SPANISH REGIONAL POLICY: AN ASSESSMENT OF ECONOMIC INCENTIVES DURING THE PERIOD 1988-2003

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ABSTRACT

Two main challenges influence the design of regional policies carried out by European, National and Regional policy makers. The first is the shift towards a knowledge-based economy, where enterprise competitiveness is increasingly linked to intangible assets. The second is the enlargement of the European Union that means important changes in the European Union marketplace and the possibilities of intervention in some less favoured regions. Until today, Regional Policy in many European Union countries has principally been founded on incentives for the creation of employment and investment in tangible assets.

In this context, Spanish Regional Policy has been formulated, on the one hand, to achieve decentralisation of the entities responsible for its promotion and, on the other, to foster co-ordination and integration of Community, National and Autonomous Region interventions. Moreover, the design of this policy has taken into consideration the classical conflict between equity and efficiency.

The objective of this paper is to assess the results and the gradual changes in regional incentive policy applied in Spain over the last 15 years and to identify the elements in which public intervention could be improved in order to adapt this policy to the demands laid out within the new environment previously defined. This assessment includes: firstly, a brief analysis of the evolution of public intervention; secondly, a study of the spatial distribution of the incentives over the period considered; and thirdly, a comparison of the economic performance of the different areas depending on the awards received.

The analysis of this policy is based on a database comprising over 16 000 items referring to award decisions to applications for Regional Investment Grants (Law 50/1985 of 22 December 1985) gathered from the Official State Bulletin (*Boletín Oficial del Estado*, BOE) during the period 1988-2003.

KEY WORDS: Spain, Regional policy, Regional incentive, Employment, Investment, Policy assessment

1. INTRODUCTION

The common internal market, based on the free movement of goods, persons, services and capital, is one of the essential cornerstones of the European Union. The Treaty establishing the European Community (the EC Treaty) includes "*a system ensuring that competition in the internal market is not distorted*" and seeks "*the approximation of the laws of Member States to the extent required for the functioning of the common market*". Following this approach, the EC Treaty stipulates that aid granted by the Member States is incompatible with the common market because such aid distorts competition by favouring certain firms or the production of certain goods.

At the same time, another cornerstone of the Community is economic and social cohesion. It aims to reduce disparities between the levels of development of the richer and poorer regions in Europe. That is why certain kinds of grants are compatible with the common market. The exceptions to the rule focus on:

- Aid to promote the economic development of areas where the standard of living is abnormally low or where there is serious underemployment, and;

- Aid to facilitate the development of certain economic activities or certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest.

These two exceptions directly concern regional aid. In that sense, guidelines on national regional aid establish that regional aid is oriented to specific geographical areas and aims specifically at encouraging the economic development of those areas by providing support for investment and job creation.

Although enlargement, modernisation and diversification of the activities of firms located in these regions is allowed, as well as the establishment of new firms, several aspects question the effectiveness of this instrument.

Firstly, the increasing flexibility of business location fosters regional competence. Regions compete to attract investment offering a wide range of incentives and benefits. This opens a debate as to the relevance of regional aid, among other factors, as relevant variables for business location decision-making. Along these lines, Thomsen and Woolcock (1993) point out that incentives do not represent a determining factor in

business location decision-making since they do not outweigh unstable macroeconomic policies or the lack of skilled labour.

Secondly, although the fundamental objective of incentive policies is to attract investment towards less developed areas, aid will only be able to go where some business activity is already established. In this respect, as Ogando and Rodríguez, (1992) have highlighted, those underdeveloped areas with a consolidated industrial base that are relatively better-off, have been able to take advantage of this instrument.

Along the same line, Argüelles (1997) argues that subjective factors, in the form of subsidies, are more important as location factors than incentives. Together with subjective factors, the industrial tradition of the area in a particular activity or the existence of external economies is emphasised.

Thus, although regional incentives exert a certain influence on business location, they are just one of the variables that can be used by policymakers and their effects should not be overestimated (Martín, 1998). Nevertheless, caution must be exercised in the use of regional incentive policy since any positive effect in the well being of one municipality or region might be obtained at the expense of another. Steps must be taken to ensure that regional aid does not become a zero-sum game. Public policy might prove a waste of resources should the gains obtained by some local firms have a negative repercussion on the activity of others or should incentives be misdirected and not concur with the real necessities of local companies (Chesire and Gordon, 1998).

In this context, the objective of this paper is to assess the effectiveness of regional incentive policy applied in Spain during the period 1988-2001 at a municipal scale. Specifically, the relation between economic growth and the amount of incentives received by each Spanish municipality is analysed, taking into consideration the characteristics of the subsidised projects and the municipalities concerned. One of the main problems faced was the lack of economic information at a local scale. Therefore, it was necessary to create an indicator of the municipal economic situation that could provide a comparison of the economic level of each municipality between 1991 and 2001.

2. THE DESIGN OF REGIONAL INVESTMENT GRANT POLICY IN SPAIN

Regional investment grant policy in Spain has its legal basis in Law 50/1985 of 27 December 1985 on regional incentives for the correction of territorial and economic disparities, Royal Decree of 11 December 1987, and the Royal Decrees of Delimitation for each designated area.

Regional incentive is understood by this law as any financial aid that the State grants to encourage business activity and to steer its location towards a previously determined area in order to reduce economic disparities in the national territory, to obtain a more equitable distribution of economic activity and to reinforce the use of indigenous resources of regions.

A typology of assisted areas has been defined:

- Zones of Economic Promotion (*Zonas de Promoción Económica*, **ZPE**), comprising the less developed regions, defined by their unemployment rate, income per capita and other representative criteria of regional problems. Within this group, there are **preferential** areas (*Zona prioritaria*) depending on their population, industrial space availability and available infrastructure.

- Zones in Industrial Decline (*Zonas Industrializadas en Declive*, **ZID**) that are established in areas affected by important processes of industrial adjustment with repercussions in the economic activity and employment of a specific branch of industry in this area.

- Special Zones (*Zona Especial*, **ZE**) that are created by Government if justified due to special circumstances.

Territories are classified into four types of zones (I, II, III and IV), in agreement with their level of development, based on income per capita and unemployment rate. Award rate cannot surpass 50%, 40%, 30% and 20% of investment[1], respectively. ZPE can only be created in zones I, II and III, although only projects located in the *preferential areas* of the ZPE can be awarded the maximum rate in their categories. In this context, the ZID and the ZE can receive percentages above those indicated for their zone. In

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[1] The calculation of the award rate (net grant-equivalent) includes, in addition to the aid obtained through Law 50 of regional incentives, all other financial aid whatever its nature or source. The calculation of the net grant-equivalent is made according to the procedure decided with the Commission of the European Communities.

exceptional cases, increases in the maximum award rate can even be authorised in zones I and II.

The regional incentive grant scheme promotes a high degree of decentralisation as Autonomous Communities play a relevant role, their competences including the following: Promotion of regional incentives within their territory; Collaboration with the General Board[2] (*Consejo Rector*) in drawing up proposals for the geographic delimitation of the preferential zones under their area of influence; To communicate to the General Board priorities with regard to the determination of eligible activities; To form part of the working party charged with drawing up, by delegation, proposals for concession of regional incentives; Declaration of the fulfilment of conditions and proposal for filing a disciplinary report; Accomplishment of the ordinary pursuit of the granted projects and control over delegated European Union policies; Drawing up a six-monthly report of the development of its projects.

Despite decentralisation, responsibility for award decisions involving investments of over €6.01 million lies with the Government Delegation for Financial Affairs *(Delegada del Gobierno para Asuntos Económicos)[3]*. Decisions are taken based on recommendations from the General Board with regard to awards of over €6.01 million and from a working party *(grupo de trabajo)[4]* in the case of awards of less than €6.01 million. For projects involving investments of less than €450.8 thousand, the Autonomous Community makes the proposal within each working party.

During 1988 and 1989 initial outlining of the eligible zones was implemented. This scheme covered 6,030 municipalities, 95.6% of which were located in the ZPE zones. Ten Autonomous Communities (Asturias, Baleares, Canarias, Cantabria, Ceuta and

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[2]   The General Board is chaired by the Secretary of State for Budget and Expenditure and belongs to the Ministry of Economy and Finance. In addition to making award proposals for large projects, this General Board is also responsible for setting the guidelines for regional incentive policy and for co-ordinating regional and sector policies.

[3]   Formally, responsibility for award decisions for projects involving investments of less than € 6.01 million lies with the Minister of Economy and Finance (*Ministro de Economía y Hacienda*). In practice, however, this responsibility is delegated to the Secretary of State for Budget and Expenditure (*Secretario de Estado de Presupuestos y Gastos*).

[4]   The working party of each Autonomous Community containing assisted comprises the chairman (the assistant director general for regional incentive policy), three representatives from central government administration and three from the Autonomous Community. Central government representatives are from the different ministries involved.

Melilla, Galicia, Castilla y León, Castilla – La Mancha, Extremadura, Murcia) were covered in full; three were partially covered (Aragón, Comunidad Valenciana and País Vasco (The Basque Country)). Four regions were excluded from this scheme (Madrid, Cataluña, La Rioja and Navarra). In terms of population, 60% of the Spanish population lived in these eligible areas and 86.1% of the population of affected Autonomous Communities was covered (in the case of Aragón, Comunidad Valenciana and País Vasco the covered population was 90.7%, 31.4% and 51.5%, respectively).

This situation was the starting point for the successive modifications that altered the map of eligible zones throughout the 1990s. The nationally designated areas in Spain are at present the result of 44 Royal Decrees that, over 15 years of application, have outlined, modified and extended the different zones and their award rates.

However, these modifications have only led to minor changes in the denomination of certain areas. In fact, at the end of this adjustment process, the total number of eligible municipalities had only diminished by 25[5], the total number of eligible municipalities during this period being 6,296. Considering these changes, in 2001, 61.6% of the national population was covered by the regional investment grant scheme.

To sum up, taking into account the typology of assisted areas and the maximum award rate during the life of Law 50, up to 18 different territorial categories (Table 1) may be identified, although some have enjoyed a brief life span. In any case, the wide range of maximum award rates, the initial definition of zones and its subsequent modification, as well as the possible exceptions, lead to a high degree of confusion and complexity in the practical instrumentation of the Law.

Table 1. Territorial categories of the regional incentives between 1988 and 2001

Types of zones	Maximum award (%)						
	20	25	30	40	45	50	75
Special zone (ZE)	X	X	X	X		X	X
Zone in industrial decline (ZID)	X		X		X	X	X
Non-preferential Zone of economic promotion (ZPE)			X	X	X	X	
Preferential Zone of economic promotion (ZPE)			X	X		X	

Source: own source.

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5   The changes have been: All the territory belonging to País Vasco (Basque Country) has lost its right to incentives, the number of eligible municipalities of Aragón was reduced, the eligible territory in the Comunidad Valenciana was enlarged. In addition, all remaining ZID disappeared to become ZPE.

The existence of different zones, with different circumstances and problems, was reflected in the establishment of different objectives, although not in the eligible activities, the eligible project types or the eligible expenditures. The objectives considered in all Royal Decrees of zone delimitation of all the Autonomous Communities are recurrent, although a clear difference can be appreciated between those proposed in the ZID and the ZPE (Table 2).

Table 2. Objectives pursued by Royal Decrees of delimitation of eligible zones

Objectives	Andalucía (ZPE)	Asturias (ZPE)	Canarias (ZPE)	Cantabria (ZPE)	Castilla y León (ZPE)	Castilla La Mancha (ZPE)	Ceuta (ZPE)	Com. Valenciana (ZPE)	Extremadura (ZPE)	Galicia (ZPE)	Aragón (ZPE and ZE)	Asturias (ZID)	Cantabria (ZID)	Extremadura (ZID)	Galicia (ZID)	País Vasco (ZID)
To correct the economic and social disparities caused by industrial decline												X	X	X	X	X
To offset the negative effects of industrial adjustment												X	X	X	X	X
Suitable development of industrial infrastructure, respecting the environment												X	X	X	X	X
To correct economic and social disparities in terms of income and unemployment	X	X	X	X	X	X	X	X	X	X	X					
To promote integration between productive activities	X		X	X	X	X	X	X	X	X	X					
To foster potential endogenous development	X	X	X	X	X	X	X	X	X	X	X					
To enable economic development suitable to the business structure	X	X	X	X		X	X	X	X		X					

Source: own source.

The clear differences in objectives have not been accompanied by similar differences in eligible activities, mainly: Extractive and manufacturing industries, especially those that apply leading edge high-technologies or use alternative energy; Food-processing and fish farming activities; Tourism; Industrial services and services which improve commercial structure. The main difference between the ZID and the ZPE is that in the former, activities related with tourism and services that improve commercial structure are not eligible, laying greater emphasis on labour intensive services[6]. In addition to this ill-defined delimitation of eligible activities, in exceptional cases and subsequent to a previous report from the General Board, the responsible bodies can grant projects that

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[6] In the Canaries, the activities related with desalination facilities and water-treatment plants are eligible and in Ceuta and Extremadura crafts are also eligible activities.

are not included in the mentioned activities, but which clearly contribute to the achievement of a specific objective.

3. THE APPLICATION OF LAW 50/1985 BETWEEN 1988 AND 2001

In order to analyse the effects of the application of Law 50/1985, it has proved necessary to extract and compile all the request resolution orders of projects published in the Official State Bulletin (*Boletín Oficial del Estado*, **BOE**) [7] between 1988 and the end of 2001. As approved projects have been used, it is necessary to bear in mind the delay between the time of the application, publication in the BOE and the final grant concession.

Besides, a definitive grant can be totally or partially paid, there being many reasons that can partially reduce it or even completely cancel it. In order to overcome this problem, all the published resolution orders up to the end of 2003 referring to the projects initially approved have been compiled, as they might have expired, been discontinued, failed to fulfil some of the terms or been modified by the administration.

Among the possible setbacks (Table 3), special note should be taken of the percentage of applications rejected (30.7%) and projects which have not been carried out, 33.6% of the 10,009 initially approved. Projects might have been discontinued, expired or seriously failed to fulfil the stipulated conditions. These setbacks have meant an investment reduction of €7,600 million and represented 58,584 additional employees.

The analysis of the applications per zones (Table 4) shows the enormous project concentration and investment in the ZPE, which is clear given the great extension of territory covered by this type of zones. Moreover, what is striking is the significant difference between the percentage of applications rejected (21%) and failed projects

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[7] The available statistical data suffers from limitations that condition the approach adopted. For example, in the BOE neither the specific sector to which the company belongs nor the type of investment is published. These gaps in information make it difficult to answer questions such as: Do the companies incorporate incentives in their valuations, and if so, to what degree? Why? Is there any firm characteristic, such as size, property or location, that lead to systematic differences in the way in which the firms use the incentives? Do the incentives achieve their immediate objective of inducing companies to make additional capital expenses? Despite this, the data would offer substantial potential were it to be complemented with other sources of existing data.

(those approved that have not been carried out, 27%) of the ZE projects in comparison with projects of other zones.

Table 3. Effects on investment, grant and employment of projects in terms of categories between 1988 and 2001

Setbacks	Number of projects	Investment Associated[1]		Incentive cost[1]		Employment Associated	
		Initial	Final	Initial	Final	Initial	Final
None	5.586	20.008	20.008	2.981	2.981	103.507	103.507
Modified	677	4.478	5.928	1.258	1.254	19.322	16.858
Partial breach	383	1.169	1.162	157	141	6.137	5.905
Total breach	987	2.055	0	346	0	15.069	0
Expired	534	1.087	0	190	0	7.493	0
Discontinued	1.842	4.459	0	770	0	36.022	0
Total granted	10.009	33.256	27.098	5.700	4.376	187.550	126.270
Total rejected	4.444	-	-	-	-	-	-
Total requested	14.453	-	-	-	-	-	-

[1] Figures are in Mio € at 2001 prices.
Source: own source.

Table 4. Projects under Law 50/1985 per zones and Autonomous Communities between 1988 and 2001

	Distribution of requests (%)	Percentage of denied requests	Failed projects / accepted requests	Requests per 10,000 inhabitants[1]	Granted project per 10,000 inhabitants[1]	Distribution of final investment[2] (%)	Distribution of final grant[2] (%)	Distribution of final employment (%)
Types of zones								
ZE	1.9	21.0	27.0			5.7	2.6	2.4
ZID	4.5	31.2	42.1			3.1	5.9	3.2
ZPE (No preferential)	28.5	32.6	34.8			21.9	17.7	21.8
ZPE (preferential)	65.1	30.2	32.7			69.3	73.8	72.6
Autonomous Communities								
Andalucía	26.3	36.0	36.6	5.5	2.2	21.2	20.6	22.6
Aragón	3.2	22.4	34.9	4.3	2.2	6.0	3.2	4.5
Asturias	4.8	33.1	22.0	6.3	3.3	8.1	11.3	4.4
Canarias	4.9	34.9	39.1	4.7	1.9	6.7	5.9	6.6
Cantabria	1.6	26.8	29.0	4.4	2.3	2.3	2.0	2.1
Castilla y León	16.4	30.7	28.6	9.3	4.6	16.0	13.6	23.0
Castilla - La Mancha	9.1	32.7	40.8	7.9	3.1	6.6	5.7	7.3
Ceuta y Melilla	0.2	51.9	46.2	2.2	0.6	0.1	0.1	0.2
Com. Valenciana	7.1	26.3	22.5	8.4	4.8	9.8	5.5	8.3
Extremadura	6.7	21.9	35.4	9.0	4.5	3.6	4.7	4.6
Galicia	13.0	29.1	36.2	6.9	3.1	9.5	12.1	10.2
Murcia	4.3	16.9	35.6	6.0	3.2	9.0	14.1	5.3
País Vasco	2.4	36.2	33.6	3.1	1.3	1.1	1.1	1.0
Total	100.0	30.7	33.6	6.4	6.4	100.0	100.0	100.0

[1] Data of inhabitants from the 1991 Population and Housing Census (*Censo de Población y Vivienda*).
[2] Mio € at 2001 prices.
Source: own source.

Regardless of zones, analysis of the Autonomous Communities shows that they do not behave in a similar way. Andalucía, Castilla y León and Galicia account for 55.8% of aid requests, which means 53.7% of the granted projects, 46.7% of the subsidised investment and 46.4% of the amount granted. This concentration is mainly due to the size of their territories, although in the case of Castilla y León also to the large number of requests. This Community, together with Extremadura and Comunidad Valenciana,

are the regions with the greatest number of requests and subsidised projects carried out, both measured per 10,000 inhabitants.

The analysis of the subsidised project characteristics is a previous requirement to the examination of the degree to which these incentives have achieved their objectives. In this respect, table 5 shows the existence of important differences for the considered characteristics both in terms of zones and Autonomous Communities.

Table 5: Characteristics of projects under Law 50/1985 between 1988 and 2001 per zone and Autonomous Community

	Investment per project[1]	Employment per project	Grant per project[1]	Investment per job[1]	Grant per job[1]	Rate of award (as % of investment)	Percentage points to the maximum rate of award
Type of zone							
ZE	9.86	19.2	720	513	29.9	7.3	18.3
ZID	3.24	15.6	992	208	36.0	30.6	18.4
ZPE (No preferential)	3.28	15.2	428	215	46.7	13.1	30.9
ZPE (preferential)	4.25	20.7	731	205	35.4	17.2	29.4
Autonomous Community							
Andalucía	3.72	18.5	585	201	31.6	15.7	32.9
Aragón	6.87	23.7	594	290	25.1	8.7	17.4
Asturias	6.10	15.4	1.366	397	88.8	22.4	25.1
Canarias	6.52	30.0	924	217	30.8	14.2	33.5
Cantabria	5.09	22.6	746	225	33.0	14.7	20.3
Castilla y León	3.70	24.7	507	150	20.5	13.7	29.7
Castilla - La Mancha	3.43	17.6	474	195	27.0	13.8	32.3
Ceuta y Melilla	3.59	38.7	717	93	18.5	19.9	30.1
Com. Valenciana	4.56	18.1	414	252	22.9	9.1	20.6
Extremadura	2.00	12.0	427	167	35.7	21.4	30.5
Galicia	3.00	15.0	622	200	41.3	20.7	32.2
Murcia	7.27	19.8	1.842	367	93.1	25.3	30.6
País Vasco	2.10	8.5	319	248	37.7	15.2	8.2
Total	4.08	19.0	658	215	34.7	16.1	29.1

[1] Mio € at 2001 prices.
Source: own source.

The project size, measured through the ratio investment per project, is significantly larger in the ZE than in the remaining zones. In terms of Autonomous Communities, the size of subsidised projects in Murcia (€7.27 million) is particularly worthy of note, especially, if compared with Extremadura (€2.00 million), although differences are explicable, partly, by the presence of certain large scale projects[8].

The projects that arise in the preferential ZPE and the ZE generate more employment on average, although the investment necessary to create a job was more than twice that of other zones. In this respect, it must be emphasised that the preferential ZPE, in addition

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[8]　Two projects located in the ZPE of Murcia jointly reached nearly €1,400 million of real investment. In the ZE of Aragón, a project with a real investment above €420 million was carried out. Prominent after these is a project in the ZPE of Asturias with an investment of over €900 million and another in the ZPE of Castilla y León of €475 million.

to being the kind of zone with the most intensive labour projects, have required the least investment per job created. This fact, although reasonable in order to resolve one of the main problems of the ZPE (unemployment), has the disadvantage of creating jobs without sufficient capital endowment. This could lead to a bottleneck of low productivity in relation to the jobs created in other zones and, therefore, an overall viability problem in the medium and long term.

There are also striking differences in the average employment created from a regional perspective, prominent amongst which are the projects located in Ceuta and Melilla and the Canaries compared to those in the Basque Country, Extremadura and Galicia. The project's investment and employment have determined that the greatest investment necessary to create a job was in Asturias (€397 thousand) followed by Murcia (€367 thousand). Both figures contrast with the €93 thousand that needed to be invested in Ceuta and Melilla.

With regard to the average award rate, measured as a percentage of investment, a positive discrimination in favour of the ZID can be seen. The grant for this zone reaches 30.6% whereas in ZE it is four times less (7.3%), in the non-preferential ZPE is less than half (13.1%), the average rate being 16% of investment. In all cases, the differences between the grant percentage obtained and the maximum percentage fixed by the different Royal Decrees of Delimitation of zones are considerable, especially in the ZPE. This confirms the results obtained by other researchers (Fernández et al., 1994; Rodríguez Alba, 1998; Moyano and Ogando, 2003) and raises questions as to the potential influence that incentives exercise as a business location factor.

The disparity in the characteristics of the projects has been confirmed by means of the non-parametric test of Kruskall-Wallis[9]. It is possible to conclude that, in all the variables, either by type of zones or by Autonomous Communities, one of the regions

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[9] Test H of Kruskal-Wallis, or analysis of variance by ranges, takes the sum of the ranges of each sample as the departure point. Calling n the total set of observations and Rij the range assigned to observation i of sample j, H is defined as:

$$H = \frac{12}{n(n+1)} \sum_{j=1}^{J} \frac{\sum_{i}^{n_j} R_{ij}}{n} - 3(n+1)$$

Under the null hypothesis that the J population averages are equal, the statistical H distributes according to the chi-square probability model with J-1 degrees of freedom.

differs from the rest. In addition, to analyse in which characteristic the disparity occurs, the Mann-Whitney test was used, accompanied by the Bonferroni correction to control the rate of error.

Table 6 shows that the project average investment and the award rate are the two differentiating characteristics of the four analysed zones. Both characteristics, together with average project employment, are also the most relevant characteristics when a comparison is made between Autonomous Communities (Table 7).

Table 6: Main differences in the characteristics of projects under Law 50/1985 between types of zones

	ZE	ZID	ZPE (Non-preferential)	ZPE (Preferential)
ZE	-	a, b, f	a, c, f	a, f
ZID		-	a, f	a, b, c, e, f
ZPE (No-preferential)			-	a, b, c, d, f
ZPE (Preferential)				-

(a) Investment per project (Mio € at 2001 prices); (b) Employment per project; (c) Grant per project (Mio € at 2001 prices); (d) Investment per job (Mio € at 2001 prices); (e) Grant per employee (Mio € at 2001 prices); (f) Award Rate (as a % of investment).
Source: own source.

Table 7: Main differences in the characteristics of the projects under Law 50/1985 between Autonomous Communities

Autonomous Communities	Andal.	Aragón	Asturias	Canarias	Cantabria	Castilla y León	Castilla-La Mancha	Ceuta y Melilla	Com. Valenciana	Extremadura	Galicia	Murcia	País Vasco
Andalucía	-												
Aragón	f	-											
Asturias	b	b, f	-										
Canarias	a, c, d, e	c, e, f	a, c	-									
Cantabria	a, b, c	c	a, b, c	e	-								
Castilla y León	d, f	b, f	f	a, c, e	a, b, c	-							
Castilla-La Mancha	No	f	b	a, c, e	a, b, c	f	-						
Ceuta y Melilla	b	No	b	No	No	b	No	-					
Com. Valenciana	a, d, e, f	f	a, e, f	c, e, f	b, c, f	a, e, f	a, e, f	f	-				
Extremadura	a, b, c, d, f	a, b, d, f	a, d, f	a, c, d, e, f	a, b, c, f	a, d, f	a, b, d, f	b	a, d, e, f	-			
Galicia	a, d, f	a, d ,f	a, b, d, f	a, c, d, e, f	a, b, c, f	a, d, f	a, f	b	a, d, e, f	b, f	-		
Murcia	b, f	f	b, d, f	a, b, d, e, f	a, f	b, d, f	b, f	No	a, b, c, d, e, f	a, b, c	a, b, c	-	
País Vasco	a, b, c	a, b, c, e, f	a, c	a, b, c	a, b, c	a, b, c	a, b, c	a, b, c	a, b, c, e, f	d, f	b, c, d, e, f	a, b, c, d, f	-

(a) Investment per project (Mio € at 2001 prices); (b) Employment per project; (c) Grant per project (Mio € at 2001 prices); (d) Investment per job (Mio € at 2001 prices); (e) Grant per job (Mio € at 2001 prices); (f) Award Rate (as a % of investment).
Source: own source.

In particular, the award rate is the most frequent characteristic when comparisons are drawn between projects of Aragón, Castilla y León, Comunidad Valenciana,

Extremadura and Galicia and those of the remaining Autonomous Communities. In the Canaries, the two distinctive characteristics are the grant per job and per project. The subsidy per project is also a specific characteristic in Cantabria and País Vasco. In this latter Community, investment and employment per project acquire relevance.

In any case, a clear trend exists to reduce the award rate over time. Thus, in contrast to an award rate of 26.3% of investment in 1988, the award rate gradually fell to 15% in 1993 and 11.6% in 2001. This trend may be due to a gradual abandoning of this mechanism or to an increase in the number of applications accepted without the budget allocated to these objectives having increased in the same proportion.

4. MUNICIPAL ANALYSIS OF RESULTS

It is clear that a municipal orientation underpins the definition and implementation of the Spanish Regional Investment Grant scheme. This is clearly reflected in the explicit mention made in Law 50/1985 and its Subsidiary Regulation of the aim of "*distributing the economic activities in a more equitable way*" over the various areas and "*reinforcing the potential of endogenous development of the regions*". If, together with these considerations, the specific conditions laid down for those municipalities considered to be priority are taken into account, the municipal approach present both in the definition and application of the law is clearly evident. This inevitably leads to the growth of a region or eligible area being the reflection of the improvements made in the areas and municipalities that make up that region. It should also not be forgotten that agglomeration economies are an essential factor in explaining the business location decision and, therefore, an unquestionable element in any investment decision analysis. These circumstances justify on their own analysing the effects of incentive policy from the perspective of municipal economic development. With this aim in mind, the present section firstly approaches the description of the characteristics of the granted project based on the size of the municipality and subsequently makes a comparative analysis of the relationships between the incentives received by each municipality over the last few years and subsequent improvement in economic development.

In order to evaluate the influence of agglomeration economies, municipalities have been divided into **rural**, **medium size** and **urban**. Within these rural municipalities, further divisions have been made into very small (below 1,000 inhabitants) and small

municipalities (between 1,000 and 10,000 inhabitants). Secondly, the medium size municipalities have been classified into those with a population between 10,000 and 25,000 inhabitants and those with a population between 25,000 and 50,000 inhabitants. The third group comprises those municipalities which might be termed as urban, either as a result of having over 50,000 inhabitants or because they are provincial capitals, despite having a population of less than 50,000 inhabitants[10]. In any case, the low number of medium size and urban municipalities, together with the existence of a high number of very small municipalities (table 8) might create some distortion in the analysis and its conclusions.

Table 8. Number of municipalities under Law 50/1985 between 1988 and 2001

		Less than 1,000	1,000 - 10,000	10,000 - 25,000	25,000 - 50,000	More than 50,000	Capital of Province	Total
Number	Total	3,806	1,988	291	67	35	43	6.,30
	%	61.1	31.9	4.7	1.1	0.6	0.7	100.0
Population	Total	1,249,120	6,258,378	4,443,042	2,191,591	2,886,539	8,305,376	25.334.046
	%	4.9	24.7	17.5	8.7	11.4	32.8	100.0
Average population		328	3,148	15,268	32,710	82,473	193,148	4,066

Source: own source.

Table 9 reflects the obvious fact that incentives can only be granted where they have been previously requested, and these requests come from localities where companies are located, usually, in larger municipalities. Although, the data seems to show dynamism in rural municipalities (below 10,000 inhabitants) from where 40% of applications originate, this is due to the high number of rural municipalities (93% of the total of eligible localities), since less than a third of these have made an application for incentives at least once. In effect, when the number of requests is set alongside the municipality of origin, it is clear that the ratio increases dramatically as the size is greater. This behaviour is similar if subsidised projects are analysed, either in terms of eligible municipalities or granted municipalities (a municipality with at least one granted project).

The greater number of requests and granted projects per 10,000 inhabitants in the smallest municipalities should not lead to the belief that there is greater dynamism in these. This is in fact generally due to the sparse population living in these small localities, and in those small ones receiving incentives, particularly to the high concentration of projects in a limited number of municipalities. Although dynamic

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[10] There are five provincial capitals with less than 50,000 inhabitants with a granted project and 34 granted municipalities with over 50,000 inhabitants.

development is clearly evident in some small rural areas of less than 10,000 inhabitants (Juste, 2001), these are few and are located near to major road infrastructure points or are under the influence of an urban municipality.

Table 9. Projects granted by Law 50/1985 by municipality size between 1988 and 2001

	Less than 1,000	1,000 - 10,000	10,000 - 25,000	25,000 - 50,000	More than 50,000	Capital province	Total
Distribution of requests in terms of municipalities	6.4	35.6	23.3	9.4	8.7	16.6	100.0
Percentage of denied requests (%)	29.6	28.6	29.4	29.5	34.1	36.7	30.7
Percentage of failed projects (%)	26.3	25.4	23.1	22.8	20.6	19.5	23.3
Requests per 10,000 inhabitants	7.4	8.2	7.6	6.2	4.4	2.9	5.7
Projects executed per 10,000 inhabitants	3.3	3.8	3.6	3.0	2.0	1.3	2.6
Projects executed per 10,000 inhabitants (only for granted municipality)	31.4	7.1	4.2	3.4	2.0	1.3	3.3
Requests per eligible municipality	0.2	2.6	11.6	20.3	36.0	55.7	2.3
Projects executed per eligible municipality	0.1	1.2	5.5	9.7	16.3	24.4	1.1
Projects executed per granted municipality	1.5	2.8	6.5	11.2	17.3	24.4	4.4
Distribution of final investment[1] (%)	2.8	30.6	24.6	9.3	9.4	23.3	100.0
Distribution of final grant[1] (%)	2.6	26.8	24.8	8.7	10.7	26.4	100.0
Distribution of final employment (%)	3.3	30.7	20.9	11.4	7.8	25.9	100.0

[1] Mio € at 2001 prices.
Source: own source.

An attempt has been made to compensate the limited dynamic development of rural municipalities with a smaller percentage of rejected requests (28.7%) in comparison to larger municipalities. This greater initial flexibility has been subsequently translated into a greater percentage of failed initiatives (approved projects that for any reason are not executed, 35.8%).

The concentration of requests and granted projects in rural municipalities is not accompanied by a similar concentration in investment, subsidy and employment (Table 10). Considering the project size, measured either in terms of average investment or jobs created per project, a relevant aspect is growth as the municipality is larger. Thus, the investment carried out by provincial capital projects is on average three times that accomplished by the smaller rural municipal projects.

The fact that the large municipalities as a whole have received a greater volume of subsidies than the small ones, despite having a lower number of requests and a smaller volume of investment, might lead to a belief in positive discrimination towards the former group[11]. If the award rate is analysed, it can be seen that the small municipalities

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[11] Nevertheless, the observation of what happened in each Autonomous Community forces us to make certain clarifications on this general appreciation. For example, in Andalucía, Asturias, Galicia and Murcia the large municipalities have percentages of accumulated subsidies higher than their

have been discriminated negatively in comparison to the larger ones. The latter receive a rate of award of 18.3% of investment, higher than the global average of 16.1%.

Table 10. Characteristics of projects under Law 50/1985 between 1988 and 2001 per size of municipality

	Below 1,000	1,000 - 10,000	10,000 - 25,000	25,000 - 50,000	Above 50,000	Provincial capital	Total
Distribution of final investment[1] (%)	2.8	30.6	24.6	9.3	9.4	23.3	100.0
Distribution of final grant[1] (%)	2.6	26.8	24.8	8.7	10.7	26.4	100.0
Distribution of final employment (%)	3.3	30.7	20.9	11.4	7.8	25.9	100.0
Investment per project[2]	1,835.0	4,169.2	3,508.4	3,880.8	4,462.0	6,005.9	4,077.4
Investment per job[2]	179.3	253.2	214.1	175.5	257.4	192.8	214.6
Grant per job[2]	27.7	41.2	30.2	26.5	47.2	35.3	34.7
Employment per project	10.2	16.5	16.4	22.1	17.3	31.2	19.0
Grant per project[2]	283.1	678.8	494.7	586.5	818.3	1.100.3	658.5
Rate of award (as a % of investment)	15.4	16.3	14.1	15.1	18.3	18.3	16.1

[1] at 2001 prices.
[2] Mio € at 2001 prices.
Source: own source.

This fact becomes even more relevant when it is seen that, on average, the investment required to create a job in a small municipality is noticeably smaller than is required in a large one. Hence, since urban municipalities prioritise intensive capital investments and that granted subsidies have been more closely linked to capital investment than to jobs created (or maintained), the grant received for each job created in the rural municipalities is smaller than in the urban areas.

5. EFFECTS OF LAW 50 ON THE DEVELOPMENT OF THE GRANTED MUNICIPALITIES

The characterisation of the granted projects based on the size of the municipality where they are located does not enable us to establish the existence (or absence) of a link between receiving support and the economic development of the municipality. The analysis of this relationship is a more complex task than in the case of regional economic development, due to the lack of an indicator to compare economic growth of a municipality over a period.

As a consequence of the limited availability of homogenous statistical series at a local level, it has been necessary to create a Municipal Economic Index (MEI) as a proxy of the economic situation that allows a comparison between the economic performance of municipalities, enabling us to determine which of them has improved or worsened their

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percentages of accumulated investment (Moyano and Ogando, 2003).

situation. This index makes it possible to relate this municipal development to the number, volume or characteristics of the incentives received under Law 50.

The design of this index is limited due to the low number of existing statistics at a local scale that are homogeneous over the period of time considered in this research and which are able to provide adequate economic meaning. Taking into account these restrictions, the MEI has been calculated for two years, 1991 and 2001, and comprises five variables[12] that reflect the municipal economic situation reasonably well[13]:

- **Land telephone lines per 1,000 inhabitants**: due to the correlation between telephone density and degree of development, this variable is highly indicative of municipal economic capacity.

- **Bank branches per 1,000 inhabitants**: the existence of banks, savings banks and cooperatives of credit branches is closely linked to municipal economic activity.

- **Businesses per 1,000 inhabitants**: the number of wholesale and retail sale premises can be considered a general economic activity indicator. In 1991, the data comes form the number of commercial licenses, whereas in 2001, it is replaced by the number of firms required to pay Business Tax (*Impuesto de Actividades Económicas, IAE*).

- **The activity rate**: the percentage of the population aged 16 and above who supply, or are available to supply, labour for the production of goods and services. It tends to grow in line with economic development.

- **The employment rate**: the percentage of people of working age who have jobs. If a better economic situation is not accompanied by an increase in the employment rate (i.e, a reduction in the unemployment rate), this improvement will be hardly enjoyed by individuals and, therefore, will have little social impact.

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[12]   The statistical source that collects data on the number of telephone lines, bank branches and commercial activity was the Annual Spanish Trade Directory (*Anuario Económico de España*) that is periodically published by *La Caixa* Savings Bank. On the other hand, population, activity and employment rates have been calculated from the Population and Housing Census (*Censo de Población y Vivienda*) drawn up by the National Statistics Institute of Spain (*Instituto Nacional de Estadística*, INE).

[13]   The methodology applied is similar to that used by the United Nations Development Program when drawing up the Human Development Index.

Despite the simplicity of these variables, data is only available for the 2,912 large municipalities (over 1,000 inhabitants). Only 2,188 of them were under Law 50 during the period considered. A priori, this circumstance seems very restrictive, although in truth, despite accounting for 61.1% of all eligible municipalities, it has a limited impact in terms of covered population, executed projects or amount of award, representing only 5%, 6.2% and 2.6% of totals, respectively.

Before the MEI is calculated, an index needs to be created for each of the five variables. To calculate these indices, minimum and maximum values (goalposts) are chosen for each variable. These goalposts are the maximum or minimum values for each variable, considering the 1991 and 2001 data. Thus, the performance of municipality "j" for variable "i" in year 1991 is expressed as a value between 0 and 100 by applying the following general formula:

$$I_{i,j}^{1991} = \frac{\text{value}_i \text{ in municipality}_j \text{ in } 1991 - \text{Minimun}(\min_i^{1991}, \min_i^{2001})}{\text{Maximum}(\max_i^{1991}, \max_i^{2001}) - \text{Minimum}(\min_i^{1991}, \min_i^{2001})} \cdot 100$$

Finally, the MEI in year 1991 is calculated, as a simple average of the five previous indices, and, therefore, its value fluctuates between 0 and 100.

$$MEI_j^{1991} = \frac{\sum_{i=1}^{5} I_i^{1991}}{5}$$

Taking the MEI index in 1991 and 2001, there are several elements that can be analysed to detect and characterise the existence of a relationship between the municipal economic performance and the regional incentive policy. Thus, the following premises are studied:

- Firstly, the patterns of the MEI evolution between 1991-2001 depending whether it is an eligible municipality or has received a grant, taking into consideration the size of the municipality.

- Secondly, a possible relationship between the degree of improvement (or worsening) of the MEI and being a granted municipality of 1,000 inhabitants or more.

- Thirdly, a possible relationship between the degree of improvement (or worsening) of the MEI and being a granted municipality, but only among those

eligible (2,188 municipalities instead of 2,912).

- Fourthly, a possible relation between the change in the MEI of the 1,174 granted municipalities and the number of executed projects, the amount of award received or any other characteristic of the investment carried out.

- Finally, possible similarities among the behaviour pattern of granted municipalities under 10,000 inhabitants grouped by Autonomous Communities.

In order to answer the first question, table 11 shows the MEI growth rate for each type of municipality, classified by size. The data reveals that, in general, the eligible municipalities have improved their situation below the average. Nevertheless, the eligible municipalities without granted projects have improved above the average. In the small and medium eligible municipalities (up to 50,000 inhabitants), those that finally have received some aid have grown to a greater extent than those that were not subsidised. In the urban municipalities (over 50,000 inhabitants) the previous statement is reversed, and in fact the average growth of the subsidised municipalities tends to diminish as their size increases.

Table 11. MEI average changes per type of municipalities over 1,000 inhabitants

Size of Municipality	Eligible municipality	Number of municipalities	Granted municipality		
			Yes	No	Total
Less than 10,000 inhabitants	Yes	1,751	12.1%	11.0%	11.7%
	No	566	-	5.6%	5.6%
	Total	2,317	12.1%	9.5%	10.6%
Between 10,000 and 50,000 inhabitants	Yes	359	11.2%	10.7%	11.1%
	No	121	-	6.2%	6.2%
	Total	480	11.2%	7.6%	9.9%
Over 50,000 inhabitants	Yes	35	9.9%	10.7%	10.0%
	No	28	-	9.4%	9.4%
	Total	63	9.9%	9.5%	9.6%
Provincial capitals	Yes	43	6.8%	-	6.8%
	No	9	-	4.3%	4.3%
	Total	52	6.8%	4.3%	5.5%
All municipalities	Yes	2,188	9.3%	11.0%	9.5%
	No	724	-	6.0%	6.0%
	Total	2,912	9.3%	7.1%	8.2%

Source: own source.

This first approach leads to the second hypothesis, a possible relationship between the degree of improvement (or worsening) of the MEI and being a granted municipality. Table 12 synthesises some contingency tables that answer this question. Taking the average MEI improvement at a national level (8.2%) as a reference, whether a greater or

smaller MEI change is related to obtaining incentives has been analysed using the Goodman and Kruskal Tau Coefficient and through the Uncertainty Coefficient[14].

The calculated significance levels of the contingency tables are below 0.05, except for provincial capitals, reflecting the existence of a relation between both aspects. However, the proximity of both coefficients to zero means that this relation is positive but very small.

Table 12. MEI trends compared with the national average for municipalities over 1,000 inhabitants

Size of municipality	MEI change between 1991 and 2001	Granted municipality		Goodman and Kruskal's Tau[1]	Uncertainty Coefficient[1]
		Yes	No		
Less than 10,000 inhabitants	Negative	70	230	0.005 (0.000)	0.006 (0.000)
	Positive but under the average	214	449		
	Positive and over the average	510	844		
Between 10,000 and 50,000 inhabitants	Negative	20	25	0.021 (0.000)	0.019 (0.000)
	Positive but under the average	91	71		
	Positive and over the average	193	80		
More than 50,000 inhabitants	Negative	0	0	0.107 (0.010)	0.084 (0.008)
	Positive but under the average	17	6		
	Positive and over the average	16	24		
Provincial capitals	Negative	1	1	0.030 (0.221)	0.034 (0.229)
	Positive but under the average	21	6		
	Positive and over the average	21	2		

[1] The figure in brackets is the critical significance level. If it is below 0.05 the null hypothesis of independence can be rejected and, therefore, a relationship among the involved variables can be accepted.
Source: own source.

Thirdly, and in an attempt to make the set of municipalities considered more homogeneous, a possible relationship between the degree of improvement (or worsening) of the MEI and being a granted municipality has been analysed, although only among those that are eligible. Therefore, the MEI has been recalculated for 1991 and 2001 taking the maximum and minimum values of the five variables for the 2,188 eligible municipalities, instead of the 2,912 municipalities with 1,000 inhabitants or more.

Table 13 reflects the association measures that, as in the previous case, have values very close to 0, but now accompanied by higher significance levels (above 0.05). This is why the hypothesis of independence between both variables can be accepted (i.e. there is no

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[14] Both the Goodman and Kruskal Tau Association Measurement and the Uncertainty Coefficient vary between 0 and 1. The closer to 1 the stronger the relationship between variables.

evident relationship between the improvement of the MEI and execution of granted projects).

Table 13. MEI trends compared with the national average for eligible municipalities

Size of municipality	MEI change between 1991 and 2001	Granted municipality		Goodman and Kruskal's Tau[1]	Uncertainty Coefficient[1]
		Yes	No		
Less than 10,000 inhabitants	Negative	70	125	0.001 (0.086)	0.003 (0.011)
	Positive but under the average	274	295		
	Positive and over the average	450	537		
Between 10,000 and 50,000 inhabitants	Negative	21	1	0.005 (0.171)	0.007 (0.106)
	Positive but under the average	119	28		
	Positive and over the average	164	26		
More than 50,000 inhabitants	Negative	0	0	0.064 (0.140)	0.062 (0.082)
	Positive but under the average	18	0		
	Positive and over the average	15	2		
Provincial capitals[2]	Negative	1	-	-	-
	Positive but under the average	31	-		
	Positive and over the average	11	-		

[1] The figure in brackets is the critical significance level. If it is below 0.05 the null hypothesis of independence can be rejected and, therefore, a relationship among the involved variables can be accepted.
[2] It is not possible to calculate the coefficients for provincial capitals since all the potentially eligible capitals have enjoyed some subsidised project.
Source: own source.

Fourthly, after testing the lack of relationship between the municipal economic performance and the condition of being a granted municipality, the progress of the 1,174 granted municipalities is assessed. Thus, we were interested in knowing whether there was a possible relationship between the MEI change of these municipalities and the number of executed projects, the amount of award received or any other characteristic of the investment. As the MEI changes and all the considered characteristics are numerical variables, the Spearman Correlation Coefficient (ρ) and Kendall's Tau-b Coefficient are applied[15].

Overall, the data in table 14 reflect that a clear relationship between the improvement of the municipal situation and the number, the amount of award and the characteristics of the granted projects does not exist. Only in the large municipalities and, specially, in the countryside, is it possible to establish a correlation (significance below 0.05). Nevertheless, due to the low value of both coefficients and their negative sign, it is a very small and inverse relationship.

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[15] Both coefficients of correlation enable us to establish the existence of a linear relation between ordinal variables when normality cannot be assumed in the considered variable. They vary between -1 and 1, being positive if it is a direct relationship and negative if it is an inverse one.

In the case of municipalities of fewer than 10,000 inhabitants, the improvement in the municipal situation tends to be smaller as the total amount of award or the grant per project increases. Similar behaviour can be seen in the total investment carried out, the average investment per project, the total employment created by municipality or the average employment per project.

In the municipalities over 50,000 inhabitants that are not provincial capitals, the inverse relation between municipal improvement and the subsidy or employment per project is quite strong.

Table 14. Correlation Coefficients between the MEI change and the characteristics of the obtained grant by municipal size

Explaining factors	Less than 10,000 inhabitants		Between 10,000 and 50,000 inhabitants		More than 50,000 inhabitants		Provincial capitals	
	Rho (ρ)	Tau-b	Rho (ρ)	Tau-b	Rho (ρ)	Tau-b	Rho (ρ)	Tau-b
Number of granted projects	-0.025	-0.018	0.03	0.023	0.101	0.071	0.143	0.099
	(0.244)	(0.243)	(0.299)	(0.286)	(0.288)	(0.283)	(0.181)	(0.178)
Number of granted projects per 10,000 inhabitants	0.039	0.025	0.015	0.012	0.038	0.029	0.14	0.086
	(0.134)	(0.147)	(0.397)	(0.380)	(0.418)	(0.408)	(0.186)	(0.210)
Grant per municipality	-0.06	-0.041	-0.012	-0.01	-0.17	-0.125	0.058	0.037
	(0.045)	(0.043)	(0.416)	(0.402)	(0.173)	(0.153)	(0.357)	(0.365)
Grant per 10,000 inhabitants	-0.039	-0.026	-0.022	-0.014	-0.169	-0.114	0.074	0.046
	(0.137)	(0.133)	(0.353)	(0.355)	(0.173)	(0.176)	(0.318)	(0.334)
Grant per project	-0.061	-0.041	-0.051	-0.034	-0.314	-0.213	0.036	0.021
	(0.043)	(0.041)	(0.187)	(0.186)	(0.038)	(0.041)	(0.410)	(0.421)
Rate of award	0.029	0.019	0.073	0.05	-0.181	-0.133	0.136	0.105
	(0.206)	(0.215)	(0.103)	(0.096)	(0.156)	(0.139)	(0.191)	(0.160)
Grant per job	0.029	0.02	0.005	0.001	0.003	-0.004	0.039	0.026
	(0.207)	(0.199)	(0.468)	(0.487)	(0.493)	(0.488)	(0.403)	(0.405)
Investment per municipality	-0.067	-0.045	-0.023	-0.015	-0.127	-0.095	0.006	0.001
	(0.029)	(0.028)	(0.346)	(0.348)	(0.240)	(0.219)	(0.484)	(0.496)
Investment per project	-0.071	-0.048	-0.078	-0.053	-0.303	-0.194	0.023	0.008
	(0.023)	(0.022)	(0.089)	(0.085)	(0.044)	(0.057)	(0.442)	(0.471)
Employment per municipality	-0.105	-0.07	-0.019	-0.014	-0.145	-0.07	0.051	0.041
	(0.002)	(0.002)	(0.371)	(0.359)	(0.210)	(0.283)	(0.373)	(0.349)
Investment per job	-0.008	-0.005	-0.057	-0.038	0.073	0.046	-0.085	-0.054
	(0.412)	(0.424)	(0.160)	(0.161)	(0.344)	(0.355)	(0.294)	(0.304)
Job per project	-0.121	-0.082	-0.063	-0.045	-0.598	-0.405	0.021	0.014
	(0.000)	(0.000)	(0.136)	(0.124)	(0.000)	(0.000)	(0.447)	(0.446)

Source: own source.

Finally, another interesting point, related to the previous one, is analysing to what extent the previous relationships follow similar patterns of behaviour if municipalities are grouped by Autonomous Communities, as the regional governments have some influence in the design of the regional inventive policy. In this case, the analysis is limited to 794 municipalities of fewer than 10,000 inhabitants since the other types of municipalities have a very small number of observations. The Spearman correlation coefficient (ρ) is used to find these relationships.

Table 15 reveals that there is no relationship between the application of Law 50 and the economic improvement of the rural municipalities in six Autonomous Communities

(Andalucía, Comunidad Valenciana, Aragón, Cantabria and País Vasco), as the MEI changes do not have not any significant link with any of the twelve variables under consideration. Only Murcia presents a positive and intense correlation between MEI change and five defining variables of its projects, although the small number of municipalities in this region forces us to approach this finding with caution. The development of small municipalities in Castilla y León and Galicia is linked only to a limited extent to the number of projects per 1,000 inhabitants and with the total number of projects carried out, respectively.

Table 15. Spearman Correlation Coefficient between the MEI change and the characteristics of the obtained grants in the rural municipalities by Autonomous Communities

	Andalucía	Castilla y León	Castilla-La Mancha	Galicia	Extremadura	Comunidad Valenciana	Aragón	Cantabria	Canarias	Asturias	Murcia	País Vasco
Number of granted municipalities	174	116	100	98	90	68	40	27	28	20	16	16
Number of granted projects	-0.071 (0.175)	-0.064 (0.248)	-0.086 (0.196)	0.171 (0.046)	-0.130 (0.111)	0.105 (0.195)	-0.259 (0.053)	-0.189 (0.173)	-0.330 (0.043)	-0.218 (0.178)	0.428 (0.049)	0.081 (0.383)
Projects per 10,000 inhabitants	0.019 (0.402)	0.212 (0.011)	-0.087 (0.194)	0.107 (0.148)	0.036 (0.367)	-0.012 (0.462)	0.009 (0.478)	0.156 (0.219)	-0.096 (0.314)	-0.141 (0.277)	0.409 (0.058)	-0.019 (0.472)
Grant per municipality	-0.086 (0.130)	-0.082 (0.192)	-0.206 (0.020)	0.104 (0.155)	-0.053 (0.309)	0.086 (0.241)	-0.111 (0.248)	0.007 (0.486)	-0.425 (0.012)	-0.293 (0.105)	0.495 (0.025)	0.255 (0.171)
Grant per 10,000 inhabitants	-0.046 (0.272)	0.047 (0.310)	-0.202 (0.022)	0.065 (0.261)	-0.012 (0.454)	0.023 (0.427)	0.024 (0.441)	0.135 (0.251)	-0.315 (0.051)	-0.263 (0.132)	0.359 (0.086)	0.078 (0.387)
Grant per project	-0.069 (0.184)	-0.103 (0.136)	-0.211 (0.018)	0.031 (0.381)	0.003 (0.487)	0.098 (0.211)	-0.051 (0.378)	0.056 (0.390)	-0.378 (0.024)	-0.363 (0.058)	0.212 (0.215)	0.336 (0.102)
Rate of award	0.005 (0.473)	-0.037 (0.348)	-0.077 (0.223)	-0.081 (0.215)	0.024 (0.411)	0.075 (0.271)	0.036 (0.413)	0.019 (0.462)	0.330 (0.043)	0.048 (0.421)	-0.485 (0.029)	0.272 (0.154)
Grant per job	-0.083 (0.139)	0.115 (0.110)	-0.014 (0.445)	-0.01 (0.460)	0.103 (0.167)	-0.028 (0.410)	0.022 (0.445)	-0.109 (0.295)	0.019 (0.463)	-0.057 (0.405)	0.053 (0.423)	0.302 (0.128)
Investment per municipality	-0.082 (0.141)	-0.084 (0.185)	-0.214 (0.016)	0.094 (0.178)	-0.06 (0.286)	0.063 (0.305)	-0.086 (0.298)	-0.018 (0.464)	-0.437 (0.010)	-0.317 (0.086)	0.614 (0.006)	0.096 (0.362)
Investment per project	-0.064 (0.202)	-0.081 (0.193)	-0.204 (0.021)	0.045 (0.332)	0.046 (0.334)	0.059 (0.314)	-0.001 (0.498)	0.081 (0.344)	-0.356 (0.032)	-0.38 (0.049)	0.436 (0.046)	0.191 (0.239)
Job per municipality	-0.063 (0.203)	-0.14 (0.067)	-0.247 (0.007)	0.103 (0.155)	-0.19 (0.036)	-0.089 (0.234)	-0.089 (0.292)	0.176 (0.191)	-0.430 (0.011)	-0.397 (0.042)	0.450 (0.040)	0.014 (0.465)
Investment per job	-0.104 (0.086)	0.113 (0.114)	0.016 (0.438)	0.026 (0.399)	0.096 (0.183)	-0.046 (0.355)	-0.059 (0.359)	-0.105 (0.300)	-0.135 (0.247)	-0.064 (0.394)	0.402 (0.061)	0.193 (0.237)
Job per project	-0.035 (0.325)	-0.148 (0.056)	-0.27 (0.003)	0.009 (0.463)	-0.083 (0.22)	-0.135 (0.134)	0.009 (0.479)	0.085 (0.272)	-0.371 (0.026)	-0.435 (0.028)	0.093 (0.366)	0.049 (0.429)

Source: own source.

On the other hand, the small municipalities of Canarias show inverse relationships between the MEI change for six variables and one with a direct relationship. Similarly, three regions (Castilla-La Mancha, Extremadura and Asturias) present some relevant relationships (6, 1 and 2 significant relationships, respectively), although all of them are inverse, which is difficult to explain in clear economic terms.

CONCLUSIONS

The preceding analysis enables us to show that there is no clear relationship between improvement in the municipal economic performance and the possibility of benefiting from or having benefited from regional incentive policy. There is no significant relationship between municipal economic improvement and the number, amount of award or characteristics of the granted projects. It has even been confirmed in rural areas that the improvement in municipal performance tends to be smaller as the total amount of incentives or the rate of award per project increases.

The reasons behind this perceived lack of effectiveness are firstly linked to elements related to the design of the Law and, secondly, to aspects of its implementation and execution. Some of these circumstances have already been highlighted by the Court of Auditors. With regard to design, the following aspects can be mentioned:

- The continuous modifications throughout the 1990s of the eligible areas in terms of their configurations and their rates of award. The wide range of maximum rates of award, typology of assisted areas and types of areas, as well as their subsequent alterations, together with the possible exceptions, has led to a high degree of confusion and complexity in the implementation of the Law.

- The existence of different areas with circumstances, problems and, mainly, with different potentialities for endogenous development, has been reflected in the establishment of different objectives to be achieved. Nevertheless, the disparity of objectives has not been taken into consideration either in eligible area delimitation or in the characteristics of the eligible activities, projects types and expenditures in each of them.

- Incentives have been awarded to municipalities that already had industrial activity, instead of concentrating efforts on the location of firms in municipalities without any industrial activity (a project can be granted if a firm requests it). For that reason, the granted municipalities were those that already had companies located in their area. The less dynamic profile of the rural municipalities in the request for incentives is accompanied by a smaller percentage of rejected requests. Nevertheless, if this has been a deliberate attempt to compensate this deficiency on the part of those responsible for final concession, the strategy has not had the desired effect. In fact, the smaller percentage of applications rejected for rural

municipalities has been translated into a greater percentage of failed projects. Inversely, the percentage of rejected applications is greater in the large municipalities and provincial capitals than in the countryside and the percentage of failed projects is noticeably smaller.

- The high number of approved projects that have not been carried out can partly be explained by the imbalance between the characteristics of eligible projects and the specifics of companies with weak competitive profiles (in theory, the object of this incentive scheme) of the eligible municipalities. These characteristics are in fact more in line with the kind of investment made by large scale productive units. In addition, the latter are more able to deal effectively with the complex administrative machinery required to apply for a subsidy.

The analysis of the execution of Law 50/1985 has highlighted the following circumstances that may in part explain its lack of effectiveness:

- Although a common profile for all the projects cannot be established, with clear differences between zones and Autonomous Communities, some general conclusions may be drawn. Firstly, the size of the projects clearly increases as the population is larger. Secondly, investment associated to provincial capital projects is on average three times larger than the investment of the smaller rural projects. Thirdly, the investment necessary to create a job in the small municipalities is smaller than is required in the large ones. One possible explanation is that the grants have been more connected with investment than the creation or maintenance of employment and in urban municipalities capital-intensive investments are more important. Therefore, the subsidy received per job created in rural municipalities has been smaller than the grant received in urban areas. A possible reason behind these facts is the role played by agglomeration economies.

- In global terms, large municipalities have received a more substantial grant than the small ones, despite having a smaller number of applications and lower investment. The fact that smaller size municipalities have enjoyed a below average rate of award raises the possibility of negative discrimination with regard to larger municipalities.

By way of a conclusion, the preceding results lead us to think that the effectiveness of regional incentive grants analysed has to date proved more than questionable.

Reorientation is therefore necessary to adapt this instrument to the new model of society centred on a knowledge-based economy. This modification is particularly essential under the premise that dynamic rural areas and micro-firms are key factors in sustaining local economies, at a time when the goal of maintaining the rural population is at the top of the political agenda. An integrated approach therefore needs to be adopted to align and co-ordinate different policies (regional promotion, employment, agriculture...) while at the same time pursuing improvement of the existing administration mechanisms. This change of direction must go hand in hand with a redefinition of eligible activities and expenditures, leaving aside traditional activities and focusing incentives on those that create more added value.

REFERENCES

ARGÜELLES VÉLEZ, M. (1997): "La incidencia de los incentivos económicos regionales en la localización empresarial". *Economía Industrial* nº 317.

CHESIRE, P. y GORDON, R. (1998): "Territorial competition: some lessons for policy". *The Annals of Regional Science.* Vol 32, pp. 321-346.

FERNÁNDEZ, J.E.; OGANDO, O.; MIRANDA, B. y MOYANO, P.B. (1994): *"Efectos Regionales de los Incentivos a la Inversión y al Empleo".* Junta de Castilla y León. Consejería de Economía y Hacienda.

JUSTE CARRIÓN, J.J. (2001): "Desarrollo local y mercado global: los sistemas productivos locales y la industria agroalimentaria en Castilla y León". Tesis Doctoral. Departamento de Economía Aplicada. Universidad de Valladolid.

MAASOUMI, E. (1989): "Composite indices of income and other developmental indicators: a general approach". *Research on Economic Inequality,* vol. 1, pp. 269-286.

MARTÍN, R. (1998): "Regional Incentive Spending for European Regions". *Regional Studies,* vol. 32.6. pp. 527-536.

MALUQUER I AMOROS, S. y POVEDA MARTÍNEZ, C. (2000): "La nueva zona de ayudas de Estado con finalidad regional en España". *Boletín Económico de ICE* nº 2661, pp.43-52.

MOYANO, P.B. y OGANDO, O. (2003): "La instrumentación de la política regional española en la última década: el papel de los incentivos económicos a la inversión y al empleo". *Revista de Estudios Regionales,* nº 68, 2ª época, pp. 15-38.

OGANDO, O. y MIRANDA, B. (1994): "Políticas de fomento a la inversión industrial". *Papeles de Economía Española*, nº 14. Serie: Economía de las Comunidades Autónomas: Castilla y León.

OGANDO, O. y RODRÍGUEZ, B. (1992): "Un análisis territorial de las inversiones acogidas a incentivos regionales". *Revista Estudios Territoriales,* nº 38.

OGWAN, T. (1994): "The choice of principle variables for computing the Human Development Index". *World Development,* vol. 22, nº 12. pp. 2011-2014.

RAM, R. (1982): "Composite Indices of Physical Quality of Life, Basics Needs Fulfilment, and Income: A Principal component Representation". *Journal of Development Economics Statistics 6,* pp. 227-247.

RODRÍGUEZ ALBA, J. (1998): "La promoción económica regional: el caso de los incentivos económicos a la inversión y al empleo en Andalucía. Análisis para el período 1988-1995". *Revista de Estudios Regionales* nº 52, pp.77-103.

THOMSEN, S. and WOOLCOCK, S. (1993): *"Direct Investment and European Integration: Competition among firms and Governments".* Frances Pinter/Royal Institute of International Affairs (RIIA), London.

TRIBUNAL DE CUENTAS (2001): "*Informe de Fiscalización de la Ejecución de la Política de Incentivos Regionales a la Localización Industrial regulada por la Ley 50/1985, en el período 1986-1996*". Boletín Oficial del Estado nº 153. 27 de junio de 2001.