

Sporting performance and profitability in professional football organisations: a longitudinal multi-league analysis

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Abstract

Purpose – This study explores the relationship between sporting success and financial performance in European football clubs. Focusing on Serie A, La Liga and the Premier League, this study aims to investigate whether on-field success contributes to profitability and financial sustainability in a highly competitive environment.

Design/methodology/approach – Using a panel dataset comprising 470 club-season observations spanning the 2014/2015 to 2022/2023 sports seasons, this study uses panel data regression analysis with fixed effects to examine the relationship between sporting performance and financial profitability. The authors measure profitability through three distinct indicators: earnings before interest and tax (EBIT) margin, net profit margin and return on assets (ROA).

Findings – Results reveal a positive and significant association between on-field performance and profitability, particularly for EBIT margin and net profit margin. However, no statistically significant relationship is found with ROA, suggesting that short-term sporting success does not necessarily translate into efficient asset utilisation.

Originality/value – This study advances the literature on the relationship between sporting outcomes and financial sustainability by focusing on profitability, rather than revenue alone. By adopting a multi-league comparative research design, the study provides evidence on how sporting performance relates to financial sustainability across different competitive contexts, highlighting the importance of balancing sporting ambitions with long-term financial performance.

Keywords Sports performance, Financial performance, Football industry, Football leagues, Profitability

Paper type Research paper

1. Introduction

Football originated in 19th-century England and quickly spread across Europe following the standardisation of its rules (Lacchini and Trequattrini, 2011). What began as an amateur pastime has evolved into a cornerstone of the entertainment industry, with clubs now functioning as organised business entities (Chadwick *et al.*, 2019). Unlike traditional firms, football clubs operate in a complex environment where financial goals intertwine with sporting ambitions, including league performance, fan engagement and diversified revenue streams, such as broadcasting rights, commercial deals, matchday income and player



transfers ([Gigante and Sottoriva, 2021](#)). Clubs that own their stadiums may further diversify revenues through non-football activities, including naming rights, tours, hospitality and commercial events.

In today's dynamic environment, football clubs need to balance two interrelated goals: sports performance (SP) and financial performance (FP). These two linked dimensions are essential for long-term sustainability in the modern football industry, as success on the pitch can lead to financial growth by attracting lucrative sponsorship deals, increasing brand visibility and media exposure and fostering fan engagement. However, the extent to which these positive effects translate into financial benefits depends on each club's ability to manage costs efficiently, particularly in an industry characterised by high wage costs and competitive spending pressures. The interplay between sporting and financial performance is particularly evident in the European football industry, where recent market reports highlight the tangible financial consequences of on-field results. Indeed, the European football market has reached a size of €35.3bn over the 2022/2023 sports season ([Deloitte, 2024](#)), demonstrating the industry's economic significance. The most recent report by [Deloitte \(2025\)](#) shows that on-field success is a key factor in clubs' financial growth. In the 2023/2024 season, clubs such as Arsenal and Newcastle experienced revenue increases thanks to their participation in UEFA competitions. Conversely, teams such as Juventus saw a significant decline due to their absence from European tournaments ([Deloitte, 2025](#)). Furthermore, the document also underscores that commercial and matchday revenue remain the primary sources of income for European football clubs. Matchday revenues exceeded €2bn for the first time, and Real Madrid became the first club in history to surpass €1bn in revenue in a single season ([Deloitte, 2025](#)).

The [Deloitte \(2024\)](#) analysis reports that the English Premier League (EPL) has reached the highest level of operating profit, €565m in 2021/2022 and €452m for the 2022/2023 sports season. La Liga, on the other hand, is dominated by its two flagship clubs: Real Madrid and Barcelona. These global football powerhouses, with their brands, drive the revenue growth of the Spanish league, contributing to a steady and continuous increase in aggregate turnover over the past five years ([Deloitte, 2024](#)). In addition, starting from the 2019/2020 season, stricter financial controls have been introduced through the salary cap rule. Meanwhile, the Italian Serie A, historically struggling with financial instability, has recently undertaken a revitalisation process driven by foreign investors and stadium modernisation plans. Traditionally reliant on audiovisual rights and sponsorships, Italian clubs have struggled to diversify revenue streams. However, bigger and newer stadiums are now recognised as signs of status, playing a crucial role in increasing and diversifying revenue streams as well as enhancing the fan experience ([Nowland and Sankara, 2024](#)).

Considering these factors, this study examines whether sports performance (SP) is positively associated with the profitability (FP) of football clubs in three major European football leagues: Serie A, La Liga and the EPL. While prior research has explored various aspects of the sporting-financial nexus, profitability has generally received comparatively limited attention. This research is one of the first to analyse a broad spectrum of clubs, ranging from top-tier to smaller teams, and to incorporate the post-COVID-19 seasons, testing the robustness of the SP-FP relationship under financial stress. The empirical analysis is based on a data set of 470 team-year observations of football clubs in the first divisions of Italy, Spain and England from the 2014/2015–2022/2023 sports seasons. The selection of these three football leagues provides a diverse sample of football clubs from some of the most prominent and widely followed leagues in Europe, while also capturing differences in financial structures, competitiveness and corporate governance models ([Sanguigni, 2022](#)).

Our findings indicate that on-field success significantly enhances profitability, particularly through EBIT margin and Net Profit Margin, while showing no significant effect on ROA. These patterns underscore the importance of differentiating between short-term financial gains and long-term asset efficiency.

The remainder of the paper is structured as follows: Section 2 covers the literature review and hypothesis development. Section 3 outlines the data and methodology used in the study. Section 4 analyses the results. Finally, Section 5 presents the research conclusions.

2. Literature review and hypothesis development

2.1 Conceptual background: Win maximisation vs profit maximisation

The foundational theoretical studies of the sports industry originated in the USA (Rottenberg, 1956). Economic theory was first applied to the football industry in 1971, with a specific focus on the British professional league (Sloane, 1971).

Despite the substantial economic scale of European football, the theoretical and empirical understanding of the relationship between sporting and financial outcomes remains contested. The literature typically distinguishes between two primary objectives of sports clubs. In professional football, these are commonly framed as win maximisation and profit maximisation. These alternative perspectives have been widely debated in the sports economics literature, as they shape clubs' strategic and financial decision-making.

On one hand, a stream of research suggests that the main objective of sports clubs is win maximisation. According to this theory, sports organisations prioritise achieving the highest possible athletic performance on the field (Sloane, 1971; Késenne, 1996; Garcia-del-Barrio and Szymanski, 2009; Morrow, 2003). In this model, club owners, operating under a soft budget constraint (Storm and Nielsen, 2012), prioritise fan satisfaction, guaranteeing sports success and prestige over profitability. Consequently, such clubs consistently operate on the verge of financial insolvency. Football clubs inclined to win maximisation often report transfer-market spending exceeding revenues and exhibit high wage-to-turnover ratios driven by investment in talented players. Some teams that have historically prioritised sports performance over financial stability have faced relegation due to financial troubles. For instance, Fiorentina and Granada experienced such challenges during the 2002/2003 season (Storm and Nielsen, 2012).

On the other hand, another stream of literature argues that the primary goal of sports firms is profit maximisation, much like businesses in various industries (Vrooman, 1995; Quirk and Fort, 2018). This approach aligns with the shareholder theory (Friedman, 1970), emphasising financial sustainability and the achievement of maximum returns for investors and stakeholders over the teams' sports goals.

Clubs' strategies also depend on sports management's cultural traditions (Fort, 2000). Typically, clubs in European leagues are considered win maximisers as they compete in an open system (the promotion-relegation model) without salary caps and revenue sharing. Conversely, the North American clubs operate under closed draft systems, assigning the top-performing rookies to the lowest-ranked team. Additionally, the American sports model includes salary caps, which ensure an equal share of broadcast rights, and domestically structured leagues where teams compete. As a result, American teams are typically considered profit maximisers (Andreff and Staudohar, 2000; Andreff, 2011). However, this issue cannot be reduced to a simple binary distinction, as it involves a range of complexities and nuances.

Such a clear-cut division would be valid if ownership structures were uniform across both continents. This may apply to the North American context, but it does not describe European football, where ownership models are much more varied (Sánchez *et al.*, 2020). As

highlighted by [Sánchez et al. \(2017\)](#), clubs do not have intrinsic objectives; rather, their strategic orientation depends on ownership structures. Member-owned clubs typically prioritise sporting triumphs, whereas investor-owned clubs tend to emphasise financial returns.

Traditional economic theory often considers the objectives discussed above separately. The financial landscape in which companies operate presents challenges and is constantly evolving. In this regard, [Terrien et al. \(2017\)](#) note that it is common to see clubs swing from one archetype to another from year to year, suggesting that teams can pursue both objectives depending on the opportunities and challenges they face in their environment.

It is also essential to recognise that most professional football clubs operate within regulated, complex systems that require managers to balance sporting and financial performance to ensure long-term success. UEFA's Financial Fair Play, introduced in 2013, and the parallel domestic financial controls have progressively steered clubs towards sustainability by curbing excessive spending and tightening budgetary limits. As a result, even traditionally win-maximising clubs have been forced to integrate profit-oriented strategies.

The importance of aligning sporting success with financial solvency was already emphasised in earlier contributions ([Morrow, 1999](#); [Samagaio et al., 2009](#)), reinforcing the notion that long-term viability depends on maintaining equilibrium between these two dimensions. Recent studies have also considered how regulatory frameworks interact with profitability. For instance, [Dimitropoulos and Scafarto \(2021\)](#) show that the implementation of FFP among Italian first-division clubs has weakened the link between wage expenditure and sporting success, while reinforcing the relevance of transfer market activity. Specifically, their findings suggest that gains from player trading enhance financial performance. In parallel, [Ahtiainen and Jarva \(2022\)](#) find that the effects of FFP on profitability are not uniform across countries: while the regulation appears to have contributed to improved financial performance in Spain, the evidence is weaker for England, and statistically insignificant for Italy.

2.2 The relationship between sports performance and financial performance

The conceptual framework outlined above shows that football clubs pursue two goals: enhancing their sporting and financial performance. Moreover, it is possible to postulate an association between on-field performance and financial success, since building a competitive team makes a football club more prosperous and better able to attract fans and skilled players, resulting in ever-improving sports results that will turn into continual turnover growth. [Lago et al. \(2004\)](#), described this phenomenon as a never-ending, virtuous circular process.

The literature on the topic presents a range of empirical studies that analyse the relationship between sports and financial variables, mostly showing positive results, with a few indicating no significance. Findings also differ depending on how financial performance is measured, as well as the scope of the sample and the estimation methods used ([Dobson and Goddard, 1998](#); [Barajas et al., 2005](#); [Dimitropoulos and Alexopoulos, 2014](#); [Sakınç et al., 2017](#); [Wilson et al., 2013](#); [Di Simone and Zanardi, 2020](#); [Calahorra-López and Ratkai, 2024](#)). Most studies focus on the association between sports performance and revenues rather than the link between sports results and profitability. However, a high turnover does not necessarily ensure profitability, as expenses, particularly in football, where costs related to player amortisation and payroll may be significant, can prevent a company from achieving a positive net income.

A seminal study by [Arnold \(1991\)](#) on English football clubs, from 1905 to 1985, found a significant and positive association between sports success, gate receipts and wages. Afterward, [Szymanski and Kuypers \(1999\)](#) confirmed this positive effect of sports performance on revenue but noticed a negative relationship between sports results and profits.

Overall, these pioneering findings contribute to the body of literature reporting a positive relationship between sports performance and revenue ([Rohde and Breuer, 2016](#); [Schloesser and Adamec, 2023](#); [Gonçalves et al., 2020](#); [Dobson and Goddard, 2011](#)). Crucially, [Szymanski and Kuypers \(1999\)](#) found a negative relationship between sporting success and profits, despite a positive effect on revenues, highlighting that revenue growth alone does not guarantee profitability. Fewer studies analyse the relationship between sports performance and profitability. [Gerrard \(2005\)](#) and [Dimitropoulos \(2009\)](#) found that sporting success positively influences profitability.

The various, and at times contradictory, empirical findings reported in the literature reflect differences in sample composition, empirical methods and variable specifications, as well as in the regulatory and institutional contexts examined. In particular, studies conducted across different time periods, including pre- and post-Bosman and pre- and post-Financial Fair Play settings, may capture distinct competitive and cost-discipline dynamics.

Furthermore, several studies have used different profit indicators as dependent variables, such as return on assets (ROA) and earnings-to-revenue ratio, analysing various samples and timeframes, specifically football clubs in England and Greece. However, these studies are confined to single-country samples, making it difficult to extend their findings across different competitive and regulatory contexts.

[Buchholz and Lopatta \(2017\)](#) broaden the scope of the analysis by using a panel-data regression on a cross-sample of clubs from European leagues, revealing a positive influence of the club's position on accounting performance measures, such as ROA.

More recently, [Sánchez et al. \(2020\)](#) conducted a study on 20 European football clubs with the most appearances in the Deloitte Money League list from 2010 until 2017. The authors found a positive and significant relationship between sports performance and ROA when using ordinary least squares (OLS). In contrast, the results were insignificant when they shifted to the three-stage least squares (3SLS).

[Alaminos et al. \(2020\)](#) confirmed that sporting performance is a significant determinant of financial outcomes in a broader European sample, while [Rompotis \(2024\)](#) using panel data on EPL clubs over 2013–2022, found that wins are positively associated with ROA and profit margin. Similar findings were found by [Warrener et al. \(2022\)](#), indicating that sports performance positively affects the financial results of Brazilian football clubs. In a complementary perspective, [Serrano et al. \(2022\)](#) used a system dynamics model to evaluate the Brazilian football value ecosystem, demonstrating that investment decisions in squad management generate multiplying effects on clubs' added value. Their simulations show that clubs adopting professionalised and stable management achieve higher long-term efficiency and profitability, reinforcing the circular and self-reinforcing nature of the sporting-financial performance relationship.

However, comparative analyses across multiple leagues on how sporting performance affects profitability are still scarce. This study addresses this gap by analysing the influence of sporting performance on three different profitability metrics within three major European leagues over nine seasons, including the post-COVID-19 period. Therefore, we propose the following hypothesis:

- H1.* Sports performance positively impacts the profitability of the football clubs playing in Serie A, La Liga and Premier League, as measured by ROA, EBIT margin and Net Profit Margin.

3. Materials and methods

3.1 Data setting

To test our hypothesis, we used a sample comprising all football teams in Serie A (Italy), La Liga (Spain) and the Premier League (England) from the 2014–15 to the 2022–23 season. After removing observations with missing accounting data and clubs that participate in only one sports season, our sample includes a total of 470 team-year observations (167 for Serie A, 142 for La Liga and 161 for the Premier League). Financial data were retrieved from Moody's Orbis database, while data pertaining to sports performances were drawn from transfermarkt.com. Table 1 lists all the variables used in our analysis.

3.2 Dependent variables

We use multiple measures of financial performance as our dependent variable to ensure the robustness of our results. Given that financial performance is a multidimensional construct, we adopt a multi-measure approach for profitability. Specifically, and in line with prior research, we use ROA, a major indicator of financial performance widely used in the football context, calculated as the ratio of Earnings Before Interest and Tax (EBIT) to total assets (Buchholz and Lopatta, 2017; Sánchez *et al.*, 2020; Dimitropoulos, 2009; Di Simone and Zanardi, 2020). This ratio measures the operating efficiency in the use of the assets, and it is not affected by the financial structure of the business, nor by taxes on income. Secondly, EBIT MARGIN, which is the ratio between EBIT and total revenue, measures operating marginality on sales. Finally, the NET PROFIT MARGIN (Ruta *et al.*, 2020) is the ratio of net income to total revenue. It serves as a general indicator of financial performance and is affected by both the company's financial leverage and its tax position.

This multi-indicator approach allows us to distinguish between the effects of sporting performance on operating efficiency, operating marginality and overall profitability, providing a more comprehensive assessment of financial performance.

3.3 Main independent variable

The main independent variable in our study is sports performance measured by the POINTS RATIO. The way sports success is assessed can vary depending on the study's primary goal. For instance, some studies use the percentage of wins in the league, while others rely on the seasonal ranking in the national league (Dawson *et al.*, 2000; Di Simone and Zanardi, 2020).

In our research, we measured the sports performance by the ratio between the number of points reached in the domestic league ranking and the maximum number of points obtainable during the season, consistent with previous studies (Ferri *et al.*, 2017; Warrener *et al.*, 2022). This ratio reflects continuous differences in competitive strength and captures performance variations across the entire league table.

3.4 Control variables

In accordance with prior literature, we used a set of control variables to account for team size and financial, sport and governance characteristics. SIZE is the natural logarithm of the total assets; DEBT RATIO is a measure of financial leverage, calculated as the ratio between total debt and total assets (Rey and Santelli, 2017); WAGE TURNOVER RATIO measures the incidence of wages, an important item in football teams' income statements, on total revenues and is generally expected to remain below 70% according to current regulatory frameworks (Valeri, 2022). CAPITAL INTENSITY measures the relative weight of non-current assets over total assets; INTANGIBLE ASSETS RATIO focuses on the incidence of intangible assets on total assets, an important financial ratio in football teams where player registration rights represent a significant portion of total assets; STADIUM CAPACITY is

Table 1. Overview of model variables

Notation	Definition	Description	Source
<i>Dependent variables – financial performance</i>			
ROA	Return on assets	EBIT divided by total assets	Own elaboration over Moody's – Orbis data
EBIT margin	Earning before Interest and Taxes Margin	EBIT divided by total revenue	Own elaboration over Moody's – Orbis data
Net profit margin	Net profit margin	Net income divided by total revenue	Own elaboration over Moody's – Orbis data
<i>Independent variables – sports performance</i>			
Points ratio	Sports performance ratio	Number of points reached in the domestic leagues ranking by each team/maximum number of points obtainable during the season	Transfermarkt.com
<i>Control variables</i>			
Size	Size of the firms in terms of total assets	Natural logarithm of total assets	Moody's – Orbis data
Debt ratio	Leverage	Total debt divided by total assets	Own elaboration over Moody's – Orbis data
Wage turnover ratio	Wage/Turnover	Total wages divided by total revenue	Own elaboration over Moody's – Orbis data
Capital intensity	Capital intensity	Non-current assets divided by total assets	Own elaboration over Moody's – Orbis data
Intangible assets ratio	Intangible assets ratio	Intangibles divided by total assets	Transfermarkt.com
Stadium capacity	Capacity of stadium	Natural logarithm of the capacity, in seating number, of each stadium	Transfermarkt.com
Stadium ownership	Ownership status of the club's stadium	Binary indicator (dummy) that assumes a value equal to 1 if the club owned a stadium. It is equal to 0 otherwise	Own elaboration over Moody's – Orbis data
Promotion	Promotion in the higher division of each league	Binary indicator (dummy) that assumes a value equal to 1 if the club participates as newly promoted in the higher division. It is equal to 0 otherwise	Transfermarkt.com
Relegation	Relegation in the lower division of each league	Binary indicator (dummy) that assumes a value equal to 1 if the club was relegated to a lower division at the end of the season. It is equal to 0 otherwise	Transfermarkt.com
Ownership concentration	The degree of concentration in the ownership structure of clubs	The percentage of voting rights held by the Two largest shareholders	Own elaboration over Moody's – Orbis data
Source(s): Authors' own work			

the natural logarithm of the seating capacity of the stadium, an indicator of potential revenue stream; STADIUM OWNERSHIP (Di Simone and Zanardi, 2020; Sánchez *et al.*, 2020) is a dummy variable indicating whether the team owns a stadium; PROMOTION is another binary indicator that assumes a value of 1 if the team was newly promoted to the division in the relevant season; RELEGATION is a binary indicator that assumes the value of 1 if the team, at the end of the season, was relegated to a lower division. These last two dichotomous variables control for systematic financial effects associated with divisional transitions (Ruta *et al.*, 2020). OWNERSHIP CONCENTRATION (Sánchez *et al.*, 2020), the percentage of voting rights held by the two largest shareholders, as an indicator of the degree of concentration in the ownership structure of the clubs, captures the governance structure that may influence strategic orientation.

3.5 Empirical strategy

We address our hypothesis by adopting the following model, where β_1 is the regression coefficient of interest:

$$\begin{aligned} FP_{it} \text{ (ROA, EBIT MARGIN, NET PROFIT MARGIN)} &= \beta_0 + \beta_1 \text{POINTS RATIO}_{it} \\ &+ \beta_2 \text{SIZE}_{it} + \beta_3 \text{DEBT RATIO}_{it} + \beta_4 \text{WAGE TURNOVER RATIO}_{it} \\ &+ \beta_5 \text{CAPITAL INTENSITY}_{it} + \beta_6 \text{INTANGIBLE ASSETS RATIO}_{it} \\ &+ \beta_7 \text{STADIUM CAPACITY}_{it} + \beta_8 \text{STADIUM OWNERSHIP}_{it} \\ &+ \beta_9 \text{PROMOTION}_{it} + \beta_{10} \text{RELEGATION}_{it} \\ &+ \beta_{11} \text{OWNERSHIP CONCENTRATION}_{it} + \zeta_i + \varepsilon_{it} \end{aligned} \quad (1)$$

The estimation strategy uses a panel data regression framework with year and league fixed effects. We control for sports season (year) and league (Serie A, La Liga and Premier League) fixed effects (ζ_i), thereby capturing both structural differences across divisions (e.g., broadcasting revenue, regulatory environments, competitive formats), and common exogenous events. Furthermore, we use robust standard errors to address heteroscedasticity.

Statistical significance is set at 5%. We develop three regression models to test the different measures of financial performance we used.

4. Results

4.1 Descriptive statistics

Table 2 shows summary statistics for the continuous and categorical variables included in the study.

Return on asset (ROA), EBIT Margin, Net Profit Margin, Debt Ratio and Wage Turnover Ratio have been two-tailed winsorized at 2.5% to remove outliers and reduce heteroscedasticity.

The descriptive statistics indicate heterogeneity in the financial performance among the football clubs in our sample. This is evident from the variation in key profitability indicators. Indeed, the ROA mean is -2.48 , but the dispersion of 17.019 is considerable, suggesting performance disparities, with some leagues and clubs highly profitable and others facing significant financial constraints. The EBIT margin and Net Profit Margin show similar results, indicating financial challenges, especially for the Serie A and the Premier League, which, unlike La Liga, often report negative results.

Table 2. Descriptive statistics

Variable	N	Mean	Median	SD	Min.	Max.	Percentiles		
							25th	50th	75th
ROA	470	-2.482	-0.934	17.019	-44.095	33.841	-12.695	-0.934	6.684
EBIT margin	470	-7.233	-1.141	26.366	-81.418	37.071	-20.751	-1.141	9.624
Net profit margin	470	-6.516	-0.467	22.968	-75.246	30.077	-17.646	-0.467	8.349
Points ratio	470	45.685	42.982	14.964	14.035	87.719	35.088	42.982	55.263
Size	470	12.219	12.163	1.029	9.568	14.851	11.551	12.163	12.832
Debt ratio	470	0.925	0.860	0.411	0.357	2.340	0.668	0.860	1.000
Wage turnover ratio	470	63.501	62.138	14.609	36.268	94.565	52.578	62.138	74.041
Capital intensity	470	0.636	0.663	0.170	0.051	0.988	0.530	0.663	0.750
Intangible assets ratio	470	0.418	0.427	0.180	0.005	0.816	0.289	0.427	0.555
Stadium capacity	470	10.409	10.402	0.582	7.460	11.506	10.065	10.402	10.883
Stadium ownership	470	0.485	0.000	0.500	0	1	0.000	0.000	1.000
Promotion	470	0.123	0.000	0.329	0	1	0.000	0.000	0.000
Relegation	470	0.143	0.000	0.350	0	1	0.000	0.000	0.000
Ownership concentration	470	0.869	1.000	0.251	0.000	1.000	0.829	1.000	1.000

Source(s): Authors' own work

The Points Ratio suggests a normal condition of competitive disparity among teams, with some excelling in sports performance while others underperform. Furthermore, company size is heterogeneous across the sample, with a mean of 12.219 and a standard deviation of 1.029, indicating the presence of big and medium-small clubs. Similarly, stadium capacity, with a mean of 10.409, shows substantial differences among the sports facilities of each football team. In this respect, on average, half of the teams in the sample own their stadium. The Premier League exhibits the highest number of clubs owning private stadiums, followed by La Liga and Serie A, with a substantial gap separating these leagues from the English case.

An analysis of the debt ratio indicates that all three leagues are highly leveraged, with an average debt-to-asset ratio of 0.92. Furthermore, the mean wage-to-turnover ratio of 63.50 suggests that a substantial share of revenues is allocated to player salaries. Although this value remains below the 70% threshold set by UEFA, the maximum observed value within the sample (94.56) points to potentially significant financial risks. The Capital Intensity reports a mean of 0.636, reflecting moderate dependence on fixed assets such as facilities. Values range from 0.051–0.988, reflecting differences in infrastructure investments. Meanwhile, the intangible asset ratio reveals that football clubs allocate 42% of their assets to intangibles such as player registration rights, brands and libraries.

Finally, with a mean of 0.869, Ownership Concentration suggests a predominance of concentrated ownership structures, particularly in Italy, where the average value reaches 0.960.

4.2 Correlation analysis

Table 3 and Figure 1 report, respectively, the Pearson correlation matrix and heatmap for the dependent and independent variables included in the regression models.

The correlation matrix reveals a clear correlation among ROA, EBIT Margin and Net Profit Margin. However, the dependent variables are included separately in the model, avoiding any issues with multicollinearity. Although some coefficients show relatively

Table 3. Correlation matrix

Variable	ROA	EBIT margin	Net profit margin	Points ratio	Size	Debt ratio	Wage turnover ratio	Capital intensity	Intangible assets ratio	Stadium capacity	Ownership concentration
ROA	–										
EBIT margin	0.908***	–									
Net profit margin	0.835***	0.913***	–								
Points ratio	0.006	0.018	0.014	–							
Size	–0.257***	–0.261***	–0.219***	0.681***	–						
Debt ratio	–0.306***	–0.253***	–0.268***	–0.076	–0.041	–					
Wage turnover ratio	–0.627***	–0.634***	–0.590***	–0.123**	0.064	0.158***	–				
Capital intensity	–0.260***	–0.230***	–0.243***	0.060	0.179***	0.215***	0.222***	–			
Intangible assets ratio	–0.343***	–0.343***	–0.319***	–0.062	0.011	0.259***	0.162***	0.332***	–		
Stadium capacity	–0.199***	–0.184***	–0.184***	0.547***	0.659***	0.133**	0.027	0.133**	–0.006	–	
Ownership concentration	–0.157***	–0.181***	–0.148**	–0.093*	0.023	0.116*	–0.201***	–0.123**	0.273***	–0.090	–

Note(s): * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Source(s): Authors' own work

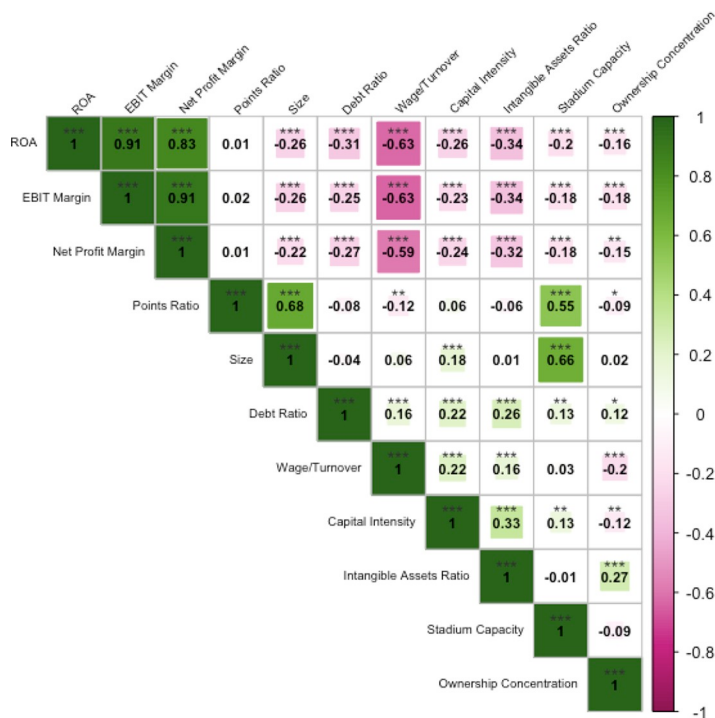


Figure 1. Heatmap of the correlation matrix

Source: Authors' own work

strong and significant correlations, multicollinearity has been assessed and remains within acceptable limits, ensuring the robustness of the regression models.

The correlation between the Points Ratio and profitability indicators is negligible and not statistically significant, indicating that correlation analysis alone does not suggest any relationship between sports and financial performance.

The size of a club is positively correlated with both the Points Ratio and Stadium Capacity, indicating that larger clubs tend to have better on-field performance and more advanced sports facilities than their smaller counterparts. Moreover, larger football clubs tend to have lower financial performance. The findings also show that stadium capacity is positively correlated to leverage, suggesting that big stadiums cause strain on the clubs' financial structure.

Furthermore, the correlation analysis shows that the Debt Ratio, Wage Turnover Ratio and Capital Intensity are negatively and significantly associated with profitability metrics. Finally, the ownership concentration variable reports a significant negative correlation with ROA, EBIT Margin and Net Profit Margin. This denotes that a concentrated ownership structure tends to negatively impact the profitability of football clubs. Conversely, Capital Intensity and Intangible Asset ratio are positively correlated with Ownership Concentration, suggesting that clubs with a high degree of ownership are more likely to invest in both physical and intangible assets.

4.3 Regression results

Table 4 presents the regression results of Models (1–3) for the dependent variable, profitability.

Although the previously discussed correlation analysis did not reveal a significant relationship between sports performance and profitability, the regression results indicate a positive and significant association, supporting H_1 . The results reveal that sporting performance positively influences the profitability of football clubs competing in Serie A, La Liga and the Premier League. In more detail, the Points Ratio variable has a positive and significant impact on the EBIT Margin (0.229, $p < 0.01$) and Net Profit Margin (0.178, $p < 0.01$), while the coefficient for ROA (0.052) is positive but not statistically significant. These results suggest that sporting success enhances clubs' ability to generate operating margins and net income. The mechanism likely operates through increased revenues (broadcasting, commercial income and gate receipts), which allow clubs to cover operating and financial costs more effectively. The non-significant effect on ROA, however, indicates that these gains do not translate into more efficient asset utilisation, at least in the short term. Such a pattern is consistent with the capital-intensive nature of the football industry, in which large investments in player rights and infrastructure create substantial asset bases that absorb the financial benefits of sporting success.

These findings are consistent with prior evidence reporting a positive association between sporting success and profitability (Gerrard, 2005; Buchholz and Lopatta, 2017; Rompotis, 2024), while the non-significant effect on ROA echoes the results of Sánchez *et al.* (2020), who also found that the significance of the sporting-financial performance relationship varies across estimation methods and financial indicators.

The coefficients for the size variable are negative, specifically -7.053 ($p < 0.001$) for EBIT Margin and -5.418 ($p < 0.001$) for Net Profit Margin. However, its impact on ROA is negative but not statistically significant. Furthermore, a negative relationship exists between Debt Ratio, Wage-To-Turnover ratio and the three-accounting metrics. These findings

Table 4. Regression results

Variable	ROA	EBIT MARGIN	NET PROFIT MARGIN
Points ratio	0.052(0.046)	0.229**(0.076)	0.178**(0.062)
Size	-1.836(1.125)	-7.053*** (1.689)	-5.418*** (1.393)
Debt ratio	-5.714*** (1.552)	-6.814*** (1.955)	-9.167*** (1.855)
Wage turnover ratio	-0.716*** (0.043)	-1.181*** (0.062)	-0.959*** (0.058)
Capital intensity	-12.443*** (3.592)	-13.335* (5.511)	-14.334** (4.963)
Intangible assets ratio	-1.643(3.493)	-6.160(5.331)	-1.197(4.817)
Stadium capacity	-1.553(1.237)	-1.133(1.854)	-2.138(1.555)
Stadium ownership	-2.772* (1.336)	-2.312(2.215)	-1.232(1.786)
Promotion	1.588(2.013)	-1.793(2.628)	-1.482(2.254)
Relegation	-3.544* (1.800)	-2.392(2.476)	-1.993(2.207)
Ownership concentration	-7.800** (2.713)	-17.823*** (4.383)	-15.721*** (3.734)
Num. obs.	470	470	470
R^2	0.668	0.680	0.673
R^2 adj.	0.652	0.665	0.658
FE: year	Yes	Yes	Yes
FE: series	Yes	Yes	Yes

Note(s): * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Robust standard errors in parentheses

Source(s): Authors' own work

suggest that football clubs with higher leverage will likely experience lower profitability. Likewise, financial performance is constrained by high wage expenses relative to turnover.

Other control variables, such as Capital Intensity and Ownership Concentration, also show a negative and significant relationship with accounting performance. The first one, particularly for EBIT Margin -13.335 ($p < 0.1$) and Net Profit Margin -14.334 ($p < 0.01$), indicates that capital expenditures may not translate into financial gains in the short term. The latter report a strong negative effect on profitability (ROA -7.800 , $p < 0.01$; EBIT Margin -17.823 , $p < 0.001$; Net Profit Margin -15.721 , $p < 0.001$), indicating that concentrated ownership structures can reduce the financial performance of football clubs, due to a major focus on the sport maximisation instead of pursuing financial goals.

Finally, the variable concerning the Stadium Capacity does not report a significant relationship with profitability. At the same time, Stadium Ownership has a weak negative effect on ROA (-2.772 , $p < 0.1$).

4.4 Additional analyses

To assess the robustness of our baseline findings and to address potential endogeneity concerns, we conduct two additional sets of analyses.

First, all models are re-estimated using the club's final national league POSITION as an alternative measure of sporting performance (Di Simone and Zanardi, 2020; Buchholz and Lopatta, 2017). Unlike the POINTS RATIO, where higher values indicate stronger performance, a lower positional value corresponds to a higher league standing. The results, reported in Table 5, are fully consistent with the baseline analysis: the coefficient of POSITION is negative and statistically significant for EBIT Margin and Net Profit Margin, confirming that clubs placed higher in the league table, i.e. with a lower positional value, tend to be more profitable. Also consistent with the baseline results, the effect on ROA remains statistically non-significant. The direction and significance of the control variables are largely unchanged, supporting the stability of the findings across alternative models.

Table 5. Robustness checks: Alternative measure of sporting performance (position)

Variable	ROA	EBIT margin	Net profit margin
Position	-0.196(0.142)	-0.744***(0.244)	-0.574*** (0.187)
Size	-1.960*(1.124)	-7.213***(1.751)	-5.522*** (1.418)
Debt ratio	-5.721*** (1.563)	-6.818*** (1.972)	-9.168*** (1.851)
Wage turnover ratio	-0.714*** (0.043)	-1.179*** (0.062)	-0.958*** (0.058)
Capital intensity	-12.246*** (3.592)	-12.717** (5.492)	-13.865*** (4.963)
Intangible assets ratio	-1.866(3.529)	-6.969(5.376)	-1.820(4.856)
Stadium capacity	-1.671(1.247)	-1.500(1.848)	-2.417(1.564)
Stadium ownership	-2.830** (1.332)	-2.558(2.221)	-1.424(1.788)
Promotion	1.609(2.013)	-1.638(2.636)	-1.358(2.261)
Relegation	-3.031(1.911)	-0.816(2.673)	-0.799(2.336)
Ownership concentration	-7.787*** (2.709)	-17.832*** (4.352)	-15.732*** (3.706)
Num. obs.	470	470	470
R ² adj.	0.653	0.667	0.660
R ² within adj.	0.529	0.552	0.532
FE: year	Yes	Yes	Yes
FE: series	Yes	Yes	Yes

Note(s): * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Robust standard errors in parentheses

Source(s): Authors' own work

Second, to address potential endogeneity between sporting and financial outcomes, we use a Two-Stage Least Squares (2SLS) instrumental variables approach, using the second lag of POINTS RATIO ($t - 2$) as an instrument. The first-stage F-statistic of 49.7 ($p < 0.001$) far exceeds conventional thresholds of 10 for instrument strength, confirming that the instrument is strong (Staiger and Stock, 1997). The use of a second lag is preferred over the first as it provides a more conservative safeguard against residual endogeneity.

Table 6 reports the 2SLS findings that validate and reinforce the baseline results, with positive and significant coefficients for EBIT Margin ($\beta = 0.449$, $p = 0.035$) and Net Profit Margin ($\beta = 0.581$, $p = 0.004$), while ROA remains non-significant ($\beta = -0.071$, $p = 0.599$). The Wu-Hausman test yields p-values of 0.414, 0.423 and 0.075 for ROA, EBIT Margin and Net Profit Margin, respectively, indicating that endogeneity does not materially bias the OLS estimates. For Net Profit Margin, where marginal evidence of endogeneity emerges, the 2SLS coefficient remains highly significant ($p = 0.004$), confirming the robustness of the findings.

The positive and significant relationship between sporting performance and profitability, as captured by EBIT Margin and Net Profit Margin, is robust across alternative measures of sporting success and under instrumental-variables estimation that addresses potential reverse causality.

5. Discussion

The results of this study contribute to the growing body of literature on the relationship between sports and financial performance in the football industry. While previous research has predominantly focused on the link between revenues and sports performance, this study expands the discussion by investigating the connection between on-field performance and profitability, an area that has been underexplored in prior research.

5.1 Theoretical implications

From a theoretical perspective, this study challenges the traditional view that sporting and financial performance represent mutually exclusive objectives in professional football

Table 6. Two-stage least squares (2SLS) regression results

Variable	ROA	EBIT margin	NP margin
Points ratio $t - 2$ (IV)	-0.071(0.134)	0.449**(0.212)	0.581*** (0.198)
Size	-0.392(1.844)	-10.840*** (3.086)	-12.552*** (3.093)
Debt ratio	-7.188*** (1.806)	-6.206** (2.535)	-9.377*** (2.555)
Wage turnover ratio	-0.681*** (0.053)	-1.257*** (0.084)	-0.992*** (0.086)
Capital intensity	-15.086*** (4.368)	-18.229*** (6.815)	-16.638** (6.446)
Intangible assets ratio	-7.695** (3.777)	-15.087** (6.603)	-9.073 (6.307)
Stadium capacity	-0.909 (1.334)	-1.337 (2.273)	-2.202 (1.953)
Stadium ownership	-2.107 (1.470)	-0.453 (2.396)	0.855 (2.189)
Relegation	-4.542 (3.225)	-0.190 (4.829)	2.218 (4.139)
Ownership concentration	-5.442* (3.255)	-16.320*** (6.262)	-13.007** (5.627)
Num. obs.	288	288	288
First stage F-stat	49.7	49.7	49.7
Wu-Hausman stat	0.669	0.645	3.190
Wu-Hausman p-value	0.414	0.423	0.075

Note(s): * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source(s): Authors' own work

organisations. The win-maximisation versus profit-maximisation debate has often portrayed these goals as competing strategic orientations (Sloane, 1971; Vrooman, 1995). Our results instead suggest that the traditional dichotomy between sporting and financial goals may not be as clear-cut as often assumed. The positive and significant nexus between sports success and both EBIT margin and Net Profit Margin indicates that on-field performance can act as a driver of profitability, rather than undermining it. These findings are in line with the observation by Terrien *et al.* (2017) that clubs frequently oscillate between win- and profit-oriented strategies and extend it by providing empirical evidence that, at least within the institutional and regulatory context of the three leagues examined, the two aims need not conflict. Furthermore, our results are also consistent with the role of Financial Fair Play in supporting the financial sustainability of football clubs (Dimitropoulos and Scafarto, 2021; Ahtiainen and Jarva, 2022). The non-significant effect on ROA further refines this theoretical picture, suggesting that while sporting success translates into improved operating and net margins, the capital-intensive nature of football clubs, led by large investments in player registration rights, infrastructure and stadium, dilutes the short-term effect on asset efficiency. The study is novel in its use of three distinct accounting indicators to evaluate financial performance. The consistency of these results across different measures suggests that the relationship between sporting success and profitability is robust and significant. Notably, while the results of our study are in line with prior studies (Sánchez *et al.*, 2020; Buchholz and Lopatta, 2017), confirming that sports success drives profitability, they also indicate that the effect is not uniformly extended to all financial metrics.

The study's theoretical contribution has two main points. First, it reframes the win-maximisation versus profit-maximisation debate, showing that sporting success correlates with operating and net margins across three major European leagues over nine seasons. Second, using EBIT margin, Net Profit Margin and ROA demonstrates that the win-profit relationship varies by dimension, a detail seldom addressed by prior research.

5.2 Managerial and policy implications

Beyond the primary sport-finance relationship, our analysis of control variables provides additional insights into the financial dynamics of football clubs. Club size, leverage and the wage-to-turnover ratio emerge as negative factors for profitability. While large football clubs may generate a higher turnover than smaller clubs, they typically incur disproportionate costs, including elevated wages, aggressive transfer-market campaigns and massive investments in facilities, which, if not adequately balanced, can undermine the financial health of football clubs.

Similarly, capital intensity, measured by clubs' investments in fixed assets such as stadiums, is negatively associated with financial performance. While such investments may support competitive positioning and long-term growth, they are likely to entail substantial costs that depress short-term profitability. Consistent with this evidence, the stadium ownership variable displays a weak negative association with ROA, suggesting that additional revenues from non-football events and commercial activities may be offset by capital and maintenance costs, particularly in the short run.

Another relevant factor is ownership concentration. Our findings suggest that clubs with more concentrated ownership structures exhibit lower overall profitability, in line with the results previously reported by Sánchez *et al.* (2020). This pattern may reflect a governance orientation whereby concentrated ownership prioritises sporting success over long-term financial sustainability. The evidence on ownership concentration underscores the importance of governance structures that promote financial discipline alongside competitive ambition.

The study also carries managerial implications for football clubs. First, the findings highlight the importance of effective squad management aimed at aligning revenues with player wages, so that sporting success can support rather than erode financial performance.

Second, the negative association among capital intensity, stadium ownership and profitability suggests a cautious approach to infrastructure investments that entail substantial upfront costs. In this context, clubs may consider alternative financing mechanisms, such as the sale of long-term naming rights, to support such investments while preserving financial flexibility. Although stadium ownership can facilitate revenue diversification through commercial and non-football activities, its net benefits depend on the ability to manage maintenance costs and mitigate the associated financial burden.

From a policy perspective, these findings lend further support to the objectives of UEFA's Financial Fair Play and the recent Financial Sustainability Regulations. The evidence that sporting success is associated with higher profitability suggests that well-managed clubs can simultaneously pursue competitive and financial goals, thereby supporting regulatory approaches that incentivise sustainability rather than merely constraining expenditure. In this respect, regulators may consider supplementing the squad-cost ratio with forward-looking indicators to reward clubs that demonstrate virtuous financial behaviour.

More broadly, the positive association between sporting success and profitability suggests that on-field performance may also generate indirect benefits through fan engagement and commercial visibility, as successful clubs typically attract supporters, sustain matchday attendance and strengthen their brand appeal (Deloitte, 2025). Financially sustainable clubs can, in turn, reinvest in these areas, creating a positive feedback loop between sporting, financial and commercial performance.

Finally, the results indicate that sustaining overall success requires clubs to avoid prioritising either sporting or financial performance in isolation, and instead to maintain an appropriate balance between the two.

6. Conclusions

This study contributes to the literature on the relationship between sporting performance and profitability in European football. It examines how on-field success is associated with financial outcomes, aiming to provide insights for football managers seeking to balance the multiple performance dimensions inherent in this industry.

According to our results, on-field success positively affects the financial performance of football clubs that play in Serie A, La Liga and the Premier League.

However, this study does not establish causality. The empirical models are designed to capture the association between sporting and financial performance, while acknowledging the potentially bidirectional nature of this relationship, as suggested by Hamdi *et al.* (2022).

This study contributes to the ongoing theoretical debate on the profitability of football clubs by providing additional evidence on the relationship between sporting success and financial performance. It also incorporates recent data, including, for the first time, observations from the post-COVID-19 period, and relies on a comprehensive data set covering teams of all dimensions.

Notwithstanding these contributions, the analysis is limited to clubs from Serie A, La Liga and the Premier League. Although these leagues are among the most prominent, this focus may constrain the generalisability of the findings to other leagues with different financial and institutional structures.

Future studies could extend this research by including clubs from other European leagues, such as the Bundesliga, Ligue 1 or non-European leagues, such as Major League Soccer in

North America, the J1 League in Japan or the Saudi Pro League, to assess whether the observed relationships hold across different footballing and financial ecosystems.

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