THE ESTABLISHMENT OF A MODEL TO MEASURE FINANCIAL AND SPORTING PERFORMANCE IN PROFESSIONAL TEAM SPORTS

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Keywords

Performance Measurement, Football, Profit Maximisation, Utility Maximisation, Sporting Performance, Financial Performance.

Aim of abstract/paper - research question

The aim of this paper is to devise and test a model that can be used to measure financial and sporting performance in professional sports teams, specifically, in football and the English Premier League (EPL).

Theoretical background or literature review

In light of the UEFA Financial Fair Play Regulations (FFP) and the increasing pressure on clubs to be more prudent with their financial management, it is a particularly relevant time to investigate the financial performance of professional football clubs and how financial performance is measured. With reference to the English Premier League (EPL), financial data shows that clubs are leveraged by significant levels of debt (around €2.9bn in 2011) and that a financial paradox exists; with rising revenues (approximately €2.5bn in 2011) and declining profitability. Figures from Deloitte confirm this trend throughout Europe with greater imbalances between revenue and costs for clubs in Europe's 'big five' leagues (see also Andreff, 2007 among others).

In addition to measuring financial performance, academics have also examined the relationship between financial and sporting performance and whether or not the two concepts can be considered mutually exclusive. Central to this are the principles of competitive balance, uncertainty of outcome and profit and utility maximisation; an underlying theme present in sports economics literature (see Dobson and Goddard, 2011 among others). Previous examples of measuring this relationship include statistical approaches such as DEA analysis to measure the efficiency of professional sports teams These involve using a number of different inputs and outputs (e.g. points obtained, attendance figures, player salaries, turnover figures etc.) in order to compute an overall efficiency score of both individual clubs and leagues (see Guzman and Morrow, 2007 among others). Studies tend to be more concerned with the variables chosen and whether or not such measures can be considered to provide a reliable statement relating to both financial and sporting performance. A study of this nature helps to establish the long term viability of professional sport leagues particularly in football in view of FFP. This paper establishes a model to measure financial and sporting performance which has been devised through statistical processes with relevant weighting factors also applied.

Methodology, research design and data analysis

To investigate the formation of a model, the paper utilises the *FOrNeX* model (see Andrikopoulos and Kaimenakis, 2009) which outlines how the intellectual capital of a football club is measured. Prior to this, the paper explored the assumption that financial homogeneity is present is the accounts of professional football clubs. A pilot study was devised to outline, firstly, which accounts to use and, secondly, to aid the creation of a model. The financial data was chosen based on a comparison between the figures used by Deloitte and the company accounts of individual clubs. The favourable option was to follow a similar approach to Deloitte, using the legal entity registered as the 'top' company with respect to the ownership structure of each club. It is envisaged that this will give the truest representation of financial performance in football clubs as a whole entity.

Originally, the pilot model was made up of 18 different variables, 9 financial and 9 sporting, with equal weights applied to each variable. To confirm whether the right variables were being considered, the study subsequently decided that a more statistical approach was needed. The statistical technique chosen was factor analysis which can be used to summarise or reduce data by examining the associations between variables, based on the correlations between them, in an attempt to highlight underlying factors. The study utilised the KMO and Bartlett's Test Score and the Correlation Matrix to interpret the findings.

Results, discussion and implications/conclusions

Factor analysis returned a number of variables that correlated with each other which meant that the financial variables were reduced from nine to five and the sporting variables were reduced from nine to three. Following this, the model had to be restated and the weighting factors reconsidered. To conclude the analysis one year's worth of data was inputted into the three models (the neutral model and two restated models, one with equal weights and one with justified weights). In summary, altering the weightings on the model made little difference meaning that the most appropriate method would be to use the restated model with justified weights. It is important at this stage not to make general assumptions with regards to the model as only one year's worth of data is considered. However, the results from the model favourably reflect what happened in the

EPL during the pilot year meaning that the model can now be used to consider more data over a longer time period. This new model can be utilised across various professional team sports to test viability in future research.

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