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Why Are Sports Team IPOs Uncommon?

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Abstract
This paper explored the topic of capital raising in the professional sports industry, particularly regarding the distinct lack of equity financing among professional sports teams. Therefore, the study attempts to answer the question: "why are sports team IPOs uncommon?" This paper hypothesizes that professional sports teams do not benefit from a stock market listing, discouraging private sports team owners from taking their teams public. This hypothesis is then tested through three main lenses: 1) managerial disincentives, 2) operational disincentives, and 3) financial disincentives. Reviewing the existing literature and case studies of precedent professional sports team IPOs suggest that going public induces limitations in managerial freedom due to the additionally imposed financial discipline followed by an IPO. This may hinder player investment decisions, preventing owners from realizing win-maximization and even long-term profit-maximization. The lack of flexibility is exacerbated by a mismatch in incentives given the typical profile of a professional sports team owner. Other managerial disincentives are also present. For operational and financial disincentives, the study used a unique panel dataset consisting of domestic performance data and various financial metrics and ratios of European football clubs, including those that are currently listed and delisted. The study finds that, contrary to the existing literature, there is a statistically significant positive relationship between pre- and post-IPO average points won per game in domestic league. However, the coefficient is quite small and thus the practical magnitude of the impact of an IPO to the team's match performance can be considered marginal. Furthermore, the empirical results indicate that a stock market listing helps a football club to successfully deleverage, although it has no significant impact on other key financial ratios. Listing may also potentially harm the clubs' bottom line. Meanwhile, the interaction effects assessing the role of a club's current listing status and the country in which it operates, with regard to the differences in a club's operational and financial dependent variables pre- and post-IPO, were also analyzed. In consequence, given the strong managerial disincentives with a lack of material operational and financial incentives, private sports team owners may not find stock market listing as an attractive strategic alternative for capital raising over debt financing.

Keywords
professional sports, initial public offerings, disincentives, panel data, football

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By

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This paper explored the topic of capital raising in the professional sports industry, particularly regarding the distinct lack of equity financing among professional sports teams. Therefore, the study attempts to answer the question: "why are sports team IPOs uncommon?" This paper hypothesizes that professional sports teams do not benefit from a stock market listing, discouraging private sports team owners from taking their teams public. This hypothesis is then tested through three main lenses: 1) managerial disincentives, 2) operational disincentives, and 3) financial disincentives. Reviewing the existing literature and case studies of precedent professional sports team IPOs suggest that going public induces limitations in managerial freedom due to the additionally imposed financial discipline followed by an IPO. This may hinder player investment decisions, preventing owners from realizing win-maximization and even long-term profit-maximization. The lack of flexibility is exacerbated by a mismatch in incentives given the typical profile of a professional sports team owner. Other managerial disincentives are also present. For operational and financial disincentives, the study used a unique panel dataset consisting of domestic performance data and various financial metrics and ratios of European football clubs, including those that are currently listed and delisted. The study finds that, contrary to the existing literature, there is a statistically significant positive relationship between pre- and post-IPO average points won per game in domestic league. However, the coefficient is quite small and thus the practical magnitude of the impact of an IPO to the team's match performance can be considered marginal. Furthermore, the empirical results indicate that a stock market listing helps a football club to successfully deleverage, although it has no significant impact on other key financial ratios. Listing may also potentially harm the clubs' bottom line. Meanwhile, the interaction effects assessing the role of a club's current listing status and the country in which it operates, with regard to the differences in a club's operational and financial dependent variables pre- and post-IPO, were also analyzed. In consequence, given the strong managerial disincentives with a lack of material operational and financial incentives, private sports team owners may not find stock market listing as an attractive strategic alternative for capital raising over debt financing.

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I. Introduction

Historically, professional sports teams have been "athletic organizations comprising talented, expert players hired by club owners, whose revenues originally derived from admission fees charged to spectators seeing games." These teams have also usually been members of a league that schedules a championship season. For example, the National Association of Professional Base Ball Players, founded in the United States in 1871, was the first organized professional sports league, from which the Major League Baseball (MLB) was later established (Riess 2017).

Professional sports teams, as opposed to amateur sports teams, are undoubtedly for-profit business operators. Nowadays, teams not only generate massive streams of revenue from gate receipts, but also rely on selling products such as broadcasting and media rights, sponsorship rights, and merchandise. In order to facilitate their business, teams employ management, staff members, coaches, and expert players requiring immense payroll expenses. Moreover, sports teams own large PP&E assets on their balance sheet including items such as stadia and training facilities that require substantial capital expenditure. The professional sports industry is by no means small. For example, having averaged a 5.5 percent compound annual growth rate in the past five years and still considered to be in its growth stage, the U.S. sports franchises industry in 2019 is estimated to be $37.9 billion in revenue, of which $22.6 billion is spent on wages (Lombardo 2019). Meanwhile, the European football market was estimated to be worth €25.5 billion in 2018 (Barnard, Dwyer and Winn 2018).

The English Premier League (EPL) provides a great example of modern sports teams' rapid growth and increasing capital needs. According to Deloitte's analysis (Barnard, Dwyer and Winn 2018), during the 2016-17 season, the 20 clubs in the league generated a record aggregate revenue of £4,552 million, which is translated into an average revenue of £228 million per club. Of the 20

clubs' operations during the season, wage costs alone were £2,487million, which constitutes 55 percent of aggregate revenue. These wage costs have also been rising at a rapid rate historically, increasing approximately 9 percent just from the 2015-16 to 2016-17 season. In fact, Chelsea F.C. and Liverpool F.C. were the only two clubs that reduced their wage costs year-on-year. Regarding capital expenditure, £395 million was spent by the EPL clubs in 2016-17, a massive increase of £160 million from the previous season, implying 68 percent growth. While £221 million of the £395 million was solely due to Tottenham Hotspur F.C. constructing their new stadium, even excluding Tottenham Hotspur F.C., the year-on-year capital expenditure growth was still 13 percent, indicating robust redevelopment and expansion of the EPL clubs' main pitches, retail stores, and training ground facilities. Examining the average EPL stadium capacity over the past 20 years, this figure has increased from 32,386 in 1997-98 to 40,096 in 2017-18 season. All the expenses considered, the EPL clubs generated a record aggregate operating profit of £1,034 million in the 2016-17 season, more than double that reported in the 2015-16 season of £509 million.

However, the EPL is only ranked fourth in the list of world professional sports leagues by revenue ("List Of Professional Sports Leagues By Revenue" 2019). The National Football League (NFL), MLB, and the National Basketball Association (NBA) grossed much greater revenue than the EPL in the order mentioned; in fact, the NFL's aggregate revenue was more than double that of the EPL. Besides, at least 28 professional sports leagues globally have surpassed $500 million of annual revenue during the 2016-17 season.

The above points illustrate that it would be fair to assume that a number of professional sports teams across various leagues must face some degree of capital raising needs for successful company operations. When traditional firms are faced with financing needs, they mainly resort to two different types of capital: debt and equity. The most common types of debt capital involve: 1)

firms borrowing term loans or revolving credit loans from banks, which may or may not require a specified repayment schedule with either a fixed or floating interest rate, or 2) firms issuing debt securities such as bonds, commercial paper, or convertible bonds to either retail or institutional investors, which require principal payment upon maturity and again may or may not require regular coupon payments (Nemecek and Glassman 2019). On the other hand, equity capital is generated by the sale of shares, either common stock or preferred equity, which represent ownership of a firm. One specific way in which firms access equity capital is by listing the firm on a public exchange, allowing any investor the opportunity to purchase a share of the ownership in the firm. This process of firms undertaking change in ownership from a private entity to the general public is called Initial Public Offering (IPO) (Hashimzade 2017).

The route from private to public ownership via an IPO has been a common practice for the general business landscape starting from the creation of the Dutch East India Company in 1602 (Kyriazis and Metaxas 2011). In the United States alone, about 3,600 firms were listed on the stock exchanges at the end of 2017 (Bloomberg Opinion Editorial Board 2018). There has also been a total of 8,497 IPOs from 1980 to 2018 in the United States (Ritter 2019).

However, this process seems far less common in the case of professional sports teams. In the case of American sports, the Green Bay Packers is currently the only single team that is the closest to a typical "stock market team," meaning that the revenue and profits generated by the team are the primary source of the topline for the public corporation that owns the team. However, the Green Bay Packers' shares do not confer any of the advantages of a traditional stock and acts more as a "collectible item" as they do not pay any dividends, do not benefit from earnings, are not tradeable on a public exchange, and have no securities-law protection (Saunders 2012). Therefore, it would be fair to conclude that currently the NFL, MLB, NBA, and the National

Hockey League (NHL) all have no teams which are themselves publicly traded. There are indeed a few teams that have public market exposure via their ownership by publicly traded parent corporations, such as the New York Rangers (owned by Madison Square Garden Company), Toronto Maple Leafs (Rogers Communications, BCE), and Montreal Canadiens (BCE) from the NHL, the New York Knicks (Madison Square Garden) and Toronto Raptors (Rogers Communications, BCE) from the NBA, and the Atlanta Braves (Liberty Media Corporation) and Toronto Blue Jays (Rogers Communications) from the MLB ("List Of Publicly Traded Sports Teams" 2019). Nonetheless, these teams are owned by parent companies whose core businesses consist of non-sports related activities. This lack of stock market teams in the major leagues is surprising considering that the four major leagues in the United States have 123 teams total and are among the top five professional sports leagues by revenue in the world; the NHL is ranked fifth after the EPL.

Rarity of IPOs in the sports industry also seem to be prevalent in Europe, where association football is incomparably the most dominant type of sports. For example, the STOXX Europe Football Index, which covers all football clubs listed on a stock exchange in Europe, Eastern Europe, Turkey, or the EU-enlarged region, suggests that out of all the European football leagues there are only 22 clubs being publicly traded as of today ("STOXX Digital | STOXX® Europe Football" 2019). This number is considerably low given that, according to the UEFA Country Coefficients system, there are currently 55 member countries, in which exists at least one professional football league; a number of countries also have several lower division leagues ("Member Associations - UEFA Coefficients - Country Coefficients" 2019). Furthermore, empirical analysis suggests that the popularity of public listing for European football clubs has historically been dwindling. Table 1 (in the appendix) shows the year-by-year count of the index

components in the STOXX Europe Football Index from 2002 to 2019.[1] It can be seen that in 2002 there was a total of 34 stock market teams in the index, whereas in 2019 this number decreased to 22. Moreover, Figure 1 demonstrates that there is an overall declining trend in the index components count over the 18 years of observation.

Historically speaking, the number of stock market teams in North America has been even further lower than that in Europe. Only a handful of North American major league sports teams have in the past directly listed on a public exchange, and these were subsequently delisted within a short time frame. These teams include the Boston Celtics of the NBA, the Cleveland Indians of the MLB, and the Florida Panthers and the Vancouver Canucks of the NHL.[2] Stock for the Boston Celtics Limited Partnership began trading on the New York Stock Exchange under the ticker symbol BOS starting in late 1986. Its $360 million sale to a local investor group in 2002 ended the franchise's 16-year stint as a stock market team – the last major independently-owned American public sports franchise. Having gone public at $18.5 per share, its shares were bought out at $27 per share (Willoughby 2019). The Cleveland Indians' stock was publicly traded under the ticker symbol CLEV on the NASDAQ Stock Market for approximately just two years, from June 30, 1998 to January 1, 2000; it was the first and to-this-day the last professional baseball team to go public. Raising $60 million by selling four million shares of stock at an initial offering price of $15 per share, the Indians were sold to a private investor in 2000 for $320 million at $22.6 per share (Schaffer 2006). Meanwhile, the Florida Panthers became a publicly traded company on November 31, 1996, under the ticker symbol PUCK. The IPO on NASDAQ raised approximately $66 million, which was used primarily for debt paydown and working capital needs. However, barely a month after the public offering, the team's primary owner, multibillionaire H. Wayne Huizenga, took steps to transform the business into a "diversified leisure time-based sports and

entertainment company." By 1998, hockey accounted for only about 10 percent of the company, no longer qualifying it as a stock market team, and even the company's name was changed to Boca Resorts, Inc. The Panthers were officially sold in 2001 and since then the team has been in private hands (Cheffins 1999). Lastly, Vancouver Canucks were at a point traded as Northwest Sports Enterprises on the Vancouver Stock Exchange. Given the fact that Northwest Sports was almost entirely controlled by a privately held corporation owned by John McCaw of Seattle, the Canucks can thus be considered to have been a stock market team (Cheffins 1999); just like the others, the team is also currently privately owned.[3] Asides from the four teams just mentioned, there were certainly a number of other professional sports franchises in North America that were historically owned by a publicly quoted corporation, making only a minor contribution to the parent company's financial performance (Cheffins 1999).[4] However, the fact remains that there have only been four stock market teams in the history of North American major sports leagues.

As both current and historical analyses of professional sports team IPO suggest a distinct lack of its popularity across various leagues, this study attempts to answer the question "why are sports team IPOs uncommon?" in a comprehensive and academically validated manner utilizing both qualitative and quantitative analysis based on empirical data. This paper hypothesizes that professional sports teams do not benefit from a stock market listing, prompting private sports team owners to not take their teams public. This hypothesis is then tested through three main lenses: 1) managerial disincentives, 2) operational disincentives, and 3) financial disincentives.

For the purpose of this thesis, managerial disincentives of a sports team IPO refer to any impediment in the "organization and coordination of the activities of a business in order to achieve defined objectives ("Management" 2018)." The study acknowledges that sports team owners may have two differing motives: win-maximization (running the team to maximize success for a given

level of profits or losses) and profit-maximization (running the team to maximize returns to its owners) (Késenne 2008). Therefore, this paper relies on a detailed literature review along with case studies of precedent professional sports team IPOs to address the managerial pros and cons of an IPO for achieving both types of objectives for owners across different sports leagues. In other words, the analysis of managerial disincentives focuses on any procedural hurdles related to both optimizing each team's match performance and maximizing owners' returns through long-term and short-term financial planning and the implementation of various strategies in areas such as funding, investing, cost control, and corporate governance.

Meanwhile, the analysis of operational disincentives directly addresses whether an IPO had a tangible impact on the sports team's match performance – to see if stock market listing translated into winning more matches. In that sense, a successful sports team operation in this paper is defined as securing a winning match performance. Given the relatively much larger sample size, this study analyzes a unique dataset consisting of European football clubs' domestic match results pre- and post-IPO. The clubs analyzed include those that are still currently being traded per the STOXX Europe Football Index as well as those that used to be public but have delisted. This study thus extends the work by Baur and McKeating; their research examined the effects of an IPO on the domestic and international match performance of all publicly listed football clubs as of 2011 – not those that had delisted, however (Baur and McKeating 2011).

Lastly, the analysis of financial disincentives directly examines whether an IPO had a material impact on the sports team's financial statements. This is an area where the study contributes most uniquely to the literature by analyzing various pre- and post-IPO financial metrics of the same sample of European football clubs used for the operational disincentives analysis. The balance sheet metrics examined include assets, liabilities, current assets, current liabilities, and

player registration rights, whereas the income statement metrics examined include revenue and net income. Using these metrics, the paper also further analyzes pre- and post-IPO financial ratios such as debt ratio, current ratio, player registration rights/assets, player registration rights/revenue, return on assets, and net margin.

The existing literature and empirical analyses suggest that there are several managerial disincentives that may outweigh the advantages, most notably including limitations in managerial freedom due to the additionally imposed financial discipline followed by an IPO, impacting investment decisions such as acquiring new players (Russell 1997) and potentially negatively affecting owners' motives of win-maximization and even long-term profit-maximization. This lack of flexibility is exacerbated by a mismatch in incentives given the typical profile of a professional sports team owner. The results of a statistical analysis on operational disincentives suggest that, contrary to Baur and McKeating's finding that most clubs – except lower division clubs – perform worse after the IPO (Baur and McKeating 2011), with regard to the study's total sample population, which includes delisted teams, there is a statistically significant positive relationship between pre- and post-IPO average points won per game in domestic league. However, the coefficient is quite small and thus the practical magnitude of the impact of an IPO to the team's performance can be considered marginal. With regard to the analysis of financial disincentives, the size of major balance sheet line items all increased after the IPO, although this may be due to the obvious additional capital raised through an IPO, the general growth of the European football industry in the 1990s and 2000s, and nominal inflation. Interestingly, net income on the income statement decreased post-IPO. Nevertheless, the more important and "real" ratio analysis – it removes the nominal impact of the general industry growth and inflation – suggests that there is

in fact a significant reduction in the debt ratio post-IPO, whereas the other ratios did not observe any material shift pre- and post-IPO.

Overall, these results may suggest that the raised funds through an IPO are primarily used for balance sheet consolidation, primarily regarding debt reduction, and not for increased investments in player acquisition, in accordance with the added financial discipline required by the public markets. This may explain why net margin was not significantly impacted post-IPO. Besides, the funds raised may not be sufficient to ensure a greater long-term match performance, suggested by the marginal positive coefficient for the dependent variable of average points won per game in domestic league. The statistical analyses backing the above points support similar theoretical predictions made by Baur and McKeating (2011). In consequence, given the lack of strong financial and operational incentives, along with the strong managerial disincentives, private sports team owners may not find stock market listing as an attractive strategic alternative for capital raising over debt financing.

The remainder of this paper progresses as follows: Section II reviews the relevant literature and demonstrates that the paper's findings are consistent with the existing theoretical predictions as well as the empirical results reported for professional sports team IPOs. The section involves a particularly extensive discussion on the topic of managerial disincentives, as the hypothesis that managerial disadvantages outweigh the advantages is mainly addressed through literature review and case studies. The findings also motivate the development of the hypotheses for operational and financial disincentives. Section III describes the sample selection criteria and data collection procedures. Section IV describes the econometric framework through which the statistical analyses were executed. Section V presents the empirical results from the previous section's model and

discusses their implications, while Section VI reviews the robustness of the results given the limitations and mitigants. Section VII concludes the study.

II. Literature Review and Hypotheses Motivation

As mentioned in the previous section, there are several existing literatures that point out the managerial disincentives regarding a sports team IPO. Stock market listing may hinder facilitating win-maximization. Dave Russell (1997) suggests that the fiduciary duty public stock market teams face to maximize returns for the shareholders may negatively affect a team's investment decisions regarding player capital expenditures, potentially leading to worse post-IPO match performance. This limitation in the freedom to invest in expensive players may particularly pose a substantial managerial challenge for professional sports teams as the existing literature indicates that overinvestment does pay off in sports. Dietl, Franck, and Lang (2008) argue that football clubs, along with all other sports teams, have a genuine incentive to overinvest, as there is a strong correlation between talent investment and winning probability. That said, given this "arms race" overinvestment environment, where teams try to out-invest their opponents, the added financial scrutiny followed by an IPO and the changed governance structure may not be ideal for maintaining a competitive advantage, negatively affecting teams' decision to go public. It is also important to note that the average profiles of team owners in most all sports leagues, including the North American major leagues and the European football leagues, have been and still are ultra-high-net-worth individuals, who may potentially view their teams as trophy assets ("List Of Professional Sports Team Owners" 2019). Cheffins mentions that these individuals are often attracted to sports team investments due the love of the game, publicity, ego gratification, or even civic duty (Cheffins 1999). That said, their ownership motives may potentially lean more towards win-maximization despite the costs, and the lack of managerial flexibility – especially regarding

aggressive talent investment – due to the fiduciary duty for the shareholders, may pose owners a severe mismatch in incentives, substantially diminishing the attractiveness of an IPO. Indeed, the need for a greater financial discipline following an IPO is real. Franck (2010) mentions that small shareholders of football clubs benchmark the performance of their stock against alternative investments in their portfolio and deteriorate the spending power of the club demanding a competitive profit. Concerns surrounding control and shareholder activism can also be found in other existing literature (Goode 2014).

Yet, even with the fiduciary duty, listing publicly may also hinder facilitating profit-maximization. Franck (2010) argued that public football clubs ironically have inferior "capital tapping and channeling" capabilities compared to privately owned football clubs. He said: "they [football corporations] cannot mobilize money injections by wealthy individuals looking for spillovers to other businesses, political and social acceptance, consumptive ownership, or access to cash transactions with money laundering potential." This alludes to the paper's earlier prediction that the ultra-high-net-worth sports team owners may be willing to win-maximize despite incurring some financial losses. Meanwhile, an IPO may also entail risks for managerial instability given firm value market exposure as well as the additional administrative costs. In the earlier section, Table 1 and Figure 1 pointed out that with regard to European football, an industry where sports team IPOs are relatively more common than in other sports industry, the popularity of sports team IPOs have decreased over the past 18 years – 34 index constituents in 2002 to 22 in 2019. The EPL had a huge impact in this downward trend, as can be seen from Table 3 in the later section. In the case of British football clubs, 27 teams had listed stock by the mid-1990s as broadcast revenues soared after the EPL was founded in 1992; owners wished to cash in on the suddenly increased value of their assets. However, their selling shares to the public was widely deemed a

failed experiment. Most listed teams failed to pay dividends and their market value crashed. After the global financial crisis in 2002, triggered by the dot-com bubble, the clubs' share price fell even further and numerous teams had their shares suspended given financial distress. Moreover, the compliance costs under public company regulations exceeded £100,000 a year and many private sports team investors were turned off. As a result, most of the football clubs exited out of the public equity market in the early 2000s, and by 2012, only three British football clubs remained publicly traded ("If At First You Don't Succeed" 2012). Since then, clubs have continued to avoid the stock market. Currently, there are only two British stock market clubs remaining: Manchester United F.C. and Celtic F.C.

Delving further into the costs associated with an IPO, the yearly administrative costs of being a public firm have to do mostly with working with certified accounting and law firms on the back end to prepare and maintain filings and disclosure statements in compliance with government regulatory entities such as the Securities and Exchange Commission. However, on the front end dealing with the public, there are also costs associated with preparing annual shareholder meetings, distributing materials to shareholders, and maintaining registry of shareholders (Schaffer 2006); this was especially the case before the wide spread of digitization. While this may not be particularly burdensome for traditional firms, the nature of sports stock has in the past made the process especially time-consuming and expensive. As sports stock attracts not only the experienced retail or institutional investors, but also numerous fans who view the stock as a collectible item, public sports teams end up dealing with a large population of small shareholders. For example, 90 percent of Boston Celtics shareholders owned 10 shares or less, and this increased the administrative difficulties and costs (Lebowitz 1996). In 1997, the president of the Sacramento Kings of the NBA considered a public share offering but decided not to pursue it, stating: "the

problem is you have 40,000 people each owning one share as souvenirs. The cost associated with that would be incredible" (Delsohn 1997). Asides, there are also costs associated with initiating an IPO, primarily attributed to the investment bankers who price, market, and sell the securities to the general public (Schneider, Manko and Kant 1981). One study states that the total initiating expenses of carrying out an IPO can cost around 15 percent of the capital actually generated (Kratofil 1999). For example, the Cleveland Indians IPO raised $60 million from the equity sale but incurred $6.2 million in the process, which is a little over 10 percent of the capital raised and is still quite significant (Kadlec 1998). Lastly, there may be non-monetary opportunity costs involved with an IPO process, such as the time commitment the key personnel of the team will have to attribute to the sale of stock. As executives spend much time working with accountants, lawyers, and financial advisors throughout the IPO process – often taking at least three or even more than six months – they may have less opportunity to engage in the day-to-day management responsibilities, possibly hurting the short-term company operations and putting it at a competitive disadvantage (Schaffer 2006).

Specific to the North American sports environment, Cheffins also observed that teams may have less need to rely on an IPO than their European counterparts because they require less "one-off" cash outlays to acquire players; this is due to North American sports teams' reliance on trades (player-for-player exchanges), farm clubs (minor league teams that specialize in developing players), player drafts, and salary cap (Cheffins 1999). Furthermore, Cheffins also mentions that sometimes league policies and officials make it extremely difficult or unrealistic for the management to pursue an IPO. In the case of the NFL, for example, there is an uncodified policy prohibiting public offerings of shares in the NFL teams. The NFL Constitution also prohibits corporate ownership of franchises and stipulates that three-quarters of the league's owners approve

transfers of ownership interests in a team. For example, William Sullivan, former owner of the NFL's New England Patriots, gave up his plans to make the team public and sold it privately in 1988 due to the league's opposition; the NFL stands out as being particularly firmly opposed to public ownership of teams than the other three major leagues (Cheffins 1999). The above reasons may be why there have historically been only four stock market teams in North America, as discussed in the previous section. Similarly, in Europe, Germany used to require a football club to operate as a sports association as opposed to a "full-fledge company," prohibiting various teams from listing on the stock market until the regulations were a bit relaxed in 1998 (Bologna 1998). Still, the German Bundesliga is famous for its "50+1 rule" that prevents commercial investors to have more than a 49 percent stake ("German Soccer Rules: 50+1 Explained" 2019).

While the above points illustrate the various managerial disincentives associated with a sports team IPO, certain positives do exist as well. Cheffins points out that financing construction activity can be a reason why professional sports teams may sell stock to the public (Cheffins 1999). For example, in the mid-1990s, a number of auto racing companies operating speedways relied on the equity market to use the proceeds to finance track expansions and new speedways (Rayner). While this may be a consideration for European football clubs that own their own stadiums and thus are financially responsible for upgrading the facilities themselves, it does not seem to affect North American professional sports franchises. This is because the major league franchises receive the help of taxpayers for building or renovating sports facilities; cities compete for retaining professional sports teams locally for various positive externalities and in turn offer government subsidies (Palomo 1997). For example, during the twentieth century, approximately $20 billion was spent on sports stadiums or arenas, and nearly $15 billion of this amount was funded by government subsidies (Keating 1999). Nonetheless, Cheffins mentions that the funds raised

through an IPO may also serve other purposes such as purchase of playing staff, expansion into new areas of activity through acquisition – like the Florida Panthers, as mentioned in the previous section – or even creating an exit option given the greater liquidity public equity provides. However, Cheffins acknowledges that the creation of an exit option may not be enough of a catalyst for professional sports team owners, given the healthy buy-side demand from wealthy and successful individuals, who are eager to invest in sports teams as they become available.

Moving on to the literature review of operational disincentives regarding an IPO's impact on sports teams' match performance, the study conducted by Baur and McKeating puts a particular emphasis on testing whether a stock market listing benefits European football clubs with regard to their on-pitch performance (Baur and McKeating 2011). Their sample population was all publicly listed football clubs as of 2011, and they analyzed the clubs' domestic league and international UEFA competition match results pre- and post-IPO. Their study concludes that European football clubs generally do not benefit from a stock market listing. Most clubs performed slightly worse after the IPO in their home league, while only the lower division clubs, especially those in larger leagues, benefited from a listing. At the international level, nether lower nor higher division clubs observed any material post-IPO on-pitch performance improvements. As Baur and McKeating's study took place eight years ago, this paper attempts to strengthen the robustness of the analysis by incorporating the latest data available. Additionally, Baur and McKeating's study looked at only the clubs that were then-currently trading, without including those that had once been public but had delisted for one reason or another; this may have resulted in the introduction of survivorship bias. Therefore, this study aims to retest the hypothesis that football clubs perform better in the domestic league after an IPO than before. A similar retest was not executed for the

hypothesis that football clubs perform better in international competition after an IPO than before, however.

Finally, the existing literature on financial disincentives regarding an IPO's impact on sports teams' financial statements seems to be extremely limited. This is the case because financial measures are difficult to obtain for sports teams pre-IPO; the information is especially unavailable for the North American major league teams, whereas the data can still be rigorously obtained for some European football clubs. Most of the existing studies instead address the stock price movement of sports teams post-IPO. Baur and McKeating analyzed that the stock prices of publicly listed European football clubs are correlated with their domestic league and international competition match performance (Baur and McKeating 2011). Another research by Hubman demonstrates that sports team stocks still provide opportunities for investors to realize capital gains, although these stocks are very volatile and risky investments (Hubman 2011). He also states that sports team stocks tend to have a very low correlation to the general market and may even move in the opposite direction, allowing for diversification opportunities for investors. However, no existing literature that directly compares pre- and post-IPO financial metrics for professional sports teams could be found. Hence, this is an area this paper attempts to contribute the most uniquely to the scholarly community.

For the above reasons, the main null hypothesis this paper attempts to refute is that professional sports teams benefit from a stock market listing. Asides from the literature review and empirical analysis for the managerial disincentives, this study formulates two more specific null hypotheses regarding operational and financial disincentives derived from the main hypothesis. The first hypothesis focuses on the domestic on-pitch performance of a football club before and after the IPO, while the second hypothesis analyzes various financial metrics and ratios of a

football club before and after the IPO. Given the strong managerial disincentives, should the differences between pre- and post-IPO for operational and financial measures be statistically insignificant or significant for worse, then the main alternative hypothesis that professional sports teams do not benefit from a stock market listing would hold true.

III. Sample Selection Criteria and Data Collection Procedures

This paper's sample consists of European football clubs that are currently being publicly traded as well as football clubs that used to be on the stock markets but have since then delisted. Those that are still public include the 22 listed football clubs quoted on the STOXX Europe Football Index as of May 3, 2019 plus Manchester United PLC, which is now traded on the New York Stock Exchange, leading to a total sub-sample population of 23 clubs. The football clubs that are no longer public include 20 clubs that used to comprise the STOXX Europe Football Index after its inception in 2002 but have since then delisted; the information on public football clubs that have delisted prior to 2002 has not been incorporated, however. Therefore, the total sample population consists of 43 European football clubs, for which the detailed information can be found in Tables 2 and 3.[5] The earliest listing in the sample is Tottenham Hotspur F.C., which was the first football club to list on the London Stock Exchange in 1983 (Andreff and Szymanski 2013).[6] The latest club to IPO is Manchester United PLC, which listed on the New York Stock Exchange in 2012 under the ownership of the American billionaire Glazer family (Farrell and Pagliery 2012).[7] The information in Tables 2 and 3 including each club's ticker symbol, IPO date, delist year (when applicable), and whether the club experienced a promotion or relegation during the observed time frame, was gathered primarily using press releases and the Bloomberg Terminal.

While the entire sample population could be divided into listed and delisted European football clubs, for a further cross-sectional analysis, another binary categorization regarding

country size (in football terms) was undertaken based on the country in which a club operates. This categorization was based on the rankings provided in the UEFA Country Coefficients system as of May 3, 2019.[8] As Table 4 suggests, clubs that operate in either Spain, England, Italy, Germany, or France are thus considered to have operated in "large" countries; of the 43 clubs studied in this paper, 20 clubs qualified for the large-country status. Note that football clubs, such as Preston North End F.C., that may have played in second or third division leagues, as opposed to the country's top-flight division are still considered to have operated in a large country under this system, bucketed with other teams from the EPL. Here, a country-based categorization of clubs was favored over a division-based categorization, given the issue of promotion and relegation a number of clubs in the sample population experienced during the observed timeframe.[9]

In order to test the first hypothesis regarding operational disincentives, the year-by-year domestic league performance measures (average points won per game) were collected for the period of five years both pre- and post-IPO for each club in the sample population. Excluding the data from the year of IPO, which was not included in the statistical analysis, this resulted in 10 observations per club through time. The average points won per game for the year of IPO was excluded mainly because the IPO oftentimes occurred in the middle of the season, making the data's pre- and post-IPO categorization ambiguous. Moreover, as Tables 2 and 3 suggest, a number of clubs experienced either a promotion or relegation during the observed timeframe, per the common practices of European football league system.[10] As this skews the domestic performance data due to these clubs competing at a lower or higher level, this study undertook data normalization by applying a common multiple to the average points won per game during the affected seasons. This multiple was calculated by averaging the post-promotion point deflation rate and the inverse of post-relegation point inflation rate from each of the promotions and

relegations observed for the sample population; there were 18 promotions and 10 relegations in total. The multiple equaled 0.65x, implying that this paper considered a single point won in one division to be worth the same as 0.65 point won in the division one-level superior; vice versa, this also implies that a single point won in one division is worth 1.54 points won in the division one-level inferior. Table 5 illustrates the multiple calculation. For the statistical analysis, both the non-normalized and normalized observations for average points won per game for the sample population were examined. Both the domestic results data as well as the promotion and relegation information for the sample population were obtained from Rec.Sports.Soccer Statistics Foundation.

Finally, in order to test the second hypothesis regarding financial disincentives, various year-by-year financial metrics and ratios were collected for the period of five years both pre- and post-IPO for each club in the sample population. Due to data unavailability, however, not all of these metrics and ratios could be collected for all the sample population during the observed time frame. Excluding the data from the year of IPO for the same reason in the previous paragraph, data permitting, this again resulted in 10 observations per club through time for each financial metric and ratio. The balance sheet empirical constructs collected include assets, liabilities, current assets, current liabilities, and player registration rights, whereas the income statement empirical constructs examined include revenue and net income. The player registration rights metric was examined to understand the relationship between a football club IPO and talent acquisition-related capital expenditures. In the case when this figure was not specified, player transfer fees payable, total intangible assets, or net purchase of player registrations in the Cash Flow from Investing was used as a proxy.[11] However, all the metrics observed within each club were held as constant as possible. Using the financial metrics, various pre- and post-IPO financial ratios such as debt ratio, current ratio, player registration rights/assets, player registration rights/revenue, return on assets, and net

margin were then calculated; debt ratio is liabilities/assets, current ratio is current assets/current liabilities, return on assets is net income/assets, and net margin is net income/revenue. For the non-British clubs, the various financial metrics were collected using company websites and the Bloomberg Terminal. For the British clubs, the metrics were collected directly from Companies House, an executive agency sponsored by the U.K. government. Besides, the currency used for all the financial figures have been standardized to the U.K. pound sterling in millions for a better coefficient analysis in the paper's statistical regression model, which will be explained in further detail in the next section. The exchange rate for each observation's corresponding year was based on the December 31st last sale price provided by the S&P Capital IQ.

IV. Econometric Framework

The main null hypothesis is that professional sports teams benefit from a stock market listing. While the null hypothesis in a typical statistical test often implies that there is no significant difference between specified populations – a zero effect – this is not always the case; the "null" in null hypothesis derives from the word "nullify" (Van den Brink and Koele 2002). Therefore, the above main null hypothesis is the precise statement this paper attempts to reject with sample data. From this were derived two more specific null hypotheses regarding operational and financial disincentives, as mentioned at the end of Section II. These two hypotheses can be found below. As the literature review and case studies of precedent professional sports team IPOs suggest the presence of strong managerial disincentives, should the alternative hypotheses regarding operational and financial disincentives hold true, then can be concluded that professional sports teams do not benefit from a stock market listing.

> **Hypothesis 1 (Operational):** There is an improvement in the football clubs' domestic league match performance after the listing (IPO) than before the listing.

Hypothesis 2 (Financial): There is an improvement in the football clubs' financial statements after the listing (IPO) than before the listing.

Given these hypotheses, this paper specifies the following (panel-data) regression model.

$$Dependent\ Variable_{i,t} = \alpha_i + \beta_1 IPO_{i,t} + \beta_2 Listed_{i,t} + \beta_3 IPO \times Listed + \beta_4 Country\ Size_{i,t} + \beta_5 IPO \times Country\ Size + \varepsilon_{i,t}$$

The dependent variable for hypothesis 1 is a domestic performance measure – non-normalized average points won per game and normalized averaged points won per game. The dependent variable for hypothesis 2 is a financial performance measure – assets, liabilities, current assets, current liabilities, player registration rights, revenue, net income, debt ratio, current ratio, player registration rights/assets, player registration rights/revenue, return on assets, and net margin. Each dependent variable is for football club (*i*) in year (*t*). *IPO* is a dummy variable that is one if the club is public (after the IPO) and zero if the club is private (before the IPO); this indicates that no data from the IPO year was included in the statistical analyses for any club. *Listed* is a dummy variable that is one if the club is still being traded (currently listed) and zero if the club is no longer traded (currently delisted), and *Country Size* is a dummy variable that is one if the club operates in a large country in football terms (Spain, England, Italy, Germany, or France) and zero if the club operates elsewhere (Portugal, Turkey, Netherlands, Denmark, Scotland, Sweden, and Poland for the sample population). The matrix *IPO* × *Listed* consists of interaction effects of the IPO dummy (*IPO*) and the Listed dummy (*Listed*) for the currently listed and delisted clubs. The interaction effects are included to assess the role of a club's current listing status in the differences in its dependent variables pre- and post-IPO. The matrix *IPO* × *Country Size* consists of interaction

effects of the IPO dummy (*IPO*) and the Country Size dummy (*Country Size*) for the large and small-country clubs. The interaction effects are included to assess the role of the size of the country (in football terms) a club plays in and the differences in its dependent variables pre- and post-IPO. The error term is given by ε. The parameters to estimate are α, $\beta_{1,}$ $\beta_{2,}$ $\beta_{3,}$ $\beta_{4,}$ and $\beta_{5.}$ The parameter α is a club-specific parameter (hence the subscript *i*), while the other parameters are estimated for all clubs.

Club-specific characteristics such as the size of a club are not included explicitly, as they are accounted for implicitly through the use of a panel model which controls for unobserved (club-specific) heterogeneity. The regression model is estimated with the fixed-effects estimator. Furthermore, given that the dependent variable in the above equation is an implicit measure of relative operational or financial performance within each club both pre- and post-IPO, that is, the measure itself controls for the presence of non-public football clubs, the study has not included any private football clubs as a control sample in the analyses. Besides, acquiring an adequate comparable control club for each public club in the study's sample would be too difficult, especially given that the club characteristics change over the observed time frame.

V. Empirical Results

This section presents and illustrates the estimation results of the (panel-data) regression model specified above for the two hypotheses. As Tables 6, 7, and 8 suggest, three main analyses were performed by utilizing various specifications of the model. These tables provide the coefficient estimate, p-value significance, and t-statistic for each dependent variable and specification. Under each analysis, the corresponding number of observations and R^2 for each dependent variable are also shown. The analyses were performed using SAS (Statistical Analysis System).

Looking at the normalized average points won per game variable, Table 6 indicates that clubs that listed increased their average points per game in their domestic league by 0.078 points. In a season of 38 games, which is the case for many European football leagues including those in Spain, England, Italy, Germany, and France, this implies additional 2.964 points earned in one season. This is then translated as one additional win or three additional draws per football club compared to a loss or three losses in previous seasons, respectively. Strictly speaking, this result suggests that the null hypothesis 1 regarding operational disincentives cannot be rejected, as in there is an improvement in the football clubs' domestic league match performance post-IPO than pre-IPO. However, the coefficient is still quite small, and thus it could be argued that the practical magnitude of the impact of an IPO to the team's domestic league performance is marginal. Although, for a season such as the 2018-19 EPL, in which two clubs, Liverpool F.C. (94 total points) and Manchester City F.C. (95 total points), fiercely contend for the league title with just the 38th round remaining as of this writing, the coefficient of 0.078 carries a much greater weight.[12] Nevertheless, given the strong managerial disincentives identified in Section II, the finding's overall impact to a professional sports team owner's evaluation of the attractiveness of an IPO may still be considered likely marginal.

With regard to the financial variables, it can be observed in Table 6 that the size of all balance sheet line items – assets, liabilities, current assets, current liabilities, and player registration rights – as well as revenue increased after the IPO at the 1 percent significance level, indicating a strong positive correlation. It is unclear, however, how much of this post-IPO growth is strictly due to the stock market listing. The European football industry has overall grown rapidly in the 1990s and 2000s. There is also the possible nominal effect of inflation. Moreover, as additional capital is obviously raised through an IPO, balance sheet growth is to be expected. However, it is

interesting to note that the net income variable has a slight negative coefficient of -2.716 at the 10 percent significance level, which indicates that clubs that listed saw a decrease in their profit by £2.716 million – a potentially critical financial disincentive from the owner's perspective. This may possibly be explained by the existing literature, which identified post-IPO drop in firm profitability across multiple industries (Pástor, Taylor and Veronesi 2009). As owners wish to maximize returns when they sell their stake in the firm, they tend to initiate an IPO when the firm's prospects are poor. Similarly, football club owners may wish to maximize the capital raised by undertaking an IPO when the club's on-pitch and financial prospects are poor. Should a club have a breakthrough season both operationally and financially, owners may deem it unrealistic to forecast a sustained future success, given the various uncontrollable variables in sports such as luck, competition, and even player injuries, thereby being more convinced to initiate an IPO that season. In fact, according to Figure 2, which plots the study sample population's mean of average points won per game over time, football clubs did indeed earn the highest average points per game in the year of IPO. Furthermore, according to Figure 3, which plots the study sample population's mean of various financial ratios over time, the financial health of a football club is also most ideal in the year of IPO. These relations are uncannily consistent with the theoretical predictions outlined by Pástor, Taylor, and Veronesi (2009).

On the other hand, the various ratio variables analyzed in Table 6 may offer a much greater and real insight than just the balance sheet and net income line items, regarding an IPO's impact on the financial health of football clubs; a ratio removes the impact of the general industry growth and inflation. It is important to note that the debt ratio decreased significantly at the 1 percent level with a coefficient of -0.192. Whereas, the change in current ratio, player registration rights/revenue, return on assets, and net margin all displayed insignificance. Player registration rights/assets,

although significant in the output, does not provide much valuable insight about capital expenditure related to player acquisition given that the shift in the ratio pre- and post-IPO seems to be mainly driven by the denominator. Upon examining the coefficients for assets (66.636), player registration rights (23.886), and revenue (24.646), it can be determined that assets significantly outgrew the other two after the listing. Overall, these results suggest that the raised funds through an IPO are primarily used for balance sheet consolidation, primarily regarding debt reduction, and not for increased investments in player acquisition. This may be due to the added financial scrutiny post-IPO. Should public ownership imply greater financial discipline, money raised in an IPO is more likely to be used to deleverage than to be invested in a risky and intangible asset such as a player, a trend identified in existing literature for a sample of listed companies in Italy at least (Pagano, Panetta and Zingales 1998). The popular use of IPO proceeds for debt reduction can also be observed in precedent sports team IPOs. For example, when Manchester United F.C. listed on the New York Stock Exchange in 2012, its primary motive was to pay down debt. Included in the club's prospectus is the statement: "we will use all of our net proceeds from this offering to reduce our indebtedness…" (Manchester United plc 2012). Meanwhile, a stock market listing seems to have had no, if not detrimental, impact on the sports team's profitability, which is further in line with the prediction that the raised capital was used mainly for balance sheet consolidation. Lastly, the proceeds not having had much material impact on talent acquisition could perhaps explain why the coefficient for the average points won per game variable was marginal; an unchanged level of players would correspond with an unchanged performance result. Considering the negative net income coefficient and putting emphasis on the ratio analysis, the validity of the second null hypothesis seems to be weak, although again not completely refutable. In summary, a stock market listing helps with a football club's successful deleveraging although

it has no significant impact on other key financial ratios, and it may potentially harm the clubs' bottom line.

Next, the specific model analyzed in Table 7 is $Dependent\,Variable_{i,t} = \alpha_i + \beta_1 IPO_{i,t} + \beta_2 Listed_{i,t} + \beta_3 IPO \times Listed + \varepsilon_{i,t}$, which examines the effect of a football club's stock market listing on the various dependent variables, while factoring in each club's current listing status. The first column illustrates the relationship between pre- and post- IPO for only the currently delisted clubs, whereas the second column illustrates the relationship between listed and delisted clubs for only the pre-IPO time frame. Most importantly, the third column provides insight as to whether there was a significant difference between clubs that are currently listed and delisted with regard to their changes in the dependent variables pre- and post-IPO. This study focuses on the analysis of the interaction effects – the third column.

With regard to the operational variables, no significant interactions were observed; an IPO essentially had the same level of operational impact on the listed and delisted clubs. All the financial metrics exhibited significant interaction effects, however. Assets, liabilities, current assets, current liabilities, and player registration rights exhibited positive coefficients, implying that the pre-and post-IPO increases in these metrics were all greater for the currently listed clubs compared to those that had delisted. There may be an inherent look-ahead bias because the clubs in the sample population were classified based on their listings as of this writing. Yet, these financial interaction effects may be explained by the fact that the list of currently public clubs consists of a much greater number of "perennial top-flight division clubs." The last column in Tables 2 and 3 demonstrates that only three of 23 currently listed clubs experienced either a promotion or relegation, whereas 11 of 20 delisted clubs experienced either a promotion or relegation during the observed time frame of -5 and +5 years from the IPO (excluding the IPO

year). Because the currently listed clubs boasted superior match performance stability during the observed time frame and were more consistently playing in the top-flight division, the amount of proceeds raised from the IPO as well as the organic company growth they experienced may have been greater, hence the interaction effects for the balance sheet line items. Ironically, the currently listed clubs experienced a greater decrease in net income pre- and post- IPO compared to the delisted clubs, given the negative coefficient of -6.338 at the 5 percent significance level. This then translated to negative coefficients for also the dependent variables of return on assets and net margin. The currently listed clubs incurred a greater loss in profitability post-IPO than the delisted clubs. However, the interaction effects for player registration rights/assets and player registration rights/revenue seem to indicate that the listed clubs also spent relatively more on player acquisition; the coefficient for the player registration rights variable is also noticeably large at 57.641. This indication of potential overinvestment on players may be the reason why the listed clubs were less profitable; this may also explain why these clubs had better competitive advantage to enjoy a greater match performance stability, managing to survive in the top-flight division. Meanwhile, note that the debt ratio still does not involve a material interaction effect. That said, the implication could be that the currently listed clubs raised greater IPO proceeds than the delisted clubs. The amount raised may have been sufficient for the listed clubs to invest in talent acquisition as spillover in addition to deleveraging. Whereas, the delisted clubs may only have raised enough to successfully deleverage.

Lastly, the specific model analyzed in Table 8 is $Dependent\ Variable_{i,t} = \alpha_i + \beta_1 IPO_{i,t} + \beta_4 Country\ Size_{i,t} + \beta_5 IPO \times Country\ Size + \varepsilon_{i,t}$, which examines the effect of a football club's stock market listing on the various dependent variables, while factoring in each

club's country size in football terms. The structure of Table 8 is the same as that of Table 7. Again, this study focuses on the analysis of the interaction effects – the third column.

Similar to the club's current listing status, country size in football terms did not exhibit any interaction effects regarding the differences in the operational variables pre- and post-IPO; an IPO essentially had the same level of operational impact on football clubs regardless of which country they are from. However, should a club operate in a "large country" per Table 4 – Spain, England, Italy, Germany, or France – it experienced a significantly larger pre- and post-IPO increases in assets, current assets, player registration rights, and revenue; the coefficient of current liabilities (0.639) is not as big despite also exhibiting a significant positive correlation. A club operating in a "large country" may likely have been able to raise more substantial IPO proceeds. This finding seems to be reasonable given that a greater amount of capital in the football market is concentrated in the above five countries, which are home to Europe's five largest and most successful leagues – La Liga, EPL, Serie A, Bundesliga, and Ligue 1 – hence the strong UEFA Country Coefficients per Table 4. This may also be a reason why clubs operating in a "large country" experienced greater pre- and post-IPO increases in return on assets and net margin than those operating in a "small country." It is still interesting to note that net income did not exhibit any material interaction effect despite the robust positive coefficients and significance for assets and revenue variables. Further research may explore how "large country" clubs, in addition to expanding their balance sheets, managed to improve their profitability margins. Lastly, the fact that the debt ratio did not involve any interaction effect may again suggest that deleveraging is a top priority for football clubs regardless of the country they operate in; clubs make sure to raise enough IPO proceeds to at least successfully deleverage.

VI. Limitations and Mitigants

There are a few limitations that may challenge the robustness of the results of this study. A major limitation arises from the fact that the paper attempts to generalize the operational and financial findings from its sample population of European football clubs to the overall sports industry, including leagues that may be based in other geographical regions or focused on other sports types. However, note that the review of managerial disincentives through the existing literature and case studies of precedent professional sports team IPOs include the North American major league sports teams; the managerial disincentives are still considered when evaluating the validity of the study's main null hypothesis of whether professional sports teams benefit from a stock market listing. Moreover, the vast majority of historical sports team IPOs across the globe indeed only consist of European football clubs. Besides, pre-IPO financial data is not available for the four North American teams that were historically publicly listed. Therefore, the study has roughly captured the entirety of historical professional sports team IPOs despite the European- and association football-concentrated sample population.

With regard to the sample data, for the operational disincentives analysis, international match performance data may have been incorporated, similar to Baur and McKeating's prior study (Baur and McKeating 2011). However, the lack of this information does not undermine the study's finding on an IPO's impact on the European football clubs' domestic league performance. Furthermore, a majority of clubs in the sample population did not qualify to compete in the international UEFA competitions given their domestic league performance results, as the study includes delisted clubs that were not perennially in the top-flight division. The study also acknowledges that there were several financial data observations missing particularly for non-British football clubs pre-IPO. Further research may aim to collect this privately available

information and incorporate it into analysis. Similarly, data observations from the IPOs of European football clubs that delisted prior to 2002 may have been integrated to the study. While this information was not available through the use of the STOXX Europe Football Index, the number of these IPOs is expected to be minimal, likely having a marginal impact. Lastly, the data used for the financial metrics – balance sheet and income statement line items – analyzed involve the effects of the general football industry growth and inflation. While this was controlled for by the additional analysis of various financial ratios, a separate set of financial metrics data that has been normalized based on average inflation rate and European football industry growth rate during the observed time frame may still have been utilized – another area further research may explore.

In terms of the econometric framework used, the study may have been more robust should there have been a control sample of private football clubs. However, as discussed earlier in Section IV, this is mitigated by the fact that the pre- and post-IPO measures analyzed within each club themselves implicitly control for the presence of non-public football clubs. Furthermore, acquiring an adequate comparable control club may be an arbitrary process. Finally, the cross-sectional analysis based on the "Listed" variable may have involved an inherent look-ahead bias, as mentioned in the previous section; the study grouped the football clubs based on whether they are still listed today, which the clubs did not know at the time of IPO.

VII. Conclusions

This paper explored the question "why are sports team IPOs uncommon?" by attempting to refute the main null hypothesis that professional sports teams benefit from a stock market listing. Not only have professional sports team IPOs been historically uncommon across Europe and North America, their popularity seemed to have further diminished over the years. The hypothesis was

tested through three main lenses: 1) managerial disincentives, 2) operational disincentives, and 3) financial disincentives.

Reviewing the existing literature and case studies of precedent professional sports team IPOs suggests a strong presence of managerial disincentives. As an IPO is followed by the demand for a greater financial discipline, this induces several limitations in managerial freedom. Most notably, overinvestment in talent acquisition may be discouraged, preventing owners from realizing win-maximization and even long-term profit maximization. This is further exacerbated by a mismatch in incentives given that the typical professional sports team owner is an ultra-high-net-worth individual, likely leaning towards win-maximization as his or her main managerial motive. Other managerial disincentives are also present, including inferior capital channeling capabilities, firm value instability due to market exposure, high administrative and opportunity costs, as well as league oppositions.

In addition to the strong managerial disincentives, this study finds that there is also a lack of convincing operational incentives. Contrary to the existing literature (Baur and McKeating 2011), there is a statistically significant positive correlation between pre- and post-IPO average points won per game in domestic league; operational performance does improve. However, the coefficient (0.078) is quite small and thus the practical magnitude of the impact of an IPO to the team's match performance and its attractiveness to a private owner can be considered marginal. Whether a club is still listed or operating in a "large country" did not exhibit any interaction effects.

Furthermore, the financial disincentives analyses provide mixed results. Pursuing an IPO helps a football club to successfully deleverage and potentially grow its balance sheet. However, it may harm a club's bottom line, while having no significant impact on the key financial ratios other than the debt ratio. Overall, the main finding is that the IPO proceeds are primarily used for balance

sheet consolidation and not for increased investments in player acquisition. Another interesting finding was that a football club seems more likely to IPO at the peak of its on-pitch and financial performance when the future prospects are poor, perhaps similar to traditional firms. Besides, a club that is currently listed or operating in a “large country” seem to have raised greater IPO proceeds.

Everything considered, private sports team owners may not find stock market listing as an attractive strategic alternative for capital raising over debt financing. While there is a lack of both material operational and financial incentives, the strong managerial disincentives are still present. The main null hypothesis could thus not be entirely rejected but its validity also seems weak.

Future research could investigate the net proceeds size of precedent professional sports team IPOs and how exactly the raised capital was used by analyzing sports team filings comparable to Form S-1. Moreover, further due diligence could be performed on understanding the decision process of going public for the precedent professional sports team IPOs.

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Appendix

Figure 1: STOXX Europe Football Index Year-by-Year Number of Components

This figure demonstrates that there is an overall declining trend in the index components count of STOXX Europe Football Index over the 18 years of observation from 2002 until 2019, indicating that the popularity of public listing for European football clubs has historically been dwindling.

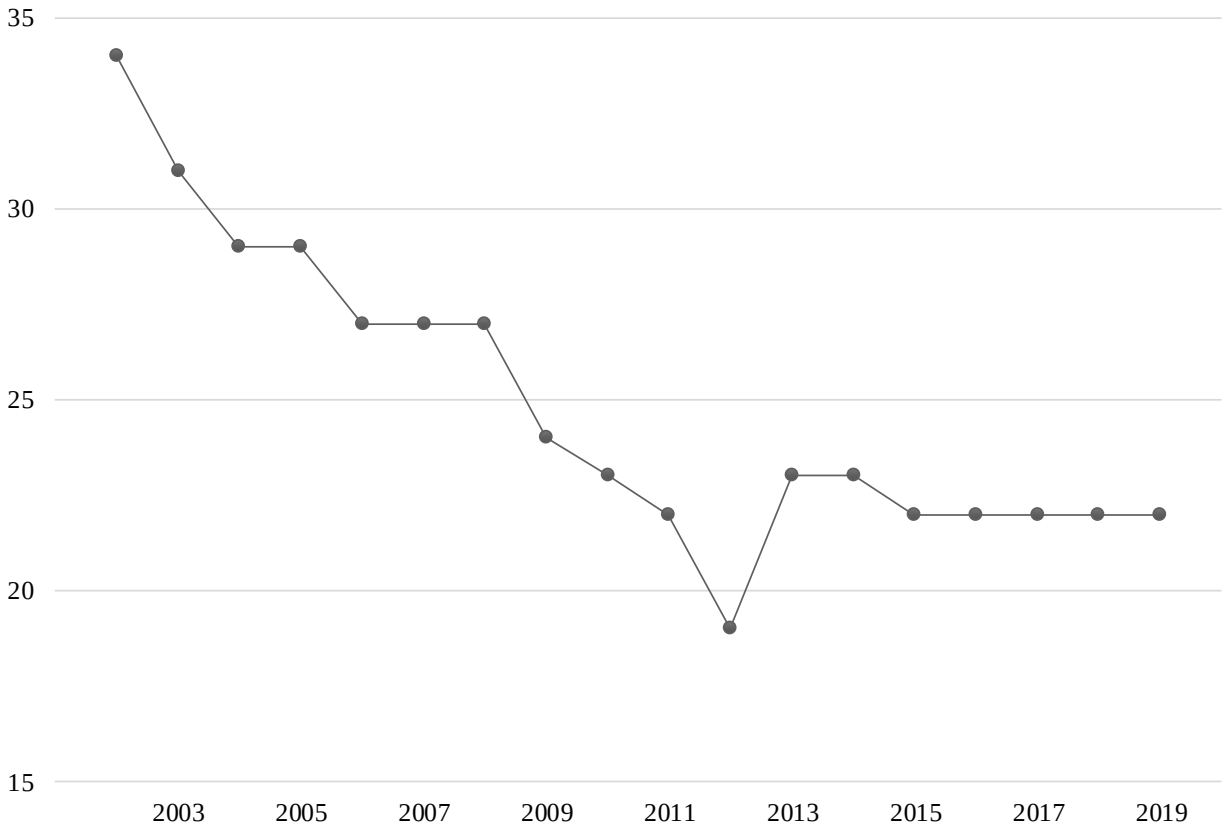

Figure 2: Mean Non-Normalized and Normalized APPG Over Time

This figure plots the study sample population's mean of domestic league average points won per game over the time frame observed. It indicates that the football clubs earned the highest average points per game in the year of IPO - a breakthrough season.

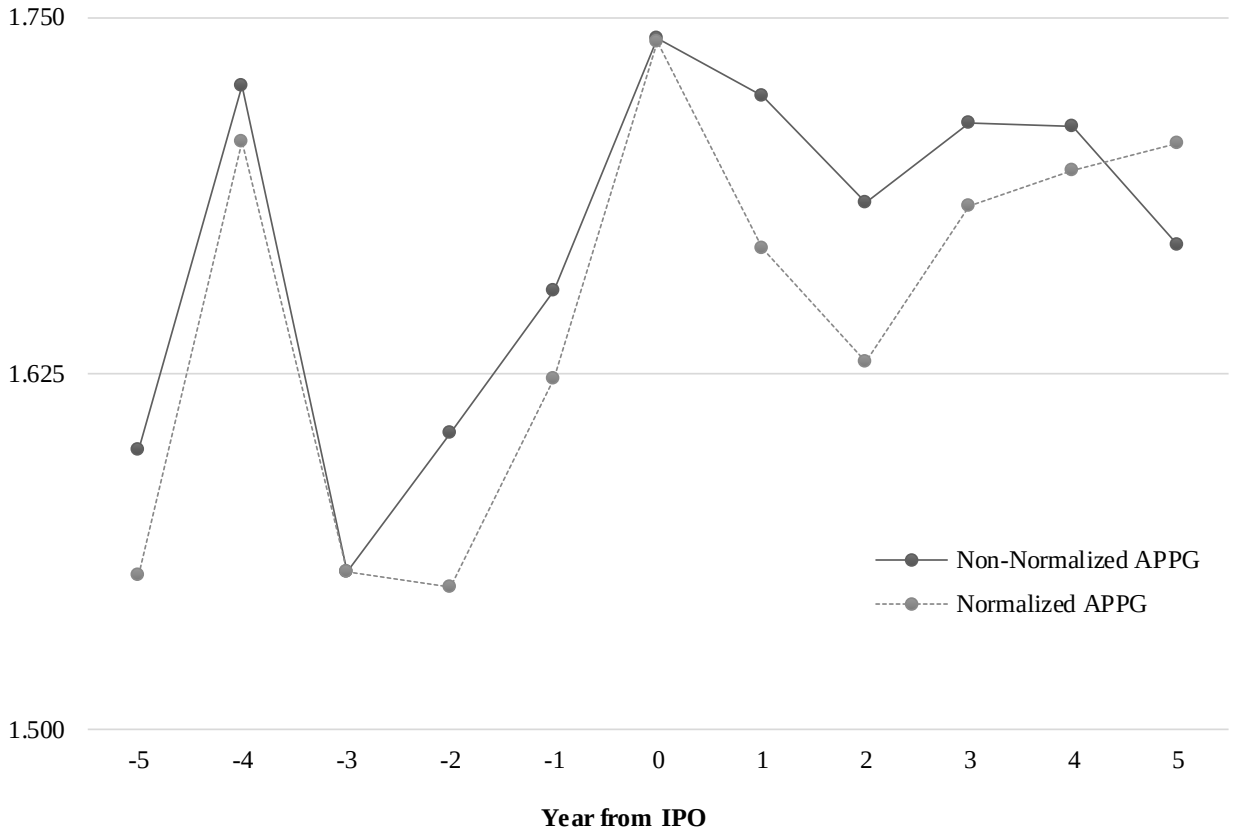

Figure 3: Mean Financial Ratios Over Time

This figure plots the study sample population's mean of various financial ratios over time. It indicates that the financial health of a football club is most ideal in the year of IPO - a financial breakthrough apt for the highest valuation in an IPO. Current ratio was not included for a better graphical representation of the other five ratios. However, its trend was consistent with that of others with the year of IPO having the highest current ratio. Its 11 data points through time were: 1.214, 0.472, 0.695, 0.912, 1.646, 4.134, 1.955, 3.881, 1.541, 1.375, 1.191.

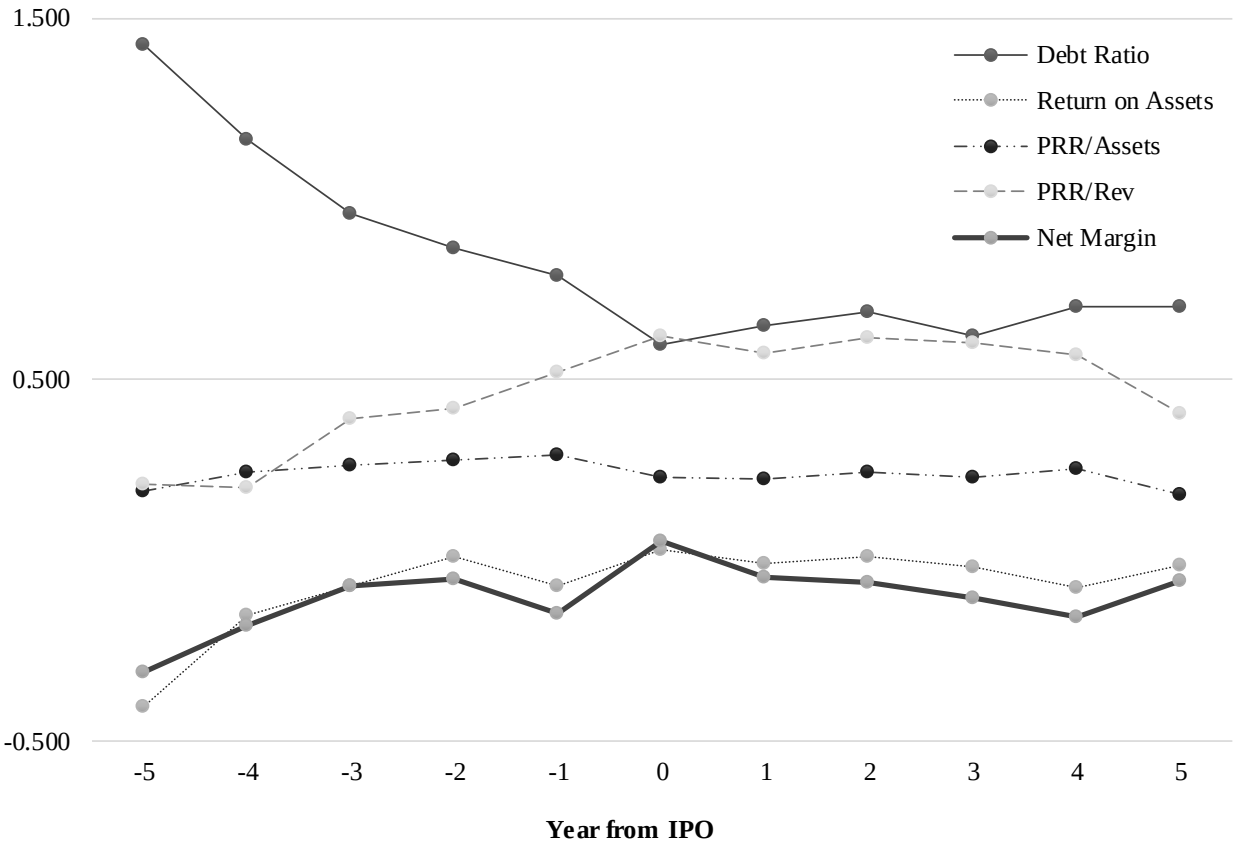

Table 1: STOXX Europe Football Index Year-by-Year Data

This table shows the evolution of the STOXX Europe Football Index from 2002 until 2019. The table illustrates that the number of index components has decreased during this time frame. In 2002, there was a total of 34 stock market teams in the index, whereas in 2019 this number decreased to 22.

Year*	# of Components	Market Cap (€ in bn)	Price (€)
2002	34	1.47	90.01
2003	31	2.04	103.97
2004	29	2.28	86.84
2005	29	1.87	115.35
2006	27	2.11	134.78
2007	27	2.57	148.95
2008	27	1.77	98.05
2009	24	1.86	103.80
2010	23	2.58	141.82
2011	22	1.78	90.02
2012	19	1.43	80.97
2013	23	1.63	73.69
2014	23	1.98	74.18
2015	22	2.02	73.87
2016	22	2.40	92.86
2017	22	2.97	107.13
2018	22	3.36	103.11
2019	22	3.97	119.41

Ticker: FCTP
ISIN: CH0013549974
Bloomberg ID: BBG000SLJ225

* 2019 data are as of May 3rd; data of all other years are as of December 31st

Table 2: Listed European Football Clubs Data (as of May 3, 2019)

Club	Country	Ticker	IPO Date	**Promotion/Relegation
Aalborg Boldspilklub AS	Denmark	AAB	9/14/1998	X
AFC Ajax N.V.	Netherlands	AJAX	5/11/1998	X
AGF AS	Denmark	AGF	12/1/2004	O
AIK Football AB	Sweden	AIKB	7/1/2006	O
AS Roma S.p.A	Italy	ASR	5/22/2000	X
Besiktas Futbol Yatirimlari Sanayi ve Ticaret AS	Turkey	BJKAS	2/19/2002	X
Borussia Dortmund GmbH & Co KGaA	Germany	BVB	10/30/2000	X
Broendbyernes IF Fodbold AS	Denmark	BIFB	*6/29/1990	X
Celtic PLC	Scotland	CCP	9/1/1995	X
Fenerbahce Futbol AS	Turkey	FENER	9/17/2004	X
Futebol Clube Do Porto	Portugal	FCP	6/1/1998	X
Galatasaray Sportif Sinai ve Ticari Yatirimlar AS	Turkey	GSRAY	2/19/2002	X
Juventus Football Club S.p.A.	Italy	JUVE	12/19/2001	X
Manchester United PLC	England	MANU	8/9/2012	X
OL Groupe SA (Olympique Lyonnais F.C.)	France	OLG	2/1/2007	X
Parken Sport & Entertainment A/S (F.C. Copenhagen)	Denmark	PARKEN	12/1/1997	X
Ruch Chorzow SA	Poland	RCW	12/04/2008	O
Silkeborg IF Invest AS	Denmark	SIF	9/30/1991	X
Societa Sportiva Lazio S.p.A	Italy	SSL	7/6/1998	X
Sport Lisboa e Benfica-Futebol SAD	Portugal	SLBEN	5/1/2007	X
Sporting Clube De Portugal - Futebol SAD	Portugal	SCP	6/2/1998	X
Teteks Tetovo	Macedonia	TETE	*NA	X
Trabzonspor Sportif Yatirim ve Futbol Isletmeciligi TAS	Turkey	TSPOR	4/15/2005	X

*The IPO dates for these clubs may be slightly inaccurate

** O or X indicates whether the club has or has not experienced any promotion or relegation during the time frame of -5 to +5 years from the club's IPO (excluding the IPO year)

Table 3: Delisted European Football Clubs Data (as of May 3, 2019)

Club	Country	Ticker	IPO Date	Delist Year	**Promotion/Relegation
Aberdeen Football Club PLC	Scotland	575847Q	2/9/2000	2003	X
Aston Villa PLC	England	ASV	5/7/1997	2006	X
Birmingham City Football Club PLC	England	BMC	3/7/1997	2009	O
Burnden Leisure Ltd (Bolton Wanderers F.C.)	England	BDL	2/1/2001	2003	O
Charlton Athletic PLC	England	CLO	*3/21/1997	2006	O
Chelsea Football Club PLC	England	387382Q	4/1/1996	2003	X
Heart of Midlothian PLC	Scotland	HTM	5/19/1997	2006	X
Leeds United PLC	England	LUFC	*7/28/1994	2004	O
Manchester United LTD	England	MNU	6/11/1991	2005	X
Millwall Holdings PLC	England	MWH	*1989	2011	O
Newcastle United PLC	England	NCU	4/2/1997	2007	X
Preston North End PLC	England	PNE	9/14/1995	2011	O
Rangers International Football Club PLC	Scotland	RFC	12/19/2012	2015	O
Schaumann Properties AS	Denmark	UDV75	12/3/1998	2007	X
Sheffield United PLC	England	SUT	*1993	2009	O
Southamption Leisure Holdings PLC	England	SOO	4/1/1994	2009	X
Sunderland LTD	England	SUA	12/24/1996	2004	O
Tottenham Hotspur LTD	England	TTNM	*1983	2012	X
Watford Leisure PLC	England	WFC	8/2/2001	2010	O
West Bromwich Albion Heritage LTD	England	WBA	1/3/1997	2004	O

*The IPO dates for these clubs may be slightly inaccurate

** O or X indicates whether the club has or has not experienced any promotion or relegation during the time frame of -5 to +5 years from the club's IPO (excluding the IPO year)

Table 4: UEFA Coefficient-based Country Size* (as of May 3, 2019)

Of the 43 clubs studied in this paper, 20 clubs are considered to operate in "large" countries; 23 are considered to operate in "small" countries.

Country	Size*	UEFA Country Coefficient
Spain	Large	103.57
England	Large	83.32
Italy	Large	74.73
Germany	Large	71.78
France	Large	58.50
Portugal	Small	48.23
Turkey	Small	34.60
Netherlands	Small	32.43
Denmark	Small	27.03
Scotland	Small	22.13
Sweden	Small	20.90
Poland	Small	19.25

* Size in football terms

Table 5: Promotion / Relegation Normalization Multiple Calculation for Average Points Won per Game (Domestic League)

Each deflator and inflator represents an instance of promotion or relegation for the sample population during the observed time frame of -5 to +5 years from the club's IPO (excluding the IPO year). There were 18 promotions and 10 relegations in total. The multiple of 0.65x implies that the a single point won in one division is worth the same as 0.65 point won in the division one-level superior.

	Post-Promotion APPG Deflator		**Inverse of Post-Relegation APPG Inflator**
	0.45		0.34
	0.88		0.45
	0.56		0.61
	0.63		0.64
	0.69		0.42
	0.71		0.69
	0.82		0.48
	0.42		0.54
	1.23		0.76
	0.66		0.69
	0.78		
	0.50		
	0.69		
	0.60		
	0.58		
	0.91		
	0.56		
	0.90		
Average:	0.70		0.52
Weighted Average:		**0.65x**	

Table 6: Effect of a Football Club's IPO on its Dependent Variables

This table includes the coefficient, p-value significance, t-stat, as well as number of observations and R^2 for each dependent variable. •••,••,• denote significance at the 1%, 5%, and 10% level, respectively. The model is estimated with the fixed-effects estimator. The coefficients for financial metric variables are in the U.K. pound stering in millions.

Model: ⟦Dependent Variable⟧_(i,t)=α_i+β_1 ⟦IPO⟧_(i,t)+ε_(i,t)

Dependent Variable	IPO	*n*	R^2
Non-normalized APPG	0.073 **	428	73.2%
	2.570		
Normalized APPG	0.078 **	428	69.9%
	2.530		
Assets	66.636 ***	291	94.3%
	8.920		
Liabilities	33.907 ***	290	94.9%
	6.130		
Current Assets	18.004 ***	290	80.7%
	5.460		
Current Liabilities	25.959 ***	290	82.5%
	6.320		
Player Registration Rights	23.886 ***	242	81.9%
	6.010		
Revenue	24.646 ***	293	92.9%
	8.570		
Net Income	-2.716 *	292	34.6%
	-1.800		
Debt Ratio	-0.192 ***	290	59.4%
	-3.590		
Current Ratio	0.063	289	45.6%
	0.120		
PRR/Assets	-0.072 ***	242	72.7%
	-3.280		
PRR/Revenue	0.037	241	81.7%
	0.870		
Return on Assets	0.043	285	46.3%
	1.590		
Net Margin	0.031	290	55.8%
	0.750		

Table 7: Effect of a Football Club's IPO on its Dependent Variables Interactive with the Current Listing Status

The statistical components included in this table are the same as that of Table 6. The model is estimated with the fixed-effects estimator. The IPO specification illustrates the relationship between pre- and post-IPO for only the currently delisted clubs. The Listed specification illustrates the relationship between listed and delisted clubs for only the pre-IPO time frame. The third column illustrates the difference between listed and delisted clubs regarding their changes in the dependent variables pre- and post-IPO.

Model: $[\![\text{Dependent Variable}]\!]_{(i,t)}=\alpha_i+\beta_1 [\![\text{IPO}]\!]_{(i,t)}+\beta_2 [\![\text{Listed}]\!]_{(i,t)}+\beta_3 \text{IPO}\times\text{Listed}+\varepsilon_{(i,t)}$

Dependent Variable	IPO	Listed	IPO × Listed	*n*	R^2
Non-normalized APPG	0.092 **	1.587 ***	-0.036	428	73.3%
	2.190	16.730	-0.620		
Normalized APPG	0.082	1.577 ***	-0.007	428	69.9%
	1.630	15.250	-0.120		
Assets	33.334 ***	-55.737 **	78.085 ***	291	94.9%
	5.940	-2.330	5.460		
Liabilities	21.526 ***	-33.553 *	29.330 ***	290	95.0%
	5.730	-1.820	2.650		
Current Assets	8.345 ***	-4.689	22.881 ***	290	81.6%
	5.950	-0.430	3.500		
Current Liabilities	8.569 ***	-36.151 ***	41.198 ***	290	84.2%
	5.720	-2.740	5.210		
Player Registration Rights	1.578	-33.372 ***	57.641 ***	242	86.2%
	1.520	-2.780	8.090		
Revenue	15.420 ***	-18.712 *	19.877 ***	293	93.2%
	6.520	-1.940	3.520		
Net Income	0.177	16.078 ***	-6.338 **	292	35.8%
	0.240	3.140	-2.110		
Debt Ratio	-0.171 *	0.471 **	-0.052	290	59.4%
	-1.960	2.600	-0.470		
Current Ratio	-0.048	7.274 ***	0.262	289	45.6%
	-0.210	4.150	0.250		
PRR/Assets	-0.106 ***	0.561 ***	0.086 *	242	73.1%
	-3.420	7.410	1.910		
PRR/Revenue	-0.109 ***	1.918 ***	0.379 ***	241	83.4%
	-2.810	13.890	4.600		
Return on Assets	0.102 ***	0.350 ***	-0.140 **	285	47.7%
	2.770	3.930	-2.580		
Net Margin	0.116 **	0.943 ***	-0.189 **	290	56.7%
	2.080	6.690	-2.260		

Table 8: Effect of a Football Club's IPO on its Dependent Variables Interactive with the Country Size in Football Terms

The statistical components included in this table are the same as that of Table 6. The model is estimated with the fixed-effects estimator. The IPO specification illustrates the relationship between pre- and post-IPO for only the clubs operating in a "small" country. The Country Size specification illustrates the relationship between "small" and "large" country clubs for only the pre-IPO time frame. The third column illustrates the difference between "small" and "large" country clubs regarding their changes in the dependent variables pre- and post-IPO.
Model: ⟦Dependent Variable⟧_(i,t)=α_i+β_1 ⟦IPO⟧_(i,t)+β_4 ⟦Country Size⟧_(i,t)+β_5 IPO×Country Size+ε_(i,t)

Dependent Variable	IPO	Country Size	IPO × Country Size	*n*	R^2
Non-normalized APPG	0.084 **	1.398 ***	-0.024	428	73.3%
	2.220	14.700	-0.420		
Normalized APPG	0.079 *	1.265 ***	-0.001	428	69.9%
	1.890	12.190	-0.020		
Assets	41.365 ***	-35.148 *	44.854 ***	291	94.5%
	5.010	-1.680	3.030		
Liabilities	35.314 ***	-12.433	-2.513	290	94.9%
	4.360	-0.790	-0.230		
Current Assets	10.485 ***	-12.400	13.424 **	290	81.0%
	4.430	-1.340	2.030		
Current Liabilities	25.601 ***	-12.108	0.639 ***	290	82.5%
	4.180	-1.040	0.080		
Player Registration Rights	17.693 ***	-13.952	10.377 ***	242	82.0%
	4.330	-1.380	1.280		
Revenue	9.436 ***	-15.533 *	27.074 ***	293	93.5%
	5.570	-1.950	4.880		
Net Income	-4.135 **	1.149	2.568	292	34.8%
	-2.050	0.260	0.850		
Debt Ratio	-0.128 **	0.579 ***	-0.115	290	-11.5%
	-2.480	3.820	-1.070		
Current Ratio	0.144	0.548	-0.144	289	45.6%
	0.130	0.370	-0.140		
PRR/Assets	-0.078 ***	0.273 ***	0.009	242	72.7%
	-3.510	4.840	0.210		
PRR/Revenue	0.138 *	0.597 ***	-0.171 ***	241	82.0%
	1.790	5.640	-2.010		
Return on Assets	-0.042	-0.072	0.152 ***	285	48.0%
	-1.160	-0.970	2.840		
Net Margin	-0.076	-0.074	0.192 **	290	56.7%
	-1.230	-0.620	2.300		

Endnotes

[1] STOXX Europe Football Index was launched on April 22nd, 2002 and therefore historical index composition prior to 2002 was unfortunately not available.

[2] As discussed previously, Green Bay Packers is not considered a true stock market team.

[3] Vancouver Canucks' ownership structure can be found in more detail here: Damsell, Keith. 1998. "Canucks ' Owner Forced To Halt Stock Offering". *FIN. POST*, 17, 1998.

[4] Some examples include the Los Angeles Dodgers, which used to be owned by Fox Group, a part of the News Corp. multimedia empire. The Atlanta Braves, Atlanta Hawks, and Atlanta Thrasher were previously owned by Time Warner. The Anaheim Mighty Ducks and Anaheim Angels used to be owned by Walt Disney. The Philadelphia 76ers and Flyers used to be owned by Comcast Corp. The Chicago Cubs used to be owned by the Tribune Co. The Seattle SuperSonics used to be owned by The Ackerley Group. The Colorado Avalanche and the Denver Nuggets used to be a part of the Ascent Entertainment Group. The Montreal Canadians used to be owned by Molson Companies Ltd, and the Toronto Blue Jays used to be owned by Interbrew SA.

[5] Two of the 43 clubs observed – Teteks Tetovo and Schaumann Properties AS – provided zero performance or financial data.

[6] Tottenham Hotspur LTD's IPO of 41 percent of its equity generated net proceeds of £3.3 million to the company.

[7] Manchester United PLC's IPO of its equity generated $233 million to the company, which was used primarily to pay down its debt from the Glazer family's debt-financed takeover of the club in 2005.

[8] With regard to how the coefficients are calculated, please refer to:
https://www.uefa.com/memberassociations/uefarankings/country/about/

[9] For example, teams such as Watford F.C. or Bolton Wanderers F.C. played five seasons in the EPL and 5 seasons in the second-division league during the observed timeframe of -5 and +5 years from the IPO (excluding the IPO year).

[10] For example, in the EPL, the bottom three clubs of each season are relegated. These spots are then filled with three teams from the English Football League Championship (EFLC), which is England's second division league; the top two teams of EFLC in each season are automatically promoted, whereas the next four compete in the playoffs, with the winner securing the third promotion spot ("English Football League System" 2019).

[11] Numerous European football clubs classify player registration rights under intangible assets; accounting methods differ by club, however

[12] Further information on the 2018-19 EPL standings as of the 37th round can be found here: https://bleacherreport.com/articles/2834941-premier-league-table-final-week-37-2019-standings-results-and-week-38-fixtures

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