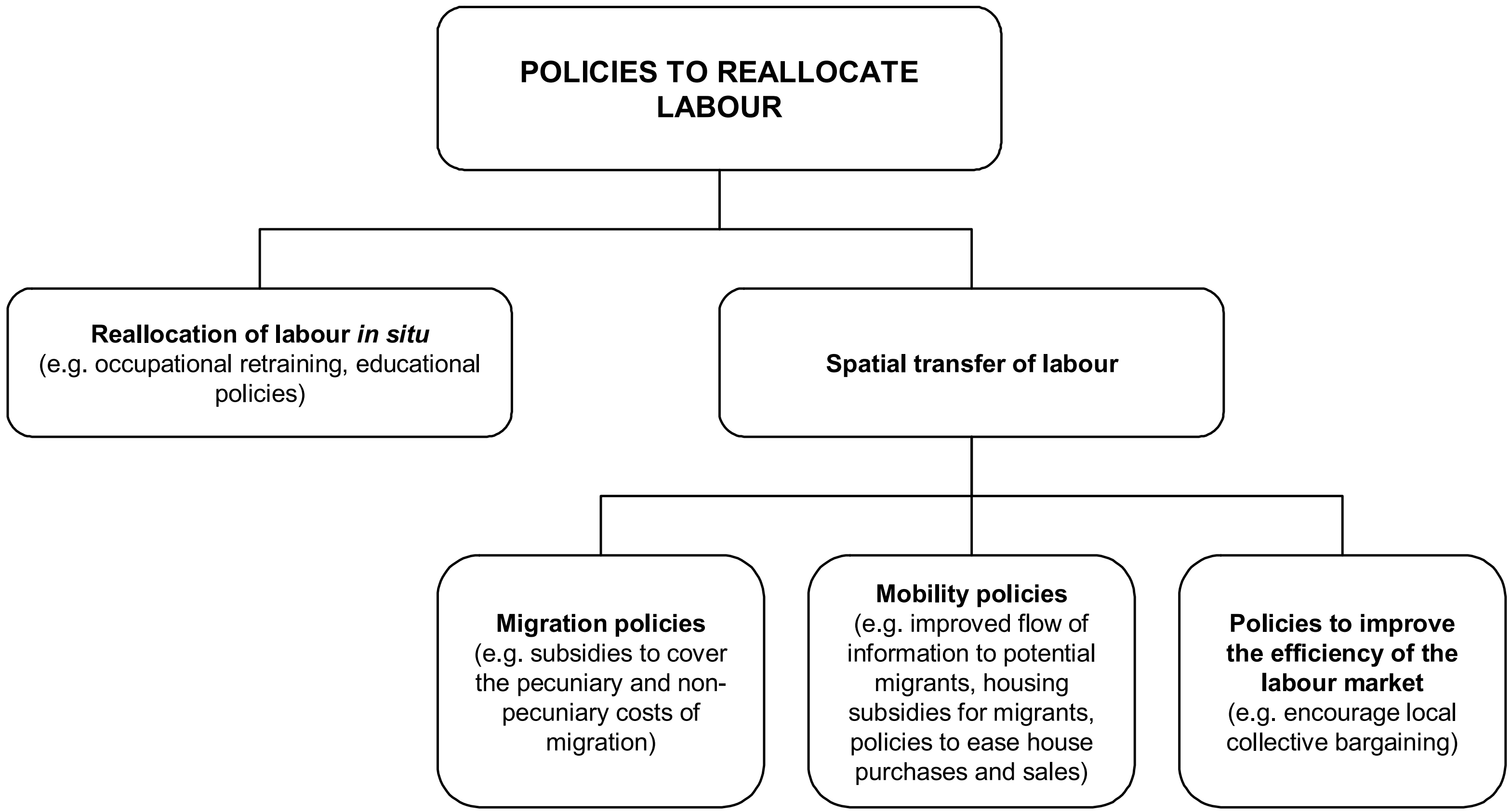
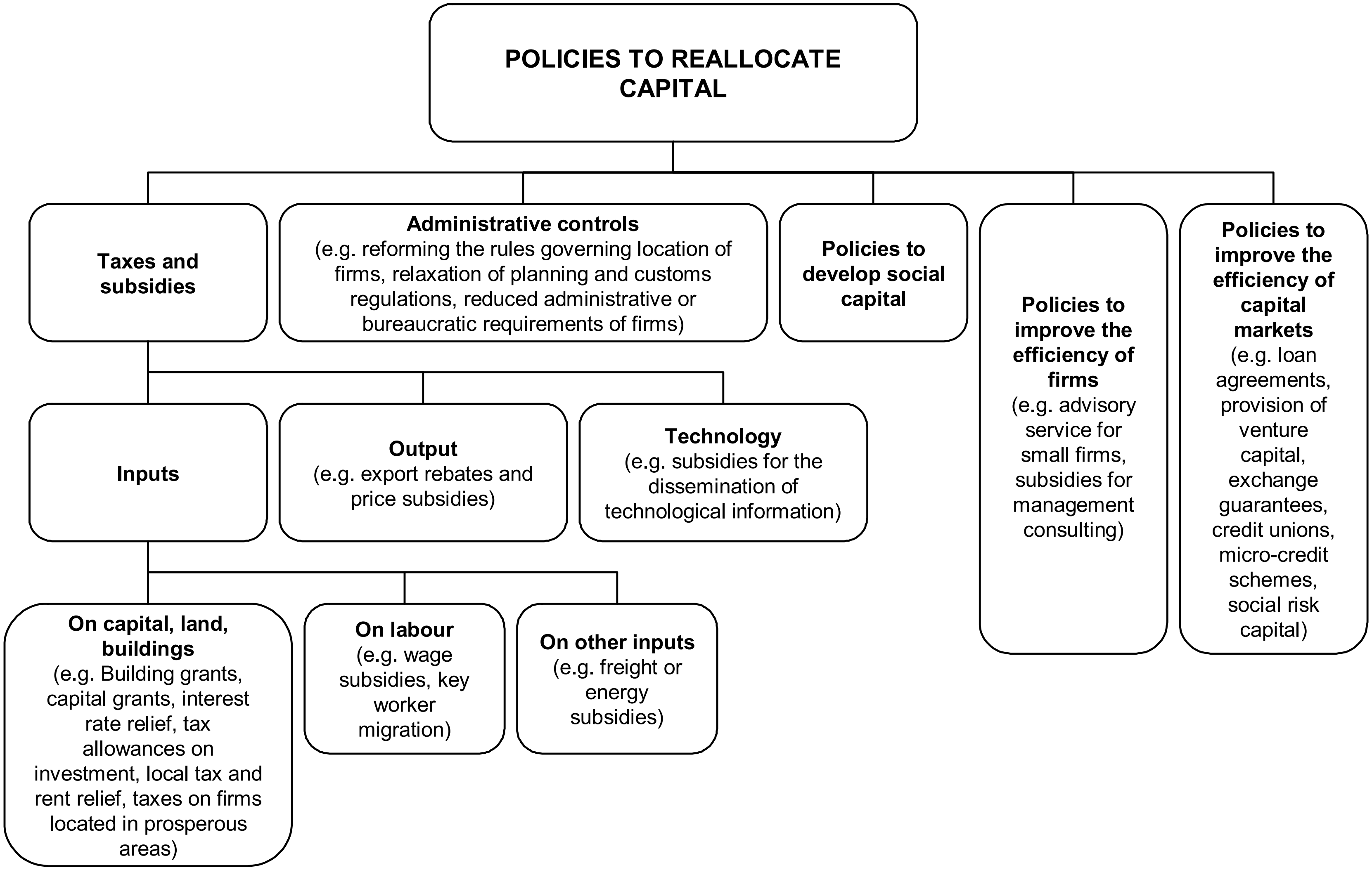


Figure 2.2: Policies to reallocate capital



Policies to reallocate labour cover all kinds of instruments oriented to induce labour to move into those economic activities where its marginal product is highest.[2] As can be seen in figure 2.1, there are two major ways that can be used to reallocate labour. First, there are the *in situ* mobility policies to reallocate labour. This kind of policies aims at increasing the occupational and industrial movement of labour in existing regions. Occupational training and retraining of workers, and education policies are two examples of *in situ* mobility policies of labour. Second, there are *transfer* policies. This type of policies is directed toward inducing a shift in the supply of labour between regions.

It is important to take into account that labour does not respond quickly to regional differentials in wage rates or unemployment rates. In fact, labour mobility is far from perfect (between regions or between occupations). Regional policy emphasis has in many cases been placed on policies designed to move capital into lagged areas instead of policies designed to increase the mobility of the labour between regions. This is because reducing the impediments to migration is much more difficult than directing capital flows to specific regions. Moreover, there is the fear that encouraging migration could worsen the economic situation of lagged regions, because people who tend to migrate first are the best qualified.

There are three different groups of impediments to labour mobility between regions: First, wage differentials between regions (occupations as well as industries) often do not respond to corresponding differentials in the marginal labour productivity. Second, even if such differentials do occur, labour may not fully perceive them. Third, even if differentials occur and are perceived, there are costs associated with the migration. Regional policies might aim to reduce one, two ore all the three of these impediments.

As figure 2.2 shows, policies to reallocate capital toward disadvantaged regions take five forms: First, there are fiscal incentives such as taxes and subsidies to encourage or discourage

[2] There are examples of policies aimed at reallocating labour into areas where marginal productivity is not optimal. This is normally undertaken to satisfy political pressure groups. Such misuse of regional policy instruments is a significant risk.

capital to flow towards specific regions. Second, there are the administrative controls such as regulations on the location of firms, partial or complete elimination of planning and custom regulations, or reductions of administrative and bureaucratic requirements on firms. Third, there are policies to develop social capital. These normally take the form of community development initiatives. Fourth, there are policies to improve the efficiency of firms. This kind of policies aims at helping firms to improve their production and management processes, through consultancy and advisory services in poorer regions. Fifth, there are policies designated to improve the efficiency of the capital market. The idea behind these types of policies is to provide easy access to financial resources in lagging regions.

Of all these instruments, three have been of particular importance in regional economic policy: labour and capital subsidies, administrative controls, and community development initiatives. The most extensively used has, nevertheless, been capital subsidies.

Capital subsidies can be given (in the case of a lagged region) on firm inputs, firm outputs, or on technology research and dissemination. Moreover, subsidies to inputs are of three classes: (i) on capital, land, or buildings, such as building grants, capital grants or local tax and rent relief; (ii) on labour, such as wage subsidies and expertise labourers migration grants; and (iii) on other inputs such as transport cost subsidies or energy subsidies. The idea with all three is to improve the competitiveness of firms in underdeveloped areas where high unemployment is present. Another type of subsidy on inputs is on technology such as for research and development of new products, and for the dissemination of technological information. Alternatively, output could be subsidised as well. This enables firms to sell products at lower prices.

3 The European Union

The European Union has a well-developed and sophisticated regional policy.[3] It is, furthermore, one of the most extensively researched and documented cases in the World. The enlargement of the Union this year has moreover induced a thorough reform of current policies together with an interesting debate. In Section 3.1, the relevant literature is reviewed. Section 3.2 discusses the regional policy framework that is used with particular emphasis on the problems generated by the enlargement of the Union.

3.1 Review of Relevant Literature

There is an extensive literature discussing the European Union, its economic disparities, its regional policies, and the regional consequences of its enlargement.

For example, Armstrong and Taylor (2000) study a number of aspects of the European regional policy. They discuss the dynamics of regional economics, they analyse the regional policy instruments used, and they present case studies of the European Union as a whole as well as of the United Kingdom. In addition, they also develop some tools for evaluation of regional policy.

Funck and Pizzati (2003) edited a wide range of papers covering the most recently discussed topics of regional growth and regional policy in the European Union. Subjects such as convergence, economic geography, the enlargement and economic development are discussed and analysed. Included are also country specific studies on Italy, Spain and Ireland, as well as studies on the impact of European Union regional aid on Slovenia, Slovakia and Latvia, three

[3] The European Union currently consists of 15 member states: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. On 1 May, the Union is being expanded by another ten countries: the Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, the Slovak Republic, and Slovenia.

of the countries that are about to enter the Union. The conclusions of the book are mixed, but there is something close to a consensus among the book's authors that regional policy functions as a substitute for labour mobility, but that it does so at a cost to efficiency. It may reduce regional disparities but at a cost to national growth, since it leads firms to make investments where they would not otherwise have made them. The book is, consequently, critical about the effectiveness of regional policy. Subsidies are, nevertheless, best used to improve education and infrastructure, such as transport, communications, power and water, rather than being spent on business location incentives.

Bachtler and Yuill (2001) is another highly relevant study on policies for regional development in Europe. The main objective of that study was to analyse decentralised intervention based on integrated regional development plans, and to highlight the differences between traditional and contemporary regional economic policies. To do this, they conducted a number of case studies on Scotland and the Nordic countries, where international investment has been used to actively promote regional development.

In addition, there have been several works on convergence in the European Union. For example, Boldrin and Canova (2001) analysed European regional policies and regional convergence. They used Eurostat data, specifically per-capita income for 185 European regions of the 15 member states for the period 1980 to 1996. Their results indicated that neither absolute convergence nor divergence was taking place during the period. They, nevertheless, conclude that regional policy has acted as an important redistributive instrument, which is motivated by the nature of political equilibrium upon which the European Union is built.

In a similar way, Baumont, Ertur and le Gallo (2001) analysed the European regional policy. Their objective was to show that spatial dependence and heterogeneity are important in the beta convergence estimation. The authors, using data on 138 European regions from 1980 to 1995, specified an econometric model, which took into account spatial autocorrelation and structural instability.[4] In line with Barro and Sala-i-Martin (1991), convergence among European regions was found to be very slow. In addition, they found that the convergence process is different across different areas.[5] Their results also indicated that spill-over effects appear to be strongly significant.[6]

3.2 Regional Policy in the European Union

Regional economic policies have existed in Europe since the 1930s, and these were originally developed to support those areas worst affected by the Great Depression. During the 1950s, 1960s, and 1970s, regional policies were an important mechanism for economic and social intervention. However, in the mid-1970s, regional policies changed significantly as a response to slower economic growth and a new political orthodoxy.

The main regional policy instrument in the European Union today is the Structural Funds. They correspond to financial resources transferred from rich to poor regions.[7] The three basic objectives of the Structural Funds are:[8]

1. Promote the development and structural adjustment of regions whose development is lagging behind,[9]
2. Support the economic and social conversion of areas facing structural difficulties, and
3. Support the adaptation and modernisation of policies and systems of education training and employment.

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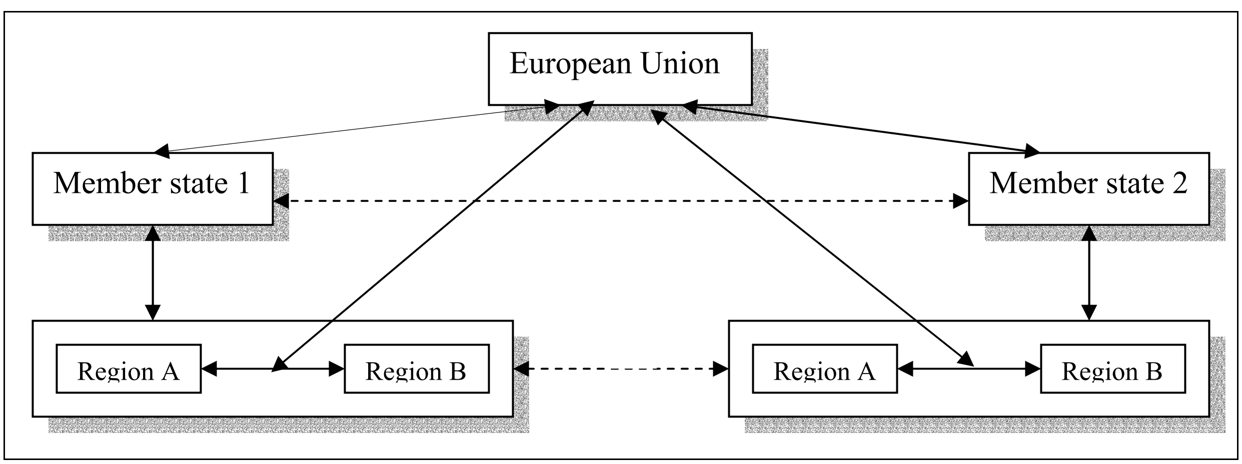
4 They also estimated a spatial regimes error model.
5 Two spatial regimes were considered: the North and the South regime. The former is constituted by rich regions surrounded by rich regions, while the latter is constituted by poor regions surrounded by poor regions.
6 This refers to the finding that the growth rate of GDP per capita of a given region is positively affected by the mean growth rate of neighbouring regions.
7 In 2001, Structural Funds were about 30 percent of total European Union spending and about 0.4 percent of total European Union GDP.
8 Puga (2002).
9 About 70 percent of the 2000-2006 budgets of Structural Funds is allocated to objective 1.

Regional policy in the European Union is characterised by ensuring that most of the available resources are directed to poorer and/or disadvantaged regions. These policies use financial transfers in order to improve the funding of development initiatives in poorer regions.[10]

As discussed in Armstrong and Taylor (2000), when individual regional authorities design their own development policies, they normally do not take into account the effects of these policies on other local or regional authorities. Nevertheless, the European Union has developed mechanisms to account for that effect.

In the design and execution of European Union regional policies, there are three levels of government, as illustrated by figure 3.1. A country has to co-ordinate its regional policies not only between its own regions but also with the regional policies of other countries, as well as with that of the European Union. When a country designs its regional policy, it needs to take into account not only its own regional problems but also those of other member states.

Figure 3.1: Co-ordination of regional policy in the European Union



Source: Armstrong and Taylor (2000), p. 321.

[10] These funds also provide important help for poor regions when they compete with richer ones for mobile investments.

There are several channels through which regional policies in one country can have a regional impact in other countries. Redistribution of income, fiscal transfers between regions, and social and cultural subsidies, all tend to have an impact not only on the target region, but also on other regions. The openness of the regional economies also has an impact on the effects of regional policy decisions. Regional policy should, nevertheless, not be over-centralised. The European Union has an important function in co-ordinating national regional policies, but in most cases leaves the development of these policies to the national and regional governments.

Regional policy began in the mid-1970s with the creation of the European Regional Development Fund (ERDF). The system has since then been reformed several times. The most important such reform was implemented in 1989, when the Structural Funds were created out of the European Social Fund[11] (ESF) and the European Agricultural Guidance and Guarantee Fund[12] (EAGGF). Between 1989 and 1993, the financial allocations of the Structural Funds were doubled, and a new system for delivery of regional policy was established.

In 1994 the Cohesion Fund was created. This was used between 1994 and 1999 to help weaker member states during the transition to the European Monetary Union and the introduction of the euro. It was used as an important instrument of regional policy, for example, to provide grant assistance for some transport and environmental projects in Greece, Ireland, Portugal and Spain. In this period, some principles concerning European regional policy were also agreed upon. These included concentration of assistance,[13] co-ordination of policies between regions, partnerships,[14] subsidies from richer to poorer regions, and programming. Funding directed towards regional policy initiatives is being further increased between 2000 and 2006.

[11] This was used to finance training and labour market policies.
[12] This fund was created to encourage farming related activities as well as tourism and manufacturing in rural areas.
[13] That is concentration of Structural Funds on disadvantaged countries.
[14] This is because the European Union is not a federal system.

In the European Union, a particular area of interest has been the potential effects on regional economic disparities of the economic integration. The definition of *economic integration* is generally related to concepts like preferential tariff areas, free trade areas, customs unions, common markets, and economic and monetary unions.[15] In the European Union, a number of processes have been carried out as part of the economic integration. These include, for example, removing non-tariff barriers, increasing factor mobility among the member states,[16] widening the boundaries to incorporate countries not previously members, and finally one of the most complicated actions, the transformation from a common market to a full economic and monetary union.

A major problem when studying regional economies in the European Union is to distinguish the original regional disparities, which are independent of the Union, from those generated by the European economic integration. The European Union has experienced large macroeconomic disparities; unemployment rates have been high in some countries and low in others. There is, nevertheless, a clear tendency of the poorest countries to be located in the periphery of the union, which is the case of southern Italy, Spain, Portugal, East Germany and Greece.

Another topic that recently has attracted considerable attention is the regional impact of the European Union enlargement. The unification of East and West Germany can be seen as a predecessor. Even if regional disparities have been reduced within the unified Germany, they are still considerable, and they are, indeed, a source of many problems.

[15] See Armstrong and Taylor (2000).

[16] Factor mobility refers to both capital and labour mobility. The objective of increasing the factor mobility was established in the Single European Act of 1986.

Table 3.1: Some statistics of selected European countries

	Population (million)	GNP per capital (USD)	Agriculture as % of GDP
The 15 EU member states			
Austria	8	27,980	2
Belgium	10	26,420	1
Denmark	5	32,500	4
Finland	5	24,080	6
France	59	26,050	2
Germany	82	28,260	1
Greece	11	12,010	21
Ireland	4	18,280	3
Italy	57	20,120	3
Luxembourg	0.4	45,330	2
Netherlands	16	25,820	3
Portugal	10	10,450	3
Spain	39	14,510	3
Sweden	9	26,220	2
United Kingdom	59	20,710	2
The 10 new EU entrants (scheduled to join in 1994)			
Czech Republic	10	5,200	6
Cyprus	0.7	14,930	NA
Estonia	1	3,300	7
Hungary	10	4,430	7
Latvia	2	2,430	9
Lithuania	4	2,230	13
Malta	0.4	8,630	NA
Poland	39	3,590	6
Slovak Republic	5	3,700	5
Slovenia	2	9,680	5
Countries scheduled to join the EU in 2007			
Bulgaria	8	1,140	10
Romania	23	1,420	21

Note: The final column is agricultural value added as a percentage of GDP. Figures are for 1997 except for Denmark, Finland, Greece, Ireland, Luxembourg, Netherlands Spain, Sweden, UK, and Czech Republic, where they are all for 1995.

Source: The World Bank, cited by Armstrong and Taylor (2000), p. 313.

Figure 3.2: Political map of Europe

Source: www.lib.utexas.edu

Ten new countries are joining the European Union on 1 May 2004. These countries, together with some selected statistics, are listed in table 3.1. Figure 3.1, furthermore, shows the current political map of Europe. Through the enlargement, these countries are offered an excellent possibility to recover from economic and social problems and to participate in the process of economic integration, in the same way as Spain, Portugal and Greece benefited when they joined the Union. The experience of the German unification, nevertheless, suggests that the adjustment process will not be easy. To ease the accession, a number of policies of pre-accession assistance have been developed, and the need to cope with the enlargement has triggered a new reform of the European Union regional policy.

As shown in table 3.1, the new member states are all characterised by low GDP-per-capita levels, with the exception of Cyprus. Apart from Cyprus, they are all middle-income countries, while all of the current member states are all high-income countries.[17] The new countries will, nevertheless, add 63 million inhabitants to the Union, which will have a large impact on almost all economic aspects of the Union. Another important observation is that all the new member states have a considerable agricultural dependence. For example, Romania with 23 million inhabitants, and which is scheduled to join the European Union in 2007, has one of the lowest GDP per capita (only USD 1,420) and an agricultural value added of 21 percent of GDP, which is a considerable agricultural dependence indeed. On the other hand, Germany, the largest of the current member states with 82 million of inhabitants, has a GDP per capita of about USD 28,000, but its agricultural value added is only about 1 percent of GDP, which is the lowest agricultural dependence of the current EU member states.

[17] The definition used is that of the International Monetary Fund, which defines high-income countries as countries with a GDP per capita in excess of USD 10,000, middle-income countries as countries with a GDP per capita between USD 1,000 and USD 10,000, and low-income countries as countries with a GDP per capita below USD 1,000.

One of the questions most frequently asked by researchers is whether economic integration leads to regional economic convergence. The topic has been extensively researched within the European Union, both because it has important implications, and because the European Union offers a suitable context for such research. As discussed in Armstrong and Taylor (2000), convergence can be regarded as the outcome of a series of countervailing forces. In this sense, there are several mechanisms that can be analysed, such as, for example, trade and factor mobility, and labour migration and capital mobility, whose effects take a long time to materialise.

The results of such research, nevertheless, suggest that disparities are reduced when economies integrate and countries develop. Sala-i-Martin (1996) showed that income per capita differences in the United States has been falling by approximately two percent per annum. In the European Union, GDP-per-capita disparities between its regions have been falling since the 1950s. Disparities are, nevertheless, much larger within the European Union than within the United States.

There is, however, a clear difference between the United States and the European Union. The former has a common language and culture, while the latter has not; this is one of the most important explanations to why labour mobility is much lower within the European Union, and also to why regional disparities are much larger.

Another factor that has a significant effect on the results is the time period studied. In summary, the results generally indicate that the European Union experienced regional convergence during the 1950s, the 1960s, and the first half of the 1970s. However, between the mid-1970s and the mid-1980s, regional disparities increased. Since then, there has been regional convergence again, even if it is weaker than before.

4 Spain

Spain has a long history of regional policy. As a Hispanic country, it might, furthermore, provide the most relevant case when developing a Colombian regional policy. Section 4.1 reviews the relevant literature. Section 4.2 discusses the background and the general features of the current Spanish regional policy, and in Section 4.3, the effectiveness of this policy is analysed.

4.1 Review of Relevant Literature

The general perception of regional researchers is that of a clear convergence process in Spain until the mid-1960s. Garcia-Milà and Marimon (1999) analysed the labour market. In particular they studied the evolution of employment and the gross value added of the regions, using sectoral decomposition. In this way, they were able to establish how regional development was affected by particular regional characteristics. They, furthermore, analysed wage dynamics by region and wage participation in the national income. The idea was to separate regional or sectoral and national factors to be able to better study regional labour market behaviour. The authors used two different methodologies of decomposition. They used a classical *shift-share* framework as well as a dynamic decomposition of the regional component through time. The results suggested that sectoral composition is, indeed, one of the most important factors explaining employment dynamics. In the same way, productivity differentials, average wages, and wage income shares are highly significant in explaining the product of the Spanish regions. The political implication is that regional policies should be designed to encourage sectoral mobility of workers.

Another labour market study, which follows the same line, is Lamo (2000). He examines the dynamics of the cross sectional distribution of regional GDP per capita. The author takes into account fifty regions, *provincias*, in order to determine whether regional income convergence took place. The main emphasis was on the role of interregional migration in the convergence process. The period analysed was 1955 to 1991. The results showed no evidence of regional income convergence in the Spanish regions, and migration did not play a significant role in the income dynamics. These results were in line with those of Gardeazábal (1996), in the sense that both authors believed that the economy had reached its steady state. Nevertheless, Lamo did not agree with the conclusion of the steady state being the convergence point.

More recently, de la Fuente (2001) analysed some potential sources of convergence across the Spanish regions. He used growth modelling with factor accumulation, technological diffusion, rate effects from human capital, and unobserved regional factors. Three models were used in the analysis: a non-structural dummy variable convergence model, a structural model,[18] and a so-called *hybrid* model, which introduced fixed effects in the structural specification. The main objective of the study was to measure the sources of productivity convergence and the behaviour of unexplained regional effects. The period studied was the same as in Lamo (2000), from 1955 to 1991. The results of the study suggest that factors like standardisation of educational attainments, redistribution of employment across regions, and technology catch-up are some of the most important sources of regional convergence.

In the dynamics of regional growth disparities, technology has played a very important role. This topic can, however, not be separated from that of labour productivity. Several works have analysed productivity trough *Total Factor Productivity* (TFP) dynamics. In this way, the sectoral TFPs together with their relative ratios determine the TFP in each region. Bernard and Jones (1996a) emphasise the fact that sectoral decomposition is always useful to better understand the dynamic behaviour of TFP. Additionally, Bernard and Jones (1996b) stress the importance of the productivity analysis as a complement to the capital accumulation function when studying convergence.

Escribá and Murgui (2001) study the dynamics of technology and its possible structural changes. They analyse productivity growth and convergence at a regional level in Spain from

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[18] This partially endogenised the rate of technical progress.

1980 to 1995. They determine the relative levels of global and inter-sectoral TFPs, and use this to define the regional productive structure. These authors found two important results. First, they show a close relationship between regional labour and total factor productivity. Second, they show that structural change plays a significant but limited role in the productivity convergence process. Structural changes explain about 44 percent of the convergence, while the remainder corresponds to a particular region's contribution to its own convergence process.

4.2 General Features of the Spanish Regional Policy

Spain is a country that has paid significant attention to its regional development. A regional policy was initially developed in the 1960s, with the establishment of the *Planes de Desarrollo*,[19] which was an instrument to deal with the regional development issues. An ambitious regional policy was, nevertheless, not developed until the 1980s. The first step in this process was the creation of the *Comunidades Autónomas*,[20] which were autonomous regional governments. A significant part of the political power was decentralised from the central Government in Madrid to the new regional governments, which took an active part in the formation of the new regional policy. A new instrument of regional policy was created, the *Fondo de Compensación Interterritorial* (FCI),[21] with the main objective of reducing regional disparities.[22] However, with time, the FCI became less redistributive, and in the 1990s the fund was reformed, and its exclusive role of redistribution was restated.[23] Figure 4.1 shows the different autonomous regions of Spain.

[19] Development Plans.
[20] Autonomous Regions.
[21] Inter-Territorial Compensation Fund.
[22] As a governmental fund, this was created to carry out public investment plans, and takes the form of a regional redistributive grant. See Garcia-Milà and McGuire (1993).
[23] See Garcia-Milà and McGuire (2001).

Figure 4.1: Spanish regions

Regions of Spain

1 Galicia
2 Asturias
3 Cantabria
4 País Vasco (Basque Country)
5 Navarra (Navarre)
6 Castilla-León (Castile and Leon)
7 La Rioja
8 Aragón
9 Cataluña (Catalonia)
10 Madrid
11 Extremadura
12 Castilla-La Mancha
13 Comunidad Valenciana (Valencian Community)
14 Baleares (Balearic Islands)
15 Andalucía
16 Murcia
17 Canarias (Canary Islands)

Note: English names in parentheses where applicable. We are, nevertheless, using the Spanish names in the text.

Source: www.map-of-spain.co.uk

As a member of the European Community,[24] Spain was able to enjoy additional regional benefits. The Community has always been paying attention to the regional development of its member states, as discussed in the previous chapter. The main instrument of regional policy within the European Community at that time was the *European Regional Development Fund* (ERDF), with the main and exclusive objective to encourage regional growth through transfers destined towards the poorer regions of the Community. Another important instrument of regional policy was the *European Agricultural Guidance and Guarantee Fund* (EAGGF). The EAGGF *Guidance Fund* provided funds to improve farming infrastructure, while the EAGGF *Guarantee Fund* was set up to help maintaining a lower bound for farmers' income. A further

[24] The European Community was later transformed and renamed the European Union. Spain joined in 1986.

fund, the *Social European Fund* (SEF), was created to fund training and retraining of labour, and particularly of those who were unemployed.

Thus, Spain received grants from two sources, the Spanish Government and the European Community. Transfers from both of these sources had the objective of reducing regional disparities as well as the rate of unemployment within the country.

4.3 The Effectiveness of the Regional Policy in Spain

Garcia-Milà and McGuire (2001) present an extensive descriptive study of the Spanish regional policy and its impact. They analyse and evaluate the effectiveness of the regional grants, not only those from the Spanish Government but also those from European Community. They also calculate the funds received by each Spanish region, both as absolute amounts and as a percentage of regional GDP. Table 4.1 presents the transfers received by each region as a percentage of GDP.

One of main results is that FCI funds, as a percentage of regional GDP, in most cases were the largest, closely followed by EAGGF guarantee funds. On the other hand, EAGGF guidance funds were the least representative transfers. Another interesting result is that European regional assistance to Spain in most cases is much larger than the assistance received from the Spanish Government, which is indicative of the important role played by the European Community (later the European Union) in the development of the Spanish regions. Another finding was that in most cases regional transfers were dependent on the effort of the regional government in promoting its need of resources.

Table 4.1: Grants received from the Spanish Government and the European community (as percentage of regional GDP)

Regional governments	(1) Fondo de Compen-sación Inter-territorial (FCI)	(2) European Regional Develop-ment Fund (ERDF)	(3) Social European Fund (SEF)	(4) EAGGF Guidance Fund	(5) EAGGF Guaranty Fund	(6) TOTAL
Andalucía	1.26	0.59	0.25	0.06	1.37	3.53
Aragón	0.41	0.24	0.10	0.09	0.95	1.79
Asturias	0.52	0.72	0.15	0.10	0.15	1.64
Baleares	0.25	0.02	0.06	0.02	0.10	0.45
Canarias	0.95	0.35	0.17	0.05	0	1.52
Cantabria	0.39	0.26	0.10	0.09	0.33	1.17
Castilla-León	0.90	0.56	0.20	0.13	1.12	2.91
Castilla-La Mancha	1.22	0.89	0.18	0.17	1.86	4.32
Cataluña	0.31	0.06	0.09	0.01	0.21	0.68
C. Valenciana	0.39	0.14	0.10	0.04	0.17	0.84
Extremadura	2.55	0.83	0.33	0.19	2.74	6.64
Galicia	1.16	0.27	0.17	0.13	0.23	1.96
Madrid	0.23	0.03	0.09	0	0.03	0.38
Murcia	0.54	0.37	0.17	0.07	0.62	1.77
Navarra	0.22	0.04	0.12	0.07	0.63	1.08
País Vasco	0.36	0.08	0.11	0.05	0.14	0.74
La Rioja	0.23	0.05	0.07	0.05	0.69	1.09

Note: Percentages of funds over regional GDP, both measured in constant pesetas of 1980. The data used is from 1986 to 1991, except for FCI, which is from 1982 to 1991. The figures are the share of the sum of the annual data for the sample period for each fund over the sum of the annual GDP for the same period.

Source: Garcia-Milà and McGuire (2001).

Among the regional governments, the top recipients of FCI funds were Extremadura, Castilla-La Mancha and Galicia (2.55 percent, 1.22 percent and 1.16 percent respectively), which all belong to the poorest of the Spanish regions. Looking at the European Community funds, the top recipients of ERDF funds were Castilla-La Mancha, Extremadura and Asturias (0.89 percent, 0.83 percent and 0.72 percent, respectively), while Extremadura, Castilla-León and Castilla-La Mancha were the largest recipients of SEF funds (0.33 percent, 0.20 percent and 0.18 percent, respectively).

In the same way, it is important to note which regions were receiving the least funds. In the case of Spanish Government grants; Navarra, Madrid, La Rioja and Baleares received 0.22 percent, 0.23 percent, 0.23 percent and 0.25 percent, respectively, and they are among the richest regions in Spain. Table 4.2 shows the relative GDP per capita of the Spanish regions.

Table 4.2: Real GDP per capita by region (Spain = 100)

Regional governments	1964	1973	1981	1985	1991	1994
Andalucía	65.6	72.7	73.4	71.4	71.8	71.7
Aragón	104.7	102.5	104.0	110.0	108.8	108.3
Asturias	104.9	107.0	99.4	95.4	87.6	87.4
Baleares	130.4	149.2	130.8	150.0	142.2	157.8
Canarias	75.7	91.0	96.3	95.1	96.3	104.0
Cantabria	127.7	106.2	98.7	97.8	91.1	88.0
Castilla-León	87.6	83.0	84.5	89.2	87.5	90.2
Castilla-La Mancha	67.0	77.8	75.8	77.0	83.0	82.3
Cataluña	149.9	130.2	125.8	123.4	125.8	122.9
C. Valenciana	101.7	103.9	103.6	104.2	102.0	101.1
Extremadura	52.8	59.3	61.6	65.9	68.2	68.8
Galicia	67.4	70.1	79.7	80.5	81.5	83.4
Madrid	147.6	126.7	132.2	130.7	129.6	127.9
Murcia	72.4	83.8	85.1	83.9	82.6	81.3
Navarra	123.2	111.0	108.0	109.3	115.8	117.0
País Vasco	162.4	135.3	110.4	110.7	110.0	109.4
La Rioja	117.1	103.4	107.1	108.9	107.5	109.3
Spain	100.0	100.0	100.0	100.0	100.0	100.0

Source: Garcia-Milà and McGuire (2001).

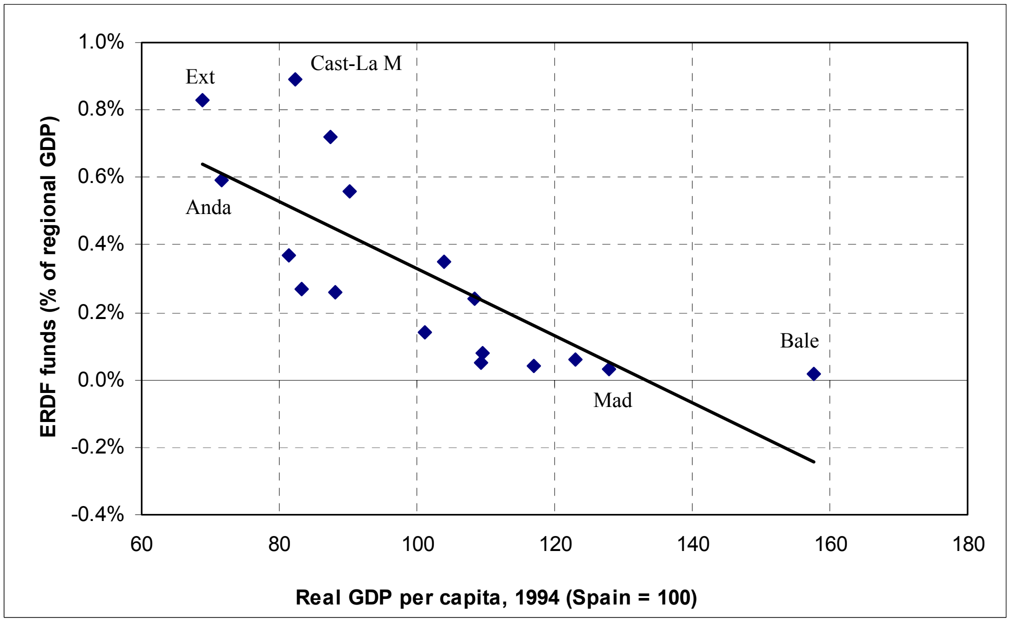
It is apparent from table 4.1 and 4.2 that the regions receiving the largest development grants, Extremadura and Castilla-La Mancha, are indeed the poorest. During the whole time period presented in the table, they show the lowest GDP-per-capita level. In 1964 these regions had a GDP per capita of around half the national average and around a third of that of the richest regions, i.e. Madrid and the Baleares. On the other side of the spectrum, the richest regions are also those receiving the smallest regional development grants.

A simple way to study the relationship between the GDP-per-capita behaviour and national and external development grants is to look at the correlation coefficient between the two. We start by studying the relationship between one of the European Community grants, the ERDF, measured as a percentage of regional GDP, and relative GDP per capita.[25] Figure 4.2 shows the scatter plot for each of the 17 Spanish regions. As expected, there was a clear negative relationship, with a calculated correlation coefficient of –0.77. In this sense, regions with a low GDP per capita were those receiving high ERDF grants. Such regions included, for example, Extremadura, Castilla-La Mancha and Andalucía. On the other hand, regions with high GDP per capita levels, such as Madrid and the Baleares, received low amounts of these funds. If we study FCI grants, received from the Spanish Government, the pattern is very similar, as shown by figure 4.3.[26]

Looking at the behaviour of the Spanish labour market, Garcia-Milà and McGuire (2001) argued that high rates of unemployment were not associated with high rates of migration. Rodenas (1994), on the other hand, found that, at least for the period 1962 to 1973, there was a significant migration from poor regions to richer ones. He presented evidence of out-migration from Andalucía, Castilla-La Mancha, Castilla-León and Extremadura, which all belong to the poorest regions of the country, while rich regions like Cataluña and Comunidad Valenciana, were net-recipients of migrants. One of the main causes of the migration was that people moved from poor agricultural regions to industrialised and rich ones. During the following decade, the net rate of migration, nevertheless, fell because outflows were compensated by inflows. Perhaps the only region that has had a persistent outflow of population during the last two decades has been the País Vasco, due to the political violence.

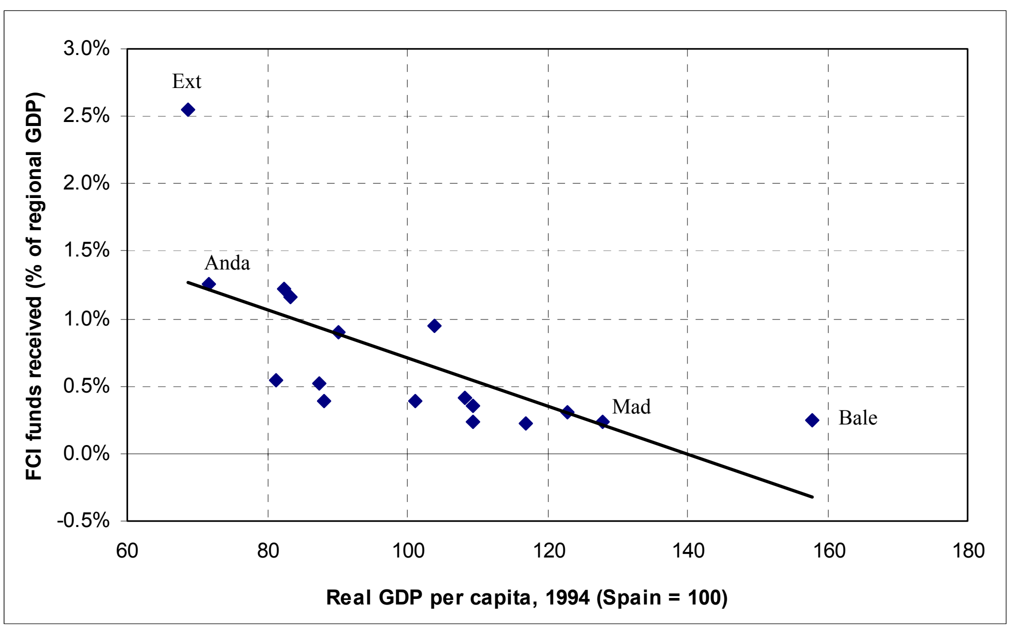
[25] ERDF funds were measured as the average of the annual per capita values form 1986 to 1993. Relative GDP per capita is as of 1994.
[26] FCI funds were measured as the average of the annual per capita values form 1982 to 1993. Relative GDP per capita is as of 1994.

Figure 4.2: ERDF funds versus real GDP per capita, 1994



Source: Garcia-Milà and McGuire (2001).

Figure 4.3: FCI funds versus real GDP per capita, 1994



Source: Garcia-Milà and McGuire (2001).

To analyse the effectiveness of regional policy, Garcia-Milà and McGuire (2001) assess the impact of regional grants on the poor regions relative to the rich ones. The regional policy is measured by the level of the regional grants, both from the Spanish Government and from the European Community. The authors then established a measurement of the wealth of regions, comparing several economic regional indicators relative to the national average.[27] This estimate did not yield results much different from that of the relative GDP-per-capita measure discussed earlier. Poor regions included Extremadura, Castilla-La Mancha, Castilla-León, Galicia and Andalucía, while in the rich group were Baleares, Madrid, Cataluña, La Rioja, and Navarra. Two time periods were studied: 1977 to 1981, and 1989 to 1992. The main explanation for this choice of time periods is that the former ends just one year before the regions began to receive Spanish Governments grants, and that the latter begins when regional governments received not only Spanish Government funds, but also European Community funds.

The authors propose the hypothesis that welfare is improved in poor regions relative to rich ones only if regional policy is effective. If, on the other hand, the relative welfare of the poorer regions has not improved, the transfer programme is not effective and the regional policy has failed. Using the measurement of wealth earlier discussed, the authors tried to establish how the regions responded to the implementation of the Spanish Government FCI grants and the European Community grants. The results suggest that these programmes have not affected the poor regions in a significant way, and the policy has, therefore, not been effective.

[27] The measures used were annual growth rate of real GDP, real GDP per capita, unemployment rate, annual growth rate of employment, annual growth rate of real private non-residential investment, and real private non-residential investment per capita.

5 Italy

Italy is another country with a long history of regional policy. What is special for Italy is its north-south divide, where the North has been very prosperous while the South, the so called *Mezzogiorno*, has been lagging behind. Section 5.1 presents a literature review. Section 5.2 discusses the problem of the Mezzogiorno and the policies implemented to deal with this issue. In the Mezzogiorno, the region of Abruzzo stands out as the regional success story, while Sicily is the region that lags behind the most. These two regions are further discussed in Section 5.3.

5.1 Review of Relevant Literature

Italy has had an active regional policy for about thirty years. Many authors have analysed its regional development throughout this period. There are also a large number of works on regional disparities and convergence in the country. Many other regional issues have been studied as well.

For example, Paci and Saba (1997) analysed economic growth in Italy's 20 regions from 1951 to 1993. The main objective was to identify the fundamentals of regional economic development during the post-war period. In particular they investigated some specific topics, including the level of inequality across the Italian regions, the dynamics of the wealth differentials, and the convergence pattern at a sectoral level. They used classical non-linear convergence models to assess the dynamics of the regional economies, using variables such as GDP, units of labour, and population over time. Their results suggested that there was an absolute convergence process during the period from 1960 to 1975, but after that there was no significant convergence, with the exception of one short period that was characterised by a considerable policy effort to support industrialisation in the less productive southern regions.

In a similar fashion, Paci and Pagliaru (1998) studied regional inequality in Italy, using a new and updated data set covering the period from 1951 to 1994. One of their objectives was to establish the reasons for the persistence in regional inequality. They used classical convergence models and a panel data technique. In line with Paci and Saba (1997), their results indicated a limited convergence process between 1951 and 1975. However, thereafter, regional inequality increased, especially between the southern regions (the Mezzogiorno) and Italy's north. Their results, furthermore, showed that, at a sectoral level, out-migration of labour from low-productivity poorer regions to more industrialised ones was a very important factor in explaining aggregate convergence.

Acconcia and del Monte (1999) analysed effects of public spending on regional growth in Italy. Their main hypothesis was that regional differentials in labour productivity can, at least in part, be related to public services. They used public consumption and infrastructure investment as proxies for government intervention. They also developed a model using the distribution of the steady state levels of output per employee as the dependent variable, regressed on an index of infrastructure capital per capita or per unit of land area.[28] Spatial, time series, and panel data econometrics was used for the analysis. A positive relationship between regional growth and infrastructure capital was found. In addition, the impact of public investment on productivity played a more important role in the low income regions. Finally, the effects of government spending differ not only between public investment and public consumption, but also between Northern and Southern regions.

One possible cause for regional inequalities in Italy is its heterogeneity. Bianchi, Miller and Bertini (1997) suggested two main ways in which this could affect regional policy. First, Italian regions fall into two European Union funding categories, and second, not all regions have the same political power. To deal with this, they suggest four basic types of intervention: diffusion of innovation, promoting or reinforcing relationships among firms, diffusion of information and training, and promotion of economic growth.

[28] This index contained roads, railways and so on.

5.2 Regional Development in Italy and the Problem of the Mezzogiorno

Italy is normally divided into two main areas, the South (i.e. the Mezzogiorno) and the North. The former is the main concern for policy makers and is composed of eight main regions: Abruzzo, Molise, Campania, Basislicata, Puglia, Calabria, Sicily and Sardegna, which have around 17 million inhabitants.[29] Figure 5.1 shows the map of Italy with its regional division. In the 1950s, when regional policy was first introduced in the country, the South suffered from a critical economic and social situation, low educational levels, low industrial development, and an income per capita of about half that of the northern region. The South, furthermore, had a much higher agricultural dependence than the North.

In the post-war period, an important and sustained growth initiative was developed and implemented in Italy, which was a precondition for the country to become a G7 member. In particular, during the period 1963 to 1993, the average GDP growth was approximately 3.2 percent, and the average growth rate of employment was around 0.6 percent.[30] Nevertheless, the different regions have experienced large differences in their growth.

[29] Italy as a whole has 58 million inhabitants.
[30] Acconcia and del Monte (1999).

Figure 5.1: The Italian regions

Source: www.italylink.com

In the 1950s, Italy was a country with deep differences in terms of labour productivity and per-capita production among its regions. This lead to the development and implementation of a regional policy for the South of the country. In line with other European countries, a fund was created to help the South develop, the *Cassa per il Mezzogiorno* (the Mezzogiorno Fund). It was mainly used for infrastructure and agricultural expenditures, but it also contributed to industrial development projects. Expenditures of the Mezzogiorno Fund rose from 0.75 percent of Italian GDP in the mid-1950s to 1.14 percent in the mid-1970s.[31] The 1950s was one of the most important periods of industrial development in Italy. Fixed gross industrial investment helped to increase production and employment. However, about 86 percent of this took place in the Far North, raising industrial employment there from 10 percent to 12 percent, while in the Centre-North and the Mezzogiorno it remained more or less constant at around 3.5 percent throughout the 1950s.[32]

The Government adopted several other new regional policy measures. A new system of industrial investment incentives was created, initially to cover only small and medium sized firms and later it was expanded to all firms. Another initiative was the creation of state owned industrial firms, which had to locate 40 percent of their investment and 60 percent of their new plants in the Mezzogiorno. The main objective of this measure was to provide the region with the necessary catalyst for growth. One positive result was a fall in agricultural employment, while employment in manufacturing, construction and services was growing. During the 1950s and 1960s, the unemployment rate was kept low, not only because of job creation, but also due to migration of population. Between 1962 and 1974, 2.2 million people left the Mezzogiorno.[33] Due to the oil shock in the early 1970s, unemployment started increasing despite the migration outflow, and in the mid-1970s it had reached 9 percent.

It is not possible to analyse Italian regional development without taking into account the recession generated by the first oil shock in the mid-1970s. During this recession, industrial in-

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[31] Helg, Peri and Viesti (2000).
[32] Helg, Peri and Viesti (2000).
[33] Helg, Peri and Viesti (2000).

vestment and per capita income decreased in the whole country, but the South was the most severely affected region. While industrial investment grew at an annual rate of about 11 percent between the 1950s and the mid-1970s, the same indicator fell at about 15 percent yearly in the second half of the 1970s. Another consequence of the oil shock was a general rise in oil prices, which caused higher energy prices, and thus generated a crisis in the chemical and metallurgy industries. Two important decisions were taken to reduce the impact of the recession on economic activity. First, the private sector agreed to invest additionally to prevent the closure of a number of key plants to maintain production and employment and thereby to avoid a deeper contraction of economic activity. Second, there was an increase in public expenditure by government authorities. Some regions of the Mezzogiorno benefited more from these measures, while others simply began to lag behind.

Another event, that had a large regional impact in Italy, was the implementation of the Maastricht Treaty in the beginning of the 1990s. Government economic policies were restructured, specifically the fiscal policy. Many public companies were privatised. In line with the treaty, the Government decided to abolish the Mezzogiorno Fund in 1992, which was one of many decisions taken in order to restructure regional policies. A new framework for regional policy was developed, which implied that not only the Mezzogiorno regions were to receive regional development grants, but that all poor areas around the country should be targeted. In the Mezzogiorno, the consequence was a significant reduction in public spending, which resulted in a lower economic growth rate. A high population growth rate, furthermore, resulted in reduced per-capita income in several of the Mezzogiorno regions. However, some of the industrial regions in the Mezzogiorno benefited considerably from a large increase in exports during the 1990s. Export growth in these regions was associated with an increase not only in consumer goods, but also in industrial machinery.

From the 1950s and up until now, the Mezzogiorno regions have continued to lag far behind the North. Development has, nevertheless, not been homogenous. In the next section we will look at two of the Mezzogiorno regions, Abruzzo and Sicily. The former is the regional success story in Italy, while the latter seems to be the doomed laggard.

5.3 The Cases of Abruzzo and Sicily

Abruzzo and Sicily are two of the clearest examples of regional dynamics. Both enjoyed similar economic conditions about fifty years ago, with poor industrial and infrastructure developments, low living standards and high agricultural employment. With a scarce factor endowment, Sicily has changed little. However, Abruzzo has been able to transform its economy, and had, by the mid-1990s, increased its relative position in the country by almost 25 percentage points. During the same period, Sicily had only seen an increase in its relative position by 2 percent.[34] The main reason for the success of Abruzzo, is that it managed to developed some specific sectors, industry and services, and this permitted it make a deep breakthrough in the transformation of its economy.

While these regions were very similar in many aspects fifty years ago, they are very different today.[35] Abruzzo is the most advantaged region not only in the Mezzogiorno, but also in the country as a whole. Its average annual GDP growth, from the 1970s to the mid-1990s, was 4.3 percent. The region, furthermore, has a population density of around 115 inhabitants per km^2. It has a share of agricultural employment, which is converging to the country average of 8.9 percent, and 32.5 percent of regional employment is in the industrial sector. The region also has relatively high educational attainment levels, with 9 percent of the population aged between 25 and 29 years holding a university degree, 35 percent holding a high-school degree, and 55 percent with less than a high-school degree. In 1998, the unemployment rate of the region was 9.0 percent, which had been reduced to 6.2 percent in 2002.

In Sicily, the situation looks very different. The region has one of the worst economic conditions in the country. Between the 1970s and the mid-1990s, the average annual GDP growth rate was only 3.0 percent. Its population density is 193 inhabitants per km^2, and the region has around 12 percent of its employees in agriculture while industry employs only around 20 percent. Educational attainments are also significantly lower than in Abruzzo, with 8 percent of

[34] Helg, Peri and Viesti (2000).

the 25-to-29-year olds holding a university degree, only 28 percent holding a high-school degree, and as many as 64 percent with less than a high school degree. Unemployment is a very serious problem, with 25.6 percent of the workforce unemployed in 1998 and 20.1 percent in 2002.

A number of factors explain the very different performance of these two regions. Abruzzo not only received more investment, both private and public, but also used it very differently; much less was, for example, spent on consumption goods in Abruzzo than in Sicily. Another factor influencing the situation was the increase in the manufacturing productivity caused by infrastructure development in Abruzzo. The social institutions and governmental authorities in this region also functioned better, while in Sicily such institutions suffered from endemic corruption to a much larger degree. Abruzzo also has a favourable location, relatively close to Rome as well as to the North. This has kept transportation and communication costs down. The very different performance of these two regions was, consequently, not caused by a unique regional policy or economic circumstances, but by a set of economic decisions and conditions throughout the time period discussed.

[35] This paragraph and the next are based on the discussion in Helg, Peri and Viesti (2000).

6 Brazil

As the only Latin American country with a well-developed regional policy, Brazil is another interesting case in regional policy analysis, particularly when studying middle-income countries. Section 6.1 discusses the background and history of the Brazilian regional policy, and in Section 6.3, this policy is evaluated.

6.1 Background to the Brazilian Regional Policy

Brazil is normally divided into five macro-regions, which are composed by 27 states and 5027 municipalities. Table 6.1 and figure 6.1 show the political division of the country. In addition, there exists a strong north-south dualism. In this sense, one of the main objectives of the Brazilian government has been to reduce the economic gap between these two parts of the country.

In line with other countries and, for example, the European Union, the Brazilian Government has used a number or regional policy instruments aimed at promoting growth in the poorer regions. Such policy initiatives include infrastructure investments, incentives for private investments, investment initiatives of the state enterprises, and granting of tax exceptions. In the 1970s, frontier states[36] like Mato Grosso and Goiás, and more recently Rondonia and Tocantins, saw an important change in the territorial allocation of production, which generated strong growth. When studying all states, convergence of per-capita GDPs of the states do appear in the statistics, at least from 1947 to the mid-1980s.[37] At a regional level, the Mid-West together with some Northern states,[38] have emerged from primary-sector activities, such as agriculture, mining and cattle breeding, and have developed a significant industrial base.

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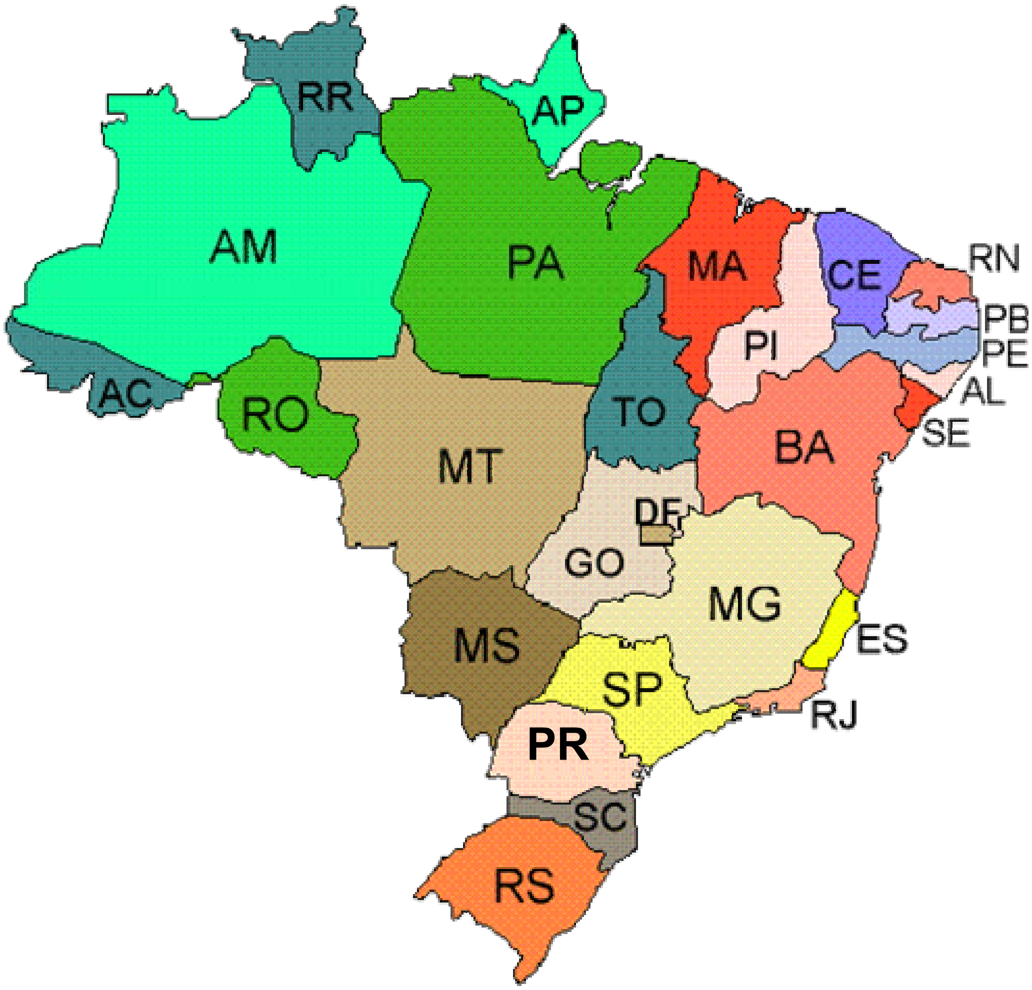
[36] Frontier states are those with large unexplored land areas. High economic growth rates in such states are often due to exploration of new land areas rather than to a successful regional policy.
[37] See Gomes (2002).
[38] Amazonas, Pará and Rondonia.

Table 6.1: Regions and states of Brazil

Regions	State		Capital City
North	Acre	AC	Rio Branco
	Amapá	AP	Macapá
	Amazonas	AM	Manaus
	Pará	PA	Belém
	Roraima	RO	Porto Velho
	Rondonia	RR	Boa Vista
	Tocantins	TO	Palmas
Northeast	Alagoas	AL	Maceio
	Bahia	BA	Salvador
	Ceará	CE	Fortaleza
	Maranhão	MA	São Luis
	Paraíba	PB	João Pessoa
	Pernambuco	PE	Recife
	Piaui	PI	Teresina
	Rio Grande do Norte	RN	Natal
	Sergipe	SE	Aracaju
Mid-West	Distrito Federal	DF	Brasilia
	Goiás	GO	Goiana
	Mato Grosso	MT	Cuiabá
	Mato Grosso do Sul	MS	Campo Grande
Southeast	Espititu Santo	ES	Vitória
	Minas Gerais	MG	Belo Horizonte
	Rio de Janeiro	RJ	Rio de Janeiro
	São Paulo	SP	São Paolo
South	Paraná	PR	Curitiba
	Santa Catarina	SC	Florianopolis
	Rio Grande do Sul	RS	Porto Alegre

Figure 6.1: The political divisions of Brazil



Source: www.meubrasil.inf.br

Before the 1930s, Brazilian development policy was based primarily on exports, but in the late 1930s, this policy shifted to an import-substitution industrial policy. Initially this policy was targeted to some publicly owned industries, such as minerals, metals and petrochemicals, but later came to include not only publicly owned enterprises but also private firms. This kind of import-substitution policy is one reason why, for example, Sao Paolo increased its share of the nation's industrial provision from 16 percent in 1907 to 58 percent in 1970, at the expense of all other regions.[39] This has lead to a strong spatial concentration in the country. Other states benefiting strongly from this policy were Rio de Janeiro and Belo Horizonte. These three states came to be the most powerful in the country and form the so-called *triangle*.

In the 1970s a regional policy was developed to counterbalance the lagging of the North and Northeast. For example, the Government offered fiscal incentives to encourage investments in these regions. Some special agencies were created to promote the development of these regions: SUDAM in the North, SUDENE in the Northeast and SUFRAMA in Manaus. With few exceptions, this regional policy was, however, never very successful. According to Markusen (1996), four main factors contributed to the poor functioning of the regional policy. First, the instruments of subsidies and incentives were not very strong. Second, national economics integration, achieved by infrastructure investment, generated scale and agglomeration economies, and this mainly benefited the richer states. Third, public investments of the richer states counteracted the initiative to decentralise. Fourth, large and important investments done in the richer states directly increased the concentration.

From the mid-1980s, regional disparities in Brazil have shown tendencies to increase rather than to decrease. The causes were, however, slightly different from before. During the 1980s and up until the mid-1990s, the Brazilian economy went through several crises, suffering from high inflation together with fiscal and debt problems. Economic growth was slow throughout the period. The difficult economic and political situation produced slowdown in decentralisa-

[39] Markusen (1996).

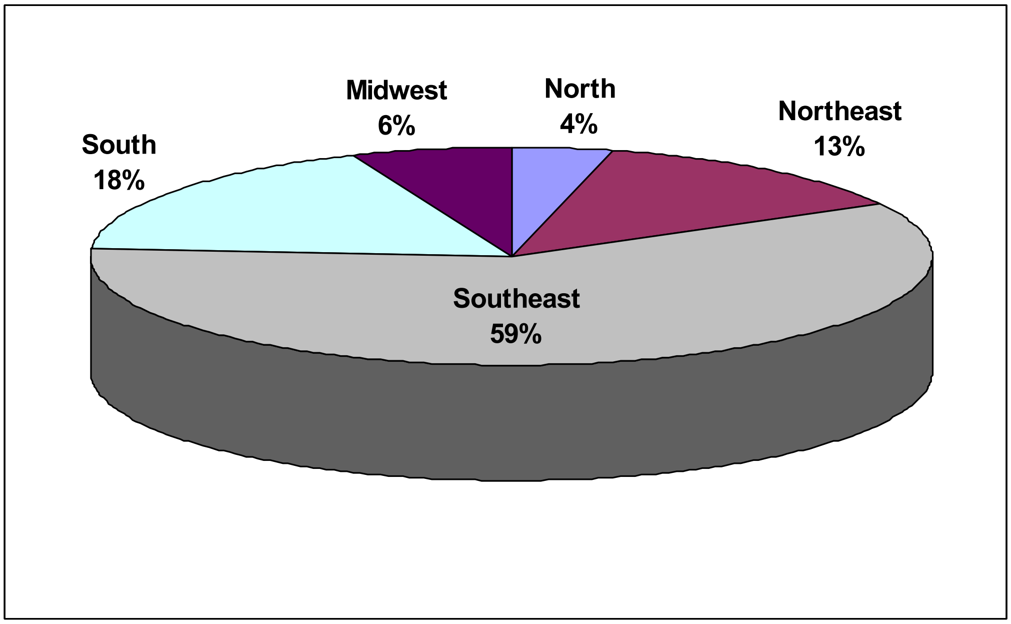
tion. Industrial policies favouring rich states, weak regional policy instruments, and concentration of capital lead to a divergence between the richer and the poorer regions.

Brazil has, furthermore, implemented a number of highway infrastructure investment initiatives in order to support regional integration. These initiatives have, nevertheless, been criticised, because, despite its national integration usefulness, highways made it possible for companies around, for example, Sao Paulo to reach distant markets. Diniz and Razavi (1993) show some evidence of isolated plants in regional markets closing because they were not able to compete with national firms operating from Sao Paulo. Nevertheless, Markusen (1996) argues that the regional development debate cannot be reduced to the narrow question of continued nationwide polarization or of a reversal of Sao Paulo as the sole focus. Some other states and municipalities have, indeed, reached growth rates higher than the national average in past years.

6.2 Inequalities and Evaluation of the Policy

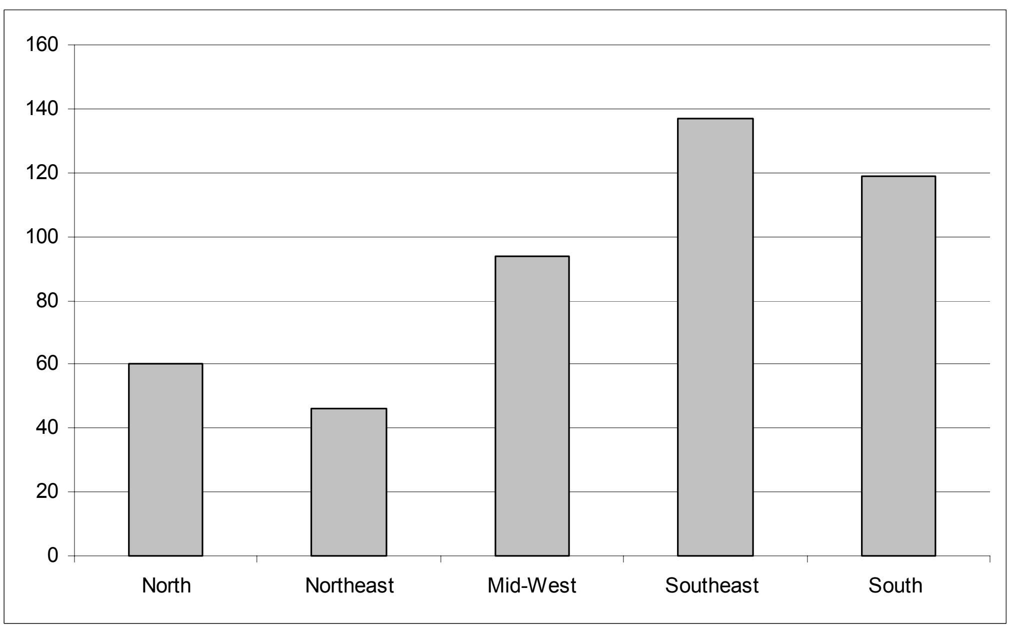
One of the clearest indicators of the regional imbalance of Brazil, is the regional GDP as percentage of national GDP. Figure 6.2 shows this behaviour for the five regions in 1997. It is apparent, that economic activity is highly concentrated in the Southeast, which contributes with as much as 59 percent of the national GDP. The South and Southeast, which are the two richest regions, together contribute with about 75 percent of the national GDP, leaving the other three regions with around 25 percent.

Figure 6.2: Regional participation in national GDP in Brazil, 1997



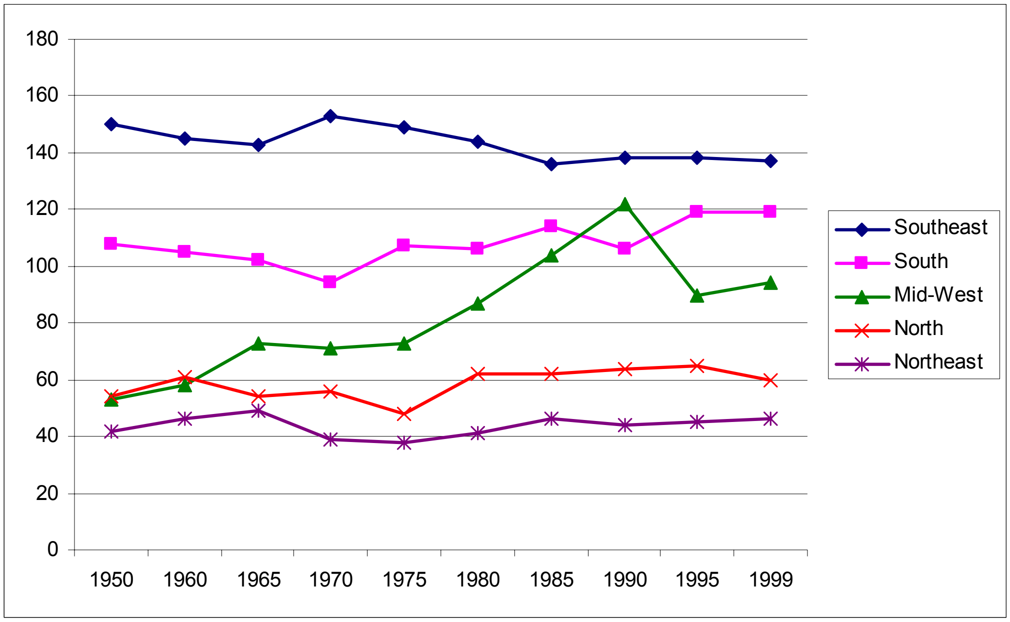
Source: Nasser (2000), p. 153.

Figure 6.3: Regional per-capita GDP, 1999 (Brazil = 100)



Source: Gomes (2002).

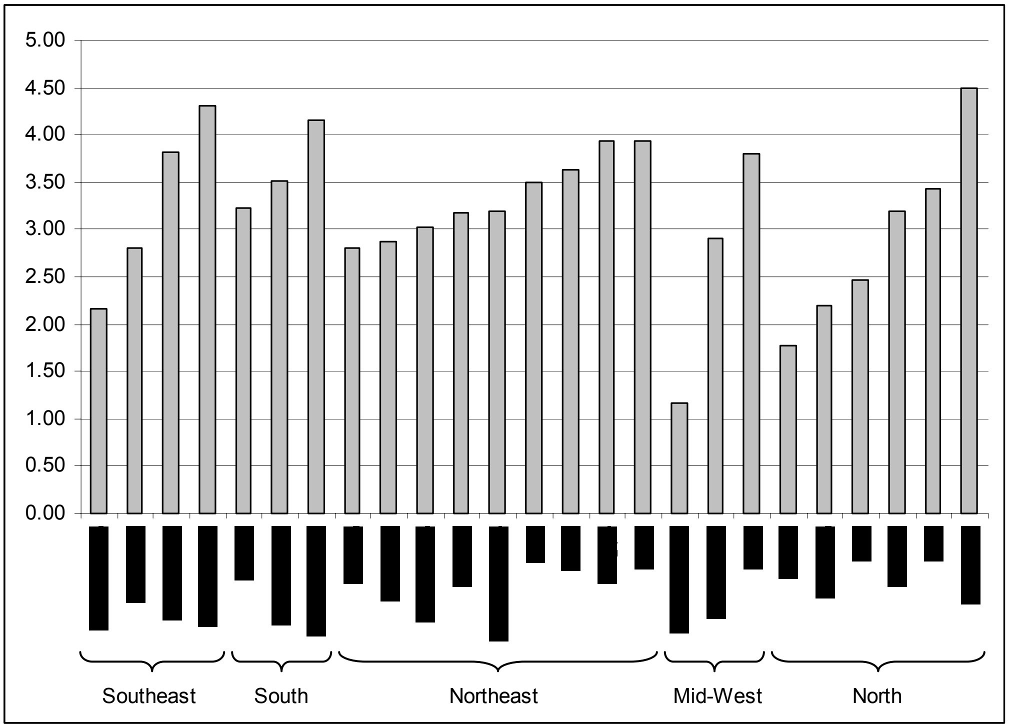
Figure 6.4: Regional per-capita GDP, 1950 – 1999 (Brazil = 100)



Source: Gomes (2002).

In the case of GDP per capita, Brazil also has a clear north-south division, as illustrated by figure 6.3, which shows the per-capita GDP for the different regions. The GDP per capita in the Northeast was, for example, only 48 percent of the national average in 1997, while the corresponding figure for the Southeast was 140 percent. Figure 6.4 shows per-capita GDP of the five regions in Brazil from 1950 to 1999. It is clear from the figure that four regions have shown a tendency to increase and only the Southeast has fallen. The Mid-West has shown the strongest increase. This is, nevertheless, not due to a successful regional policy, but because of opening up of new lands in frontier regions.

Figure 6.5: Average per-capita GDP growth rates in the Brazilian states, 1947 – 1999 (%)



Source: Gomes (2002).

Figure 6.5 shows the growth rates of per-capita GDP in the different states. It is not clear from this figure whether the poor states are growing faster than, and thereby catching up with, the rich states. What is apparent is, nevertheless, the growth-rate dispersion of the states within each region. The Southeast, Mid-West and North, furthermore, show a much stronger dispersion between their states than the Northeast and the South, which show a more homogenous behaviour.

Gomes (2002) showed, through calculations of two inequality indexes,[40] that for the period 1947 to 1999, there is evidence in support of a convergence process among the Brazilian states. The indexes, nevertheless, have a significant variation in the long run. The author, furthermore, defined five sub-periods with some specific characteristics:

- *1947 – 1956: Stable inequality.* In spite of some oscillations in this period, inequality remained relatively stable.

- *1956 – 1965: Decreasing inequality.* Both the Theil-L and the coefficient of variation showed decreasing inequality, which coincided with a regional policy initiative to help the poorest states, especially those in the Northeast.

- *1965 – 1971: Rising inequality.* During this period Brazil saw the largest growth of inequality between its states, which peaked in 1970.

- *1971 – 1986: Decreasing inequality.* From 1971, inequality began to decrease. The author emphasises that this might partly be explained by some government initiatives to improve agricultural conditions.

- *1986 – 1999: Inequality on the rise.* It is apparent that inequality rose during this period, but there seems to be no clear explanation for this.

The results of Brazil's regional policy efforts have been, at best, mixed. The Northeast has not showed a clear improvement. The North and the Mid-West, have shown some important improvements in the product growth, but this might be due to the fact that these are frontier regions rather than due to a successful regional policy.

In the future, Brazil needs a more thorough regional policy if it wants to reduce regional inequalities. Two policy initiatives are currently being implemented in order to reach that objective. First, *Programa dos Eixos Nacionais de Desenvolvimento* is a long-term regional development programme covering the period 2003 to 2018 and with a budget of some USD 77 billion. Second, a social policy has been developed with the objective of reducing poverty in the country, particularly in the poorer states.

[40] Theil-L and the weighted coefficient of variation.

The objectives of the *Programa dos Eixos Nacionais de Desenvolvimento* are to:

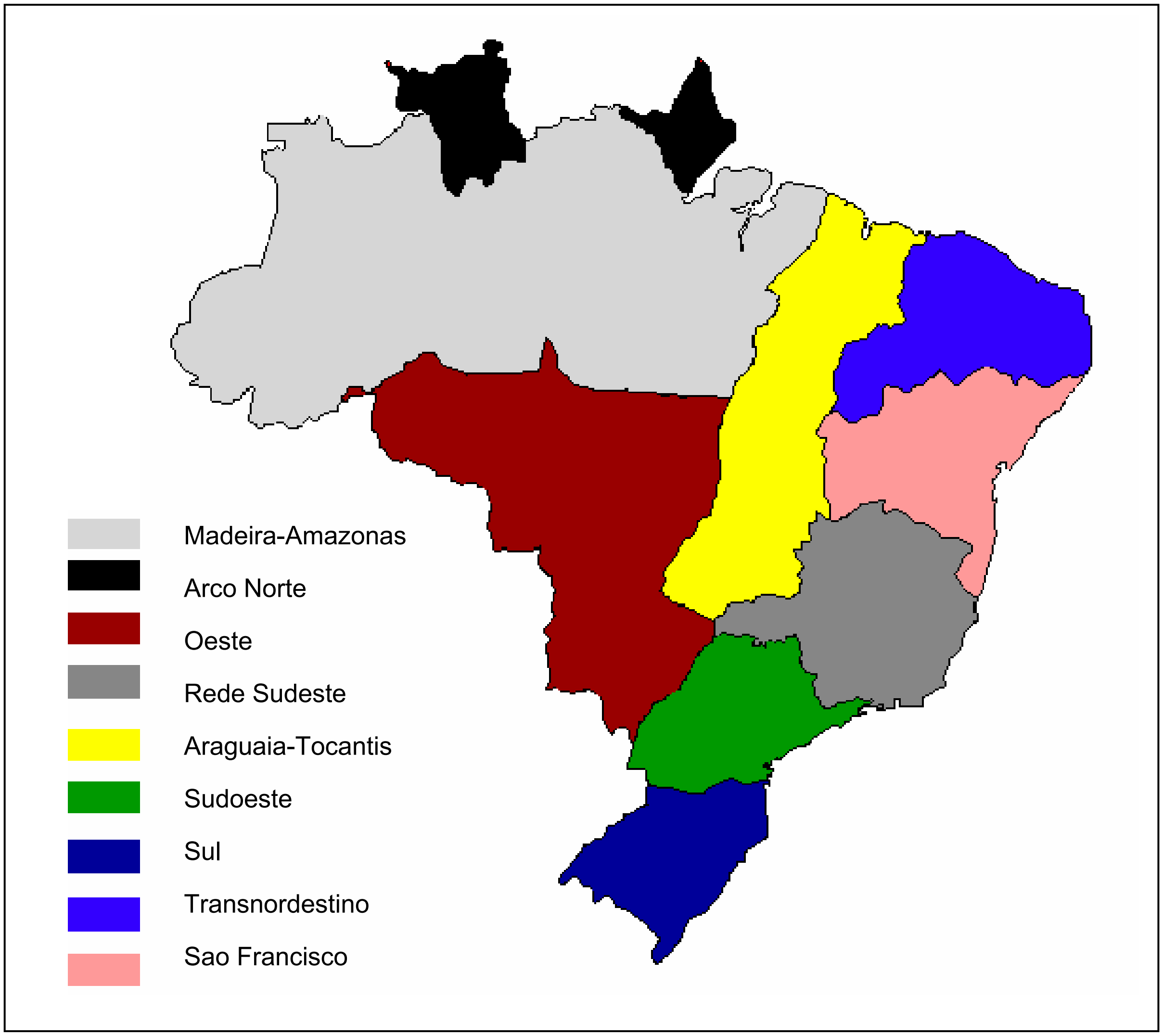
- Promote systemic competition,
- Mobilise the endogenous development potential of the regions,
- Encourage economic and social cohesion,
- Promote sustainable development,
- Encourage continental integration

The programme divides Brazil into nine development areas, *eixos*,[41] which are shown in figure 6.6. Despite the similarity of this territorial classification with the regional one discussed earlier, the main objective of the new classification is to divide the country into areas with similar geographical and socio-economic conditions in order to exploit economies of scale and comparative advantages. The *eixos* (development areas) are, nevertheless, very different in terms of size. For example, *Arco do Norte* with 506.000 habitants has only 0.35 percent of the national population, while *Sudeste* with its 60 million inhabitants has 38 percent of the national population.

Schooling indicators show that *Arco do Norte* and *Madeira Amazonas* are those with the largest educational shortcomings, even if *Oeste*, *Araguaia-Tocantis* and *Sul* also have low rates of schooling. *Rede Sudeste* and *Sudoeste*, on the other hand, are those with the highest educational conditions and coverage.

[41] *Eixos Nacionais de Integração e Desemvolvimento* are formally defined as territorial spaces delimited to planning targets according to socio-economic and environmental dynamics.

Figure 6.6: Areas (*eixos*) for integration and development



Source: Estudo dos Eixos Nacionais de Integração e Desemvolvimento.

Economic activities in the *eixos* show an important agricultural participation in most of the country. Apart from that, there are significant differences. *Arco do Norte* is involved in public sector activities, agriculture and forestry; *Madeira-Amazonas* has its main activity in the *Zona Franca* of Manaus, which is a tax-exempt zone; *Oeste* is dedicated to agricultural and live-stock activities; *Aragua-Tocantis* has soybean production as its main agricultural activity; *Transnordestino* has an important textile sector, as well as significant agricultural foodstuff production; *Sao Francisco* is specialized in the petrochemical industry; *Rede Sudeste* has a strong services sector and an important participation in the chemical industry; *Sudoeste* and *Sul* both have large agricultural and industrial sectors.

The main objective of the new regional development policy is to promote the growth of the individual *eixos* by exploiting their comparative and competitive advantages through making use of their current strengths and developing those potential advantages. For example, *Arco do Norte*, *Madeira-Amazonas*, *Oeste* and *Araguaia-Tocantis*, which all have a strong potential in their agricultural activities, will be better off developing these natural resources. On the other hand, *Transnordestino* and *Sao Francisco* have a promising future in tourism and the petro-chemical industry. *Rede Sudeste* has, with a well educated population, the right environment for research and development, and technology. *Sudoeste* and *Sul* will be able to exploit their high productivity in industrial and agricultural production.

7 Conclusions

If a regional policy is successful it should generate a clear and sustained convergence among the poorer and the richer regions of a country. This has clearly not been the case in any of the economies analysed in this paper. In the European Union the over-all results have been inconclusive, even if some studies have found slow convergence to take place.[42] It is, furthermore, not clear whether the convergence within the European Union is due to a successful regional policy or due to economic integration. In Spain, the results were not very different from the European Union. The over-all results are inconclusive, and no clear convergence has been shown to take place. Italy, on the other hand, produced slightly better results, at least initially. In Italy a significant but limited convergence process existed from the 1950s and up until 1975. Thereafter, regional inequality has increased rather than decreased. In the case of Brazil, the results are similar. The regions of the country show convergence from 1956 to 1965 as well as from 1971 to 1986. In other periods regional inequalities have increased. It is, furthermore, unclear whether the convergence of the Brazilian regions can be attributed to a specific regional policy, or if it is due to other reasons. Even if the results produced in these four cases are relatively poor, one could argue that regional disparities would have been considerably worse without the regional policy initiatives. These policy initiatives have, in many cases, induced growth in the national economy as a whole.

The objective of this paper has been to study a number of cases of regional policy, which we think are of particular relevance to Colombia. The study is the first part of a larger project to develop recommendations for a framework of a regional policy for the country.

The European Union has a well-developed regional policy, and it is one of the most studied cases in the world. The enlargement of the Union has, furthermore, generated an interesting debate and a review of current regional policies. Spain and Italy both have a long history of regional policy, and both countries have had problems with lagging regions. As a Hispanic

[42] See, for example, Baumont, Ertur and le Gallo (2001), and Barro and Sala-i-Martin (1991).

country, Spain has, moreover, many cultural similarities to Colombia. Brazil is the only Latin American country with a well-developed regional policy, and is also the only middle-income country in this study. In this sense it has considerable relevance when studying regional problems in Colombia.

To develop a successful regional policy is, consequently, neither easy nor straightforward. One conclusion that can be drawn is that regional policy grants are better spent on improving education and infrastructure, such as transport, communications, electricity and water, rather than being spent on industry location incentives. The latter may certainly reduce regional disparities, but at a great cost to national growth, since it leads firms to invest where they would normally not invest.

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