EAMR

EUROPEAN ACCOUNTING AND MANAGEMENT REVIEW

VOLUME 12, ISSUE 1, ARTICLE 3, 51-78, AUGUST 2026

Sporting Success and Accounting Profitability in Professional Football: Evidence from a Panel Data Model

Javier Ayuso-Estellés
Departamento de Contabilidad, Universitat de València, Valencia, Spain.
Facultat d'Economia. Avd Tarongers S/N, 46022, Valencia, Spain.
javier.ayuso@uv.es
https://orcid.org/0000-0002-9328-8597

Received January 17th, 2026; accepted August 6th, 2026.

ABSTRACT

This study examines the relationship between sporting success and accounting profitability in Spanish professional football. Using a sample of 14 clubs that have competed recurrently in the Spanish First Division over the period 2009–2010 to 2023–2024, we investigate whether sporting performance translates into higher economic profitability. Sporting success is measured through a continuous index that integrates performance in the domestic league, the national cup, and European competitions allowing for a more nuanced and continuous representation of competitive outcomes compared to traditional discrete measures. Employing panel data models with club and season fixed effects, the results show that sporting success has a positive and statistically significant impact on profitability when measured contemporaneously, while this effect weakens when sporting success is introduced with a temporal lag highlighting the short-term nature of the relationship. Importantly, the analysis is correlational in nature and does not aim to establish causality, given the observational structure of the data. These findings suggest that the economic benefits derived from sporting performance are primarily recognised in the short term and tend to be rapidly absorbed by higher operating costs. The study contributes to the literature on sports economics and financial accounting providing empirical evidence on the short-term nature of the association between sporting performance and profitability, proposing a composite and continuous measure of sporting success, and clarifying the correlational nature of this relationship within the institutional context of Spanish professional football.

KEYWORDS

Sporting success; profitability; professional football; panel data; sports accounting; financial sustainability

How to cite: Ayuso-Estellés, J. (2026). Sporting Success and Accounting Profitability in Professional Football: Evidence from a Panel Data Model. *European Accounting and Management Review*, 12(1), 51–78. https://doi.org/10.26595/eamr.v12i1.03

1. Introduction

Professional football has become one of the most economically significant sports industries in Europe, characterised by high levels of revenue, strong media exposure, and increasing attention from scholars in accounting and finance. However, unlike other business sectors, football clubs have not historically pursued profit maximisation as their primary objective. Since the seminal work of Sloane (1971), the literature has documented that professional football clubs tend to behave as organisations oriented towards the maximisation of sporting success, even at the expense of financial profitability (Franck, 2010; Dermit-Richard *et al.*, 2024).
This logic is particularly evident in Spanish professional football, where competitive pressure, the threat of relegation, and participation in European competitions create strong incentives for intensive investment in sporting talent. Although on-field success is often accompanied by increases in revenue—stemming from broadcasting rights, prize money, and higher commercial income, these additional resources do not necessarily translate into sustained improvements in accounting profitability. The high rigidity of costs, especially player wages and amortisation of player registrations, tends to absorb the revenues associated with sporting performance rapidly, thereby limiting their medium-term economic impact.

Despite the growing academic interest in sports economics, empirical evidence on the relationship between sporting success and accounting profitability remains limited and, in some cases, ambiguous. While numerous studies document a positive relationship between sporting performance and revenues, there is less consensus regarding its effect on clubs' economic profitability (Barajas *et al.*, 2005; García-del-Barrio & Szymanski, 2009; Alabi *et al.*, 2024). Moreover, much of the existing literature relies on either discrete measure of sporting success, isolated competition outcomes, or relatively short observation period, which makes it difficult to capture the intensity and persistence of competitive performance over time (Serrano *et al.*, 2023; Alabi *et al.*, 2024).
This lack of consensus raises an important question: to what extent does sporting success translate into measurable accounting returns, beyond its well-documented effect on revenues? While a positive association may be expected a priori, the extent, timing, and persistence of this relationship remain empirically unclear, particularly in environments characterised by high-cost rigidity and strong incentives to reinvest revenues into sporting performance.

This study contributes to the literature by empirically analysing the relationship between sporting success and accounting profitability in Spanish professional football over a broad

fifteen-season period (2009–2010 to 2023–2024). To this end, we construct a continuous index of sporting success that integrates performance across the main official competitions and employ panel data models with club and season fixed effects. This approach allows us to assess whether the economic impact of sporting success materialises immediately or exhibits persistence over time.

In doing so, the paper makes three main contributions. First, it provides empirical evidence on the short-term versus persistent nature of the association between sporting success and accounting profitability. Second, it introduces a composite and continuous measure of sporting success that captures the multidimensional nature of competitive performance. Third, it explicitly frames the analysis as correlational, thereby offering a more cautious interpretation of the relationship between sporting and financial outcomes.

Unlike causal approaches that rely on exogenous shocks or natural experiments, the present study focuses on identifying robust associations within a panel data framework, controlling for unobserved heterogeneity across clubs and time.

The remainder of the paper is structured as follows. Section 2 describes the institutional background of Spanish professional football. Section 3 reviews the relevant literature and develops the research hypotheses. Section 4 presents data, variable construction, and empirical design. Section 5 reports the empirical results, and Section 6 concludes with a discussion of the main implications and limitations of the study.

2. Institutional Background

2.1. Business Model and Objectives of Football Clubs

European professional football has developed into a sector of substantial economic magnitude. Recent industry reports indicate that European football has continued to expand economically, driven by sustained growth in broadcasting revenues, commercial activities, and international fan engagement (Deloitte, 2025). Since the 1990s, numerous analysts have noted that football has "evolved from a sport into a business", given the growing importance of revenues and increasing academic interest in its economic and financial analysis (Deloitte, 2020; Sloane, 1971). However, unlike other industries, profit maximisation has not historically been the primary objective of many European football clubs (Sloane, 1971). In contrast to the North American sports model—where financial profitability typically takes precedence—European club owners have traditionally prioritised sporting success (wins, championships, and prestige) over pure economic returns (Sloane, 1971; Rottenberg, 1956). This mindset, described in the literature as utility maximisation rather than profit maximisation, implies that clubs tend to reinvest revenues or even spend beyond their financial means in pursuit of sporting glory, rather than distributing profits to shareholders, thereby prioritizing competitive performance over financial returns (Sloane, 1971). Indeed, aggressive pursuit of sporting success has frequently been shown to undermine profitability: allocating excessive resources to improving on-field performance can erode profit margins and weaken clubs' financial solvency (Sloane, 1971; Dermit-Richard, 2019). An illustrative example is provided by

several English clubs that went public: after raising capital through initial public offerings, they achieved sporting improvements—such as increased wins and high-profile player signings—but experienced declines in share prices as the funds were channelled into rising transfer fees and wage costs, ultimately generating long-term financial difficulties (Renneboog & Vanbrabant, 2000).

Because of this emphasis on sporting success over profit generation, revenue growth has often failed to translate into net profits (Deloitte, 2020; UEFA, 2012). Over recent decades, many clubs have engaged in a "revenue race" without converting higher cash inflows into sustainable accounting profits, thereby compromising their long-term financial sustainability (UEFA, 2012; Dermit-Richard, 2019). A growing body of evidence documents episodes of financial fragility across major European leagues. For example, towards the end of the 2000s, severe structural financial weaknesses were identified among clubs in the Spanish league, with similar problems observed in Italy's Serie A (UEFA, 2012). Likewise, in the early 2000s, several English Premier League clubs spent far beyond their means to remain competitive, accumulating unsustainable debt levels that threatened their financial stability (UEFA, 2011; UEFA, 2012). Comparable patterns have been identified in other European leagues—such as the Greek league—where clubs' financial statements reveal alarming levels of indebtedness and persistent losses, pointing to a broader pattern of financial distress within the sector (Fan *et al.*, 2023).

Ownership structure and governance arrangements also play an important role in shaping clubs' financial performance. Comparative studies suggest that clubs controlled by single private owners tend to exhibit weaker financial indicators—such as higher leverage and lower returns—than those with more dispersed ownership structures or those listed on stock exchanges (Renneboog & Vanbrabant, 2000; Dermit-Richard, 2019). Listed clubs, which are subject to greater public scrutiny and stricter transparency requirements, generally display stronger financial discipline, whereas some clubs under individual ownership have assumed elevated financial risks in pursuit of sporting achievements, thereby deteriorating their accounting position (Renneboog & Vanbrabant, 2000; Dermit-Richard, 2019). Overall, this institutional heterogeneity highlights the diversity of economic organisation among European professional football clubs and illustrates how differing objectives—sporting versus financial—and governance models can significantly influence their economic outcomes (Dermit-Richard *et al.*, 2024).

2.2. Revenues Linked to Sporting Performance

The revenues of a professional football club typically originate from several main sources: broadcasting rights, sponsorship and advertising, matchday revenues (ticket sales), merchandising, and competition prize money (Deloitte, 2020; UEFA, 2012). All of these revenue streams are, to a greater or lesser extent, linked to the team's sporting performance (UEFA, 2012). For instance, broadcasting contracts and competition prize distributions allocate higher amounts to clubs that achieve better league positions or advance to later stages of international tournaments; likewise, sporting success is usually

associated with higher stadium attendance, increased season-ticket subscriptions, and greater attractiveness for commercial sponsors (Deloitte, 2020; UEFA, 2012). Empirical evidence confirms this positive relationship between sporting performance and revenues: stronger performance in domestic competitions, as well as participation in European tournaments—particularly the UEFA Champions League—is associated with significant increases in clubs' annual revenues (Barajas *et al.*, 2005; Alabi *et al.*, 2024). In other words, success on the pitch tends to reinforce financial performance by enabling clubs to access higher income streams from broadcasting, prize money, and fan engagement, thereby strengthening their overall revenue-generating capacity (Serrano *et al.*, 2023).

This dependence of revenues on sporting performance also tends to reinforce disparities between clubs. The most successful teams in each league capture a disproportionately large share of total industry revenues, allowing them to sustain larger budgets (UEFA, 2012; García-del-Barrio & Rossi, 2020). For example, the distribution of UEFA Champions League revenues rewards clubs reaching the later stages in a highly non-linear manner: payments for match victories, progression through rounds, and market pool allocations are substantially higher for semi-finalists and finalists, thereby widening the gap relative to clubs eliminated in earlier rounds (UEFA, 2012). The literature suggests that this mechanism generates a virtuous cycle—successful clubs receive more revenues and can reinvest in talent, thereby consolidating their dominance—while simultaneously widening financial disparities across clubs (García-del-Barrio & Rossi, 2020). Indeed, it has been observed that the European competition format, together with broadcasting revenue allocation, tends to favour historically large clubs, which regularly progress further and capture larger rewards, thereby increasing their cumulative financial advantage (García-del-Barrio & Rossi, 2020; Serrano *et al.*, 2023).

From the perspective of the present study, these findings suggest that sporting success constitutes an important driver of clubs' revenue generation, although whether these additional revenues ultimately translate into higher accounting profitability remains an open empirical question. This reality compels clubs with sporting ambitions to pursue success as a means of increasing revenues, reinforcing the close link between on-field performance and economic outcomes (Alabi *et al.*, 2024).

2.3. *Operating Costs, Rigidity, and Financial Risk*

The most significant operating cost for a football club is typically squad remuneration: player and coaching staff wages account for the largest share of annual expenditure, together with amortisation of player registration rights acquired through transfers (UEFA, 2012; Alabi *et al.*, 2024). This cost structure is notably rigid in the short term, as guaranteed contracts prevent clubs from rapidly reducing their wage bill even when revenues decline (UEFA, 2012; Dermit-Richard, 2019). The specialised literature highlights that the overwhelming weight of wages—stemming from an "arms race" to sign top talent—is one of the primary causes of chronic financial instability in football clubs (Alabi *et al.*, 2024). In practice, many clubs allocate any increase in revenues to improving the quality (and cost) of their playing squads, resulting in a weak relationship

between revenues and profits (Franck, 2010; Alabi *et al.*, 2024). Indeed, it has been observed that even the substantial growth in broadcasting and commercial revenues over recent decades has not translated into proportional improvements in profitability, as clubs tend to spend these additional resources on higher wages and other operating costs (Deloitte, 2020; UEFA, 2012; Alabi *et al.*, 2024). In other words, costs tend to rise in tandem with revenues, preventing the generation of sustained profits and increasing financial fragility in the event of sporting setbacks (Dermit-Richard *et al.*, 2024). Consequently, improvements in sporting performance do not necessarily imply proportional improvements in accounting profitability.

Cost rigidity exposes clubs to substantial financial risk when sporting performance deteriorates. Underperformances such as failure to qualify for European competitions, finishing in the lower part of the league table, or suffering relegation typically result in a sharp decline in revenues that cannot be offset in the short term through cost reductions, leading to significant economic losses (UEFA, 2012; Alabi *et al.*, 2024). For example, a historical study of the English league (1982–2010) showed that finishing in the lower half of the table was typically associated with financial losses, whereas only top-ranked teams achieved meaningful accounting profits (UEFA, 2012). Furthermore, the promotion and relegation system inherent to the European football model has been identified as a factor that increases insolvency risk: the sporting threat of relegation to a lower division—with the corresponding loss of broadcasting and sponsorship revenues—introduces much greater financial volatility than in closed leagues without relegation (Alaminos *et al.*, 2019; UEFA, 2012). This systemic risk has been evident in numerous cases of European clubs that, following relegation or exclusion from major tournaments, faced severe difficulties in meeting their financial obligations (UEFA, 2012; Alaminos *et al.*, 2019).

In response to recurrent operating deficits, many clubs have resorted to debt financing, resulting in fragile financial structures (UEFA, 2012). It is therefore unsurprising that accounting ratios frequently reveal high leverage levels alongside weak profitability indicators (low ROA/ROE) in these entities (UEFA, 2012; Fan *et al.*, 2023). Elevated leverage and insufficient cash generation increase vulnerability to sporting shocks (Alaminos *et al.*, 2019). Indeed, football bankruptcy prediction models identify excessive indebtedness combined with low liquidity as key precursors of severe financial distress among professional clubs (Alaminos *et al.*, 2019). Studies of past insolvencies suggest that sharp revenue declines linked to poor sporting performance often act as the trigger for bankruptcy, particularly when clubs already operate with weak financial structures (Alaminos *et al.*, 2019). In summary, rigid cost structures, combined with the inherently uncertain nature of sporting performance (injuries, performance streaks, open competition), result in a significantly elevated financial risk profile for many football clubs (Alabi *et al.*, 2024). This institutional context provides a plausible explanation for why the relationship between sporting success and accounting profitability may be considerably weaker than the relationship between sporting success and revenues.

2.4. *Financial Regulation in European Football*

The scale of financial problems in football clubs led to the implementation of specific regulatory frameworks over the past decade. An important milestone was the 1995 Bosman rule, which liberalised the player labour market within the European Union (Hoey, 2021). By eliminating transfer restrictions for out-of-contract players, the Bosman case strengthened players' bargaining power and facilitated the movement of talent towards clubs with greater financial resources, thereby increasing competitive imbalance and exerting upward pressure on wages at large clubs (Hoey, 2021). This legal change inaugurated a new era in the economics of European football, raising player retention costs for training clubs and indirectly contributing to widespread wage inflation across major leagues (Hoey, 2021).

Subsequently, in response to escalating expenditures and debt levels during the 2000s, UEFA introduced the Financial Fair Play (FFP) regulations from 2012 onwards as a pan-European framework for financial discipline (UEFA, 2012). FFP requires clubs to balance their operating accounts, that is, not to spend more than they earn from football-related activities through budgetary constraints linked to recurring revenues and the possibility of sanctions in cases of non-compliance (UEFA, 2012). The regulation was introduced in response to alarming signals: immediately prior to its implementation, the 235 clubs participating in UEFA competitions incurred expenses approximately 15% higher than their revenues, an unsustainable situation that threatened the viability of the European football system (UEFA, 2012). The new regime represented a substantial institutional shift, aiming to steer clubs towards more prudent management and to reduce systemic financial collapse risk (UEFA, 2012; Alabi *et al.*, 2024).

Alongside UEFA-level regulation, many national leagues strengthened their own financial controls. In Spain, for example, LaLiga introduced squad cost limits based on clubs' expected revenues, while in France the DNCG (Direction Nationale du Contrôle de Gestion) annually supervises club finances and can impose sanctions ranging from transfer restrictions to administrative relegation in cases of severe imbalance (LaLiga, n.d.; Dermit-Richard, 2019). These measures aim to prevent short-term payment defaults and promote sustainability, although they may also generate unintended sporting consequences. For example, imposing sporting sanctions for financial reasons can, paradoxically, aggravate a club's economic difficulties by depriving it of future revenues (for instance, through relegation) (Dermit-Richard, 2019).

The academic literature debates the effectiveness and unintended consequences of these regulatory frameworks. Some studies suggest that after several years of FFP implementation, the competitive-financial gap between large and small clubs has not narrowed and may even have widened in certain leagues (García-del-Barrio & Rossi, 2020; Serrano *et al.*, 2023). This outcome is attributed to the fact that financially powerful clubs, with historically higher revenues, were better positioned to comply with the rules and continue dominating the post-FFP landscape, while mid-sized clubs face tighter investment constraints (García-del-Barrio & Rossi, 2020; Serrano *et al.*, 2023). As a

result, several authors have proposed more far-reaching structural reforms inspired by the North American sports model to address European football's financial problems. These include the potential introduction of salary caps and closed leagues (without promotion and relegation) to guarantee long-term revenue stability (Dermit-Richard, 2019). However, implementing such measures in the European context is highly complex due to institutional differences, sporting traditions, and possible unintended side effects (e.g., cost pressures shifting elsewhere or reduced competitive incentives) (Alabi *et al.*, 2024).

Consequently, financial regulation has become an essential component of the institutional environment in which European football clubs operate, shaping not only their financial policies but also the relationship between sporting ambition and economic sustainability. Overall, the balance between club self-regulation and externally imposed regulation remains a subject of debate, with the objective of reconciling sporting passion with financial responsibility while preserving competition integrity and avoiding crises like those experienced in the recent past (Serrano *et al.*, 2023).

2.5. *Effects of Sporting Success and Failure on Club Finances*

The link between sporting performance and clubs' accounting outcomes is neither linear nor unidirectional, but rather bidirectional and nuanced. On the one hand, sporting success typically generates favourable financial effects: higher revenues from prize money and broadcasting, increased matchday income and merchandising sales, growth in the fan base, and enhancement of the club's brand value (Deloitte, 2020; UEFA, 2012). In principle, these factors should translate into improved economic results. On the other hand, achieving sporting success requires substantial investment—in talent acquisition, infrastructure, and performance-related bonuses—which frequently absorb a large share of these additional revenues (UEFA, 2012; Alabi *et al.*, 2024). In practice, many successful clubs barely break even or generate only modest margins, as they reinvest heavily to maintain competitiveness (UEFA, 2012). Recent research confirms this tension: the pursuit of sporting success can undermine profitability and financial sustainability, while conversely, strong sporting performance does not guarantee improved profitability unless accompanied by prudent financial management (Alabi *et al.*, 2024). In other words, managing clubs exclusively to maximise on-field performance often entails sacrificing financial stability, particularly when owners or executives are willing to incur losses to win trophies (Sloane, 1971). This phenomenon helps explain why clubs that win championships or achieve promotion may subsequently experience financial difficulties, having compromised their financial health in the process (UEFA, 2012; Alaminos *et al.*, 2019).

Another perspective on the economic consequences of sporting success or failure is provided by the stock market behaviour of the few listed football clubs. Studies of share price movements reveal an asymmetric reaction to sporting results: major defeats typically lead to significant declines in share prices, whereas victories generate much smaller (or even negligible) positive valuation effects (Renneboog & Vanbrabant, 2000; Scholtens & Peenstra, 2009). From a financial standpoint, losses "hurt" more than wins

"benefit", reflecting that sporting disappointment immediately erodes investor confidence in a club's future revenue- and profit-generating capacity (Scholtens & Peenstra, 2009). Furthermore, evidence from England shows that following initial public offerings, some clubs experienced sporting improvements alongside declining share prices, as raised capital was allocated to transfers and wages in pursuit of titles rather than to balance sheet strengthening (Renneboog & Vanbrabant, 2000). This reinforces the notion that sporting success achieved at any cost may not be positively valued by markets if it undermines long-term profitability and financial sustainability (Renneboog & Vanbrabant, 2000).

Finally, there are specific accounting implications associated with sporting success or failure, particularly in relation to the treatment of players as assets. Players acquired by a club are recognised as intangible assets (registration rights) measured at acquisition cost and amortised over the duration of their contracts, whereas players developed through youth academies are not capitalised on the balance sheet (Amir & Livne, 2005; Oprean & Oprisor, 2014). This generates distortions in financial reporting: a club may possess a squad of high market value due to sporting success and player appreciation, yet this value is not fully reflected in the accounting assets reported on the balance sheet (Amir & Livne, 2005; Oprean & Oprisor, 2014). Conservative accounting standards imply that only when a player is sold and a capital gain is realised does sporting success translate into recognised accounting income. Conversely, severe sporting failure—such as relegation—may force a club to sell players below their book values or to recognise impairment losses on player registration rights, thereby reflecting the negative consequences of adverse sporting performance in the financial statements (Amir & Livne, 2005; UEFA, 2012). In sum, sporting success tends to strengthen clubs' finances in the long run by boosting revenues and market value, but it also presents challenges in managing those resources effectively; symmetrically, sporting failure exerts immediate and sometimes dramatic pressure on clubs' accounts, increasing financial risk and testing institutional and accounting resilience (Alabi *et al.*, 2024).

Importantly, this dual mechanism suggests that the relationship between sporting success and accounting profitability is theoretically ambiguous: while higher performance is expected to increase revenues, the concurrent rise in operating costs and reinvestment incentives may offset these gains. Consequently, sporting success cannot be assumed to translate automatically into higher accounting profitability. As a result, the net effect on accounting profitability is ultimately an empirical question rather than a trivial outcome, which further motivates the analysis conducted in this study.

3. Literature Review and Hypotheses

3.1. Accounting Outcomes under Performance Pressure

European professional football is characterised by a structural tension between the pursuit of sporting success and financial sustainability. From an economic perspective, numerous studies have documented that football clubs tend to prioritise the maximisation of sporting performance over economic profitability, operating according to a logic of win

maximisation rather than profit maximisation (Sloane, 1971; Storm & Nielsen, 2012). This orientation has historically contributed to persistent financial imbalances, in a context in which many European leagues have operated under soft budget constraints, allowing clubs to accumulate losses and debt without facing immediate bankruptcy, often supported by owners, creditors, or external interventions (Storm & Nielsen, 2012).
Within this environment, pressure arising from sporting outcomes—whether to achieve top positions or to avoid relegation—significantly shapes clubs' financial and accounting decisions. The general accounting literature shows that under conditions of high-performance pressure and sanction risk, managers may resort to discretionary practices in financial reporting (Healy & Wahlen, 1999). In professional football, this dynamic is further reinforced by the existence of sport-specific regulatory frameworks and by the high public visibility of both financial and sporting results.

A growing body of research has examined how regulations such as UEFA's Financial Fair Play (FFP) and national economic control mechanisms have altered clubs' accounting incentives. Although these regulations have contributed to improvements in certain aggregate indicators of financial discipline, they have also generated incentives for the strategic use of accounting practices to formally comply with regulatory requirements without undermining sporting competitiveness (Franck, 2014; Dimitropoulos *et al.*, 2016). Empirical studies document an increased use of discretionary accrual adjustments following the introduction of FFP across several European leagues (Dimitropoulos *et al.,* 2016).

In the Spanish context, the implementation of LaLiga's Economic Control Regulation introduced strict spending limits and solvency requirements, creating an environment of heightened formal discipline. Nevertheless, recent literature suggests that such regulatory frameworks may coexist with opportunistic accounting practices, especially among clubs facing tighter financial constraints or a high dependence on sporting performance (Amir & Livne, 2005; Urdaneta-Camacho *et al.*, 2025). This institutional setting provides a particularly suitable context for analysing whether sporting success is ultimately reflected in clubs' accounting performance. Overall, this evidence highlights that the accounting environment of professional football is strongly shaped by competitive pressure and by the interaction between sporting and financial objectives, making the relationship between sporting success and accounting profitability an issue of both theoretical and practical relevance.

3.2. *Sporting Performance as an Exogenous Shock*

From an accounting and management perspective, sporting performance can be interpreted as a key determinant of clubs' economic and financial outcomes. Although sporting outcomes are influenced by clubs' strategic decisions—such as player recruitment, wage expenditure and managerial quality—they also contain an important degree of uncertainty arising from factors such as injuries, refereeing decisions, fixture difficulty, individual player performance, and competitive dynamics (Szymanski & Kuypers, 1999).

Accordingly, this study does not treat sporting success as an exogenous shock. Rather, it considers sporting performance as a relevant competitive outcome that is closely associated with clubs' financial performance, while recognising that both may be jointly influenced by underlying strategic and economic decisions.

The literature has extensively documented that specific sporting events—such as promotion, relegation, or qualification for European competitions—generate abrupt changes in revenues from broadcasting rights, matchday attendance, sponsorships, and brand visibility, thereby producing economically meaningful consequences for football clubs (Barajas *et al.*, 2005; Alaminos *et al.*, 2019).

Numerous studies report a positive relationship between sporting performance and various dimensions of economic performance, particularly revenues and brand value (Szymanski & Kuypers, 1999; Barajas *et al.*, 2005). However, existing evidence also suggests that this relationship does not automatically translate into improvements in accounting profitability, due to cost rigidity and clubs' tendency to reinvest additional resources into sporting talent (Storm & Nielsen, 2012; Franck, 2014).

Previous studies have also documented that unexpected sporting outcomes influence investors' expectations, clubs' revenues and subsequent financial decisions. For example, Edmans *et al.* (2007) show that unexpected defeats negatively affect stock market returns, while other studies highlight that sporting performance has important implications for clubs' financial policies and long-term economic outcomes (Alaminos *et al.*, 2019). Taken together, these studies suggest that sporting performance affects several dimensions of clubs' economic activity, although the magnitude and persistence of its effect on accounting profitability remain uncertain.

In line with this literature, the empirical analysis in this study does not aim to establish a causal relationship between sporting success and accounting profitability, but rather to document and quantify their statistical association within a panel data framework. This distinction is important, as it acknowledges potential endogeneity concerns and avoids overstating the interpretation of the estimated coefficients. Consequently, the estimated coefficients should be interpreted as evidence of statistical association rather than causal effects.

3.3. *Hypotheses Development*

The relationship between sporting performance and the economic performance of professional football clubs has been widely examined in the sports economics and management literature. Prior research shows that football clubs often prioritise sporting success over profit maximisation, operating under a win-maximisation logic rather than a purely financial objective (Sloane, 1971; Szymanski & Kuypers, 1999). Within this framework, sporting performance represents a central element of the professional football business model.

A substantial body of research shows that sporting success is positively associated with clubs' revenues through higher broadcasting income, competition prizes, stadium attendance, and commercial attractiveness for sponsors (Barajas *et al.*, 2005; Szymanski & Kuypers, 1999). However, evidence regarding its impact on accounting profitability is less conclusive. The high rigidity of costs, particularly player wages and amortisation of player registrations, tends to absorb the additional revenues generated by sporting success, thereby limiting their translation into sustained economic profits (Franck, 2014; Storm & Nielsen, 2012).

Taken together, these arguments suggest the coexistence of two opposing mechanisms: on the one hand, sporting success enhances revenue generation; on the other, it induces higher operating costs through increased investment in talent. As a result, the net effect on accounting profitability is theoretically ambiguous and ultimately an empirical question. Consequently, although a positive association between sporting success and profitability is expected, its magnitude and persistence cannot be inferred a priori and require empirical verification.

This ambiguity is particularly relevant in the context of professional football, where short-term financial gains may coexist with limited persistence due to cost dynamics and reinvestment incentives. Accordingly, the objective of this study is not to establish a causal relationship, but rather to examine whether sporting success is systematically associated with accounting profitability after controlling for club-specific and time-specific effects.

Based on this theoretical framework and the existing empirical evidence, the following main hypothesis is proposed:

H1: Sporting success is positively associated with a club's accounting profitability.

4. Research Design

4.1. *Sample and Data*

The sample consists of professional football clubs that have competed in the Spanish First Division between the 2009–2010 and 2023–2024 seasons, covering fifteen consecutive years. The final sample includes 14 clubs for which complete and homogeneous accounting information is available and that have participated recurrently in the top tier of Spanish professional football. This selection criterion allows for the construction of a stable and consistent panel dataset, ensuring intertemporal comparability of both accounting and sporting variables and avoiding distortions associated with frequent entry and exit of clubs with incomplete information. Moreover, the balanced panel facilitates the identification of within-club variation over time, which is consistent with the fixed-effects methodology adopted in the empirical analysis. At the same time, the sample exhibits substantial heterogeneity in terms of size, sporting performance, and financial condition. The composition of the sample is reported in Table A1 in the Appendix.

Financial information is obtained from the Orbis database, which is widely used in the accounting and finance literature and provides standardised financial statements at the entity level. From this database, we extract the main economic and financial variables used in the empirical analysis, including net income, total assets, operating revenues, and total liabilities.

Sporting information is drawn from official seasonal league standings and publicly available records of national and international competitions, collected through web scraping techniques and manually verified. These data include the final league position, performance in the domestic cup competition, and participation and progression in European competitions. The combination of financial and sporting data allows for the construction of a longitudinal club–season panel suitable for panel data econometric analysis with fixed effects.

4.2. *Variables*

4.2.1 Measurement of $Sporting\ Success$

Sporting performance for each club and season is measured using a continuous index of sporting success, designed to capture annual competitive performance in an integrated manner across the main official competitions. In contrast to discrete measures of sporting outcomes, this index is constructed from continuous performance indicators, allowing for greater variability in sporting outcomes and reducing the arbitrariness associated with ex ante weighting of milestones.

While no single standard measure of sporting success exists in literature, prior studies have used both individual indicators and composite measures. In this study, we construct a composite index to capture the multidimensional nature of sporting performance in a consistent and comparable manner across clubs and seasons. The use of a composite measure is particularly appropriate because the objective of this study is to evaluate clubs' overall sporting performance during a season, rather than the isolated contribution of individual competitions. Analysing league, domestic cup and European competitions separately would require multiple specifications and would not adequately capture the overall competitive achievement of each club. The composite index therefore provides a more parsimonious and comprehensive measure of annual sporting success while ensuring comparability across clubs and seasons.

The $sporting\ success$ index combines information from four key dimensions of competitive performance: (i) final position in the domestic league, (ii) performance in the national cup competition, (iii) participation and progression in the UEFA Champions League, and (iv) participation and progression in the UEFA Europa League. Each dimension is transformed into a normalised score on a common scale ranging from 0 to 100, where higher values indicate greater $sporting\ success$.

For the domestic league, sporting success is measured based on the final league position. This variable is linearly transformed into a continuous score, such that the league champion receives the maximum value and the lowest-ranked club receives the minimum value, thereby capturing the relative degree of success achieved by each club in the regular competition.

For knockout competitions, performance is measured according to the round reached by each club. As successive rounds involve a decreasing number of remaining teams, the original variable, coded according to the number of teams remaining in each stage, is transformed using a logarithmic function that reflects the depth of progression in the tournament. This transformation assigns higher values to clubs reaching later stages while maintaining continuity between successive rounds and avoiding excessive discrete jumps across phases.

Once the normalised scores for each dimension are obtained, the final sporting success index is constructed as a weighted combination of the different competitions. Greater weight is assigned to domestic league performance, given its regular nature and sustained economic relevance, while European competitions receive an intermediate weight and the national cup a lower weight, consistent with their smaller number of matches and higher degree of randomness. This weighting scheme reflects the relative sporting and economic importance traditionally attributed to each competition within European professional football. The resulting index is expressed on a continuous scale from 0 to 100, with higher values indicating a higher level of annual sporting success.

All underlying data are obtained from official league standings and verified competition records. Specifically, league position variables (L10, L11, etc.) capture the final league ranking for each season, while national cup (C10, C11, etc.) and European competition variables (UCL and U) reflect the round reached by each club in each tournament. These data are drawn from official competition records and systematically collected using web scraping techniques.

Appendix Table A2 reports the annual values of the continuous sporting success index for each club and season included in the sample, allowing for a detailed examination of its intertemporal evolution and the degree of heterogeneity across clubs.

This approach enables a more precise capture of the intensity of sporting success and its variation over time, providing a continuous and comparable measure of competitive performance suitable for econometric analysis in a panel data setting.

4.2.2 *ROA*

The primary dependent variable in the study is return on assets (ROA), calculated as net income divided by total assets. The use of ROA allows for a comparable assessment of clubs' economic performance while controlling for differences in scale and asset structure across entities, given the substantial heterogeneity that characterizes the football industry.

ROA is widely used in the accounting literature as a comprehensive measure of profitability, as it captures the efficiency with which firms generate earnings from their asset base. In the context of football clubs, it provides a consistent indicator of economic performance that is comparable across entities of different sizes.

As alternative dependent variables, employed in sensitivity analyses and additional robustness checks, we consider net income scaled by revenues as a measure of operating margin, and the level of leverage, defined as total liabilities divided by total assets. The results obtained using these alternative measures are consistent with the main findings and are reported in the robustness analysis.

4.3. *Empirical model*

The empirical analysis is based on panel data models estimated using ordinary least squares with club and season fixed effects. This approach allows us to control for unobserved, time-invariant heterogeneity specific to each club—such as size, cost structure, fan base, or ownership model—as well as for factors common to all clubs each year, including regulatory changes, macroeconomic conditions, or modifications in revenue-sharing arrangements.
The baseline specification is as follows:

$$ROA_{i,t} = \beta\, Success_{i,t} + \mu_i + \lambda_t + \varepsilon_{i,t} \qquad [1]$$

where $ROA_{i,t}$ denotes the return on assets of club i in season t, $Success_{i,t}$ is the contemporaneous continuous index of sporting success, μ_i captures club fixed effects, and λ_t represents season fixed effects. The error term $\varepsilon_{i,t}$ captures idiosyncratic disturbances.

The use of a contemporaneous measure of sporting success is motivated by the fact that a substantial share of the revenues and costs associated with sporting performance are recognised in the same accounting period in which performance occurs. Accordingly, this specification captures the immediate economic impact of sporting success on club profitability.
As an additional check, an alternative specification introduces the sporting success index with a one-season lag to assess whether the impact of sporting performance on profitability persists over time:

$$ROA_{i,t} = \beta Success_{i,t-1} + \mu_i + \lambda_t + \varepsilon_{i,t} \qquad [2]$$

In addition, this specification serves as a robustness check to account for potential timing differences in the recognition of revenues and costs associated with sporting performance. It should be noted that this lagged specification is not intended to establish a causal relationship between sporting success and accounting profitability. Rather, it examines whether the statistical association observed in the contemporaneous model persists over time.

In all estimations, standard errors are clustered at the club level to correct for potential heteroskedasticity and serial correlation within clubs over time, in line with standard recommendations in panel data analysis.

5. Results

5.1. *Descriptive Statistics*

Table 1 reports descriptive statistics for the main variables used in the empirical analysis, as well as for additional accounting variables that characterise clubs' economic and financial structure. Specifically, the table presents the mean, median, standard deviation, and minimum and maximum values for the sporting success index and a representative set of accounting variables over the sample period.

Table 1. Descriptive statistics.

Variable	N	Mean	Std. Dev.	Min	Median	Max
Success	209	36	49.50	−20.0	30.00	220.00
ROA	209	−0.003	0.10	−0.339	0.00	0.31
Revenues	209	169	207	8	85	843
Net Income	209	−1.2	44	−481.0	1	304
T. Assets	209	371	399	35	208	1620
T. Liabilities	209	310	313	50	145	1400
Leverage	209	1	0	0	1	2

Note: The table reports descriptive statistics for the main variables used in the empirical analysis. Sporting success refers to the continuous index defined in Section 4.2.1. ROA is calculated as net income divided by total assets. Revenues, net income, total assets and total liabilities are expressed in millions of euros. Leverage is defined as total liabilities divided by total assets. The total number of observations is 209 club–season observations.

The results reveal substantial heterogeneity in both sporting performance and financial conditions across the clubs analysed. The sporting success index exhibits a mean value of 35.6, a standard deviation of 49.5, and a wide range spanning from −20 to 220 points. This dispersion reflects considerable variation in competitive outcomes both across clubs and over time, consistent with the coexistence of clubs with recurrent sporting success and others more frequently exposed to poor results or relegation risk.

In terms of financial performance, return on assets (ROA) displays a mean close to zero (−0.003) and an almost zero median (0.00), indicating that, on average, clubs do not generate substantial economic returns on their asset base. The standard deviation of ROA (0.10) points to high volatility in profitability, consistent with the financial instability that characterises professional football and with the strong sensitivity of accounting results to sporting performance.

Regarding size, average revenues amount to €169 million, while total assets reach €371 million, highlighting substantial differences in economic scale among the clubs in the sample. These disparities reflect the coexistence of very large clubs with significantly smaller entities, even within the same league.

Total liabilities average €310 million, and the leverage ratio (total liabilities over total assets) displays a mean close to 0.9, confirming the presence of high levels of financial leverage. This pattern is consistent with prior evidence documenting a strong reliance on debt financing among professional football clubs, driven by cost rigidity and competitive pressure to sustain sporting performance.

Overall, the descriptive statistics confirm the existence of marked heterogeneity in both sporting and financial dimensions. This heterogeneity justifies the use of panel data models with club and season fixed effects and provides an appropriate context for interpreting the empirical results that follow.

5.2. *Correlations*

Table 2 presents the correlations between the sporting success index and a set of accounting variables representative of clubs' economic and financial conditions. Sporting success is positively correlated with return on assets (0.171) and exhibits particularly strong correlations with revenues (0.739) and club size, measured by total assets (0.694). This pattern suggests that clubs with stronger sporting performance tend to be economically larger and have greater revenue-generating capacity.

Table 2. Correlation matrix.

Variable	Success	ROA	Revenues	T. Assets	Leverage
Success	1				
ROA	0.171	1			
Revenues	0.739	0.058	1		
T. Assets	0.694	−0.008	0.942	1	
Leverage	−0.393	−0.353	−0.367	−0.332	1

Note: The table reports Pearson correlation coefficients between the sporting success index and the main accounting variables. Sporting success is a continuous measure of annual competitive performance. ROA is defined as net income divided by total assets. Revenues and assets are expressed in millions of euros, while leverage is calculated as total liabilities divided by total assets. Statistical significance levels are indicated by * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$. Correlations are presented for descriptive purposes and do not control for unobserved heterogeneity or common time effects.

Sporting success is also negatively correlated with leverage (−0.393), indicating that, on average, clubs with better competitive outcomes tend to exhibit relatively stronger financial structures. The correlation between revenues and assets is very high (0.942), reflecting the close relationship between club size and revenue-generating capacity in professional football.

These descriptive correlations provide an initial indication of the relationship between sporting performance and accounting outcomes, as well as of the interconnections among key financial variables. However, their interpretation should be treated with caution, as they do not control unobserved club-specific heterogeneity or common time effects. These issues are explicitly addressed in the subsequent multivariate analysis through panel data models with fixed effects

5.3. Main Results

Table 3 reports the results of the baseline empirical models, in which return on assets (ROA) is explained as a function of the continuous sporting success index. Column 1 presents the contemporaneous specification, where sporting success is measured in the same season as profitability, while column 2 reports an alternative specification in which sporting success enters the model with a one-season lag. All estimations include club and season fixed effects, and standard errors are clustered at the club level.

Table 3. Estimation results for Models [*1*] and [*2*].

Variable	Estimation [*1*]	Estimation [*2*]
Success	0.00133**	
	(-0.00054)	
Success (t−1)		0.00073*
		(-0.00039)
FE club	Yes	Yes
FE year	Yes	Yes
Observations	209	195
Adj. R^2	0.329	0.328
Within R^2	0.069	0.023

Note: The table reports panel OLS estimates. The dependent variable is return on assets (ROA). In column 1, sporting success is measured contemporaneously, while column 2 uses the sporting success index lagged by one season (t−1). All specifications include club and season fixed effects. Standard errors (in parentheses) are clustered at the club level. * p < 0.10; ** p < 0.05; *** p < 0.01.

In column 1, the coefficient on sporting success is positive and statistically significant at the 5% level, indicating that better sporting performance in each season is positively associated with higher accounting profitability in the same season. These results suggest that clubs achieving stronger sporting performance also tend to report higher accounting profitability within the same accounting period, even after controlling for unobserved club-specific heterogeneity and common time effects.

From an economic perspective, the magnitude of the coefficient suggests that meaningful increases in sporting success translate into quantitatively modest but economically meaningful improvements in ROA. For example, an increase of 50 points in the sporting success index—roughly equivalent to the difference between qualifying for European competitions and winning the domestic league—is associated with an increase in ROA of approximately 6.7 percentage points. This magnitude indicates that sporting performance is not only statistically associated with profitability but also economically relevant.

Column 2 of Table 3 presents an alternative specification in which sporting success enters the model with a one-season lag, allowing us to examine whether the observed association persists over time. In this case, the coefficient remains positive, but both its magnitude and statistical significance are reduced, being significant only at the conventional 10%

level. This pattern suggests that the impact of sporting success on profitability is only weakly persistent over time.

Overall, the results indicate that the economic effect of sporting success on the profitability of professional football clubs is largely concentrated in the short term. While sporting performance generates immediate accounting benefits, its ability to sustain improvements in profitability in subsequent seasons appears limited, which is consistent with a business model in which revenues derived from sporting success are rapidly absorbed by higher operating costs. These findings are consistent with recent studies arguing that although sporting success increases clubs' revenue-generating capacity, much of these additional resources are subsequently reinvested in player salaries, transfers and other operating expenditures, thereby limiting long-term improvements in accounting profitability (e.g., Alabi *et al.*, 2024; Dermit-Richard *et al.*, 2024).

5.4. Robustness Analysis

To further assess the robustness of the main findings, we perform additional estimations using alternative specifications of the dependent variable. Instead of focusing on the level of accounting profitability, we analyse whether sporting success is associated with changes in profitability over time, by employing the first difference of return on assets (ΔROA) as the dependent variable.

This alternative specification allows us to capture short-term dynamics in financial performance and to test whether improvements in sporting outcomes are associated with contemporaneous variations in profitability, rather than with its absolute level. This approach is especially relevant in the context of professional football, where high-cost rigidity may obscure the effect of sporting success when profitability is measured in levels.

The empirical specification is as follows:

$$\Delta ROA_{i,t} = \beta * Success_{i,t} + \mu_i + \lambda_t + \varepsilon_{i,t} \qquad [3]$$

where $\Delta ROA_{i,t}$ denotes the change in return on assets for club i between seasons $t-1$ and t, $Success_{i,t}$ is the contemporaneous sporting success index, μ_i captures club fixed effects, and λ_t represents season fixed effects. An additional specification replaces $Success_{i,t}$ with its lagged value to assess persistence effects.

Table 4. Robustness analysis: Changes in profitability (ΔROA).

Variable	(1) ΔROA	(2) ΔROA
Success	0.00034* (0.00019)	
Success (t−1)		-0.00004 (0.00018)
FE club	Yes	Yes
FE year	Yes	Yes
Observations	177	175
Adj. R^2	0.087	0.023
Within R^2	0.023	0.000

Note: The table reports panel OLS estimates using the change in return on assets (ΔROA) as the dependent variable. In column 1, sporting success is measured contemporaneously, while column 2 uses the sporting success index lagged by one season (t−1). All specifications include club and season fixed effects. Standard errors (in parentheses) are clustered at the club level. * p < 0.10; ** p < 0.05; *** p < 0.01.

The results show that sporting success has a positive and statistically significant effect on changes in ROA, with significance at the 10% level. This finding suggests that better sporting performance is associated with short-term improvements in profitability dynamics, even if its impact on the level of profitability is more limited.

However, when introducing lagged sporting success into the model, the coefficient becomes statistically insignificant. This indicates that the positive effect of sporting success on profitability does not persist over time, reinforcing the interpretation that its economic impact is largely transitory.

Overall, these additional estimations provide further support for the main conclusion of the study. Although the robustness analysis relies on an alternative dependent variable, the estimated association remains positive and consistent with the baseline results. This reinforces the conclusion that sporting success is primarily associated with short-term improvements in clubs' accounting performance, whereas its longer-term association with profitability appears substantially weaker, likely because additional revenues are rapidly absorbed by increased operating costs.

6. Discussion

The results of this study provide empirical evidence on the relationship between sporting success and accounting profitability in professional football clubs, within an institutional context characterised by a strong orientation towards sporting performance and a high degree of cost rigidity. In particular, the findings show that sporting success has a positive and statistically significant association with effect on profitability when measured contemporaneously, while this effect weakens substantially when a temporal lag is introduced.

This pattern is consistent with the literature describing European football clubs as organisations oriented towards the maximisation of sporting outcomes rather than

economic profit (Sloane, 1971; Késenne, 2007). Within this framework, sporting success generates immediate additional revenues—derived from prize money, broadcasting rights, and increased commercial visibility—but these resources tend to be rapidly absorbed by higher operating costs, especially player wages and amortisation of player registrations. As a result, the positive impact on profitability is concentrated in the short term and does not necessarily translate into sustained improvements in economic performance.

Our results align with previous studies documenting a positive relationship between sporting performance and revenues, but a much weaker link with profitability measures (García-del-Barrio & Szymanski, 2009; Dimitropoulos & Limperopoulos, 2014). More recent evidence reaches similar conclusions, showing that although successful clubs generate substantially higher revenues, these gains are frequently offset by increases in wages, transfer expenditure and other operating costs, thereby limiting improvements in accounting profitability (Alabi *et al.*, 2024; Dermit-Richard *et al.*, 2024). In particular, the evidence that the effect of sporting success on ROA is only weakly persistent is consistent with research emphasising the rigidity of the cost structure in professional football and clubs' tendency to systematically reinvest additional revenues in sporting talent (Franck, 2010; Storm & Nielsen, 2012).

Moreover, the fact that the contemporaneous effect remains statistically significant even after controlling for club and season fixed effects suggests that sporting success operates as a short-term economic shock capable of temporarily improving accounting profitability. However, the loss of statistical significance in the lagged specification indicates that this shock does not consolidate over time, reinforcing the view that the business model of professional football constrains the accumulation of structural profitability. Importantly, these findings should be interpreted as evidence of association rather than causality, given the observational nature of the data and the potential for reverse relationships between financial capacity and sporting performance.

From an institutional perspective, these findings are also relevant to the debate on the financial sustainability of European football and the effectiveness of regulatory frameworks introduced over the past decade, such as Financial Fair Play. While sporting success may temporarily ease financial constraints, the evidence presented here suggests that, in the absence of effective cost discipline, such success does not guarantee lasting improvements in profitability. This result is consistent with studies questioning the ability of Financial Fair Play to fundamentally alter the economic incentives of dominant clubs (Peeters & Szymanski, 2014; Serrano *et al.*, 2023).

The results also have practical implications for club managers. While achieving sporting success remains essential from both a competitive and commercial perspective, the evidence suggests that sustainable financial performance depends on clubs' ability to convert additional revenues into long-term economic value rather than immediately increasing operating expenditure. Consequently, effective financial planning and cost control appear to be critical complements to sporting success.

Beyond their financial implications, these results also have broader socioeconomic relevance. The short-term nature of the economic benefits derived from sporting success may contribute to increased financial risk-taking behavior by clubs, with potential consequences for competitive balance, long-term sustainability, and stakeholder welfare, including fans and local communities.

Overall, the empirical evidence reinforces the view of European professional football as a sector in which sporting success and economic performance are closely linked, but not in an automatic or permanent manner. Success on the pitch generates immediate economic benefits, yet its translation into sustainable profitability critically depends on clubs' ability to contain costs and adopt prudent financial management.

7. Conclusion

This study examines the relationship between sporting success and accounting profitability in professional football clubs, using a panel dataset covering the main entities in Spanish football over an extended time horizon. Unlike previous approaches based on discrete measures of sporting performance, the paper proposes a continuous index of sporting success that systematically integrates performance in the domestic league, national cup competitions, and European tournaments, allowing for a more precise capture of intertemporal variation in competitive outcomes.

The empirical results show that sporting success has a positive and statistically significant effect on return on assets when measured contemporaneously. This finding indicates that improved sporting performance translates into immediate enhancements in accounting performance, even after controlling for unobserved club-specific heterogeneity and common time effects. However, when sporting success is introduced with a temporal lag, the effect decreases markedly in both magnitude and statistical significance, suggesting that the economic impact of sporting success is only weakly persistent.

Taken together, these results provide evidence consistent with the view that the business model of European professional football facilitates the realisation of short-term economic benefits from sporting success, while hindering their consolidation into sustained profitability. High-cost rigidity—particularly with respect to player wages and amortisation—limits clubs' ability to transform the additional revenues associated with sporting success into durable improvements in financial performance.

From an academic perspective, this study contributes to the accounting and sports economics literature by providing an alternative, continuous measure of sporting success and by empirically documenting the temporal nature of the link between sporting performance and profitability. The findings complement prior evidence distinguishing between the strong effect of sporting success on revenues and its more limited impact on profitability, underscoring the importance of explicitly considering cost structures and institutional incentives in the financial analysis of football clubs.

From a practical and regulatory standpoint, the results suggest that sporting success, while capable of temporarily alleviating financial constraints, does not guarantee economic sustainability. For managers, this highlights the importance of accompanying sporting performance with effective cost control and medium-term financial planning. For regulators, the findings indicate that initiatives aimed at promoting financial stability in professional football should pay close attention to the incentives clubs face following episodes of sporting success.

This study is not without limitations. First, the analysis focuses on a single national league, which may limit the generalisability of the results to other institutional settings. Second, although the sporting success index captures multiple dimensions of competitive performance, future research could explore alternative measures or further disaggregate effects by competition type. Third, the empirical design is based on observational data, which limits the ability to draw causal inferences regarding the relationship between sporting success and profitability.

Future research could build on this study by incorporating additional club-level variables—such as fan base dynamics, wage structures, or transfer expenditures—and by exploring more granular specifications that disentangle the individual effects of different components of sporting success. Future work could also explicitly analyse the transmission mechanisms linking sporting success, revenues, costs, and profitability, as well as extend the analysis to a cross-country comparative framework.

Overall, the results highlight that sporting success and accounting profitability are related, but not in an automatic or permanent manner, confirming the structural tension between sporting and financial objectives that characterises European professional football.

REFERENCES

Alabi, M., & Urquhart, A. (2024). The financial impact of financial fair play regulation: Evidence from the English premier league. *International Review of Financial Analysis*, *92*, 103088.

Alaminos, D., Del Castillo, A., & Fernández-Gámez, M. (2019). A global model for bankruptcy prediction in football clubs. *Journal of Sports Economics*, *20*(5), 1–25.

Alaminos, D., & Fernández, M. Á. (2019). Why do football clubs fail financially? A financial distress prediction model for European professional football industry. *PLoS ONE*, *14*(12), e0225989.

Amir, E., & Livne, G. (2005). Accounting, valuation and duration of football player contracts. *Journal of Business Finance & Accounting*, *32*(3–4), 549–586.

Barajas, Á., Fernández-Jardón, C., & Crolley, L. (2005). Does sports performance influence revenues and economic results in Spanish football? *Journal of Sports Economics*, *6*(3), 243–269.

Deloitte. (2020). *Deloitte Football Money League 2020: Eye on the prize (2018/19 season)*. Deloitte.

Deloitte. (2025). *Deloitte Football Money League 2025*. Deloitte.

Dermit-Richard, N. (2019). French DNCG management control versus UEFA Financial Fair Play. *Soccer & Society*, *20*(4), 1–15.

Dermit-Richard, N., & François, A. (2024). Vers une convergence des systèmes de régulation du football professionnel français et européen? Quand la viabilité financière remplace le fair-play financier de l'UEFA. *Revue d'économie financière*, *154*(2), 141–151.

Dimitropoulos, P. E., & Limperopoulos, V. (2014). Player contracts, athletic and financial performance of the Greek football clubs. *Global Business and Economics Review*, *16*(2), 123–141.

Dimitropoulos, P., Koronios, K., & Thrassou, A. (2016). Financial performance and earnings management in the European football industry. *European Sport Management Quarterly*, *16*(4), 459–482.

Edmans, A., García, D., & Norli, Ø. (2007). Sports sentiment and stock returns. *Journal of Finance*, *62*(4), 1967–1998.

Fan, M., Chen, X., Liu, B., Zhou, F., Gong, B., & Tao, R. (2023). An analysis of financial risk assessment of globally listed football clubs. *Heliyon*, *9*(12).

Franck, E. (2010). Private firm, public corporation or member's association governance structures in European football. *International Journal of Sport Finance*, *5*(2), 108–127.

Franck, E. (2014). Financial Fair Play in European club football—What is it all about? *International Journal of Sport Finance*, *9*(3), 193–217.

García-del-Barrio, P., & Szymanski, S. (2009). Goal! Profit maximization versus win maximization in soccer. *Review of Industrial Organization*, *34*(1), 45–68.

García-del-Barrio, P., & Rossi, G. (2020). How the UEFA Financial Fair Play regulations affect football clubs' priorities and leagues' competitive balance? *European Journal of Government and Economics*, *9*(2), 119–142.

Healy, P. M., & Wahlen, J. M. (1999). A review of the earnings management literature and its implications for standard setting. *Accounting Horizons*, *13*(4), 365–383.

Hoey, S. (2021). The transfer system in European football: A pro-competitive analysis. *International Review of Law and Economics*, *66*, 105976.

Késenne, S. (2007). *The economic theory of professional team sports*. Edward Elgar.

LaLiga. (n.d.). *Límite de coste de plantilla deportiva*. https://www.laliga.com/

Oprean, V. B., & Oprisor, B. (2014). Accounting for soccer players: Capitalization paradigm vs. expenditure paradigm. *Procedia Economics and Finance*, *15*, 1647–1654.

Peeters, T., & Szymanski, S. (2014). Financial fair play in European football. *Economic Policy*, *29*(78), 343–390.

Renneboog, L. D., & Vanbrabant, P. (2000). Share price reactions to sporty performances of soccer clubs listed on the London Stock Exchange and the AIM.

Rottenberg, S. (1956). The baseball players' labor market. *Journal of Political Economy*, *64*(3), 242–258.

Sánchez, L., Barajas, Á., & Sánchez-Fernández, P. (2020). Financial performance and sporting success. *Sustainability*, *12*(7), 1–16.

Scholtens, B., & Peenstra, W. (2009). Scoring on the stock exchange? The effect of football matches on stock market returns. *Applied Economics*, *41*(25), 3231–3237.

Serrano, R., Acero, I., Farquhar, S., & Espitia Escuer, M. A. (2023). Financial fair play and competitive balance in European football: A long term perspective. *Sport, Business and Management: An International Journal*, *13*(1), 74–92.

Sloane, P. J. (1971). The economics of professional football: The football club as a utility maximiser. *Scottish Journal of Political Economy*, *18*(2), 121–146.

Storm, R. K., & Nielsen, K. (2012). Soft budget constraints in professional football. *European Sport Management Quarterly*, *12*(2), 183–201.

Szymanski, S., & Kuypers, T. (1999). *Winners and losers: The business strategy of football*. Penguin.

UEFA. (2011). *Club licensing benchmarking report: Financial year 2010*. UEFA.

UEFA. (2012). *Club licensing benchmarking report: Financial year 2011*. UEFA.

Urdaneta-Camacho, R., Guevara-Perez, J. C., Llena-Macarulla, F., & Martín-Vallespín, E. (2025). European football clubs' financial performance under UEFA financial fair play: A bibliometric analysis and semi-systematic review. *SAGE Open*, *15*(2), 21582440251340824.

APPENDIX

Table A1. Clubs included in the sample and average economic profile.

Club	Season in 1st Division (2009–2010 to 2023–2024)	Average revenues (€ million)	Average total assets (€ million
Athletic Club	15	98.6	197.5
Atlético de Madrid	15	258.1	749.7
Barcelona	15	622.1	1084.7
Betis	11	75.9	152.0
Celta	12	52.1	96.5
Espanyol	13	59.1	214.7
Getafe	14	46.8	68.7
Mallorca	9	30.5	59.3
Osasuna	12	42.6	85.5
Real Madrid	15	644.2	1208.5
Real Sociedad	14	76.7	154.5
Sevilla	15	136.1	318.1
Valencia	15	119.3	581.3
Villarreal	14	104.7	215.8

Note: This table reports the clubs included in the final sample, the number of seasons in which they competed in the Spanish First Division during the 2009–2010 to 2023–2024 period, and their average economic profile, measured by revenues and total assets. The information is provided for descriptive purposes and sample transparency only and does not determine the sample selection criteria nor enter the main empirical models as explanatory variables.

Table A2. Annual sporting success scores by club (2009–2010 to 2023–2024).

Club/Season	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24
Athletic Club	35.9	41.1	46.9	23.9	47.8	42.8	51.2	39.9	17.8	35.9	30.8	34.9	38.7	38.7	49.5
Atlético de Madrid	57.5	39.9	57.3	54.7	77.1	60.5	60.5	66.9	68.1	56.7	59.0	62.9	59.0	55.5	59.2
Barcelona	69.3	83.6	72.4	72.1	65.9	85.0	70.0	67.4	70.0	73.6	63.1	59.7	57.7	57.1	63.1
Real Betis	1.4	5.7	21.3	39.9	7.3	4.3	30.6	16.0	39.7	33.5	16.0	42.6	52.5	44.1	38.5
Celta de Vigo	5.7	1.4	4.3	12.2	31.8	35.9	44.0	34.6	22.7	10.8	10.8	33.0	26.5	22.7	24.1
Espanyol	26.5	37.3	21.5	21.3	21.5	33.5	22.7	34.4	29.4	39.9	2.9	2.9	20.1	6.9	4.3
Getafe	44.0	14.8	26.5	32.0	22.7	18.9	5.5	2.9	34.4	45.2	37.4	14.6	14.6	14.6	25.3
Mallorca	45.2	12.2	37.3	9.5	1.4	1.4	1.4	1.4	—	2.9	5.5	1.4	16.2	33.2	21.7
Osasuna	26.8	31.8	38.5	14.8	9.5	1.4	1.4	6.9	1.4	1.4	30.6	28.0	29.2	42.8	28.0
Real Sociedad	1.4	16.0	25.3	46.4	41.4	26.8	33.2	42.6	23.9	33.2	46.8	43.8	42.6	50.8	49.0
Real Madrid	55.2	72.4	70.7	70.9	79.7	66.7	75.2	80.7	75.5	56.9	60.7	65.2	80.7	72.4	79.3
Sevilla	57.1	46.6	33.2	36.1	58.8	60.2	57.8	51.4	52.8	45.6	61.4	54.2	49.4	41.8	21.5
Valencia	55.0	54.0	60.9	50.2	44.9	47.8	31.2	25.3	49.2	61.1	39.7	22.7	37.5	21.5	33.2
Villarreal	41.5	56.8	9.5	1.4	41.1	47.0	55.4	43.8	43.8	26.1	45.2	54.9	53.5	43.8	38.9

Note: This table reports the annual values of the continuous sporting success index for each club and season included in the sample. The index is constructed from performance in the domestic league, national cup, and European competitions, as described in Section 4.2.1. Higher values indicate greater relative sporting success in the corresponding season. The symbol "—" denotes the absence of an available observation for that season.