



MEASURING EFFICIENCY AND SUSTAINABLE GROWTH IN SPANISH FOOTBALL TEAMS

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INTRODUCTION

For a long time now professional football clubs have been deemed to be a special business, because of the need to attain two different objectives together, namely, success on the field and success in business performance.

In this sense, business success is likely to generate on-field success as the ability to purchase talented players increases, to contract the best trainers that outline the most advanced sport strategies, etc. To achieve these goals, clubs must organize their resources and adapt their financial structure to be able to attain acceptable efficiency levels as well as an adequate sustainable growth.

Only two decades ago the Spanish Sports Law (1990) came into effect to bring about a substantial change in professional football. Prior to this, clubs were non-profit institutions. Thereafter Spanish football was divided into two groups: professional and amateur football teams. Moreover, the Decree of 1991 (15 July) meant that professional football teams were obliged to become sports stock companies, with the exception of four clubs: Real Madrid CF, FC Barcelona, Athletic de Bilbao and Osasuna de Pamplona.

Within this framework, the professional football team managers have to be capable of applying managerial practice because professional football clubs are real businesses, although they are always subject to special circumstances of success on the field. For this reason, recent economic research into this sector is gaining increasing importance (Guzmán and Morrow, 2007).

METHODOLOGY

Initially this paper aims to assess efficiency measurements on the teams in the Spanish Football League (First Division), one of the most important professional tournaments in Europe and possibly the world. Different approaches could be applied to obtain efficiency measurements. In this sense, we have preferred to calculate the production frontier by using data envelopment analysis (DEA), because this technique allows performance scores to be attained without the need to specify a production function. Thus, DEA is able to calculate an efficiency frontier with the efficient teams with respect to the assessed sample, it being possible to know the deviations from that frontier for the inefficient teams. This information allows the correct measures to be identified so that the inefficient clubs can reach the efficiency frontier.

Following this, a Malmquist productivity index study was carried out on the productivity of the teams in the sample. This model defined the distance functions and evaluated them with respect to the observed data combinations. Rather than specifying a particular production function, it constructed the underlying technology frontier, based on DEA and therefore did not assume any functional form of the reference technology.

A third stage involved the examination of the relationship between the previously calculated efficiency measurements and the sustainable growth, defined according to Higgins sustainable growth model (Guzmán, 2006).

DATA AND VARIABLES

The empirical study was carried out using data of three seasons, from 2000_1 to 2002_3, taking only the clubs that played in seasons mentioned.

To apply the DEA as a performance measure, it is necessary to build a model by selecting the different output and input variables. The inputs selected are two main expenses of football clubs obtained from the profit and loss account of the financial statements. The first input is staff costs, which includes all those employed in the football business. It is clear that the wages of players, managers and trainers are the most important with regard to the total staff cost. Having said that, the total wages and salaries of the remaining employees is no less important, considering that the aim is to calculate team efficiency from an overall perspective. The second input selected is the general expenses of each club. Although these general expenses are not directly related to on-field success, such costs are nevertheless essential in running all the activities of the club.

As for the outputs, turnover was used as the measure of economic success. By means of this output, it is possible to know the revenue from gate takings, radio and television broadcasting, merchandising and other incomes.



CONCLUSIONS

Our findings indicate that when the DEA scores are calculated by taking variable returns to scale (VRS model), the efficiency levels are higher than in the case of constant returns to scale (CRS model). As for the efficiency scale, the analysed clubs show an inefficiency level close to 30%.

From the Malmquist productivity index (MPI) viewpoint, the study also analysed variations in performance between the 2000_1 and 2002_3 seasons. By restricting the study to the 14 clubs that participated in the Spanish Football League (First Division) in all the analysed seasons, the results indicate that, in mean values, most clubs report an index metric close to 1, indicating limited technological advances in the sector from the viewpoint of the displacement of the technological frontier with regard to the improvement in performance of individual clubs. Also, technological change reveals a negative displacement of the efficiency frontiers during the periods evaluated, whereas the change in technical efficiency is trending positively, suggesting the clubs provide better performance in terms of movements with respect to the efficiency frontiers over the assessed seasons.

Additionally, identifying real growth as annual increase in turnover, and adopting the procedure of Higgins, a sustainable growth analysis of the clubs was undertaken. Our findings indicate that the teams that operate close to the sustainable growth ratio become more efficient than those where the differences are greater.

Finally, this research suggests a future course of studies. Particularly, they should be extended to other countries by taking different DEA models that consider the different economic and technical variables in order to analyze the performance of professional football teams.

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