

Session: **Local and global sport governance I.**
Abstract nr: **EASM-0014**

The Non Linear Relationship Between Number of Clubs and Sport Practitioners

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Background:

The importance of clubs that advance the sport of persons can be particularly important in countries with low propensity of people to the sport activities, as is the case of Portugal. Indeed, Portuguese clubs have received multiple financial supports, yet it is one of the countries with the lowest rate of activity sports in Europe. It is therefore important to study what kind of relationship between the number of clubs in Portugal and the number of sport practitioners. Although several studies (Skinner, Zakus & Cowell, 2008; Rouse, 2008, Hickey, Kelly, Comack, Harrison & Lindsay, 2009; Grixis, 2009) have identified the importance of clubs for the development of the regions where they fit, in any study we analyzed what kind of relationship between number of clubs and sport practitioners.

Objectives:

What is the relationship between the number of sports clubs and number of sport practitioners in Portugal?

We presume each sport club typically starts within a bounded neighborhood or residential city environment involving a certain social capital in it; therefore each sport club is able to attract a certain level of members. It is then reasonable to think that the more clubs the more practitioners we will have. Moreover, it is needed a certain number of sports clubs to organize a relevant competition.

Children look for fun in extra - curricular activities. Clubs are the natural environment to organise several of these extra - curricular activities, sports included. As well as being fun sports also teach them valuable life skills such as: leadership skills, working within a team, compete, win and lose and important communication skills.

Although a number of private clubs also cooperate and build their own facilities, in Portugal, local authorities are the administrative level in charge to build them for the whole community. Building facilities is usually a measure to evaluate the political work; therefore a number of mayor's order to build sports facilities even without considering the number of potential practitioners. The rank of per capita expenses in sports facilities reveal a complete distortion with the population needs.

Studies of the relationship between the number of clubs and sport practitioners seem to be absent from the literature. The main objective was to study the relationship between the number of clubs

and sport practitioners in Portugal. In addition, considering the high investment by local government in sports, we investigated if local government capital and current expenditures contributed to the number of sport practitioners in geographical regions.

Methods:

We consider the available data for 18 Portuguese sub-regions for the period 2002 to 2007. As dependent variable we use the number of sport practitioners per capita, and as the main independent variable, the number of clubs per capita. With the double aim of testing the robustness of the relationship between them, and simultaneously enhancing the empirical analysis, we also use as independent variables expenditure per capita on games and sport by local government: 1) capital expenditure and 2) current expenditure.

The method is that of panel data models, estimating the empirical relationships through: 1) OLS (ordinary least squares) regressions; 2) random effect panel models; and 3) fixed effect panel models. To determine the most appropriate estimating method each of the regressions, we use the LM and Hausman tests.

Results:

The empirical evidence indicates that the relationship between the number of clubs and number of sport practitioners is non-linear. However, estimating a quadratic relationship between the number of clubs and number of sport practitioners, considering, or not, the other independent variables, we find a statistically significant relationship in the form of an upturned U. This result allows us to conclude that, up to a certain number of clubs, the relationship between number of clubs and number of sport practitioners is positive; being negative beyond that number of clubs. A very interesting fact concerning the study of local sport governance was the empirical evidence showing that: 1) capital expenditure on games and sport by local government does not influence the number of sport practitioners; and 2) it is current expenditure per capita on games and sport by local government that contributes positively to increasing the number of sport practitioners.

Conclusion/Application to Practice:

The results reveal new and relevant empirical evidence and therefore open a different perspective on the direction that should be given to global and local policies for sport, particularly as to the effects they can have on job creation. Indeed, the existence of non-linear relationship between the variables allows us to conclude that the number of clubs only contributes to increasing the number of sport practitioners in Portugal up to a certain limit, having a marginally negative effect when the number of clubs is very high. This means that a greater number of clubs does not necessarily contribute positively to increasing sport practitioners in Portugal. Besides, we find

that only current expenditure by local government (and not capital expenditure) contributes to increasing the number of sport practitioners in Portugal.

Overall, the empirical evidence lets us provide the following practical applications for sport public policy: 1) low rate of sport practitioners in Portugal is not necessarily a consequence of the shortage of clubs. Only regions with a low number of clubs should receive financial incentives to creating new clubs; and 2) the problem with Portuguese clubs will not be the shortage of capital infrastructure in sports, but rather the difficulty of financing current expenditure (maintenance of infrastructure, travel, staff qualification among others). These conclusions raise a new discussion on the local sport policies, going against the recent past practice.