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## Sport Policy and Sports Development: Study of Demographic, Organizational, Financial and Political Dimensions to the Local Level in Portugal

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**Abstract:** This research aims to understand the effects of public policies on sports for people in local level, through the study of factors influencing the process of regional sport development in Portugal. The chosen framework presented here considers to several variables such as the demographic dimensions, organizational levels, financial resources, political parties through the number of athletes variable. This applied methodology studies the development of sports for 2000-2009, using spatial econometrics to explain the variables in the database. The results obtained, indicate an increasing number of athletes who were favoured and recruited by sports leaders (sporting director), the expenditure and investment on culture and sport as well as the politics of sports are influenced by prevailing political parties. We conclude that the growth policies for sports should include 1: promote an active demography, 2: prioritize deprived areas, 3: invest in the human factors, 4: increase spending on culture and sport, and 5: preferably choosing a municipal Social Democrat or Independent management team.

**Keywords:** Governance, local government, regional development, sport development, sport management, sport society.

### INTRODUCTION

The quality of life and well-being of the people is the most important purpose of sport development policies. The range of services promoted by several institutions must be people oriented. The social, financial and political reality of sports present a complexity issues that needs a broad but focused vision. This study focused on the analysis of the number of sports athletes at the local level.

The variety of levels within the Portuguese sports system and the various people engaged in the sport inquire a high level of organizations and complementarity skills of the people involved. The practice of sport activities is encouraged through various sub sectors and in different institutional environments, through many sports organizations, addressed to the people.

In Portugal, the state territorial organization, the eighteen districts defined by the five planning regions of continental Portugal and the two autonomous regions (Madeira and Azores). In each region there are local authorities, and especially municipalities, that play a key role in social and sport development. For its proximity positioning with nationals, there is a deep understanding of their wants and needs, they have skills and possible ways to meet them. Thus, it's important to note that the overwhelming majority of studies on this topic have been focusing on the municipal level.

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The role of local authorities reveals a particularly decisive mission in the promotion of sports. This vision justifies the central government cooperates with regional, municipal and local authorities in order to increase sport habits in Portuguese people.

Thus, it is essentially the local government that citizens can claim and benefit the positive effects provided by the sports development, particularly through the action of the administrative regions, municipalities and local councils.

Over the past four decades, the Portuguese municipalities been made public investments in sports, since the recreation aspects and training until the performance and professional aspects, with objectives designed to promote public health, the athletic appreciation and projection outside the county, creating the best conditions for the adoption of active lifestyles and healthy as well as strengthening the competitive level. It's therefore through the binomial municipality/sport that the Portuguese sports system can truly promote sport activities for everyone, given the proximity of nature that is beneficial among the population. The democratic access to sport activities and purposes related to quality of live are central in agenda settings of regional and local authorities in Portugal and in Europe.

In international sports management literature, this term refers mainly to the power structures and decision making of an organization or between organizations in partnership [1]. The governance highlights the needs understood by the government and national federations who interact with various players in sports management. The makers of the sports organizations begin to understand that they cannot intervene effectively without proper coordination with regional and municipal institutions [2].

The process of regional sport development is of special importance. There is a lack of studies of this topic in the existing literature. The role assigned to local authorities is essential for developing the bases of sports. This fact justifies the central government corporations with regional and municipal teams and local traditions in order to increase sports popularity in Portugal.

In this context, it is essential that sports management is conducted by competent professionals in the area, which increasingly comes to pass, as indicated in a study in the UK where the impact of sports policy in sport management exists, such as the recognition professional quality managers of sports [3].

It is true that high performance sports generate substantial funds through sponsorship, television rights, gate receipts, among other sources. However, this is only a small part of the sports universe, and the fundamental objective should focus on increasing number of athletes. Sound financial support will insure that base of sports system will result in more participation and a high level performance. Thus the importance of prioritizing sports investments at regional and municipal level [4].

Also representatives of national authorities concluded on sports policies that without intervention of the authorities in sports development because they contribute to increase of number of athletes [5]. Indeed, the contribution of local government has a great relevance in the regional development of the sport, as a regulator and should play active role in sports regional policies.

The process of sport development should result the survey and analysis of multiple factors and indicators where the municipalities assume a key role in this action [6].

The availability of funds from the budget for the sports regional development is an important step towards rebalancing the fair and rational distribution of public funding for sport. These measures will reorder the power structure of municipal authorities who administer the sport, help reduce geographic disparities experienced daily by local sports agents.

The development of sports should occupy a central position in public policies. Most recent literature concerns the treatment of sports development policies placing great importance in the analysis of regional, national, european politics. In these studies [7 - 13], sports policies are viewed in a close relationship with a particular political ideology, based on a complex system of alliances and political arrangements.

There are a multiplicity of international conceptualizations of sports, but Portugal does not have a national conception of sports. Portugal policies are less strategic, less institutional, less ideological but more pragmatic, more reactive and more ad-hoc. Therefore, in order to understand specifically the phenomenon under study, it is essential to use tools that are more oriented to policies "implementation process" in complement with "agenda setting" policies.

This approach helps highlight the sports policies of politicians whose aim is managing their patronage relationships as self-preservation [14 - 16].

Houlihan and White [17] highlight the role of local authorities in the UK, as key partners. The same authors observed that, in addition to contributing to the development of the sports system, local authorities realized and began using sport as an important tool to achieve the overall objectives of welfare policy. Thus, sport policies of local authorities may be understood as an essential means to promote social inclusion and coordinate the efforts of other partners, such as clubs, associations and sport agents.

According to Numerato [18], in a paper published in the Czech Republic, he showed evidence that the processes associated with the sports, especially at the local level of decision, mainly pursue personal goals for policy makers of the future, to the detriment of the development of sport regional or well-being of communities.

In contrast to the latter example, several cities in more developed countries in Europe use sport as a means of economic revitalization, as revealed by a study from the University of Sheffield, this being a model city. In Spain, according to [19 - 21], the local organizations offering sports facilities and sport services, as municipal sports services, are particularly susceptible to improvements for several reasons: the current role played by sports as a public service [19 - 22], their structure as organizations directly providing services to the public [20]; and finally, although with different goals, the services offered are directly comparable to those of the private sector [22]. The main problem identified by this author was the poor quality the information related to the consumption and allocation of resources to the sport development.

Some authors have pointed out that the availability of resources cannot be an indicator of their use. For example, Giles-Corti and Donovan [23] found higher spatial access to recreational facilities in disadvantaged than in advantaged areas, but residents in disadvantaged areas were less likely to use many recreational facilities compared with those living in advantaged areas. On the other hand, several investigations have concluded that availability of sports installations aren't associated with the practice of physical activity [24 - 26]. For Pascual [27] the physical inactivity is not explained by individual socioeconomic characteristics or the number of sports facilities.

Moreover, Davies [28] is reveal that the externalities of sports on the regional economy, have a salutary effect in lower of rates of unemployment, reducing health costs, reduce crime and vandalism. Also the London study authors Houlihan, Bloyce, and Smith corroborate this perspective and conclude on the agenda of sports regional policies. They find that sports can be a tool the various social problems. The goals of regional economic regeneration lie in the development of sports, the added benefit of a vigorous local sports program is the reduction of socially undesirable behavior [29].

In support, a study in Taiwan shows that the sports have been a means to promote health, diplomacy and modernization. It advocates a strong link between sports figures and key regional political forces to improve the level of sport. To Tan and Cheng [30] the success of elite sports promotes the increase in sporting activity in the region and simultaneously enhances the public image of sports regional policies, both nationally and internationally.

Local authorities, particularly local councils, play an essential role in social and sporting development. They contribute to increase of the number of athletes. Their closeness of understanding of the meets and desires of the people helps then to create programs that meet excellent achievements in sport.

Thus, it is interesting to highlight the overwhelming majority of studies on this topic have focused on the municipal level and not at the regional level of sports. These studies give special attention to the potential and usefulness of norms that regulate the sport and reinforce the role of municipalities. To that extent municipalities constitute themselves as privileged centers of global social development.

Although there are a multiplicity of interventions in the national sports system, our study focus on the regional development components of the sport, in order to better understand how the sports can reach more people.

This study aims to understand the factors that influence the process of regional sports development, listing thirteen variables such as the demographic dimensions, organizational levels, financial factors, political aspects and dimensions of the sport. In this study, the level of sport development is measured relationship to the number of athletes.

## **METHOD**

This article analyzes the regional sports development in Portugal. All variables were analyzed relative to territorial criteria, with the eighteen districts (defined by the five planning regions of continental Portugal), taken into consideration. This study covered the entirety of Portugal with 278 municipalities.

Considering the scientific approach in developing sports regional and taking into account the scarce literature, it is unclear which factors influence sports development in the territory and the consequential impact on the number of athletes. However we found the interest results in this study that explains the relationship between the management team municipal with the increase of number of athletes.

We used a regression model of spatial econometrics, which employed the spatial relationships of the different variables for see the estimation of the sport development. In this study we used various spatial econometric models and a database for each district, into panel data, for the years of 2000-2009.

First we considered the spatial arrangement of each district in the sample, for each spatial location - location (1). Consequently, we tested empirically the presence of spatial autocorrelation, using the test of Moran's I [31].

$$I = \frac{n \sum_i \sum_{j \neq i} w_{ij} (y_i - \bar{Y})(y_j - \bar{Y})}{\sum_i \sum_{j \neq i} w_{ij} (y_i - \bar{Y})^2} \quad (1)$$

Then the OLS (ordinary least squares) classic regression model disregards any heterogeneity and spatial autocorrelations. This assumes independence between the explanatory variables of the form:

$$y = X \beta + \varepsilon \quad (2)$$

Then, in the context of spatial econometrics, we used the three most important spatial models [32 - 35]. The SAR model (spatial lag autocorrelation model) allows the presence of autocorrelation between variables by relaxing the assumption of independence between them, with the introduction of the array of locations ( $W$ ), using the following functional form:

$$y = \rho W y + X \beta + \varepsilon \quad (3)$$

Then we used the SEM model (spatial error model), where the occurrence of autocorrelation between the error terms is taken into account to thereby weaken the hypothesis of absence of autocorrelation between the variables (random disturbance). Thus we used the spatial matrix ( $W$ ):

$$\begin{aligned} y &= X \beta + \mu \\ \mu &= \lambda W \mu + \varphi \end{aligned} \quad (4)$$

Finally, we used a mixture of the latter two models shown, which simultaneously considers the possibility that the spatial factors result the autocorrelation between variables, as well as the autocorrelation between random errors. Thus, we used the SAC model (spatial autocorrelation lag and spatial error model), shown in the following matrix:

$$\begin{aligned} y &= \rho W y + X \beta + \mu \\ Y_{it} &= \rho W_{it} Y_{it} + X_{it} \beta + \mu_{it} \end{aligned} \quad (5)$$

To explain,  $y$  is the vector of observations of the dependent variable,  $X$  is the matrix of explanatory variables,  $\beta$  refers to the vector of coefficients of the model,  $\varepsilon$  sets the vector of random disturbances,  $W$  characterizes the array of weights - the spatial matrix,  $\rho$  describes the spatial correlation coefficient with respect to  $y$ ,  $\lambda$  expresses the spatial correlation coefficient with respect to  $\varepsilon$ ,  $\mu$  exposes the vector of random errors (auto correlated),  $\varphi$  is the vector of random noise,  $i$  represents the district,  $t$  represents the year.

## RESULTS

The results are based on research according to econometric models properly used. Concerning Moran's I test aims to investigate empirically the presence of spatial autocorrelation of variables, as shown in Table 1. The results attest to the presence of spatial autocorrelation, not only in the dependent variable, but also in most of the regressors.

**Table 1. Statistics of moran's I.**

Nobs	Variables	I	Z statistic	p value
	Constant	-0.032	-4.706	0.000
Demographic				
1	Population density	0,001	1,115	0,132
2	Area demographic	-0.011	-1.120	0,131
3	Birth	0,063	11,798	0,000
4	Mortality	0,114	20,711	0,000
5	Crime	0,037	7,397	0,000
6	Child mortality	-0.007	-0.270	0.393
Organizations and Agents				
1	Sport clubs	-0,014	1,617	0,053
2	Coaches	-0,009	-0,785	0,216
3	Referees	0,014	3,303	0,000
4	Sport director	0,005	1,807	0,035
Spending and Investment				
5	Sports facilities	-0,012	-1,215	0,112
6	Capital spending	0,017	4,000	0,000
7	Current spending	-0,024	-3,293	0,000
8	Culture and sport spending	-0,006	-0,235	0,407
Sports Policy				
9	Socialist party	-0,03	-4,413	0,000
10	Social-democratic party	0,099	18,161	0,000
11	Communist party	0,195	35,057	0,000
12	Catholic Democratic party	-0,044	-6,978	0,000
13	Independent group	-0,008	-0,594	0,276

Note: boldface, the coefficients statistically different from zero.

The results of the econometric models give us expected conclusion. The SAR model nonetheless was the one best suited to the available data because it has the lowest *log likelihood*. The results are shown below in Table 2.

**Table 2. Results of the estimation of econometric models.**

Nobs	Variables	OLS	SEM	SAR	SAC
	Constant	<b>-8998,644</b>	<b>-30346,320</b>	<b>37757,260</b>	<b>3496,734</b>
		<b>(-0,80)</b>	<b>(-2,57)</b>	<b>(2,59)</b>	<b>(0,23)</b>
Demographic					
		49.494	40.923	52.690	55.328
		(8.65)	7.41	(10.21)	(8.30)
		0,007	0,003	0,005	0,007
		(2.73)	(1.08)	(2.24)	(3.01)
1	Population density				
2	Area demographic	548.637	1148.568	451.741	150.535
3	Birth	(0.84)	(1.81)	(0.77)	(0.23)
4	Mortality	1330.747	1847.187	507.889	829.569
5	Crime	(3.79)	(5.07)	(1.40)	(1.80)
6	Child mortality	184.417	142.218	128.799	212.209
		(1.62)	(1.33)	(1.25)	(1.91)
		-272.291	-238.851	-310.774	-277.792
		(-4.50)	(-4.33)	(-5.68)	(-4.69)
Organizations and Agents					
1	Sport clubs	-1,839	-1,025	-2,014	-1,948
		(-1,28)	(-0,82)	(-1,57)	(-1,49)
2	Coaches	0,874	5,994	0,954	0,458
		(0,32)	(2,22)	(0,39)	(0,18)
3	Referees	-1,333	-4,967	-1,304	-0,031
		(-0,28)	(-1,12)	(-0,31)	(-0,01)
4	Sport director	2,894	0,940	2,822	2,529
		(2,82)	(0,93)	(3,08)	(2,63)
Spending and Investment					

(Table 4) contd....

Nobs	Variables	OLS	SEM	SAR	SAC
5	Sports facilities	<b>-12,461</b>	<b>-6,561</b>	<b>-12,999</b>	<b>-12,496</b>
		<b>(-4,1)</b>	<b>(-1,85)</b>	<b>(-4,78)</b>	<b>(-3,97)</b>
6	Capital spending	<b>-0,174</b>	<b>0,218</b>	<b>-0,165</b>	<b>-0,165</b>
		<b>(-2,01)</b>	<b>(2,85)</b>	<b>(-2,13)</b>	<b>(-2,03)</b>
7	Current spending	-0,102	0,041	-0,020	-0,062
		<b>(-0,49)</b>	<b>(-0,22)</b>	<b>(-0,11)</b>	<b>(-0,31)</b>
8	Culture and sport spending	<b>0,115</b>	<b>0,096</b>	<b>0,096</b>	<b>0,099</b>
		<b>(2,45)</b>	<b>(2,31)</b>	<b>(2,28)</b>	<b>(2,31)</b>
	Constant	<b>-8998,644</b>	<b>-30346,320</b>	<b>37757,260</b>	<b>3496,734</b>
		<b>(-0,80)</b>	<b>(-2,57)</b>	<b>(2,59)</b>	<b>(0,23)</b>
Sport Policy					
9	Socialist party	45,604	152,402	114,425	-16,517
		<b>(0,63)</b>	<b>(1,53)</b>	<b>(1,73)</b>	<b>(-0,22)</b>
10	Social-democratic party	<b>248,015</b>	<b>267,340</b>	<b>189,760</b>	<b>265,921</b>
		<b>(4,32)</b>	<b>(4,05)</b>	<b>(3,58)</b>	<b>(3,72)</b>
11	Communist party	-124,933	-23,738	<b>-200,873</b>	-131,998
		<b>(-1,56)</b>	<b>(-0,30)</b>	<b>(-2,72)</b>	<b>(-1,31)</b>
12	Catholic Democratic party	-334,988	-131,340	<b>-654,104</b>	<b>-595,202</b>
		<b>(-1,38)</b>	<b>(-0,51)</b>	<b>(-2,87)</b>	<b>(-2,41)</b>
13	Independent group	<b>632,017</b>	<b>677,468</b>	<b>377,120</b>	<b>567,784</b>
		<b>(2,57)</b>	<b>(2,79)</b>	<b>(1,66)</b>	<b>(2,31)</b>
Global Measures of Model Fit					
	R <sup>2</sup>	0,869			
	Log Likelihood		-2018,296	-2015,096	-2022,068
	Spatial error effect (Lambda)		<b>-3,143</b>		<b>0,524</b>
			<b>(-9,52)</b>		<b>(-2,69)</b>
	Spatial lag (Rho)			<b>-1,198</b>	<b>-0,293</b>
				<b>(-4,46)</b>	<b>(-2,51)</b>
	Observations	200	200	200	200

Note: z statistics in parentheses. The bold have statistically different coefficients from zero to a nominal significance level of 5%.

Thus, a panel database was used with the 20 existing areas of the country, 18 districts on the mainland and two autonomous regions, for the years 2000 to 2009, resulting in a total of 200 observations (20 units \* 10 years).

The fewer coefficients that the SEM uses yields statistically significant results. In a way, this case corroborates the idea that the SAC was one that showed less quality to the data. However, both the *lambda* as the *rho* in the SAC are statistically very significant, the same phenomenon is happening, respectively, to the parameters of the SEM (*lambda*) and SAR (*rho*), when considered individually. Strictly speaking, we found unanimity as to the relevance of spatial models against the alternative OLS in all test statistics.

However, it is considered relevant to mention that, purposefully, not by scientific candor, if adopted here, a linear modeling of the variables, a lin - lin relationship. In principle, we could have used the logarithmized dependent variable but this would cause a percentage interpretation of partial coefficients and smaller effects. However, for this option we also tested led to a lower overall quality of the fit of the model. This occurrence may be explained by the fact that, if dependent variable is logarithmized, the range amplitude of variability of the values assumed is very small - less than two. This point of view can also be generalized in relation to the explanatory variables. Ultimately, we can't forget that a smaller range variability of the values taken by the explanatory variables leads to imprecise coefficients.

## DISCUSSION

The social and demographic point of view, it's important to note that the crime rate and the death rate showed a strong positive causal relationship with the number of athletes, unlike the infant mortality rate.

This time, we believe it is important to note that, according to our estimates, the major determinants of the number of athletes across national districts are affected by capital spending and spending on culture and sports. We found that the relationship between capital spending and the number of athlete was in an inverse relationship. The capital spending contributes to decrease to the number of athletes and the spending on culture and sports contributes to the opposite. It

should be noted that current expenditures (that change from one year to another) don't influence the number of athletes.

We can also conclude that the investment in the number of sports facilities do not contribute to an increase in the number of athletes. In this fact, we can consider that there are useless and attractiveness sports facilities in Portugal.

From another perspective, we call attention to the fact that there is empirical evidence showing that a greater number of sport directors positively influence the rise in the number of athletes, but the number of clubs, coaches and referees does not affect the increase the number of athletes.

Some of these results are intuitive, but others are not. If the increase in number of clubs do not cause the increase in the number of athletes, may mean that clubs don't attract more athletes and they are small clubs participating in sports competitions low income.

Also the number of coaches doesn't contribute to the increase in the number of athletes. This happens because of two reasons. First, coaches finish their coach's courses and they abandon their sport. And second, the technical staff reinforces the number of "assistant coaches" without direct impact on increasing the number of athletes.

Regarding the sports facilities number and capital expenditures that contribute to reducing in the number of athletes, part of it may be lost on ineffective or wrong investments. One part corresponding the useless equipment for the sport development. The other part, in theory, is due to reasons of ethics that require further supervision review.

Conclusively, from the perspective of sports policy, it should be remembered that the PSD (Social Democratic Party) is the political party that has built a stronger record of success in increasing the number of municipal councilors and the number of athletes, although it is surpassed by the Independent Party. On the opposite side are the councilors of CDS-PP (Catholic Democratic Party). We have found that when in office, their policies do not contribute to increase the total number of athletes.

## **CONCLUSION**

This study provides conclusions about the dimensions and variables that favorably influence the increasing of number of athletes. Analyzing the results, we conclude that the increased number of athletes is positively influenced by certain conditions, including: 1: an increase in population density, 2: a higher dimension of territorial area, 3: a high death rate; 4: a high crime rate, 5: increased of sports leaders (executive board encouraged), 6: increased spending on culture and sport, and 7: a present management team municipal (Social-democratic or Independent group).

In this study, there are critical points and some variables that do not explain intuitively the influence on the level of number of athletes. Interestingly, it is important to note that the variables such as the institutional organic of sport (number of sport clubs) and the human component (coaches and referees/judges), weren't able to present statistical evidence that explain the increase in the number of athletes. The increase in the number of clubs don't cause the natural increase of athletes as created additional clubs, this means that the clubs don't attract athletes. The investment in capital spending and the number of sports facilities do not contribute to overall growth of athletic or the continuation of the sport. Some specialize equipment is useless for the development of the sport. Political parties are also available. Because of doctrinal reasons Social-democratic and Independent groups favour the growth of this sport more than others parties.

We conclude that when Social-democratic and Independent groups are present in office, they encourage the growth of sports more than "central block" (other political parties) which discourages the growth of the sport.

The results obtained as well as the sport social value are quite encouraging. The number of athletes increases in areas with higher crime rates. However, the results seem to suggest that the sport clubs is associate with suburban territories and populations with disadvantaged socioeconomic level. In these territory areas, there are a lot of young people to have temporal availability conditions and lower pay for undertake costly activities of leisure time.

In these terms, sports are an important solution with a lot of advantages. This interesting result recommends further studies on strategic importance of implementing sport programs and talent promoting identification in these local contexts, taking into account the national interest and the future of the Portuguese sports.

Although there are multiple investments in the national sports system, this study analyzed the component of sport development in order to better understand how sports can reach people in Portugal. This study examined to truly parameters in great detail. It's important to note that the increase in the number of athletes in a certain region contributes to the development of sport in this region. Both in Portugal and some European countries, we found a lack of studies

documenting the treatment of regional sports by national government. More research is absolutely necessary to analyze the regional sports development using spatial econometric models.

### CONFLICT OF INTEREST

The authors confirm that this article content has no conflict of interest.

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