

**Private Equity Investments in the Football Industry: An Empirical Analysis of
The Effects on Teams Performance**

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ABSTRACT

In recent years, the landscape of football club ownership and governance has undergone significant transformations with private equity becoming one of the major stakeholders of many football clubs. Existing literature reveals that private equity firms (PE) tend to acquire underperforming companies, implement strategic improvements, and enhance operational efficiency, thus improving the performance of these entities. This research explores the impact of private equity (PE) takeovers on the financial and sporting performances of football teams in the top five European leagues.. The central research question guiding this analysis is: "Do private equity takeovers improve the financial and sporting performances of football teams in the top 5 leagues?" To address this, the study employs two fixed effects approaches and an event study design, focusing on key performance metrics such as Return on Assets (ROA), League Position, Total Gross Wages, Net Spending, Squad Value, and Stadium Attendance. The sample includes the 32 clubs with PE participation in season 2023-24 in the top five leagues, analyzed over a period extending before and after the takeover. The results indicate that PE-owned clubs tend to increase their Final Position, invest more in player acquisitions, and improve Squad Value and Stadium Attendance. Despite some estimates lacking statistical power, a consistent trend of improvement in club performances emerges post-takeover. This research contributes to sports economics by providing empirical evidence on the effects of PE ownership in football, offering valuable insights for investors, sports management professionals, and policymakers. Future studies should continue to monitor PE's long-term impact, considering both financial and sporting outcomes as well as any socio-cultural consequence emerged.

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Private Equity Investments in the Football Industry: An Empirical Analysis of The Effects on Teams Performance

In recent years, the landscape of football club ownership and governance has undergone significant transformations, with diverse and new types of holding dynamics emerging among teams worldwide. From wealthy individuals often owning clubs for leisure or to gain power, to Russian oligarchs and sovereign wealth funds from Qatar and the UAE acquiring clubs for political purposes. Ownership structures also range from fan-based models, like those of Bayern Munich and Barcelona, to corporate affiliations, such as Bayer Leverkusen, supported by pharmaceutical giant Bayer, and Zenit St. Petersburg, backed by Russian gas company Gazprom (Kuper & Szymanski, 2009).

However, the emergence of private equity (PE) firms investing in football clubs has introduced a new dimension to ownership dynamics, with examples like RedBird Capital Partners owning AC Milan and FC Toulouse, and the City Football Group owning Manchester City, Girona, and others.

Currently, 35.7% of the clubs in the top five European leagues have some form of private equity, venture capital, or private debt participation at the club-ownership level. This trend reflects the growing appeal of football clubs as lucrative investment opportunities for private capital. (Pitchbook, 2024). Sovereign wealth funds, such as Saudi Arabia's Public Investment Fund (PIF), also fall under this category of private participation. In this study, I define private participation as any minority or majority investment by a PE, VC, or private debt investor.

This significant shift in ownership structures raises questions about the impact of Private Equity involvement on the world of football. PE firms are known for their focus on

long-term return of their investment and professional management (Gompers et al., 2016). PE can support clubs with substantial capital injections, helping them to improve their financial position and stability. Through better management and clear strategies, the goal is also to improve on-field performance and competitiveness (Franck, 2014).

The increase in presence of PE-backed teams and the consequent improvement of the on-field performance of these teams may also increase the average competitiveness and the appeal of the league. This could attract more sponsors and lead to better TV broadcasting deals, meaning higher revenues for the clubs (Vrooman, 2009).

With their profit-maximization driven approach, PE-backed clubs could also affect their team's fanbase, modifying the cultural role and aspect of football. For example, PE could aim for higher matchday revenues through increased ticket prices and a renewed stadium experience, building restaurants and shops. This kind of approach could attract new kind of fans, more interested in a complete leisure experience, rather than just football itself. On the other hand, higher prices and the new role of stadiums could be economically inaccessible or not well welcomed by some fans.

Lastly, the impact of PE involvement in football should be well monitored and valued by National Football Federation. In case PE participation will be proven to be beneficial, for example through higher revenues and fan engagement, the few PE entrance restrictions that are still present could be lifted. An example of barrier is the "50+1 rule" in the German Bundesliga, where clubs need to be owned by more than half from their supporters and socios (Bauers et al., 2019). By contrast, if PE involvement results in negative outcomes, such as lower stadium attendance because of excessive ticket price increases, it could be necessary for Football Federations to implement measures that mitigate these adverse effects.

This study analyzes the impact of PE entrance on the financial and sport performance of football teams. I choose to focus on club performances given the absence of previous studies examining how PE-backed clubs react to the takeover. Moreover, we lack indicators that can be used to empirically analyze PE effects on Football Leagues, fanbase and on the change of regulations in Football Federations.

Therefore, the central research question guiding this study is:

“Do private equity takeovers improve the financial and sporting performances of football teams in the top 5 leagues?”

To address this question, I analyze the impact of PE shareholdings on both the financial health and sporting success of football teams in the top five European leagues. The following metrics are proxies for financial and sport performance: Return on Assets (ROA), Final Position, Total Gross Wages, Net Spending, Squad Value, and Stadium Attendance.

The thesis uses two different fixed effects approaches and event study design. With the first two methods, I eliminate effects that are common for different teams, leagues and seasons, while with the event study we can observe how the performance metrics chosen change over time, with respect to the pre-PE shareholding acquisition.

Although some estimates lack of statistical power and significance, the results show a somewhat consistent pattern of impact of PE in on-field and financial performances of clubs. Compared to pre-PE periods, PE owned teams tend to improve their league placement, with higher investment on the player’s market, better squad value and a higher stadium attendance.

This study makes two main contributions to the field. First, it offers a detailed examination of the on-field and financial success linked to PE investments in football, providing valuable insights for investors and sports management professionals. Second, it contributes to the broader literature on sports economics by exploring the dynamics and implications of new structures and ownership models in football. By utilizing a unique, self-created dataset, this research aims to investigate specific mechanisms previously unexplored and provide new insights into the effects of private equity involvement in football. The research offers a comprehensive analysis of the financial and sporting impacts of PE ownership in football.

The paper is structured as follows: the next section provides a theoretical framework of the impact of shareholding acquisition by private equity firms on target firms and of the relationship between governance models and team performance in the football sector. The paper continues with two sections that describe the data and the empirical methodology followed in the empirical analysis; the fifth section presents and comments on the results of the three models; finally, in the sixth section I conclude delving deeper and commenting on the results, presenting possible future implications.

THEORETICAL FRAMEWORK

The concept of private equity (PE) has its origins in the early 20th century, and it was initially characterized by wealthy families and individual investors providing capital to firms. During the 1980s, the concept of PE evolved, especially thanks to the rise of leveraged buyouts (LBOs) (Cendrowski et al., 2012). With PE able to use significance amounts of debt to finance their investments, the number of PE funds started increasing and they started targeting large

underperforming firms (Wilson et al., 2022). The high leverage created a strong imperative to quickly improve operational efficiency and profitability, leading to the modern PEs' concept and behavior: targeting underperforming firms, enhancing them, and selling them making a profit (Kaplan et al., 2009).

Strategy and Impacts of Private Equity Takeovers

PE firms have become a significance force in the worldwide economy, managing vast sums of money and influencing numerous industries (Haufler, 2013).

Acquire underperforming companies, implement strategic improvements, and exit investments at a profit is what Private equity (PE) do.

The first fundamental step before investing in private companies or engaging in buyouts of public ones, is the pre-investing screening process. Funds and investors need to carefully identify firms with high growth potential, making sure to finance businesses and entities capable of significant performance improvements (Berger & Udell, 1998; Gompers & Lerner, 1999). Post-acquisition, PE firms focus on creating value by enhancing operational efficiency and profitability, especially by eliminating unproductive assets, optimizing resource utilization, and making value-increasing acquisitions (Hotchkiss et al., 2021).

Chemmanur, Krishnan and Nandy (2011) further insist on which practices PE firms introduce in new companies to improve decision making and operational performance. The success of many PE firms can be found in their ability in providing better strategic guidance and governance structures, often replacing inappropriate management teams and establishing better incentive systems that align the interest of management with those of investors.

This is backed by the fact that PE firms do not just invest in companies, but they take an active role in overseeing and managing the companies they invest in.

Gompers et al. (2016) highlight that the goal of PE is to maximize the value of their portfolio companies by increasing revenue, improving governance, making additional acquisitions, and reducing costs.

The aforementioned impact of private equity on firm performance is well-documented. PE-backed firms tend to outperform their non-PE-backed counterparts by often exhibiting higher productivity and profitability (Meles et al., 2014).

Croce et al. (2013) expand the focus by discussing the role of venture capital, a subset of private equity, where the focus is on investing in firms with high growth potential. Here they question whether the higher growth rates and better performance metrics are driven by better management practices and structures or by the ability of venture capitalists to identify high-potential firms.

The principles of efficiency, enhanced governance, and growth are not confined to traditional industries but can also extend to sports teams, particularly football teams. Andreff (2007, 2015) explores how agency problems and bad governance can undermine the financial and sporting health of football teams. Focusing on French football, Andreff (2007) identifies weak governance and a non-profit-driven approach as the roots of the low level of the national league (Ligue 1) and French teams poor performance in European competitions.

This creates a potential opportunity for PE firms, as confirmed by the case of French football clubs over the last 15 years. After sliding to the 6th place in the UEFA ranking per nation in 2009 (UEFA, 2009), its lowest point in history, the number of clubs with private equity involvement has increased from just one to nine (Pitchbook, 2024), with most of the investments happening from 2019. Interestingly, Ligue 1 total market value has risen from

€1.47 billion in 2007 to €3.74 billion in 2024, thanks also to the signing of a €20 million per year naming contract with McDonald's (SportCal, 2024).

The Role of PE Firms in the Sport Sector

One of the few papers written on the theme of private equity in sports is from Browndorf (2021). He explores the trend of venturing in professional sports. Although some examples of PE in European football, such as Man City and PSG (formally owned by PE, but in practice owned by UAE and Qatar sovereign funds), he states that the “PE trend” in the sport industry has gained momentum in the USA around 2019. The factors driving the increasing interest of PE firms for sport clubs are partly common to other PE deals – i.e., the abundant liquidity and the search for higher yield, typical of the post pandemic period – and partly specific to the sport industry, namely the loosening of some ownership rules in the Major League Baseball (MLB) and National Basket Association (NBA).

The PE wave in the European football sector has been influenced by the involvement of US PE firms in the sport sector, with some investors that started investing firstly in the US and are now active in the two markets (e.g. RedBird Capital Partners, owner of AC Milan and Toulouse FC in European football and creator of the Union Football League in the US).

As reported by one of the major US PE firms Blue Owl (2022), the US were the first country to host and launch sports-dedicated PE funds, such as Arctos Sports Partner, Dyal Capital Partner and RedBird Capital Partners. Arctos and Dyal Capital Partners were favored by the restrictions that the NBA lifted, permitting to acquire stakes of clubs, respectively Golden State Warriors and stakes in the Atlanta Hawks, Sacramento Kings, and Phoenix Suns. (Pitchbook, 2022).

The influx of sports professionals partnering with fund managers has brought industry-specific knowledge and credibility. This helped reduce the risk associated with sport investments, often driven by the fact that many teams were owned by high-net-worth individuals, usually with scarce strategic knowledge. (Morrow, 2014)

In his publication on The Wall Street Journal, Menghi (2024) stresses again on how private equity investments have provided essential capital for sports franchises, helping them remain competitive, particularly in player acquisitions and infrastructure development. The influx of capital has also facilitated the professionalization and commercialization of sports teams, aligning them more closely with profit-driven business models.

However, it is still too early to evaluate the success of PE firms in sports, since we have not seen any concrete examples of PE firms exiting from professional clubs yet.

From Sugar Daddies to Private Equity: The Evolution of Ownership Models in Football

To comprehend the significant rise of private equity (PE) participation from just a few clubs to approximately 40% of clubs within the Top 5 football leagues (Pitchbook, 2024), it is valuable to examine the evolution of governance structures in football teams throughout the years.

Historically, High Net Worth Individuals (HNWI) owned football clubs, often seeing them as symbols of power or political leverage. These wealthy individuals, also known as "sugar daddies," treated football clubs as side businesses or hobbies, injecting substantial funds with scarce concern for profitability, and even less for sustainability. This model led to significant financial input but also to substantial financial instability, with clubs often

recording high incomes and equally high losses, particularly in the Premier League, the richest football championship (Franck, 2010). We have numerous examples of HNWI that used football for political reasons: Porro and Russo (2000) shows how Berlusconi's political success in Italy has been a consequence of his titles won as president of the Italian club AC Milan, considered one of the best teams of the last century. Similarly, the Russian businessman and politician Roman Abramovich, as president of the London's team Chelsea FC, brought the team again at a top level, while improving the image of Russia in the UK (Wagg, 2013), before leaving the club after the Russian invasion of Ukraine.

Literature on HNWI in the sport sector focuses on the main risk of this kind of ownership. The "expropriation theory" suggests that single private owners can lead to governance scandals and financial mismanagement. (James & Walsh, 2018). Examples of such scandals include the Calciopoli scandal involving Juventus and several other Italian clubs in 2006, where clubs manipulated referee assignments to influence match outcomes, with Juventus being relegated to Serie B. Another example is Evangelos Marinakis, owner of the Greek club Olympiacos, who has been implicated in several corruption cases, including match-fixing allegations. His influence over both football and political spheres in Greece exemplifies the potential conflicts of interest and governance issues that can arise from individual ownership. (Acero et al., 2017).

In the 1980s and 1990s, the stock market model became popular. Clubs started going public to raise capital. However, this model often led to negative returns for shareholders and proved to not be sustainable. The high volatility of working and investing in human capital can be a valid explanation (Palacios-Huerta, 2003). Just six football clubs are publicly traded today, but they often struggle to combine profit maximization and sporting success. Recent examples include Manchester United and Juventus. (Rohde & Breuer, 2023).

Another popular model, characterized by independent, not-for-profit, and cooperatively owned organizations is the supporter trust model. It aims to increase supporters' influence on club governance. This model is prevalent among smaller clubs, especially in South America, but has had varying degrees of success with larger European clubs like Barcelona and Bayern Munchen, and with many smaller clubs from the German Bundesliga. The challenge for larger clubs is being able to balance democratic governance with high investments aimed at competing at the highest level (Szymanski, 2006).

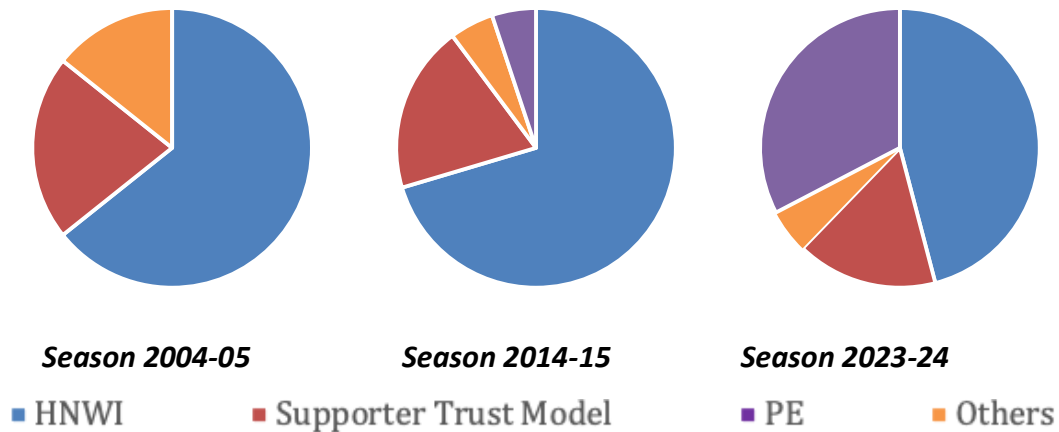
The last model, emerged in the last decade, is the multi-club ownership (MCO) structure. In most of the cases, MCOs are built around a "star team" in a top league, with investments in satellite clubs from less prominent leagues. This setup aims to create and exploit synergies across clubs, reducing players transfer fees and using secondary clubs as sources for the development of young prospects (Barrette, 2024). MCO can be managed by PE, like the aforementioned case of RedBird Capital Partners owning the Italian side AC Milan and the French side Toulouse FC or 777 partners owning multiple teams such as the Italian Genoa CFC, the German Hertha Berlin and the Australian Melbourne Victory FC. Alternatively, MCO structures can be in the hands of a single HNWI: one example is Giampaolo Pozzo, owning Udinese, Granada and Watford, respectively in Italy, Spain and England. (Goldstein, 2022).

As already mentioned, the attractiveness of the football market for private equity (PE) lies in the potential for significant financial returns and the opportunity to professionalize club operations, given that many teams have not yet assumed a profit maximization mentality. From just a few clubs with PE involvement, around 40% of the clubs in the top five leagues now have PE or venture capital (VC) participation (Pitchbook, 2024). This shift is represented in Figure 1 and reflects the increasing appeal of football clubs as investment opportunities. PE

firms are able to provide essential capital, professional management, and a focus on both profitability, often linked to better financial performances and better results on the pitch.

Figure 1

Evolution of Ownership Models



Note. Each slice indicates the percentage of football clubs that are under a particular ownership model at a time. The clubs used for the analysis belong to the top five leagues: Premier League (ENG), La Liga (ESP), Serie A (IT), Ligue 1 (FR), Bundesliga (DE). HNWI= High Net Worth Individual, PE=Private Equity.
Sourced from <https://www.dynamicsportmarketing.com/private-equity-in-football/>

Financial Fair Play and the Rise of Private Equity

The European football landscape, its ownership structures and the role of PE firms have been heavily influenced by the introduction from UEFA in 2011 of the Financial Fair Play rules (Franck, 2014). FFP aims to ensure that football clubs operate within their financial means, promoting long-term financial sustainability and responsible spending as well as debt reduction. Clubs need to follow break-even requirements, limits on their spending less than their revenues, with also some allowances for infrastructure and youth development (UEFA, 2011). With stricter financial regulations, clubs are forced to look for sustainable financing options and they also become attractive targets for private equity investments. PE may

provide the necessary capital to restructure clubs, improve management practices, and enhance financial stability while aiming for profitable returns. (Moura, 2023)

HYPOTHESIS GENERATION

Given this framework, the study aims to examine the effect of private equity takeovers on the financial and sporting performances of football teams in the top five leagues and the central research question guiding the empirical analysis is:

****Do private equity takeovers improve the financial and sport performances of football teams in the top 5 leagues?***

To answer this question and gain a more granular knowledge of the performance achieved, I have identified six different profiles of financial and sport performance that private equity could aim at when acquiring shareholdings in football teams. These profiles are Return on Assets (ROA), Final League Position, Total Gross Wages, Squad Value, Net Spending, and Stadium Attendance. Therefore, the study will test the following hypotheses.

First, the entrance of private equity is hypothesized to increase Return on Assets (ROA). PE firms are known for their focus on improving operational efficiency and profitability in their portfolio companies (Gompers et al., 2016). ROA is a measure of a company's profitability, giving insights on how well assets are managed to generate revenue and profits (Atidhira & Justina, 2017). Hence, it is expected that PE ownership will positively impact the ROA of football clubs.

H1: Private equity takeovers improve ROA of football teams in the top five leagues.

Second, PE entrance is expected to improve Final Position in the league. Final Position is a direct indicator of a team's on-field success. In this context, a lower Final Position number is better (being the 1st position better than the 3rd one). PE firms often bring in high-quality management, coaches, and strategic guidance to improve team performance (Chemmanur et al., 2011). Therefore, it is hypothesized that PE-owned clubs will achieve better league positions compared to their pre-PE period.

H2: Private equity takeovers improve the Final Position of football clubs in the top five leagues.

Third, PE entrance could also affect Total Gross Wages, i.e. the total amount paid to the club's players. Indeed, wages are a very important component of the club profitability and at the same time it may reflect both the competitive strategy and the financial management of the club. On the one hand, PE firms might reduce wages to achieve cost-cutting measures. On the other hand, PE firms could increase them due to investments in higher-quality players to boost team performance.

H3_a: Private equity takeovers decrease Total Gross Wages of football teams in the top five leagues.

H3_b: Private equity takeovers increase Total Gross Wages of football teams in the top five leagues.

Fourth, PE entrance is expected to increase Squad Value, i.e. the market value of a team's players. As in the other economic sectors, also in football PE firms aim at achieving a return on their initial investment by selling their share at a higher price. Hence, the Squad Value is one of the most important determinants of the exit value and of the final IRR for the PE represented capital. This value can increase thanks to different strategies: through the valorization of current players and due to better training and management (Gompers & Lerner, 1999).

H4: Private equity takeovers increase Squad Value of football teams in the top five leagues.

Fifth, PE entrance is expected to increase Net Spending, i.e. the net amount invested in the players acquisition by a football club. PE firms, aiming to be more competitive, might invest more in the squad, leading to an increase in Net Spending (Berger & Udell, 1998; Chemmanur et al., 2011).

H5: Private equity takeovers increases Net Spending of football teams in the top five leagues.

Finally, PE entrance is hypothesized to increase average Stadium Attendance. Stadium Attendance is a consequence of fan engagement and club popularity. The involvement of PE firms can enhance the stadium experience by adding modern facilities such as restaurants, hotels, and merchandising stores, which attract more spectators thus generating higher revenues. Nowadays, football stadiums are not just venues where to watch football games but can include various amenities that generate profit and attract more people.

H6: Private equity takeovers increases Stadium Attendance of football teams in the top five leagues.

By empirically testing these hypotheses, the study aims to provide a comprehensive understanding of the impact of private equity takeovers on the financial and sporting performances of football teams in the top five European leagues. This analysis will help elucidate how PE firms operate in football and the consequences of their involvement, offering valuable insights for investors, sports management professionals, and policymakers.

DATA

For this empirical analysis, I focused on football teams that in the 2023-24 seasons were in the top five European Leagues: Premier League (England), Serie A (Italy), Bundesliga (Germany), La Liga (Spain), and Ligue 1 (France). The total number of teams amounts to 96 and I have selected those with PE presences in their ownership. I ended up with 32 clubs, resulting in 517 total observations. To identify clubs with private equity participation, I used the PitchBook database¹, which determines whether a club is currently (June 2024) backed by Private Equity by using information from teams' websites, financial blogs, and local

¹ <https://pitchbook.com/news/articles/private-equity-european-football-dashboard>

newspapers. Pitchbook defined PE participation as any minority or majority investment by a PE, venture capital (VC), or private debt investor.

To conduct a longitudinal analysis of the impact of PE takeovers I covered a period going from ten years prior to the private equity takeover up to the current season (2023/24). It is important to note that the dataset is not a balanced panel and the number of years and observations for each team depends on when the private equity takeover occurred, leading to varying lengths of data for different teams.

The variables identified to proxy the financial and sporting success of a team are the following: Return on Assets (ROA), Final Position, Total Gross Wages, Net spending, Squad Value, Stadium Attendance. (see Table 1 for their description and sources).

Some of them are in line with the few studies addressing the issues of football teams' sport success/financial performance (e.g. Di Simone & Zanardi, 2021, Supino & Marano, 2024); other variables have been identified based on the economics of the football sector, present in the book *Soccernomics* (Kuper & Szymanski, 2009).

I sourced the ROA data from Orbis, a database powered by Bureau Van Dijk, and I obtained Final Position data from the respective league archives. The placements are expressed on an ordinal scale starting from 1 – for the first team in the first league – and onward; in the case of a team placed in the second league, I have given a number that is the sum of the total spots in the first league and the number corresponding to the placement in the second league (e.g. for a team first in the second league and if the first league had 20 spots, I classified the team as 21).

I obtained Total Gross Wages data from Capology, while Net Spending on the player transfer market, Squad Value, and the Stadium Attendance come from TransferMarkt.

A complete and detailed overview is presented in Table 1.

Table 1*Description of Dependent Variables*

Variable	Description	Source
ROA	Year-end Return on asset, expressed as a percentage.	Orbis and Bloomberg
Final Position	<p>Season-end league placement, expressed on an ordinal scale starting from 1 – for the first team in the first league – and onward.</p> <p>For placements in the second league, the variable takes the value of the sum of the total spots in the first league and the number corresponding to the placement in the second league (e.g. for a team first in the second league and with the first league made up by 20 spots, the value is 21).</p>	Hand collected from the National Leagues' archives.
Total Gross Wages	Log of the total sum of Gross Wages (in €) of players in a team for a certain season.	Capology
Net Spending	<p>Yearly Net Spending in mln of € on the players' market.</p> <p>When buying a player, the Net Spending increases, when selling a player, it decreases. (e.g. A team buys a player for €20 million and sells one for €10 million. Net Spending is -0.</p>	Transfermarkt
Squad Value	<p>Log of the sum of all players' value in a specific team and season.</p> <p>Players Value is a subjective parameter calculated by Transfermarkt based on performances, age, player's</p>	Transfermarkt

potential and type of contract. It is a proxy of the market value of a player.

Stadium Attendance	Season average percentage of stadium attendance. (e.g. if a stadium has 100'000 seats and in every game of the season the attendance is 90'000 people, the yearly average percentage of stadium attendance is 90%).	Transfermarkt
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Note. ROA sourced from: <https://orbis-r1-bvdinfo-com.eur.idm.oclc.org/version-20240621-3-2/Orbis/1/Companies/Search?> and <https://www.bloomberg.com/professional/products/bloomberg-terminal/>. Final Position sourced from <https://www.premierleague.com/>, <https://www.legaseriea.it/it/serie-a>, <https://www.bundesliga.com/en/bundesliga>, <https://www.laliga.com/en-GB> and <https://ligue1.com/>. Total Gross Wages sourced from <https://www.capology.com/>. Net Spending, Squad Value and Stadium Attendance from <https://www.transfermarkt.it/>.

There are some limitations and adjustments associated with the dataset. The ROA data is missing for some teams since they are private entities and do not always publish their financial reports. TransferMarkt estimates of team squad value start from the 2004/05 season, while Capology provides gross wages per team starting from the 2013/14 season. It is important to notice that the a team's Squad Value is the sum of each team's player value on Transfermarkt. Transfermarkt aims to reflect a player's expected value in a free market, rather than predicting specific transfer fees and does so by considering numerous factors such as age, performance, league level, reputation, development potential, and market demand. They rely on detailed discussions and evaluations by the Transfermarkt community rather than an algorithm, adjusting values based on individual transfer modalities, situational conditions, and overall market trends.

Additionally, I did not collect the percentage of average stadium attendance for the 2020-21 and 2021-22 seasons due to COVID-19 regulations, which would have biased the

results. However, I included the 2019-20 season because for more than half of the matches, stadiums operated at full capacity before restrictions were imposed in March 2020.

Looking at the descriptive statistics of our variables, we notice different interesting factors. First, we notice the extreme volatility of ROA, ranging from -76.28 to 64.51. Additionally, there are significant differences in wages and squad values. Clermont has the lowest total wage bill of €3.57 million, collected in 2021, while PSG's wage bill in 2022 is 100 times higher, touching €395.29 million. (See Appendix Figure A)

To account for these vast differences in club sizes, I used the log for Total Gross Wages and for Squad Value. This is shown below in Table 2.

Table 2

Descriptive Statistics

League	Obs	Mean	Std. Dev.	Min	Max
ROA	350	-7.303	22.231	-76.28	64.51
Final Position	517	11.992	11.601	1	63
Total Gross Wages	333	3.905	.974	1.273	5.98
Net Spending	516	17.237	55.632	-161.05	566.177
Squad Value	488	4.932	1.456	-2.996	7.185
Stadium Attendance	426	74.866	18.305	21.7	101.7

Note. Data obtained from football clubs playing in the top 5 leagues in the season 2023-24. Data span from 10 years before clubs had a PE takeover to the current season 2023-24.

ROA (=Return on Assets) is calculated as a percentage of Net Income over Total Assets; Total Gross Wages and Net Spending are the logs of the respective values, originally expressed in €; Squad Value is expressed in millions of €; Stadium Attendance is calculated as a percentage of total number of spectators over stadium capacity. For Stadium Attendance seasons 2020-21 and 2021-22 have been excluded due to Covid-19 stadium regulations.

For variables description and sources see “Table Number 1”.

We also observe the descriptive statistics of the variables divided by league, shown in Table 3. The Premier League dominates in terms of Net Spending, spending €40.85 million more than what they get from players on the transfer market. Bundesliga has the highest average Stadium Attendance, with 86.99.

Table 3

Mean of Variables divided by League

League	ROA	Final Position	Total Gross Wages	Net Spending	Squad Value	Stadium Attendance
La Liga (ES)	-1.04	13.26	3.94	3.03	4.59	67.83
Ligue 1 (FR)	-18.45	12.31	3.25	3.90	4.48	67.09
Serie A (IT)	-8.15	6.43	4.13	5.47	5.51	66.54
Premier League (ENG)	-1.79	13.28	4.28	40.85	5.29	86.99
Bundesliga (DE)	9.43	13	2.99	2.54	4.29	91.95

Note. Data obtained from football clubs playing in the top 5 leagues in the season 2023-24. Data span from 10 years before clubs had a PE takeover to the current season 2023-24.

ROA (=Return on Assets) is calculated as a percentage of Net Income over Total Assets; Total Gross Wages and Net Spending are the logs of the respective values, originally expressed in €; Squad Value is expressed in millions of €; Stadium Attendance is calculated as a percentage of total number of spectators over stadium capacity. For Stadium Attendance seasons 2020-21 and 2021-22 have been excluded due to Covid-19 stadium regulations.

For variables description and sources see “Table Number 1”.

Finally, Table 4 compares the aggregate differences over time between PE-backed clubs and non-PE-backed clubs. It is interesting to observe that the average Final Position of PE-backed teams is 8th, compared to 14th for non-PE-backed teams. Also, the Average Stadium attendance presents relevant differences, being more than 12% higher for PE owned clubs.

Table 4*Mean of Variables based on PE involvement*

PE Involvement	ROA	Final Position	Total Gross Wages	Net Spending	Squad Value	Stadium Attendance
No	-5.67	14.34	3.65	4.50	4.45	70.74
Yes	-9.69	8.20	4.14	37.69	5.64	82.77

Note. Data obtained from football clubs playing in the top 5 leagues in the season 2023-24. Data span from 10 years before clubs had a PE takeover to the current season 2023-24.

ROA (=Return on Assets) is calculated as a percentage of Net Income over Total Assets; Total Gross Wages and Net Spending are the logs of the respective values, originally expressed in €; Squad Value is expressed in millions of €; Stadium Attendance is calculated as a percentage of total number of spectators over stadium capacity. For Stadium Attendance seasons 2020-21 and 2021-22 have been excluded due to Covid-19 stadium regulations.

For variables description and sources see “Table Number 1”.

“Yes” means that in a certain season a club had PE participation in its ownership, irrespective of the percentage owned by the PE.

PE participation is defined by Pitchbook.

METHODS

To evaluate the effect of PE share acquisition on team performances, two methods are employed. First, I perform two different fixed effects approaches, and after I perform an event study, which is useful to evaluate if the private equity effects are more impactful at different points in time and to look for potential trends.

The first method is a three-way fixed effect, applied to the full sample:

$$(1) Y_{c,l,t} = \alpha + \beta PE_{c,l,t} + \gamma_c + \delta_l + \theta_t + \epsilon_i$$

where $Y_{c,l,t}$ represents the performance metric for club c in league l , during season t . $PE_{c,l,t}$ is a dummy variable that equals one if a club is currently owned by PE and 0 otherwise. β is the coefficient that measures the effect of PE ownership on Y . γ represents club fixed effect, δ represents league fixed effects and θ season fixed effect. In our case, the three fixed effects capture all the systematic differences between leagues, clubs and different seasons. Doing so, we are able to control for seasonal variation, that could influence all the clubs at the same time; but also for leagues structural differences, such as competitiveness, popularity or finances; and finally for intrinsic clubs characteristics that could influence the various performances. Finally, we have an error term that is clustered by club, in this way we take into account that data from the same clubs could be correlated and not independent.

The second type of fixed effect approach is a two-way fixed effect model:

$$(2) Y_{lt,c} = \alpha + \beta PE_{lt,c} + \gamma_c + \delta_{lt} + \epsilon_i$$

where $Y_{cl,t}$ is the performance metric for club c in a specific combination of league and season lt . γ represents the club fixed effect, while δ is the fixed effect for the unique combination of season and league (e.g. Serie A 2010, Premier League 2012...). PE takes the same meaning as before, with the value of 1 when a club is owned by PE and 0 otherwise. β represents the coefficient showing the effect of PE. The error term is clustered by club.

In this way, by controlling the fixed effects of season and league, we are able to control for specific variations of each combination of league and season. It is possible to manage all common effects between all the teams of a certain league in a certain season, such as the

introduction of the VAR (Video Assistant Referee), any kind of league specific restriction or extraordinary events.

A possible drawback of this method is the presence of some unique combinations of League and Season in the dataset. Whenever there are no other clubs in the same league-season combination, we are not able to split the fixed effect from the variation in those combinations. This leads to a loss of specific club information, because all information is aggregated under the same fixed effect. An example is PSG, which is the only club to have “Ligue 1+2007” in its season/league combination.

However, I decided to use the two-way fixed effect, using the combination of season and league as a unique fixed effect. I choose to lose some data on a few teams that have unique season/league combinations, rather than renouncing in controlling effects that are the same for all teams in a certain year and certain league, like in the first approach. This would indeed bias the result even more.

The second method used to evaluate the impact of PE takeovers is an event study:

$$(3) Y_{it,c} = \alpha + \beta EventTime_{it,c} + \gamma_c + \delta_{it} + \epsilon_i$$

where, same as before, $Y_{it,c}$ is the performance metric for club c in a specific combination of league and season it . γ represents the club fixed effect, while δ is the fixed effect for the unique combination of season and league.

EventTime are dummy variables for each year relative to the PE takeover (from 5 years before, to 5 years after), and β is the coefficient representing the effect of PE ownership at different time points, with the year prior to the takeover considered as the reference category. In this way we include the year in which the takeover happened as the first year

with potential PE effects; additionally, we can observe the various effects of PE at different points in time.

According to my hypotheses, I expect an improvement in performance in the years following the PE takeover; this would confirm the causal relationship between PE acquisition and clubs' performance. However, an increase in performance could be due to a natural return to a team's average performance levels (return to the mean) if we assume that PE firms choose to invest in teams that are currently underperforming but have high potential. To discard this possibility, a key assumption of the model is that the observed improvements in team performance after PE investment are primarily due to the active interventions and strategies implemented by PE firms. This means that PE firms do not select teams based solely on their current underperformance but on characteristics they believe they can actively improve.

Another important assumption is that the fixed effect model controls for time-invariant factors affecting team performance. Specifically, in our analysis, I control for league/season and club effects. This helps isolate the impact of PE ownership by controlling for intrinsic characteristics of teams, leagues, and seasons.

These assumptions aim to ensure that the results of the analysis can be interpreted as the causal effect of PE ownership on team performance.

RESULTS

Table 5 shows the results of the three-way fixed effects method used, investigating the effects of private equity (PE) ownership on football club sport and financial performance across the top five leagues.

Table 5

Three-Way Fixed Effects Regression with Six Performances Proxies as Independent Variables

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	ROA	Final Position	Total Gross Wages	Squad Value	Net Spending	Stadium Attendance
PE	-3.163 (4.109)	-1.897 (1.689)	-0.00129 (0.0777)	-0.000591 (0.149)	13.43 (13.11)	3.519 (2.538)
Constant	-6.019*** (1.667)	12.79*** (0.650)	3.906*** (0.0401)	4.933*** (0.0604)	12.17** (5.058)	73.66*** (0.876)
Observations	350	514	333	488	513	423
R-squared	0.389	0.680	0.930	0.826	0.355	0.761

Note. The regressions include fixed effects for Season, Club and League controlling for time-invariant characteristics specific to each season, club and league. Standard errors are clustered at the club level to account for within-club correlation over time. Standard errors are reported in parentheses. *, **, *** indicates significance at the 90%, 95%, and 99% level, respectively.

Despite the fact that the variable of interest (PE) is not statistically significant in any of the models, the results still present some consistent pattern across variables. More

specifically, column (1) shows a non-significant reduction of ROA, suggesting a potential lower profitability relative to assets.

Column (2) shows that PE-owned clubs tend to have their position placement 1.897 lower compared to non-PE owned clubs. This means that their league placement tends to increase, a lower number is indeed associated with better positioning (e.g. being 1st is better than 3rd).

The impact on Total Gross Wages and Squad Value shown in column (3) and (4) is minimal. Interestingly, even if not statistically significantly, PE ownership increases Net Spending by 13.43 million per year, as shown in column (5). In column (6) PE is correlated with an increase in Stadium Attendance of 3.519%, which is however still not significant, but could potentially be a trend to further test. However, it should be emphasized that all PE estimates are statistically indistinguishable from 0.

As specified in the Methods, Table 5 reports results using a three-fixed effect method, which could overlook common effects shared by clubs within the same league and season.

Table 6 shows the results of the two-way fixed effects model (TWFE), that combines season and league fixed effects.

Table 6*Two-Way Fixed Effects Regression with Six Performances Proxies as Independent Variables*

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	ROA	Final Position	Total Gross Wages	Squad Value	Net Spending	Stadium Attendance
PE	-2.421 (4.588)	-2.629 (1.803)	0.0256 (0.0862)	0.102 (0.146)	25.20** (11.75)	3.304 (2.586)
Constant	-7.015*** (1.898)	13.06*** (0.722)	3.923*** (0.0449)	4.939*** (0.0609)	8.065* (4.719)	73.17*** (0.938)
Observations	336	484	322	465	483	397
R-squared	0.437	0.714	0.936	0.849	0.442	0.823

Note. The regressions include two fixed effects: one for Season, and one for Club-League, controlling for time-invariant characteristics specific to each season and league. Standard errors are clustered at the club level to account for within-club correlation over time. Standard errors are reported in parentheses. *, **, *** indicates significance at the 90%, 95%, and 99% level, respectively.

We note a significant and substantial impact of PE on Net Spending in column (5), with an increase of 25.20 million of euros per year. This means that, on average, PE owned clubs spend a substantial amount of money more on the player transfermarkt, supporting the view of more money leading to better competitive performances. In column (1) ROA decreases by 2.421%, even if not significantly. Similar to Table 5, Table 6 presents a non-significant effect of PE on Final Position, confirming a potential trend with an estimated better placement of 2.629 positions, as reported in column (2). The effect of PE on Total Gross Wages is not significant, respectively in columns (3) and (4), is still non-significant and minimal. Another trend similar in the two Tables 5 and 6 is the one reported in column (6), with an increase in average attendance of 3.04%.

Table 7 shows the results of the event study conducted and it helps find potential trends. T=0 is the reference category and it represents the year before the PE.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	ROA	Final Position	Total Gross Wages	Squad Value	Net Spending	Stadium Attendance
T-5	-1.829 (6.455)	-2.404 (2.143)	0.0302 (0.107)	0.265* (0.155)	-7.464 (11.76)	4.117 (3.294)
T-4	-8.285 (6.079)	-2.145 (1.761)	0.00288 (0.106)	0.321** (0.145)	-5.797 (13.04)	1.967 (3.116)
T-3	-7.002 (6.292)	-1.442 (1.347)	-0.0166 (0.0881)	0.290** (0.123)	-16.17 (10.30)	2.020 (2.448)
T-2	4.678 (4.091)	0.0940 (0.962)	0.0981 (0.0875)	0.176*** (0.0583)	-7.275 (15.66)	2.089 (2.111)
T-1	-4.341 (4.990)	-1.502 (1.090)	0.0653 (0.0535)	0.106 (0.0695)	-9.116 (12.75)	-0.522 (1.962)
T+1	2.955 (5.328)	-1.909 (1.614)	0.0589 (0.0852)	0.185* (0.0987)	-62.78*** (16.01)	2.677 (2.583)
T+2	-9.459 (8.066)	-2.435 (1.884)	-0.0416 (0.0907)	0.172 (0.155)	-30.42* (15.80)	5.240** (2.483)
T+3	0.516 (7.917)	-4.132** (1.915)	-0.0201 (0.135)	0.403** (0.190)	-10.47 (21.27)	8.464*** (2.337)
T+4	-0.827 (6.459)	-5.082** (2.760)	-0.0574 (0.175)	0.306 (0.240)	-30.58 (18.86)	9.392** (3.837)
T+5	6.453 (8.345)	-3.925 (2.760)	0.0682 (0.175)	0.377 (0.240)	-0.0237 (18.42)	7.040 (4.243)
Observations	336	484	322	465	483	397
R-squared	0.462	0.717	0.939	0.852	0.479	0.833

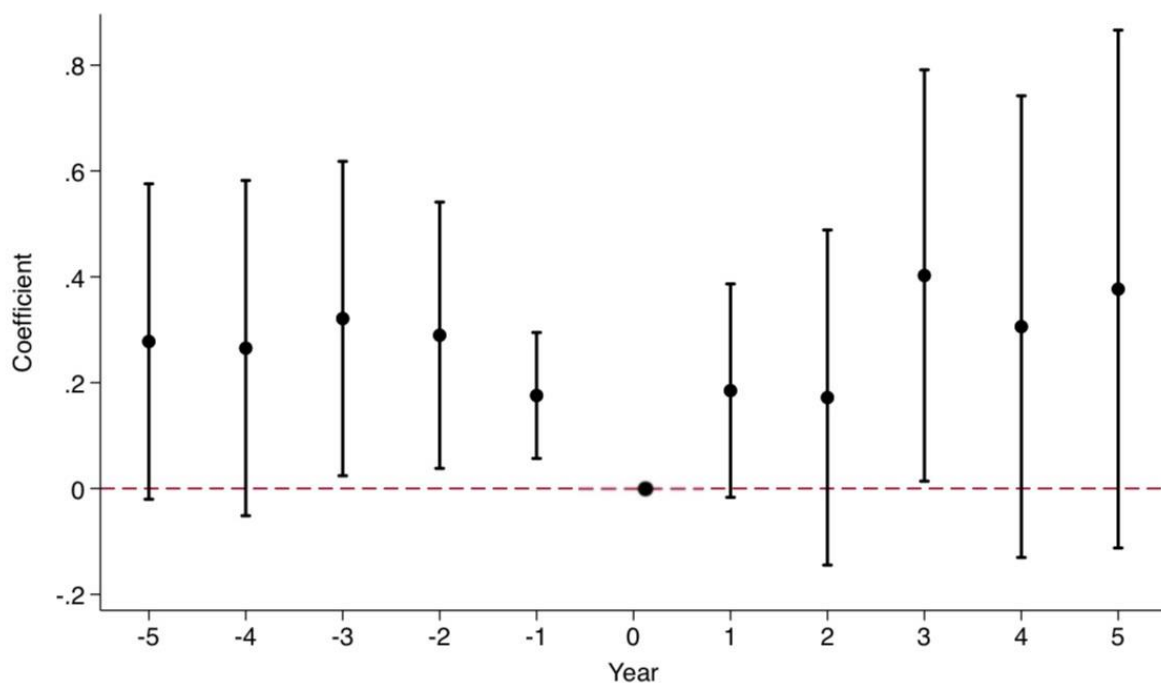
Note. T=0, which corresponds to the year of the PE takeover, is removed. T=0 is the reference category and the coefficients of every T+/- are based on the change in performance relative to T=0. Standard errors are reported in parentheses. *, **, *** indicates significance at the 90%, 95%, and 99% level, respectively.

The most interesting result is in column (5), where we see a notable and significant trend in Squad Value before and after the introduction of PE ownership. Figure 2 shows that up to T-0 the Squad Value shows a consistent and significant decline; it then starts improving reaching a significant peak in T+3, 3 years after the PE takeover, with an increase in Squad Value of 40.3% compared to T-0.

This decline suggests that PE firms could be targeting teams that are currently struggling and with depreciating values, aiming to reposition towards their historical mean performance level, in a sort of “Return to the mean”.

Figure 2

Impact of Private Equity Takeovers on Squad Value over time



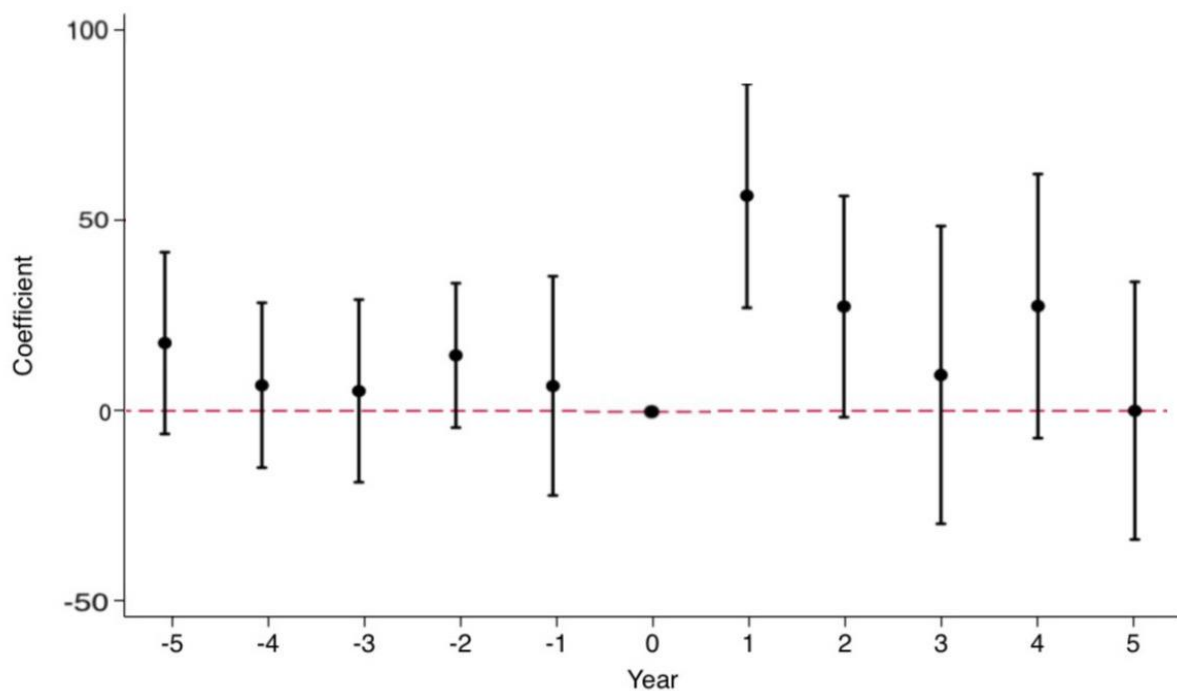
Note. Column Y represents the coefficient that indicates how the logarithm of a team’s Squad Value changes over time relative to Year 0. Year 0 represents the year of the PE takeover. Data sourced from <https://www.transfermarkt.it/>.

Another interesting result is found by looking at column (5) and at Figure 3, we find additional confirmation on the impact of PE on Net Spending, already found with the Two-

Way Fixed Effct. Especially in periods T+1 and T+2, there are statistically significant coefficients that suggest an increase of Net Spending respectively of 62.78 and 30.42 million of euros, compared to the pre-takeover year. This means that PE clubs seem to be spending more on the player market, with the goal in investing to enhance their competitive standing. This is reflected by the aforementioned increase in Squad Value, almost simultaneous.

Figure 3

Impact of Private Equity Takeovers on Net Spending over time



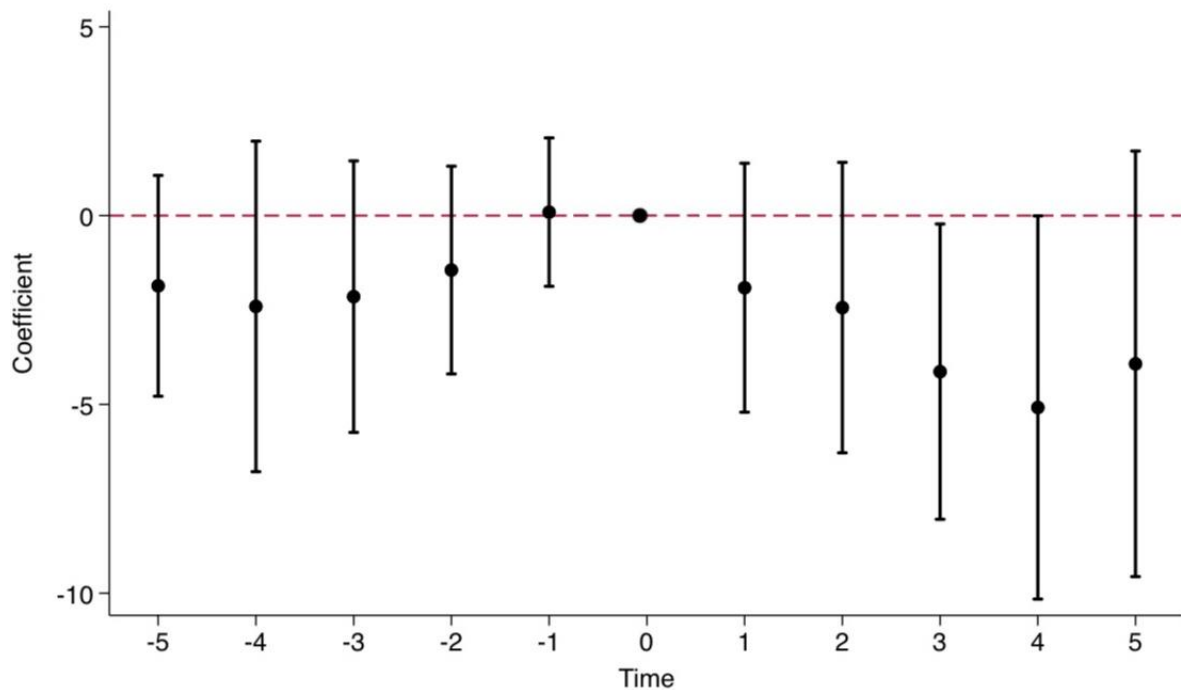
Note. Column Y represents the coefficient that indicates how a team's Net Spending changes over time relative to Year 0. A lower Net Spending means that a club has spent more than what it has gained on the player's market (e.g. with a total expenditure of 50 millions of euros and proceeds of 20 millions of euros, Net Spending is equal to 30). Year 0 represents the year of the PE takeover. Data sourced from <https://www.transfermarkt.it/>.

Examining other significant coefficients, such as Final Position and Stadium Attendance, we observe positive trends after the PE takeover. Final Position, in column (2) improves significantly after takeover, especially in periods T+3 and T+4, where PE owned

teams tend to classify 4.13 and 5.082 positions higher than the pre-takeover season. Similarly to Figure 3, we observe in Figure 4 how a negative trend is reversed after T=0.

Figure 4

Impact of Private Equity Takeovers on Final Position over time



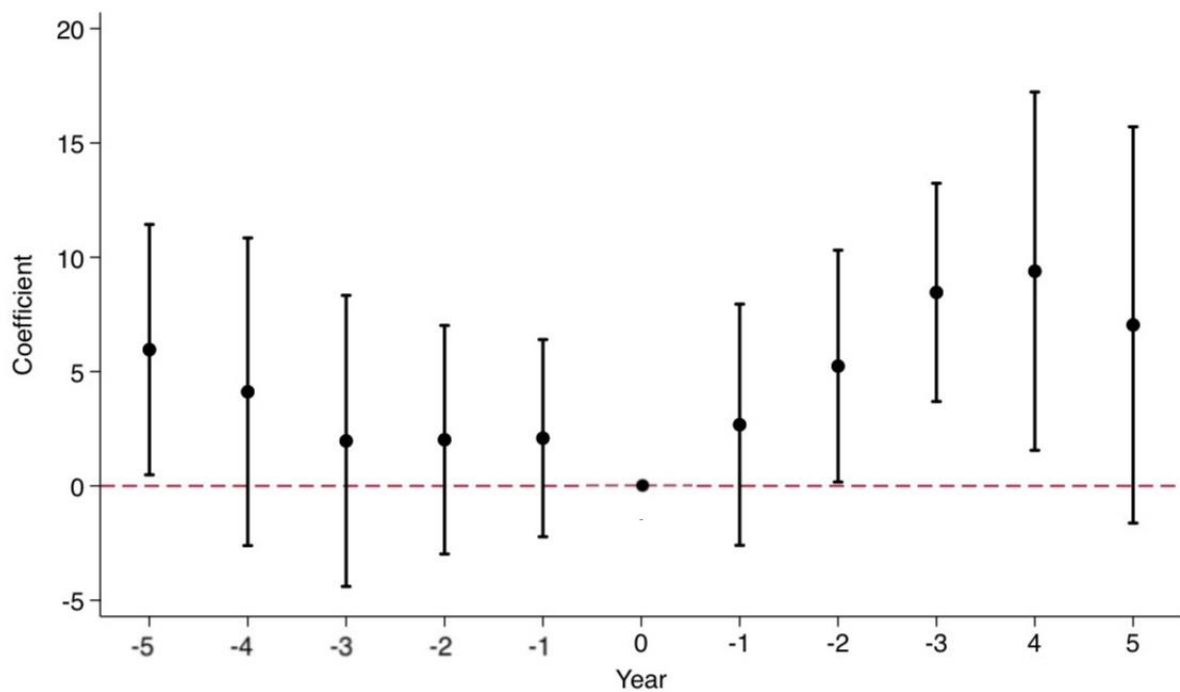
Note. Column Y represents the coefficient that indicates how the Final Position of a club changes over time relative to Year 0. A lower final position means a better result (e.g arriving 1st is better than 2nd). Year 0 represents the year of the PE takeover.

Sourced from <https://www.premierleague.com/>, <https://www.legaseriea.it/it/serie-a>, <https://www.bundesliga.com/en/bundesliga>, <https://www.laliga.com/en-GB> and <https://ligue1.com/>.

As shown by Figure 5 and by column (6) in Table 3, Average Stadium attendance is 5.24%, 8.46% and 9.92% significantly higher in T+2, T+3 and T+4 compared to T-1.

Figure 5

Impact of Private Equity Takeovers on Stadium Attendance over time



Note. Column Y represents the coefficient that indicates how the Stadium Attendance of a team changes over time relative to Year 0. Stadium Attendance is calculated as a number of spectators over total stadium capacity. Year 0 represents the year of the PE takeover. Seasons 2020-21 and 2021-22 have been removed from the analysis due to Covid-19 regulations.

It is interesting to observe how these effects are not immediate, but always take a few seasons to take. More on this will be discussed later in the paper.

Finally, Gross Wages and ROA don't seem to exhibit any clear pattern or trend, as observable by their fluctuant coefficients in column (3) and (4).

DISCUSSION

In this research, we examine the effect of PE ownership in football clubs in the top five leagues on their sporting and financial performances. The dependent variables analyzed to proxy such performances are Return on Assets (ROA), Final Placement, Total Gross Wages, Squad Value, Net Spending, Stadium Attendance.

First, using a three way-fixed effect, we do not find any significant result, but observe a potential effect of PE in improving Final Positions of teams, increasing expenses on the players transfer market (Net Spending) and Stadium Attendance.

In the second fixed-effects approach, using a two-way fixed effect, we remove all effects common for every club in a particular league and season. We find a significant impact of PE on Net Spending, with PE-owned clubs tending to spend 25.20 million euros more than non PE owned clubs. This effect could be due to a reduction of money gained from players sold, against a similar amount of money spent to acquire players on the market; or it could be due to an increase in money spent on players, while receiving a usual amount of proceeds from players sold. Unfortunately, the data are not detailed enough to let us explore the two possibilities further. Additionally, from the two-way fixed effect, although not statistically significant, we still observe a potential improvement in Final Position, Squad Value and Stadium Attendance.

Through an event study, we note a significant decrease of Squad Value before the PE shares acquisition, followed by a quick appreciation afterward. Final Position shows a similar pattern, worsening before the PE takeover and improving after. After the PE entrance, Stadium Attendance increases and Net Spending decreases significantly. These changes do not appear immediately after the takeover, but after a couple of seasons.

All in all, these results suggest that PEs tend to acquire teams whose financial and sport performance are worsening and that after the acquisition by PE the team's performance improve. This pattern aligns with the typical screening process of PE firms aimed at identifying underperforming clubs (Croce and Martì, 2013). The improvement of performance may be the result of better governance structures, better strategic guidance, and better management practices introduced by the PE (Chemmanur et al., 2011).

It is worthy to notice how most of the noticed effects are not immediate, but happen after a couple of seasons. These lags can be due to the time required to find the correct strategies in aiming for success, especially in an unpredictable field like football. However, this is in line with the idea that achieving optimal operational efficiency and profitability takes time (Guo et al., 2021).

We notice that some performance metrics show changes at similar points in time. This suggests a potential dual causality: these simultaneous changes can be a direct effects of PE intervention, but also the result of interrelation between each others.

For instance, the high investment that we observe on the players market (Net Spending) after the PE intervention can be associated with the acquisition of better players, that ultimately improve the Squad Value of a team. However, Squad Value is not an entirely objective measure and can be inflated by the fact that players are now part of a PE-backed team. The valuation of Squad Value considers various factors such as player performance, prospects, market demand, and the reputation of the club. When a team is backed by private equity, these factors can improve significantly, being impacted by superior management and enhanced training facilities, potentially leading to a higher perceived market value of its players.

Moreover, other than with Squad Value, higher investments may also be associated with better sport performance (Fort, 2003; Garcia-del-Barro & Szymanski, 2006), thus explaining the better Final Position observed in the post-takeover periods. Finally, better team results (Final Position) often go hand in hand with a higher Stadium Attendance, which would explain the positive trend found in the empirical analysis after the PE entrance.

However, PE can have a direct influence on all the performance metrics analyzed. An increasing Squad Value does not have to be a consequence of higher investments on players' markets. It can be a consequence of a more efficient management of the team that leads to the valorization of current players. This can be reached through better training facilities and better training staff.

Similarly, better Final Position can be a direct effect of PE. A better Final Position can be reached by choosing high quality management, for example through a successful coach or sport director (Chemmanur et al., 2011). Lastly, also an increase in Stadium Attendance compared to the pre-PE period could be a direct consequence of PE operations and not just a mere consequence of better on field results. Nowadays, football stadiums are not just structures where to watch football games, but can include restaurants, merchandising stores, hotels and can offer different kinds of activities that, other than generating profit, attract more people. This goes in line with PE objectives, in improving financial performance, operational efficiency, profitability and growth (Gompers et al., 2016).

Limitations and Future Research

Despite the interesting results found, this research has some limitations.

First, the return to the usual club's performances could also be seen as a physiological return to the mean, something that would have happened despite the intervention of PE. In sports, the concept of return to the mean refers to the tendency of teams to return to their average performance over time. If a team has an extraordinary winning or losing streak, it is likely to revert its performance, going back to its original level (McMullen, 2017).

Second, the sample size of the study is relatively small since it includes just 32 teams, which however is the total number of teams with PE participation in the top five leagues. In addition, the sample comprehends many clubs that have experienced PE intervention only in recent years, providing just a few years to analyze the post takeover effect. Future research based on a longer time span and including in the analysis new observations related to the post takeover period could provide a clearer picture of how the effects on the performance evolve over time. This can be particularly relevant for variables such as ROA, that might be less sensitive and reactive to the new strategies and managerial practices implemented after the PE entrance.

Another limitation is the limited availability of other financial indicators to better gauge the teams' financial performance, which is due to many clubs being private entities and not disclosing their financial reports.

Finally, potential unobserved variables and the challenge of isolating PE's impact from other concurrent factors could represent other limitations.

Future research may try to address these limitations and also extend the analysis to take into account other direct and indirect effect associated with the entrance of Private Equity firms in football teams, such as increased revenues from merchandising, media and TV

rights, creating jobs and going towards profit maximization in a sector that has hardly aimed for it in the past (Kuper & Szymanski, 2009).

Future research could also investigate the different modalities of exit of PE firms and analyze the subsequent impact on clubs performance. We can speculate that PE will sell their stakes after having enhanced value and performance, trying to maximize their proceeds. New ownership could then lead to changes in management and operational strategies, which might influence the club's performance. The club could continue to improve under effective new and efficient management or face instability if the new owners are inexperienced or have differing objectives. This transition period could also impact fan engagement and club culture, depending on how well the changes align with the club's identity and community values.

CONCLUSION

In conclusion, the main findings of this empirical analysis suggest that Private Equity shareholdings positively impact club performance. These results are in line with the trend emerged in the football sectors in the last years, such as the case of the French Championship "Ligue 1" presented in the main framework. Indeed, in the last 15 years "Ligue 1" has experienced a dramatic increase in the number of PE-backed teams and at the same time the sum of the Squad Value of the whole league has tripled.

However, it is crucial to interpret these results with caution. As mentioned, PE firms tend to target underperforming teams, and there is a possibility that these teams might have experienced better performance even without PE intervention.

Finally, and additionally, to fully evaluate the role of PE firms in the football sector we should consider that beyond a mere business, football has an enormous cultural and social

significance in many countries. Increased prices for stadium tickets, to watch football on TV, and to buy merchandise could represent a potential negative externality, making it challenging to keep the sport affordable, accessible, and inclusive for everyone.

Future research on the effect of PE shareholdings in football teams should also consider to what extent the strategy of PE are consistent with the social and cultural roles of football.

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Appendix

Descriptive Statistics with Original Values of Total Gross Wages and Squad Value

League	Obs	Mean	Std. Dev.	Min	Max
ROA (%)	350	-7.303	22.231	-76.28	64.51
Final Position	517	11.992	11.601	1	63
Total Gross Wages (mln €)	333	3.905	.974	3.57	395.29
Net Spending (mln €)	516	17.237	55.632	-161.05	566.177
Squad Value (mln €)	488	4.932	1.456	0.05	1320
Stadium Attendance (%)	426	74.866	18.305	21.7	101.7

Note. ROA=Return on Assets.