
The Financial Impact of Private Investors on European Football Clubs:
Empirical evidence from the English Premier League

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Dissertation

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Biographical Note

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Abstract

European professional football clubs have been progressively targeted by money-injecting private investors. This financing concept is currently considered as the only competitive business model for the most football clubs in this century. This increasing presence of sports team investors into football club structures is leading to an overinvestment environment in European football featured by high levels of debt and low levels of profitability. This study aims to analyse the financial impact of sportsman-owners on European football clubs and look over the effect of the UEFA Financial Fair Play (FFP) regulations that intend to bring more “discipline and rationality” to the finances of clubs. Following the research design of Acero, Serrano, and Dimitropoulos (2017), Rohde and Breuer (2016b) and Rohde and Breuer (2018), we apply the property rights theory to an unbalanced panel of English Premier League (EPL) clubs from the 2005/06 to 2018/19 seasons. Empirical findings confirm the theoretical predictions that private majority investors have a negative impact on the financial performance of European football teams and that the introduction of UEFA FFP rules has caused a positive influence on the profitability of clubs. A further analysis supports the literature that European majority owners are “win-maximisers”, but no evidence was found that US majority owners are “profit-maximisers”. The originality of this study lies on the contribution derived from this empirical research, since a scarcity of empirical studies analysing the relationship between ownership structure and financial performance of football clubs is noticed.

Keywords: European football industry, Financial fair play, Financial performance, Private investors, Property rights theory, Sports finance

JEL classification: D23, G3, L2, L83

Resumo

Os clubes europeus de futebol profissional têm sido cada vez mais alvo de interesse por parte de investidores privados. Este método de injeção de capital externo é regularmente apontado como o único modelo de gestão competitivo para a maioria dos clubes de futebol neste século. A crescente presença de investidores privados nas estruturas dos clubes de futebol contribui sobejamente para um ambiente de sobreinvestimento no futebol europeu, caracterizado por níveis de endividamento elevados e uma inoperante rentabilidade financeira. Este estudo tem como finalidade principal a análise do impacto financeiro de acionistas privados nas estruturas dos clubes de futebol europeus, bem como examinar a influência das regulamentações do “Fair-Play” financeiro da UEFA que pretendem trazer mais disciplina e racionalidade às finanças dos clubes. Tendo por base a metodologia introduzida por Acero, Serrano e Dimitropoulos (2017), Rohde e Breuer (2016b) e Rohde and Breuer (2018), aplicamos a teoria dos direitos de propriedade a um painel desequilibrado de clubes da Primeira Liga Inglesa desde a temporada desportiva 2005/06 até à temporada 2018/19. Os resultados empíricos alcançados confirmam as previsões teóricas de que os investidores privados maioritários condicionam negativamente a rentabilidade dos clubes dos quais são proprietários e que a introdução das regras do “Fair-Play” financeiro da UEFA gerou uma influência positiva ao nível do desempenho financeiro dos clubes. Através de uma análise complementar, também foi possível confirmar o que é sugerido na literatura em relação ao facto de os acionistas maioritários europeus tenderem a procurar primordialmente o sucesso desportivo, mas nenhuma evidência empírica que indicasse que os investidores americanos procuram previamente a otimização financeira foi encontrada. A originalidade deste estudo reside nas evidências empíricas que foram encontradas, o que contribui para atenuar a escassez de estudos empíricos que analisam a relação entre a estrutura acionista e o desempenho financeiro dos clubes de futebol.

Palavras-chave: Desempenho financeiro, “Fair-Play” financeiro, Finanças desportivas, Indústria do futebol europeu, Investidores privados, Teoria dos direitos de propriedade

Classificação JEL: D23, G3, L2, L83

Index

1. Introduction	1
2. Literature review	3
2.1. The growth of English football	3
2.2. Entry of private investors into football club structures	4
2.3. The financial impact of private investors and the financial lifeline	9
2.4. Introduction of the UEFA Financial Fair Play regulations	11
3. Data and methodology	14
3.1. Data sources and sample	14
3.2. Variables definition: dependent, independent and control variables	15
3.3. Methodology	18
4. Empirical results	21
4.1. Descriptive statistics	21
4.2. Evolution of ownership structures of EPL clubs	22
4.3. Financial performance determinants	24
4.4. Sensitivity analysis	28
5. Summary and conclusions	30
References	32
Annexes	37

List of Tables

Table 1: Estimated spending power of EPL clubs' shareholders in 2018/19 season	7
Table 2: Absolute and relative spending power by origin of EPL clubs' majority shareholders in 2018/19 season.....	8
Table 3: Overview of variables.....	17
Table 4: Spearman's correlation matrix.....	19
Table 5: Summary statistics.....	21
Table 6: Regression results from the estimation of the models.....	27
Table 7: Collinearity statistics.....	37
Table 8: Regression results from the estimation of the models with an alternative dependent variable	38
Table 9: Regression results from the estimation of the models (including with the alternative dependent variable) based on winsorized data at the 1% level.....	39

List of Figures

Figure 1: English Premier League clubs' revenues – 2016/17 to 2020/21 (£m).....	4
Figure 2: “Big five” European league clubs' profitability – 2009/10 to 2018/19 (€m)...	13
Figure 3: Evolution of English Premier League clubs' ownership structures – 2005/06 to 2018/19	22
Figure 4: Evolution of the number of private majority investors of EPL clubs by origin – 2005/06 to 2018/19	23

1. Introduction

In recent years, we have noticed a growing interest from private investors on European professional football clubs which is driving a debate on the financial impact of private owners. The scarcity of empirical studies testing the correlation between the ownership of football clubs and its financial performance relies on the fact of this being an emerging issue linked to the concern of the European professional football's regulator – Union of European Football Associations (UEFA) – regarding the transparency and disclosure of club finances only had become effective with the expansion of the necessary requirements for club licensing. Rohde and Breuer (2016b) took the first step as “the first empirical study to analyse the financial impact of private majority investors”, whereby we intend to go further and fill this gap in the literature.

Industry experts consider that only two competitive financing models remain in the European football system. The first works for those top European elite football clubs that have such a big global brand which enables them to generate revenue to hire great players. The second and rising model is known as the “sugar daddy” model which consists in a rich tycoon like an Arab sheikh that invests a huge amount of money in a football club and became its owner (Kuper, 2009). This financing concept has been particularly prominent in England, France and Italy where all football clubs participating in their respective domestic top-tier competition in the 2018/19 season were under private ownership (UEFA, 2020). Indeed, the absence of this financing method has been pointed as one of the primary reasons for a league's deficit of international competitiveness in other countries (Barajas & Rodríguez, 2014; Dietl & Franck, 2007).

The theoretical framework argues that money-injecting private investors will increase team investment (i.e., net transfer fees and player wages) leading to sporting success (Grossmann, 2015; Lang, Grossmann, & Theiler, 2011). However, sportsman-owners will contribute to the overinvestment environment in European professional football that is characterized by a poor financial performance of football clubs with negative net incomes and high debt levels once player salaries tend to exceed revenues (Rohde & Breuer, 2016b). Some authors also consider that these money injections entering football business led to a growing non-virtuous competitive imbalance (Franck & Lang, 2014). With a focus on long-

term financial stability and restoring competitive balance, UEFA introduced in 2009 a set of strict financial controls known as Financial Fair Play (FFP) rules.

The main purpose of this research is to analyse the financial implications on profitability of football clubs derived from the entry of money-injecting private investors in European football. Additionally, we examine the impact of the introduction of the UEFA FFP regulations on the financial performance of clubs. Finally, with the aim of identifying possible differences in the objective function of sports team investors according to their origin, we estimate the effect of owner nationality on investment behavior. In order to do so, we have gathered a unique dataset reflecting the ownership structures of English Premier League (EPL) clubs from the 2005/06 to 2018/19 seasons, in addition to collecting the financial information reported by EPL clubs during this period of time. Afterwards we apply our methodological approach which is accordance with Acero, Serrano, and Dimitropoulos (2017). The ownership structures are operationalized based on property rights theory following Rohde and Breuer (2016b) and Rohde and Breuer (2018).

The empirical results achieved suggest that private majority investors negatively affect the financial performance of football clubs and that the establishment of the UEFA FFP regulations brought more “discipline and rationality” to the management of football clubs finances since its creation is positively correlated with an increase in the profitability of clubs. The analysis by origin of sports team investors, allows us to conclude that dominating European owners are "glory hunters", but no empirical evidence indicates that US majority owners are “profit-maximisers”.

The rest of the study is structured as follows: section 2 summarizes the available literature, section 3 provides a comprehensive description of the data and methodology, section 4 presents the estimation output followed by the analysis of the results obtained, and section 5 provides some conclusions and suggestions for further research.

2. Literature review

2.1. The growth of English football

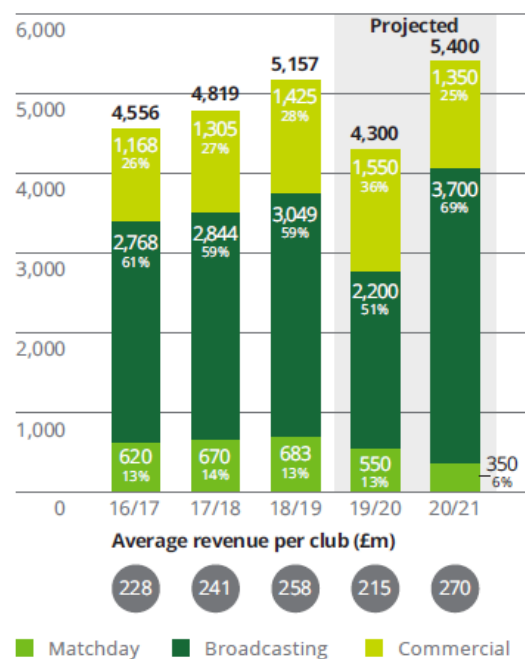
In England, professional football emerged in 1863 when the Football Association (FA) was founded. With its foundation, the first European professional football league was settled in 1888 and the commercialization of football clubs had begun. Given the initial investments needed to develop a football club such as building a stadium, it became popular in England in the late 19th century that the majority of English football clubs changed their financial structure from a club in a legal sense (i.e., the club is controlled by its members who pay an annual subscription and it is managed by a committee previously elected) to a joint stock company. In this way, football clubs were able to raise capital from sports team investors and had greater financial stability; otherwise a club whose primary source of capital investment was the issuance of debt and was unable to generate income to pay the interest on the debt could go into insolvency (Buraimo, Simmons, & Szymanski, 2006).

In the mid-1990s, there was a boom of English football clubs that experienced the stock exchange, with Tottenham Hotspur becoming the first listed football club after completing its IPO in 1983 (Leach & Szymanski, 2015). These clubs that went public looked at fluctuation as an opportunity to obtain financing, which could be applied in the development of professional infrastructures and in the acquisition of player assets (Buraimo et al., 2006; Wilson, Plumley, & Ramchandani, 2013). Once the balance between the requirements of investors and the performances on the pitch has become tough, the period of listings was proceeded by a period of de-listings in the 2000s (Leach & Szymanski, 2015).

The real growth of English football comes with the creation of the English Premier League (EPL) in 1992. Increasing levels of sporting entertainment and football development were attracting numerous spectators and, as a result, English football undertake a remarkable financial expansion. From the first season in which the EPL was created until the 2006/07 season, the combined revenue of the clubs in the Premier League increased by 900% from £170m to £1,530m (Hamil & Walters, 2010). Though this outstanding growth, Szymanski and Smith (1997) argue that the majority of member clubs were unable to generate pre-tax profits. Poor management practices at club level is suggested as one of the reasons for this negative financial performance in a high-profile industry (Ozawa, Cross, & Henderson, 2004). Hamil and Walters (2010) refer to the survival difficulties of several English clubs that

were unable to achieve operating profits and hence accumulated high debt levels, which led to many of them going bankrupt; between 1992 and 2009 nearly 50 English clubs went bankrupt.

Most recently, according to Deloitte's (2020) Annual Review of Football Finance, English Premier League clubs' revenue topped a historical maximum of £5,16b in 2018/19 and this value is projected to reach £5,4b in 2020/21 (Figure 1). Since the creation of the EPL in 1992/93, the average revenue of a Premier League club has increased every season reaching a record of £258m in 2018/19.



Source: Deloitte analysis.

Figure 1: English Premier League clubs' revenues – 2016/17 to 2020/21 (£m)

2.2. Entry of private investors into football club structures

According to UEFA's (2020) European Club Footballing Landscape, about half of all European top-division football clubs are controlled by a private party (i.e., a joint stock company, a limited liability company, a public corporation or a private person as the ultimate controlling party). Highly related to this is the exponential increase in the number of clubs owned by a foreign private investor, where in the period from 2008 to 2019 around 60 top-

tier clubs have been acquired by non-domestic investors. This trend is most prominent in England, where 70 percent of the teams that participated in the Premier League in the 2018/19 season were under foreign majority ownership.

The money-injecting private investors are often referred in the literature as “sugar daddies” or “benefactor owners”. The term “sugar daddy” is used to describe a hugely wealthy private investor who usually acquires a majority stake in the capital of a football club, and guarantees recurrent money injections to achieve good sporting results (i.e., glory hunter) or the maximization of his economic return depending on the main motivation of the investment (Ruta, Lorenzon, & Sironi, 2019).

Following Franck (2010), people invest huge amounts of money in football clubs and become their owners for several reasons. First, there are positive spillovers to their other business segments. For instance, Michael Ashley who is the owner of Newcastle United and at the same time the CEO of a sportswear retail company has the possibility to capitalize on the club’s main advertising spaces to boost the brand of the business. These positive spillovers can also be observed in the form of multi-ownership synergies, as it happens with the US investor Stan Kroenke who owns a set of clubs of different sports through its company Kroenke Sports & Entertainment, which is the holding company of a EPL club, Arsenal, and a NBA basketball club, Denver Nuggets, among other clubs. Second, these sportsman-owners might pursue additional power or reputation and even legitimacy or political and social acceptance after having generated huge wealth in questionable ways (Storm & Nielsen, 2012). The case of the Chelsea’s owner is highlighted here since the Russian oil billionaire Roman Abramovich is suspected of illegal share-dilution and possible contacts with criminal organizations (Garside, 2018). Third, given the inflationary effect on transfer fees, these high-value cash transactions between football clubs might serve as a cover for private investors to launder money. Hansen, Torp, and Schaumburg-Müller (2012) also point out that foreign investors may be looking for geo-political benefits as it happens with Asian investors that due to the absence of competitive domestic leagues, invest in European football clubs with the aim of acquiring training and organization knowledge that might eventually be transferred to their home country. Furthermore, ownership may be purely motivated by a selfish consumption purpose where businessmen thrill like fans for watching their clubs winning major competitions or, making an analogy with horse race ownership, investors enjoy a day of racing with the thrill involved, particularly when it is a competitive

race and there is emotion until the end of the race (DeGennaro, 2003; Gamrat & Sauer, 2000).

The entry of sugar daddies into football club structures is not always welcomed by supporters. Fundamental sports objectives can clash with the investor plan since its intent might be to primarily satisfy the increase of profits and only after take care of the sporting objectives which are the most important designation of a football club (Nagy, 2012). Thus, there is often a distinction between two different types of football clubs' profile: win-maximization club and profit-maximization club (Dietl, Lang, & Werner, 2009). In a win-maximization club, the most talented players are hired which increases the club's ability to maximize its sporting results, often reflected by good championship finishes and trophies won. This policy will result in higher wage costs and may lead to financial problems, particularly when budgetary constraints are exceeded (Késenne, 2014). Barros (2006) found evidence that a winning strategy might induce a financial loss due to poor management and lack of efficient corporate governance mechanisms. In a profit-maximization club, the perspective of corporation is more present where strategic decisions are made in order to maximize shareholder value. Usually this type of strategy leads to greater financial stability, but it can cause a feeling of anger in the supporters if the sporting goals are not met. The club strategy normally tends to depend on the country's sports culture. Empirical evidence shows that professional sports teams in the US are profit-maximising businesses while European professional football clubs are run in a win-maximizing basis (Atkinson, Stanley, & Tschirhart, 1988; Garcia-Del-Barrio & Szymanski, 2009). An interesting thought was introduced by Sloane (1971), who noticed that the owners of European football clubs invest capital on their team as a consumption activity and they act to maximize a utility function that include as variables not only the level of profits but also the playing success, the competitive balance, the stadium attendance, and so on. In the same line of reasoning, Rascher (1997) states that football clubs maximize a linear combination of profits and wins. In most cases sports success combined with sustainable management results in good financial performance. Szymanski (1998) argues that a better league performance leads to a higher revenue namely due to monetary prizes and greater club exposure as a brand which results in higher sponsorship revenues; and a greater wage expenditure will lead to a better league performance by the fact that a higher wage expense tends to result from a club having the most skilled players.

With respect to sports management, the discrepancy in resources between club owners associated with their willingness to inject money into football teams has a direct impact on the club's sporting and financial performance. According to the resource-based view perspective, it is the quantity of the firm's endowment of firm-specific resources and the efficiency with which these resources are employed that will lead to a firm's sustainable competitive advantage (Wernerfelt, 1984). Empirical results based on a resource-utilization model applied on English Premier League clubs over the period 1998-2002 show that the financial performance of teams is strongly correlated with their ownership status (Gerrard, 2005). In order to illustrate the inequality of resources between the different owners of football clubs that participated in the EPL in the 2018/19 season, we collected a dataset that reflects the net worth of each club's largest shareholder in relation to the wage expenditure.

Table 1: Estimated spending power of EPL clubs' shareholders in 2018/19 season

Club	Major Shareholder	Origin	Net worth (£m) ¹	Wages (£m) ²	Wages/Net worth
Burnley	Mike Garlick*	England	62	87	140%
Watford	Gino Pozzo	Italy	93	84	90%
Huddersfield Town	Dean Hoyle	England	290	64	22%
Liverpool	John W. Henry	US	2,100	310	15%
Bournemouth	Maxim Demin	Russia	900	111	12%
West Ham United	David Sullivan	Wales	1,150	136	12%
Everton	Farhad Moshiri	Iran	1,470	160	11%
Cardiff City	Vincent Tan	Malaysia	580	54	9%
Manchester United	The Glazer Family	US	3,630	332	9%
Brighton & Hove Albion	Anthony Grant Bloom	England	1,300	102	8%
Tottenham Hotspur	Joe Lewis	England	3,870	179	5%
Newcastle United	Michael Ashley	England	2,240	97	4%
Crystal Palace	Joshua Harris*	US	2,900	119	4%
Southampton	Gao Jisheng	China	3,100	115	4%
Arsenal	E. Stanley Kroenke	US	6,800	235	3%
Leicester City	Srivaddhanaprabha Family	Thailand	4,560	150	3%
Chelsea	Roman Abramovich	Russia	9,350	288	3%
Wolverhampton Wanderers	Guo Guangchang	China	5,180	92	2%
Fulham	Shahid Khan	Pakistan	6,100	93	2%
Manchester City	Mansour bin Zayed Al Nahyan	UAE	23,300	315	1%

Notes: Figures are based on the net worth of the largest shareholder only (during the 2018/19 season); Correlation (net worth; wages) ≈ 0.60 ; (*) Minority shareholder; Sources: (1) Forbes (2020); (2) EPL clubs' annual reports for the financial year 2019

In the 2018/19 season, the seven English Premier League clubs with the greatest spending power were under foreign majority ownership (Table 1). Based on Forbes (2020), only three of the fourteen billionaire investors who held a majority stake in an EPL club were English. An interesting deduction is reached when we take into account the extreme values regarding the spending power of the owners. While Manchester City's majority shareholder, despite supporting an EPL team with one of the highest wage expenses, would be able to pay the club's wages over seventy more seasons out of his pocket, the largest owner of Burnley could not even cover one year's team wages.

Table 2: Absolute and relative spending power by origin of EPL clubs' majority shareholders in 2018/19 season

Origin of majority owners	Count	Average Net worth (£m)	Average Wages/Net worth
Other parts of Europe	2	622	51%
England	4	1,925	10%
US	3	4,177	9%
Russia	2	5,125	8%
Middle East	2	12,385	6%
Asia	5	3,904	4%

Notes: Figures only include data about clubs under majority ownership; Italy and Wales are referred as other parts of Europe; The largest owners of the two EPL clubs under distributed ownership had an average net worth of £1,481m and relative wages of 72%; Sources: Forbes (2020); EPL clubs' annual reports; Authors' computations

The aggregate analysis by origin of private majority shareholder highlights the superior resources in the form of private wealth held by foreign investors mainly Middle Eastern investors with an average wealth greater than £12b (Table 2). It is also notorious the higher spending power of American, Asian, Middle Eastern and Russian investors in comparison with domestic owners. For instance, on average, the wages paid by clubs' majority owned by investors originating from Asia (held a majority stake in 25% of the EPL clubs in the 2018/19 season) were estimated to be only 4% of their owners' net worth; this compares with the relative wages of 10% of domestic majority owners and 72% of the two minority shareholders.

The inequality of resources in favour of foreign investors is expressed through a competitive advantage for clubs under foreign majority ownership in a current context of disastrous competitive interaction between clubs and in a moment where the European professional football is facing an overinvestment environment in which teams continuously compete based on their spending power (Dietl, Franck, & Lang, 2008). As a result, Franck (2010) suggests that the governance structure of a publicly listed football club is not the most appropriate in the overinvestment environment of European football. Evidence reported by UEFA (2019) shows that, in the period between 2009 and 2018, five EPL clubs have delisted mainly due to takeovers and currently only twenty-one European top-tier clubs are listed on the stock exchange, with Manchester United being the only English listed football club where a minority fraction of its shares is floated.

2.3. The financial impact of private investors and the financial lifeline

The market for money-injecting private investors is featured by poor profitability despite an outstanding growth of revenues, low entry barriers, and substantial diversity of owner objectives, types and origins (Rohde & Breuer, 2017). This exponential escalating in revenues is mainly a consequence of the soaring TV broadcasts turnover for premium competitions, the growing prize money of the UEFA Champions League, and indirect revenues through the attraction of new international sponsors and supporters (Szymanski, 2006). Once augments in revenues are usually converted into financial gains, this paradox seems to be peculiar of the singularity of football industry (Michie & Oughton, 2005).

Through a deeper analysis across all the major European football leagues, Rohde and Breuer (2018) suggest that the negative influence of benefactor owners on profitability is driven by the inefficient use of clubs' resources, which triggers the overinvestment phenomenon in European football mentioned before. This phenomenon of systematically increasing investments performed by football clubs in line with an under-proportional increase in output is often subject of an analogy with a "rat race" or "arms race" and explained based on contest theory. The metaphor of the "rat race" became known thanks to Akerlof (1976) who points out an inefficient competition for awards in which opponents raise their effort levels though fixed outputs. Hamil, Holt, Michie, Oughton, and Shailer (2004) consider that "investing to win is a gamble, and it is a gamble that most clubs will

lose”. Several clubs invest large financial resources with the purpose of acquiring the most talented players, but only few clubs will reach the desired sporting success. Indeed, the competitive scenario of European professional football is unique and also linked to an “arms race” in which small differences in performance can lead to huge differences in rewards (Frank & Cook, 2010). Football as a “winner takes almost all” market has thus become only available to private investors whose resource availability is considerable to face any level of losses derived from clubs’ operations (Ruta et al., 2019).

Considering the influence that the club governance model has on the ability of the club to direct funds to football, Franck (2010) argues that private majority investors are more encouraged to invest in their team rather than clubs under distributed ownership or clubs owned by their members. These strongest incentives to invest in the team are explained through the property rights theory in which a company structure is mainly determined by three fundamental rights: residual control, residual claim and transfer right (Alchian, 1977; Milgrom & Roberts, 1992). From the perspective of majority shareholders, once they concentrate all of these rights, they might achieve the lowest welfare loss and the optimal economic efficiency (Demsetz, 1967). In this sense, private majority owners are able to exert superior control and channel their investments to maximize their personal utility (Rohde & Breuer, 2016a)

The mostly theory-based literature on the financial impact of football club investors generally takes into account two sides. On the positive side, benefactor owners invest their capital in football clubs to hire talent from the player market generating a greater team investment through transfer fees and player wages. This improvement in the team’s playing strength drives sporting success and revenues (Grossmann, 2015; Lang et al., 2011). Furthermore, private investors tend to play a leading role in long-term investments, namely the development of new training and youth center facilities as well as the integration of youth academy players into the first squad (Rohde & Breuer, 2017). On the negative side, it has been theoretically argued that private owners decrease profitability (i.e., the economic return to the equity holder) and are responsible for higher debt levels of football clubs (Gerrard, 2005; Storm & Nielsen, 2012). Not to mention the higher risk of financial mismanagement and revenue volatility once private investors usually pursue riskier investment strategies (Franck, 2010; Franck & Lang, 2014; Lang et al., 2011).

Although persistent deficits and growing levels of debt are found in top league clubs, very few go out of business. This paradox is explained through the concept of “Soft Budget Constraints” initially introduced by Kornai (1979) to describe a scenario in which unprofitable firms are bailed out by creditors or public authorities. European football clubs are compared with firms in socialist economies and even banks in capitalist societies. Once football clubs represent geographical, ethic and cultural values (Ascari & Gagnepain, 2006) and are a pride for their supporters and for the city that they represent, football clubs are identical to national institutions and are heavily backed by financial institutions and local governments (Barajas & Rodríguez, 2010). “Soft credit”, “soft administration prices” and “soft taxation” in the form of subsidies or debt relief are examples of rescue measures taken by these kind of institutions with the purpose of bail out professional football clubs (Kornai, 1986). Storm and Nielsen (2012) make reference to a case of a top-tier Italian football club, Lazio, which in order to avoid an immediate collapse has made an agreement with the Italian tax authority to pay €140m of tax liability over a large period of 23 years. Additionally, the injection of new funds to avoid the collapse of a team is also common in regulatory environments where football clubs are ruled as private firms. Franck and Lang (2014) states that if a football club which is owned by a sugar daddy who commits to bailout a club higher will be the incentives of the club to choose a riskier investment strategy. These authors show through a model that a “too-big-to-fail” phenomenon seems to exist since it is optimal to bailout a club whenever the market size is sufficiently large.

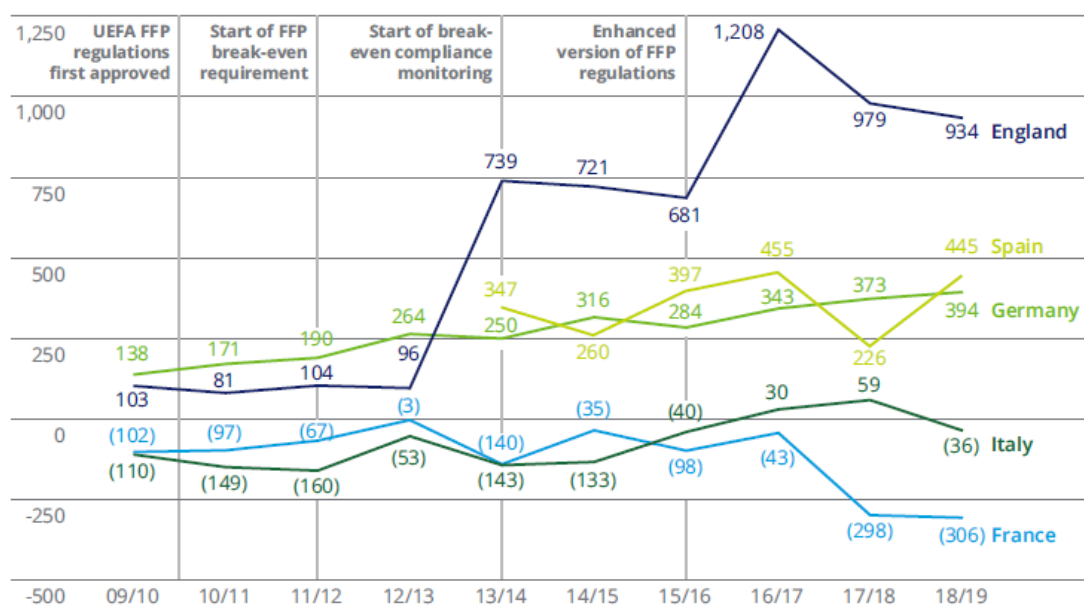
2.4. Introduction of the UEFA Financial Fair Play regulations

The UEFA Financial Fair Play (FFP) rules were established in 2009 and began to have full practical application since the 2013/14 season with the purpose of improving the economic and financial capacity of football clubs and increasing the transparency and credibility of financial reporting; assure that clubs settle their liabilities on time whether with employees, the tax authority or other clubs and provide mechanisms of protection to creditors; introduce more “discipline and rationality” in the management of football clubs finances; encourage clubs to compete within the maximum of the financial resources that they generate in football; stimulate a responsible allocation of capital for the long-term benefit of football; and to protect the longstanding viability and sustainability of European professional football (UEFA, 2018).

In a broader perspective, with the introduction of the FFP rules, the European professional football's governing body aims to protect the long-term financial stability of European football clubs and restore the competitive balance between clubs and leagues (UEFA, 2018). In order to achieve these goals, UEFA monitors the clubs' financial position and performance on the basis of the accounting information reported, requiring a limit to a club's deficit as well as imposing clubs to "break-even" or "balance their books" which restricts the influence of money-injecting private investors (Morrow, 2013). Those clubs that do not meet the requirements might face severe punishments like fines or disqualifications for European tournaments which would represent a significant cut in the revenue of deviant clubs (Dimitropoulos, Leventis, & Dedoulis, 2016; Solberg & Haugen, 2010). For instance, Manchester City is facing a possible banning from participating in UEFA's major competitions (i.e., UEFA Champions League and UEFA Europa League) in the 2020/21 and 2021/22 seasons and might have to pay a fine of €30m after committing "serious breaches" of the FFP regulations (Conn, 2020).

The suitability of regulatory measures to reduce the "financial doping" or "overspending" by money-injecting private investors remains controversial. Some authors argue that the introduction of UEFA FFP rules to control external financing through the limitation of the overinvestment in European football is theoretically acceptable to ensure the integrity of competitiveness in football leagues (Müller, Lammert, & Hovemann, 2012). On the other hand, other authors like Budzinski (2014) considers that there should not be any financial constraints (e.g., the break-even rule of the FFP) due to overinvestment in European clubs. Through the development of a multi-period professional team sports model to examine the long-term influence of FFP rules on competitive balance, Sass (2016) theoretically proves that the introduction of a strict break-even constraint cut down the overspending by private investors but consequently also leads to lower sporting success, smaller market size and reduced revenues. Additionally, the author states that if the sugar daddy owns a small market club, in fact, FFP rules weakens competitive balance. Madden (2015) models the impact of capital injections by benefactor owners by developing a *laissez-faire* model of a sports league and endogenously determines that, under relatively large elasticity of talent supply, FFP regulations create welfare losses for owners, players and supporters.

Regarding a perspective about the influence of FFP rules on clubs' profitability, Peeters and Szymanski (2014) conducted a simulation study to assess the impact of the "break-even rule" covering four of the largest leagues in Europe (England, France, Italy and Spain) and show that the "break-even rule" is an efficient tool to increase the profitability of football clubs by lowering wage expenditure without significantly decreasing revenue. These results are in line with Deloitte (2020) which clearly shows an upward trend in the accumulated profitability levels of clubs participating in the "big five" European leagues since FFP rules took full effect in the 2013/14 season, where from this season onwards it were generated aggregated operating profits always higher than €1b in each season, which by no means had been registered previously (Figure 2). Nevertheless, Peeters and Szymanski (2014) consider that a "US-style" explicit salary cap would be a far more powerful instrument to enhance competitive balance in European professional football. Since FFP regulations request football clubs to operate within their revenues, the operating business model of clubs' majority owned by private investors is expected to move from a more investment-focused to a more efficiency-driven operating model (Rohde & Breuer, 2018).



Source: Leagues; Deloitte analysis.

1

Figure 2: "Big five" European league clubs' profitability – 2009/10 to 2018/19 (€m)

¹ The operating result is the net of revenues less wage costs and other operating costs. The operating result excludes player trading and certain exceptional items. Aggregate operating results for Spanish clubs were not available prior to 2013/14 (Deloitte, 2020).

3. Data and methodology

3.1. Data sources and sample

The main purpose of this research is to test the financial implications of money-injecting private investors in professional football clubs and so, we assembled an unbalanced panel of English Premier League (EPL) clubs from the 2005/06 to 2018/19 seasons. The full sample is expected to contain 280 observations since in each season 20 teams participate in the EPL and from those 20, the last 3 teams in the final table will be relegated to the English Football League (EFL) Championship (i.e., second-tier competition in English football) in the next season and will be replaced by 3 teams who had the best sporting performance in the EFL in the previous season. During the chosen 14-year period, 39 clubs played in the EPL and of these, only 19 clubs were present in the EPL in at least half of these 14 seasons. This time period was also chosen in order to include seasons under the UEFA break-even compliance rule and without this UEFA requirement to thereafter test also the financial impact of these restrictions in the profitability of football teams, and consequently infer whether it was an appropriate measure to reduce the “overspending” by private investors.

All financial data were hand-collected from each club’s annual reports (audited by certified chartered accountants) that were retrieved from Companies House, the United Kingdom’s registrar of companies. No further trimming or winsorization was performed since we did not want to lose observations or induce unjustifiable biases in the final outcome. The sporting details about the football clubs that played in EPL in each season were collected from a highly reputed soccer website, FlashScore.com. Information on the ownership structure of these football clubs was gathered from a variety of reliable sources such as Forbes, The Guardian and clubs’ homepages.

3.2. Variables definition: dependent, independent and control variables

We next introduce the key variables used to model the financial performance of football clubs (Table 3).

To measure profitability, we used return on assets (ROA) to reflect the efficiency in which clubs' management is using the invested capital (i.e., assets) to generate earnings. The ratio is calculated by dividing a club's operating profit before player trading activity² by its total assets. This approach of excluding player trading activity from operating profit is in line with Deloitte (2020) since player transfer activity would misrepresent fluctuations from the core operating activities. It was also not considered the clubs' net income to compute this ratio once the value of ROA would be influenced by the capital structure of football clubs. As a result of the right-skewed variable distribution, ROA was logarithmized. Prior to logarithmization, since the minimum operating profits are typically negative, ROA was shifted to generate positive values. Bearing in mind that we are dealing with a ratio, ROA is transformed by adding one to actual ROA and so, this procedure certifies that the ratio is positively defined.³

In order to analyse the effect that ownership structure has on financial performance, we followed Rohde and Breuer (2016b) and Rohde and Breuer (2018), and operationalized sportsman-owners based on property rights theory. Therefore, we included the independent variable INV to reflect the majority stake in the capital of a club. This dummy variable equals "1" if a private investor owns more than 50% of the shares and "0" otherwise. With the perspective of analysing possible differences in the objective functions of football clubs owned by private majority investors, we created dummy variables to differentiate the presence of majority owners in clubs according to their origin. In this sense, the dummy variables DOMESTIC, US, RUSSIA, EUROPE, MIDDLE_EAST and ASIA arise and will take the value of "1" in the presence of a club majority owned by a private investor from England, US, Russia, Europe (excluding England and Russia), Middle East and Asia, respectively, and "0" otherwise.

² Player trading activity includes primarily the profit from the sale of players' registrations, the amortization and impairment of players' registrations, and fees charged for players' loans (EPL clubs' annual reports).

³ This data transformation is similar to standard approaches in economics literature. For instance, Berger and Mester (1997) convert profits in the form $\log(\text{Profit}) = \log(1 + |\text{Minimum Profit}| + \text{Profit})$. In our case, considering that ROA is a ratio, we transformed our dependent variable in the form $\text{Performance} = \log(1 + \text{ROA})$.

Towards clarifying the effects on clubs' profitability resulting from the introduction of the UEFA Financial Fair Play (FFP) rules, we designed the independent variable UEFA. It is a dummy variable that equals "1" if we are in the presence of a season under the UEFA break-even compliance monitoring and "0" otherwise. Considering that the FFP restrictions took full effect in the 2013/14 season, it is expected that this dummy variable will assume the value "0" between the 2005/06 and 2012/13 seasons (8 seasons) and the value "1" between the 2013/14 and 2018/19 seasons (6 seasons).

Control variables that have already been proved by previous research to be significant determinants on the financial performance of football clubs were also included (Acero, Serrano, & Dimitropoulos, 2017; Dimitropoulos & Tsagkanos, 2012). Concretely, we controlled for football club size with the variable CLUB_SIZE which is measured as the natural logarithm of each club's total assets at the end of the fiscal year. Orlitzky (2001) suggests that the firm size is positively related to firm performance since it might lead to economies of scale in operations, superior control over external stakeholders and resources, and the attraction of the most skilled workers. Making the analogy with football clubs, a larger club will have the possibility to attract the most talented players, which increases the probability of achieving the sporting success, and eventually enhance its financial performance. Additionally, we captured growth opportunities through the variable GROWTH which is estimated as the annual mean growth rate of turnover from the previous three seasons. It is expected that this explanatory variable will have a positive influence on the profitability of football clubs. Finally, we controlled for the impact of clubs' financial leverage with the variable DEBT which represents the debt ratio (i.e., the ratio of total debt to total assets). This ratio shows the portion of club's assets that are financed by debt. A highly leveraged club faces a greater financial risk and might have its actions conditioned by its creditors as well as may have its profitability hurt due to paying high interest rates on its debt. Singh and Faircloth (2005) argue that higher leverage negatively influences a club's investment opportunities which might result in a negative impact on long term operating performance. Moreover, considering that European football clubs tend to be managed with a win-maximization purpose instead of a profit-maximization orientation and that clubs operate in a "Soft Budget Constraints" environment, they often choose to resolve on debt financing and carry financial losses for improving their on-field performance (Dimitropoulos & Tsagkanos, 2012). Thus, it is expected a negative relation of leverage with financial performance.

Table 3: Overview of variables

Variable type	Variable	Description	Scale
Dependent variable	Performance	Natural logarithm of one plus Return on Assets (ROA)	Metric
Independent variables	Inv	Dominating private investor with >50% share (1=yes, 0=no)	Dummy
	Domestic	Domestic majority investor with >50% share (1=yes, 0=no)	Dummy
	US	American majority investor with >50% share (1=yes, 0=no)	Dummy
	Russia	Russian majority investor with >50% share (1=yes, 0=no)	Dummy
	Europe	European (non-English and non-Russian) majority investor with >50% share (1=yes, 0=no)	Dummy
	Middle_east	Middle Eastern majority investor with >50% share (1=yes, 0=no)	Dummy
	Asia	Asian majority investor with >50% share (1=yes, 0=no)	Dummy
Control variables	UEFA	Season under the UEFA break-even compliance monitoring (1=yes, 0=no)	Dummy
	Club_size	Natural logarithm of each club's total assets at the end of the fiscal year	Metric
	Growth	Annual mean growth rate of turnover from the previous three seasons	Metric
	Debt	Debt ratio (Total debt/Total assets)	Metric

3.3. Methodology

In line with what was mentioned in the literature review, the research hypotheses that we intend to test are stated as follows:

Hypothesis 1: Private majority investors cause a lower profitability of football clubs.

Hypothesis 2: The introduction of the UEFA Financial Fair Play regulations positively affected the financial performance of football clubs.

Hypothesis 3: European majority owners are “win-maximisers” while US majority owners are “profit-maximisers”.

To conduct this research, our methodological approach is mainly based on Acero et al. (2017). In this sense, the generic specification of the regression models applied in the estimates are the following:

$$\begin{aligned} Performance_{it} \\ = \beta_0 + \beta_1 Inv_{it} + \beta_2 Club_size_{it} + \beta_3 Growth_{it} + \beta_4 Debt_{it} + \beta_5 UEFA_{it} \\ + Year\ dummies + \varepsilon_{it} \end{aligned} \quad (1)$$

$$\begin{aligned} Performance_{it} \\ = \beta_0 + \beta_1 US_{it} + \beta_2 Russia_{it} + \beta_3 Europe_{it} + \beta_4 Middle_east_{it} + \beta_5 Asia_{it} \\ + \beta_6 Club_size_{it} + \beta_7 Growth_{it} + \beta_8 Debt_{it} + Year\ dummies + \varepsilon_{it} \end{aligned} \quad (2)$$

Whereby $i = 1 \dots, 39$ indexes club and $t = 2006 \dots, 2019$ indexes year.

Considering the regression model (1), we performed a preliminary analysis to observe the relationships between the explanatory variables used. As it is expressed in the Spearman's correlation matrix computed for each pair of variables (Table 4), there is no multicollinearity bias.

Table 4: Spearman's correlation matrix

Variable	Performance	Inv	Club_size	Growth	Debt	UEFA
Performance	1.0000					
Inv	-0.1407*	1.0000				
Club_size	-0.1804***	0.2005***	1.0000			
Growth	0.4419***	-0.0710	-0.3290***	1.0000		
Debt	-0.2478***	0.1562**	-0.1986***	-0.0301	1.0000	
UEFA	0.2951***	0.0086	0.3267***	0.1628**	-0.2751***	1.0000

Notes: *** Statistical significance at the 0.1% level; ** Statistical significance at the 1% level; * Statistical significance at the 5% level; Average from the 2005/06 to 2018/19 seasons

The estimation technique used in this study was panel data, since it allows to consider either variations across football clubs and time variations in the explanatory variables. To determine the applicability of a random effects model (REM) against a fixed effects model (FEM), we carried out the Hausman specification test for random effects. The test showed us that the null hypothesis of individual effects being uncorrelated with the other regressors is rejected, that is, the test considers that a fixed effects model is better fit to explain the sources of variation, and consequently is more suitable than the random effects model (Hausman, 1978). Furthermore, we tested for potential autocorrelation in the data by conducting the Durbin-Watson test, which tests for serial correlations between errors (Field, 2013). The results indicated that our model did not present problems of autocorrelation⁴. Therefore, in the absence of autocorrelation and multicollinearity issues it was not necessary to lag the variables. Nevertheless, according to the Breusch-Pagan test and the White test, our model presented problems of heteroscedasticity. In this regard, we corrected this pattern of nonconstant error variance with the estimation of the White-adjusted coefficient standard errors.

⁴ The Durbin-Watson statistic reports a value that is in the range between 0 and 4 with a value of 2 meaning that the residuals are uncorrelated. A value greater than 2 indicates negative autocorrelation, whereas a value below 2 means positive correlation between the adjacent residuals (Field, 2013). The author suggests that values below 1 or higher than 3 are definitely cause for concern. In our model, the Durbin-Watson statistic indicates a value slightly higher than 1.65 which is a good signal of inexistence of autocorrelation issues.

Regarding the empirical model (2), we adjusted the size of our sample by removing the observations of clubs under distributed ownership. Therefore, at this stage our subsample is expected to contain only 237 observations with respect to clubs' majority owned by private investors instead of the 280 observations previously mentioned. This model is derived from the regression (1) in which we replaced the independent variable INV by the dummy variables regarding the origin of majority owners. The dummy variable DOMESTIC is considered as the base category, and thus it is not included in the equation model to avoid the dummy variable trap. In this approach we used the ordinary least squares (OLS) estimation of the grouped panel. The previous procedures to detect potential multicollinearity and autocorrelation in the data were also conducted and the results were similar. The problem of heteroscedasticity is also verified in this regression which led us to follow the same approach applied in the model (1).

In both empirical models we have also included year dummies to capture time specific effects following Dimitropoulos (2011) and Dimitropoulos and Tsagkanos (2012). With all these procedures taken we are more closely to ensure that both models comply with the classical linear model assumptions for panel data (Wooldridge, 2016).

4. Empirical results

4.1. Descriptive statistics

The summary statistics for the sample variables over the period from 2006 to 2019 are displayed in Table 5. On average, the return on assets (ROA) is positive and equals 9.2%. The lowest efficiency in managing the club's assets to generate earnings was achieved by West Ham United in 2008 with a negative ROA of -44.1%; in contrast, the highest profitability in relation to the club's assets was generated by Burnley in 2015 with a ROA of 126.1%, partly due to the meaningful increase in TV broadcasts club's turnover in a small-sized club as a result of the promotion to the EPL. Around 84.6% of observations refer to clubs under private majority ownership, and from that set only about 38.4% are domestic owners. In this set of clubs controlled by private investors, around 21.1%, 14.4%, 10.1%, 8.4% and 7.6% are majority owned by foreign investors from US, Europe (excluding England and Russia), Middle East, Asia and Russia, respectively. Regarding the size, EPL clubs are large⁵ with the amount of total assets ranging between £12,6m (Wigan Athletic in 2006) and £1694,5m (Tottenham Hotspur in 2019). Finally, EPL clubs are highly leveraged (average debt to assets ratio of 64.1%), but have been experiencing high revenue growth.

Table 5: Summary statistics

Variable type	Variable	N	Mean	Median	Std. Dev.	Minimum	Maximum
Dependent variable	ROA	280	0.092	0.073	0.185	-0.441	1.261
Independent variables	Inv	280	0.846	1	-	0	1
	Domestic	237	0.384	0	-	0	1
	US	237	0.211	0	-	0	1
	Russia	237	0.076	0	-	0	1
	Europe	237	0.144	0	-	0	1
	Middle_east	237	0.101	0	-	0	1
	Asia	237	0.084	0	-	0	1
	UEFA	280	0.429	0	-	0	1
Control variables	Club_size	280	11.944	11.869	1.054	9.449	14.343
	Growth	280	0.388	0.14	0.571	-0.123	2.674
	Debt	280	0.641	0.433	0.7	0	4.32

⁵ English Premier League clubs account for 30% of all European club assets (UEFA, 2020).

4.2. Evolution of ownership structures of EPL clubs

The evolution of ownership structures of EPL clubs between the 2005/06 and 2018/19 seasons is shown in Figure 3. The number of clubs under private majority ownership has increased from 15 in 2006 to 18 in 2019. It is also notorious the growing interest of foreign investors in EPL teams during this period of time. While in the 2005/06 season the number of clubs that participated in the EPL held by foreign majority investors was the same as the number of clubs under dispersed ownership (i.e., 5 clubs), in the 2018/19 season there were 14 clubs controlled by foreign investors and only 2 were owned by minority shareholders. During this time period, 4 clubs with initially distributed ownership featured a takeover by a dominating sports team investor while participating in EPL (Arsenal, Everton, Sunderland and Swansea City), and only 4 teams remained without a dominating investor during this whole period while playing in EPL (Birmingham City, Burnley, Charlton Athletic and Crystal Palace). There were still other changes in the ownership of the EPL clubs, but they have taken place among investors of the same type. It was also not observed no transitions from a club previously owned by a private majority investor (domestic or foreign) to dispersed ownership.

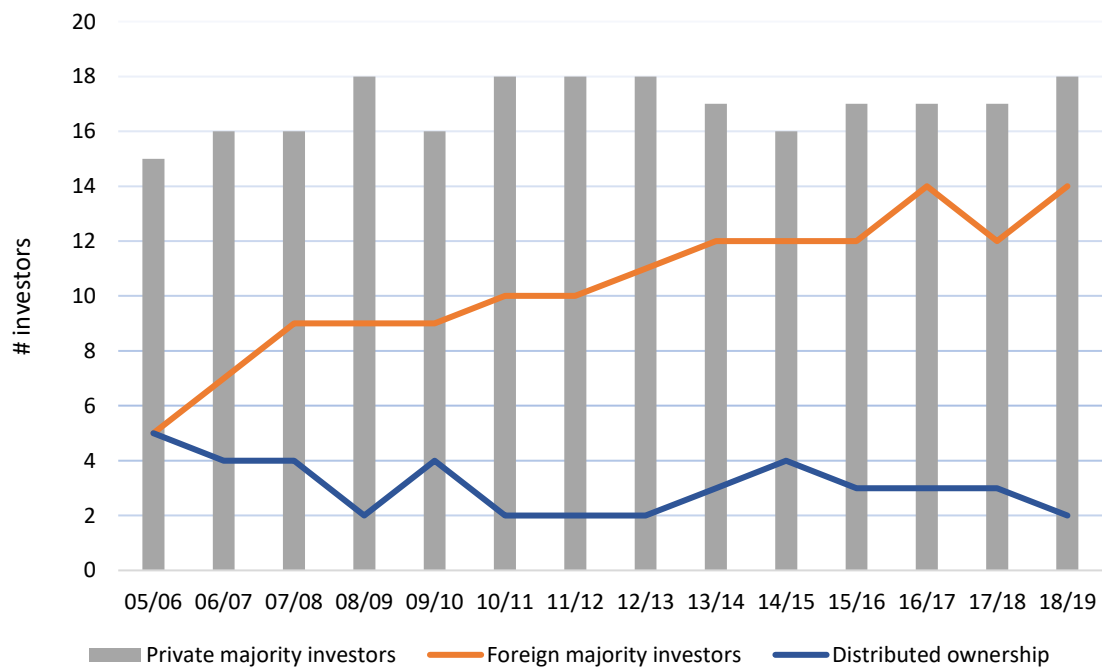


Figure 3: Evolution of English Premier League clubs' ownership structures – 2005/06 to 2018/19

As it was mentioned, the English Premier League has become an attraction for foreign investors throughout the recent years. The number of private majority investors of EPL clubs by origin⁶ is summarized in Figure 4. In line with what was previously shown in Figure 3, the presence of domestic majority investors has been decreasing. Whereas in the 2005/06 season there were 10 clubs' majority owned by English private investors, in the 2018/19 season there were only 4 teams. On the contrary, it is clear a growing trend of EPL clubs owned by Asian investors (in the 2015/16 season only 1 team was majority owned by an Asian investor, but in the 2018/19 season 5 clubs were controlled by Asian investors). Regarding the remaining origins of dominating investors, there has been a constant trend with at least one American, European (non-English) and Middle Eastern majority investor and the maximum of four every season, being highlighted a massive presence of American investors with 4 clubs under their control in 9 out of 14 seasons.

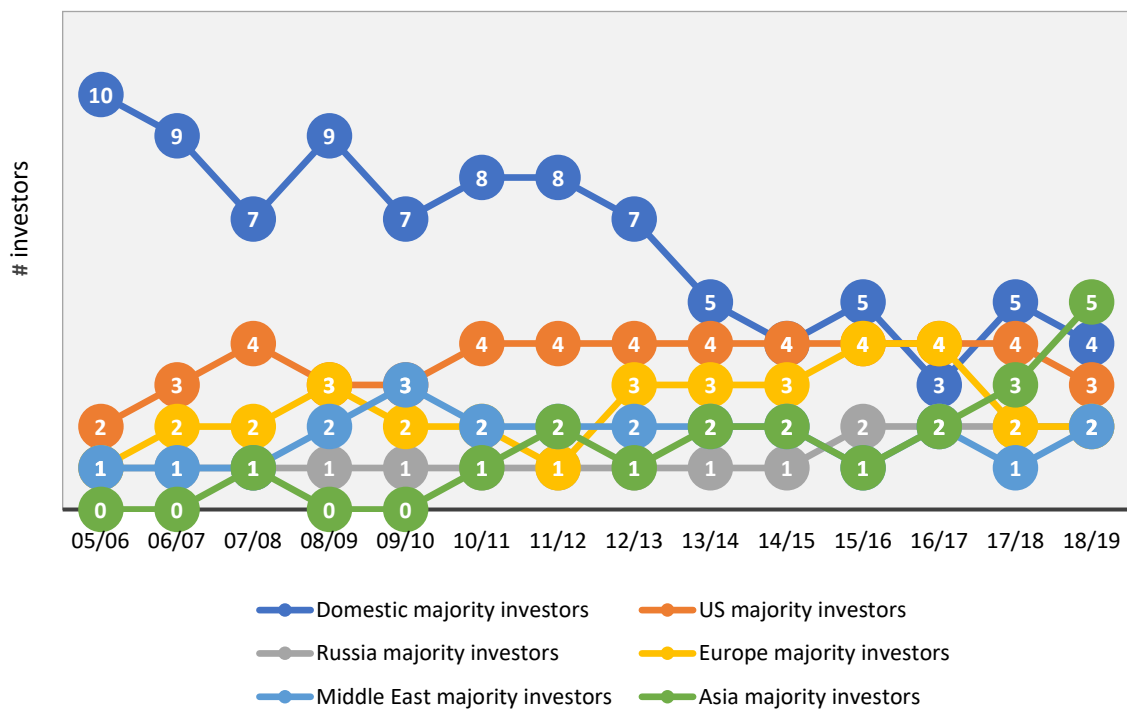


Figure 4: Evolution of the number of private majority investors of EPL clubs by origin – 2005/06 to 2018/19

⁶ The origin of each private majority investor was settled according to the country's legal origin. During this 14-year period, sports team investors from England and other eighteen countries were majority owners of EPL clubs. The distribution by geographical area was made as follows: Asia (China, India, Malaysia, Pakistan and Thailand), Europe (France, Iceland, Ireland, Italy, Serbia, Switzerland and Wales) and Middle East (Egypt, Iran, Saudi Arabia and United Arab Emirates (UAE)).

4.3. Financial performance determinants

In the following we will present the results from the estimation of the empirical models including the natural logarithm of one plus return on assets (ROA) as dependent variable (Table 6).

First, we can observe a significant negative effect at the 1% level of private majority investors on the financial performance of football clubs. On average, clubs which have been taken over by dominating sports team investors produce a level of profitability which is about 7.16%⁷ lower than clubs with distributed ownership. These results verify hypothesis 1 and corroborate previous evidence from Rohde and Breuer (2016b). According to these authors, clubs under private majority ownership produce profits which are around 10% lower. However, the explained variable used in this study was the natural logarithm of operating profits before player trading activity without transforming the variable to set up positive values. This approach implied the loss of observations regarding clubs that generated operational losses. It is also important to mention that the remaining explanatory variables used to model profitability were not the most suitable, which resulted in a coefficient of determination only slightly greater than 0.2. In line with the results achieved, Acero et al. (2017) and Ruta et al. (2019) found evidence that a high level of ownership concentration leads to a negative impact on the financial performance of European football clubs. Moreover, Ruta et al. (2019) also found that an increasing level of ownership concentration favours a better sporting performance. These empirical findings confirm the application of the property rights theory on the European football industry (Franck, 2010) since an increment in the power and control in charge of club's private investor motivates a greater alignment between club's on-field performance and club owner's objective function. Finally, these results uphold the theories that sportsman-owners negatively affect the profitability of clubs mainly due to the inefficient application of clubs' resources (Gerrard, 2005; Rohde & Breuer, 2018) and that the win-maximization logic is followed (Sloane, 1971).

Second, we are able to notice a significant positive influence at the 1% level of the imposition of the UEFA Financial Fair Play (FFP) restrictions on the financial performance of football clubs. On average, the level of profitability of football teams improved by about

⁷ The relative impact of a takeover pursued by a sports team investor corresponds to: $(e^{(-0.0743)} - 1) * 100 = -7.16\%$.

12.66%⁸ since the introduction of the UEFA FFP rules. These evidence allow us to conclude that hypothesis 2 is validated and suggest that the introduction of these regulations was a success in at least bringing more “discipline and rationality” to European football club finances. It is also reasonable to state that these regulatory measures were suitable to mitigate the “financial doping” by sports team investors and that private investors might have changed their operating business model from a more investment-focused to a more efficiency-driven model as suggested by Rohde and Breuer (2018). These results also corroborate previous evidence from Peeters and Szymanski (2014) that show that the UEFA “break-even requirement” led to an augment in the level of profitability of football clubs. Notwithstanding, Dimitropoulos et al. (2016) found that the inclusion of strict financial controls created by UEFA had a negative impact on clubs’ accounting quality fuelling certain characteristics of football management culture, once managers sometimes tend to undermine financial reporting transparency to ensure the necessary financing.

Analysing the impact of owner nationality on financial performance, the results indicate that four out of the five origin dummy variables are insignificant. As shown, the negative influence of European (non-English and non-Russian) majority investors on the financial performance of football teams is the only relationship statistically significant (at the 1% level). In this sense, these results only partially confirm hypothesis 3 specifically regarding that dominating European owners are “win-maximisers” or “utility-maximisers”. These empirical evidence follows previous studies that argue that win-maximization is the prime objective of European professional clubs and team owners (Atkinson et al., 1988; Garcia-Del-Barrio & Szymanski, 2009; Wilson et al., 2013). Considering also what was claimed by Wilson et al. (2013), we were not able to find evidence that US sports team investors bring to European clubs their philosophy about putting profitability as a fundamental priority in their strategic decision-making process. Despite it was not possible to find evidence that US majority owners are “profit-maximisers”, Plumley, Wilson, and Ramchandani (2017) settled a financial performance score based on return on capital employed (ROCE), gearing ratio, turnover increase, profit increase, profit, current ratio, debt and wages as a percentage of turnover, and found that the majority of clubs with the better financial performance were owned by dominating US investors.

⁸ The relative effect on the financial performance of football clubs resulting from the introduction of the UEFA FFP regulations is given by: $(e^{(0.1192)} - 1) * 100 = 12.66\%$.

Finally, some interesting evidences were found through the analysis of the impact of control variables on the financial performance. First of all, it should be noted that all control variables are statistically significant in both models within conventional levels. Against what was the line of reasoning of Orlitzky (2001), we can observe a negative influence of club size on the football clubs' financial performance. A possible explanation for this relationship might be related with the fact that, following the win-maximization logic, normally the biggest clubs are the ones that really fight for trophies. Thus, they invest a large amount of financial resources to acquire the most talented players to increase their chances of winning and engage in an "arms race" (Frank & Cook, 2010). However, only very few clubs will achieve the desired sporting success (e.g., in each season only one team can be crowned champion of the national league, only one team can win the UEFA Champions League and only one team can win the UEFA Europa League) which potentially will drive their players' market value up and significantly improve their monetary prizes among other revenue increases derived from their sporting achievements. All the others clubs that do not meet the expectations created in the beginning of the season (normally the larger the size of a club, the greater the expectations generated) are not going to achieve the expected return on their investment and might face operational financial losses. In the regression model (2), where we removed the observations of clubs under distributed ownership, the magnitude of this negative effect is substantially lower which may be a result of the declining number of clubs owned by minority investors over this period of the time and the greater "discipline and rationality" that has been verified in the management of European clubs finances since the introduction of the UEFA break-even compliance monitoring and other financial controls measures. The coefficients of the other two control variables have the expected sign considering what was previously explained.

Table 6: Regression results from the estimation of the models

Variable	Model I	Model II
Constant	1.3791*** (0.3559)	0.3221* (0.1354)
Inv	-0.0743** (0.0262)	
Club_size	-0.1066*** (0.0301)	-0.0199 ^o (0.0113)
Growth	0.0588 ^o (0.0307)	0.0795*** (0.0162)
Debt	-0.0332 ^o (0.0199)	-0.0324* (0.0149)
UEFA	0.1192** (0.0370)	
US		-0.0214 (0.0262)
Russia		-0.0513 (0.0371)
Europe		-0.0753** (0.0253)
Middle_east		-0.0247 (0.0305)
Asia		-0.0209 (0.0300)
Club fixed effects	Yes	No
Year dummies	Included	Included
R-squared	0.6428	0.3591
Adjusted R-squared	0.5551	0.2964
F-statistic	7.3285	5.7353
Observations	280 (39 clubs)	237 (35 clubs)

Notes: *** Statistical significance at the 0.1% level; ** Statistical significance at the 1% level; * Statistical significance at the 5% level; ^o Statistical significance at the 10% level; Robust standard errors in parentheses

4.4. Sensitivity analysis

In order to check the robustness of the obtained evidences, we performed some sensitivity tests concerning the specification of the regression models and the methodology applied in this study (results are tabulated and can be found in the annexes section).

Concerning potential collinearity, we conducted the variance inflation factor (VIF) among the explanatory variables in both original regression models. Following Wooldridge (2016), we consider the cut-off value of 10 for VIF (i.e., a VIF above 10 might be a signal of high correlation and a reason for concern). As shown in annex, Table 7, it is reasonable to consider that there are no major problems regarding collinearity.

Additionally, we re-estimated both regression models by replacing the financial performance indicator used as dependent variable. This time we used return on sales (ROS) to reflect the efficiency in which clubs' management is running the business by analysing the percentage of revenue that is converted into operating profits. The ratio is obtained by dividing a club's operating profit before player trading activity by its total revenue. The entire transformation process applied in the return on assets (ROA) was maintained for the same reasons previously explained⁹. All the procedures previously taken to ensure that both models more closely respect with the classical linear model assumptions for panel data were also conducted at this stage (Wooldridge, 2016). As expected, the issue of heteroscedasticity is verified again which led us to estimate the White-adjusted coefficient standard errors. The output of our estimations with this modification in the specification of the models is exhibited in annex, Table 8. The results shown that the negative influence of private majority investors on profitability is substantially higher based on return on sales (ROS). It was also found a negative effect of European (excluding domestic investors) and Middle Eastern majority investors on the financial performance of clubs, but no statistically significant relationship of the influence of US investors on clubs' profitability came across. These evidence corroborate previous results from Rohde and Breuer (2018) that demonstrated that foreign investors decrease financial efficiency of clubs.

Finally, we decided to perform a winsorization considering the top and bottom 1% of the data distribution in order to analyse potential differences in the obtained results. This

⁹ Following what was previously applied, we transformed our dependent variable in the form $\text{Performance_2} = \log(1 + \text{ROS})$.

approach allows us to reduce any biases that could arise from the existence of significant outliers in our sample. Through this procedure, all the empirical models presented a coefficient of determination higher which indicates that the models better fit the observed data and the most of explanatory variables are generically more statistically significant as expected (annex, Table 9). Despite of this process, all the equation models (including the ones with the alternative dependent variable) still present a pattern of nonconstant error variance which must be corrected with the estimation of the White-adjusted coefficient standard errors. The results found remained unchanged relative to our main empirical findings before this winsorization procedure.

5. Summary and conclusions

This study has focused on analysing the relationship between ownership structure and the financial performance of football clubs. Through an unbalanced sample of English Premier League (EPL) clubs, our empirical results confirm that private majority investors generate a lower profitability in relation to clubs under distributed ownership. When we reduced the sample size to contain only the observations of clubs' majority owned by sports team investors in order to allow analysing the effect of the investor's origin on the financial performance of the club, it was found that European majority owners are "win-maximisers", but no evidence that supports the theory that US majority owners are "profit-maximisers" was found. In this sense, we are able to deduce that the influx of foreign investors into European football will not drive a shift in the objective functions pursued by football teams.

Regarding the UEFA Financial Fair Play (FFP) regulations, the empirical results obtained suggest that the profitability of clubs significantly improved since these rules were imposed. Therefore, we concluded that these financial controls introduced by the European professional football's governing body were an effective measure to reduce the "overspending" by private investors. These rules are of additional importance to ensure the long-term sustainability of football clubs, especially in the current "arms race" environment in which teams compete based on their spending power, and not according to their profitability (Franck, 2010).

Indeed, our research allowed to shedding light on the black box with respect to the motivations of private investors. More precisely, our empirical findings show that sportsman-owners' incentives and rights might explain the financial performance of football clubs. Against the conventional notion of investor that refers to a person or entity that allocates capital with the expectation of receiving future financial returns, it is unlikely that sports team investors yield much of return by buying a football club (Yueh, 2014). Despite of outstanding revenue increases, football industry is featured by low levels of profitability which reveals the uniqueness of this business segment (Michie & Oughton, 2005). This paradox is mainly a consequence of the fact that football is more than just a business. Football clubs represent cultural and community assets where football supporters are key stakeholders by being loyal customers and actively engaging in match day support. Moreover, the football industry depends on both competition and cooperation among clubs (Hamil et al., 2004). As a result

of the ruinous competitive interaction between clubs and the concentrated revenue sharing only for the teams participating in the UEFA Champions League, clubs are encouraged to gamble on success. The thrill that investors feel for seeing their clubs winning major competitions like this one among other reasons previously discussed, instead of primarily looking for financial returns, will lead these businessmen to enter into this world of passions.

An important matter that the regulating bodies must consider besides financial controls refer to the settlement of other control mechanisms regarding the ownership structure. Since some private investors may inject capital into football clubs only as long as their motivation remains, in case of their interest fading away, their financial injections might stop (Ruta et al., 2019). This threatens the financial stability of a club as well as its long-term sustainability. Thus, it is crucial to reduce the dependence between the survival of a club and the financial condition of the sportsman-owner associated with the decisions taken. Considering the results obtained in this study that private majority investors cause a lower profitability of clubs and since they may lose their interest in the investment, it would be appropriate to consider the introduction of some control instruments. For instance, restrictions on club ownership that limit ownership of different clubs within the same national league by the same investor or entity, controls to avoid the presence of private majority ownership, and the introduction of tests and certain minimum requirements for new owners that would involve a proof of funds and the origin of them and a kind of legal document in which the owner assumes the commitment to ensure the future sustainability of the club. We could take as an example the German Bundesliga 1 and 2 (i.e., top-tier and second-tier competitions in German football, respectively) where it was established the “50+1” rule, by which members of the clubs must have the majority ownership of the capital of the club (Dietl & Franck, 2007).

This study has a few limitations that might be addressed with further research on sports governance. Considering the lack of available data and transparency in the information regarding corporate governance from clubs participating in other European national leagues, our research sample only covers English Premier League clubs. Thus, it would be challenging to expand the size of our sample in order to confirm our results in an unexplored area of sports finance. Moreover, it would be interesting to study the impact of the net wealth of the clubs’ largest shareholder on the financial and sporting performance of clubs. Finally, it could be curious to analyse the financial returns for private investors who invest in football clubs.

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Annexes

Table 7: Collinearity statistics

Variable	Model I	Model II
Inv	2.05	
Club_size	6.16	2.44
Growth	1.72	1.34
Debt	1.34	1.64
UEFA	9.43	
US		1.76
Russia		1.63
Europe		1.28
Middle_east		1.42
Asia		1.34

Note: Figures refer to the outputs of the estimation of the variance inflation factors (VIFs) for each of the explanatory variables of both original regression models

Table 8: Regression results from the estimation of the models with an alternative dependent variable

Variable	Performance_2 (in Model I)	Performance_2 (in Model II)
Constant	1.5467** (0.5850)	-0.1448 (0.2039)
Inv	-0.1453*** (0.0422)	
Club_size	-0.1143* (0.0497)	0.0215 (0.0173)
Growth	0.0293 (0.0221)	0.0660* (0.0261)
Debt	-0.0591* (0.0285)	-0.0138 (0.0244)
UEFA	0.1270* (0.0567)	
US		-0.0504 (0.0427)
Russia		-0.1630** (0.0570)
Europe		-0.1394*** (0.0404)
Middle_east		-0.1663*** (0.0469)
Asia		-0.0710 (0.0478)
Club fixed effects	Yes	No
Year dummies	Included	Included
R-squared	0.4577	0.2582
Adjusted R-squared	0.3246	0.1857
F-statistic	3.4378	3.5636
Observations	280 (39 clubs)	237 (35 clubs)

Notes: *** Statistical significance at the 0.1% level; ** Statistical significance at the 1% level; * Statistical significance at the 5% level; ° Statistical significance at the 10% level; Robust standard errors in parentheses

Table 9: Regression results from the estimation of the models (including with the alternative dependent variable) based on winsorized data at the 1% level

Variable	Performance (in Model I)	Performance (in Model II)	Performance_2 (in Model I)	Performance_2 (in Model II)
Constant	1.1849*** (0.3233)	0.2497 ^o (0.1288)	1.2668** (0.4714)	-0.2992 ^o (0.1677)
Inv	-0.0703** (0.0238)		-0.1321*** (0.0359)	
Club_size	-0.0907** (0.0275)	-0.0145 (0.0109)	-0.0916* (0.0401)	0.0345* (0.0143)
Growth	0.0736** (0.0242)	0.0926*** (0.0161)	0.0543* (0.0213)	0.0911*** (0.0208)
Debt	-0.0361 ^o (0.0192)	-0.0331* (0.0141)	-0.0495* (0.0214)	-0.0100 (0.0199)
UEFA	0.1138** (0.0343)		0.1058* (0.0479)	
US		-0.0253 (0.0246)		-0.0604 ^o (0.0346)
Russia		-0.0557 (0.0354)		-0.1786*** (0.0472)
Europe		-0.0730** (0.0240)		-0.1248*** (0.0331)
Middle_east		-0.0211 (0.0296)		-0.1407*** (0.0400)
Asia		-0.0207 (0.0290)		-0.0681 ^o (0.0386)
Club fixed effects	Yes	No	Yes	No
Year dummies	Included	Included	Included	Included
R-squared	0.6674	0.3844	0.5496	0.3201
Adjusted R-squared	0.5857	0.3242	0.4391	0.2546
F-statistic	8.1713	6.3923	4.9707	4.8390
Observations	280 (39 clubs)	237 (35 clubs)	280 (39 clubs)	237 (35 clubs)

Notes: *** Statistical significance at the 0.1% level; ** Statistical significance at the 1% level; * Statistical significance at the 5% level; ^o Statistical significance at the 10% level; Robust standard errors in parentheses