An Exploration into the Influence of Transfers on Share Prices for Publicly Traded Football Clubs

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ABSTRACT

The present paper explores the effects player transfers have on share price for publicly traded football clubs in Europe. The study utilizes two samples: one English sample from 1997—2004, and another more contemporary European sample from 2007—2014. Preliminary analysis assesses share price links with team performance, financial variables, and two STOXX indices. Further analysis includes 12 event studies testing for abnormal returns resulting from player transfers. Of these 12 event studies, half of the transfers yield abnormal returns. Though results varied, there remains ample evidence from this paper for academics to further study the topic of player news and share prices for publicly traded football clubs.
I. Introduction

In 1983, Tottenham Hotspur of the English Premier League became the first football club in history to go public when Chairman Irving Scholar listed his side on the London Stock Exchange (Andreff and Syzmanski, 2006). Since then, the European football world has seen many more publicly traded clubs. This influx of listed football clubs sharply increased in the mid to late 1990s as teams attempted to raise capital during a time when sponsorships and TV deals were not as lucrative. In fact, during the 1996-97 season alone, a wave of eight football clubs were introduced via an initial public offering on the London Stock Exchange and the Alternative Investment Market (Renneboog and Vanbrabant, 2000). As a result of many football clubs emerging on the market, the STOXX European Football Index (henceforth referred to as the STOXX Football Index) began trading on April 22, 2002 (Schleidt, 2002). Currently, this index tracks the market performance of 23 publicly traded football clubs in Europe.

However, even though the trend of teams going public increased greatly, there have also been many withdrawals from stock exchanges. For example, the English Premier League club Manchester United (ticker: MANU) was listed on the London Stock Exchange from 1991 until 2005, after which owner Malcolm Glazer delisted his club. In 2012 Mr. Glazer decided to relist his team, though this time on the New York Stock Exchange, where it remains today (Smith, 2002). With extremely lucrative TV and sponsorship deals in recent years, English football club listings have weaned a bit, yet listings in other countries such as Denmark and Turkey remain a stronger presence on the markets today (Yueh, 2014).
Recently money and capital have risen to the top of the conversation in European football. For example, Hope (2014) and Tomkins (2014) have highlighted and popularized the evidently positive link between net transfer spending and team success. As money has become more vital in the football world, the source of club funds has also stirred important conversation. Consequently, the decision to raise additional funds to improve both financial and (arguably more importantly) on-field performance of these football clubs via the stock market is a significant one.

As the publicly traded football club becomes more common, investors would greatly benefit from understanding the major factors that contribute to these clubs’ share prices. Without proper knowledge of how to price these clubs’ shares, there will remain market inefficiency as investors do not know how to adjust their portfolios. For example, if a mining company reports diminishing profits from the previous quarter or year, their share price is likely to drop because investors understand that this influences the firm’s fundamental value. However if investors do not recognize what affects a football club’s fundamental value and share price, it will be difficult to make informed decisions about whether to buy or sell these shares, leading to an inefficient market. This is even more difficult for public football clubs since much more than traditional financial analysis, such as on-field performance, needs to be taken into account.

Currently, very little is known about what exactly impacts a football club’s share price. Of the literature on this specific topic, the only factor that has been extensively researched is on-field performance. In general, academics tend to agree with the intuitive conclusion that winning increases share price, while losing decreases it. Nevertheless, this surely cannot be the only component in affecting share prices for clubs, as finances
and other components that influence winning should also contribute to these prices as well. More specifically, the players on a given club are the ones who play the games, and thus ultimately determine the club’s on-field success. On-field success enhances financials such as revenue. For instance, if a club succeeds in making Champions League, Europe’s biggest club tournament, the additional television revenue stream provides the club with lucrative deals. As a result, if the players on a club change, then the share price for this club should hypothetically change as well.

II. Literature Review

The increase in publicly traded football teams in Europe has spurred a new line of academic research examining the financial and on-field performances of these teams. More specifically, academics have investigated the financial and on-performance effects of initial public offerings (Baur and McKeating, 2011), investor sentiment in sports (Bernile and Lyandres, 2011), the effects of on-field performance and news on share prices, as well as the issue of corporate governance and its impact on both financial and on-field performance (Franck, 2010, Dimitropoulos and Tsagkanos, 2012). Still, while literature in sports finance and economics is abundant, literature for publicly traded sports teams is limited.

In terms of football clubs’ finances, research indicates that on-field performance of only lower division clubs benefit from the funds of initial public offerings (Baur and McKeating, 2011). This is consistent with Franck (2010) who demonstrates that “spending power” is the main driver of competitive advantage for football clubs, and therefore “the governance structure of the privately owned football firm exhibits superior abilities to tap sources of funding and channel them into playing talent” (108). Since
privately held clubs do not have to worry about the interest of shareholders, who impose tacit restrictions towards excessive debt, their owners may overindulge in spending on players for the sake of victory.

In fact, Burdekin and Franklin (2015) show that heightened spending by ultra-rich private owners of football clubs has improved on-field performance only at the expense of hurting profitability, indicating that win-maximization prevails over business-traditional profit maximization. Nevertheless the debate as to whether football clubs are profit or win maximizing companies, especially in terms of publicly held football clubs, remains a fervent one (Leach and Szymanski, 2015). The Deloitte Annual Review of Football Finance (2009) reports that of the near 30 English clubs that have at some time been listed on an exchange, less than 30% remain; Deloitte’s Annual Review also states that “over the past four years many of the delistings have resulted from new owners taking a club from public to private ownership.” As opposed to clubs in higher-profile leagues where the extremely wealthy owners surface, these lower division clubs may reap the benefits of initial public offerings due to the increased importance of available funding that going public offers.

Furthermore, research suggests that less individual investor ownership of football clubs leads to greater levels of profitability and viability. In particular, Dimitropoulos and Tsagkanos (2012) analyze the impact of corporate governance quality on these two financial aspects (profitability and viability) of 67 football clubs from 10 European Union countries for the period 2005—2009, 15 of which were publicly traded at the time. The results indicate that as managerial and institutional ownership increase, the agency
problem reduces and protection of shareholder interests increases, leading to higher levels of financial performance and viability.

Still, most of the literature on publicly traded professional football clubs focuses on the effects that on-field performance has on these clubs’ share prices. Specifically, Renneboog and Vanbrabant (2000), who published one of the first studies in this area, utilize an event study methodology to examine 17 British football clubs listed on the London Stock Exchange and the Alternative Investment Market during the 1995-1998 seasons. They find abnormal positive returns for listed teams after an unexpected win, as well as abnormal negative returns for these teams after an unexpected draw or loss (in some cases even expected losses hurt share prices). Moreover, they find that more important matches, such as European Cup matches, affect share prices significantly more than national league matches.

Another interesting finding from these studies which analyze the effects of on-field performance on club share price is the asymmetric market reactions to on-field performance. That is, many of these studies find that club losses are significantly more important in terms of abnormal returns than club wins. This may be attributed to both investors’ biased ex ante beliefs regarding the probability of match outcomes (i.e., investors overvalue the probability of the investing team to win) as well as the stronger psychological effects losses have than gains, a concept Daniel Kahneman coined as prospect theory (Bernile and Lyandres, 2011).

Subsequent studies have also analyzed the effects of sports performance on club share prices; though using different samples from different years and varying methodologies, results from each study tend to support the early findings of Renneboog...
and Vanbrabant (see for example, Dobson and Goddard (2001), Allouche and Solez (2005), Palomino et al. (2005), Duque and Ferreira (2005), Benkraiem et al. (2009), Scholtens and Peenstra (2009), Demir and Danis (2011), Bell et al. (2012)). Even studies outside the realm of professional football support these findings, such as Brown and Hartzell (2011) who analyze match performance and stock price for the Boston Celtics, a team in the National Basketball Association that at one time was publicly traded.

Nonetheless, some studies have argued contrary to these prevalent results. For example, Zuber et al. (2005) examine 10 publicly traded clubs in the English Premier League from August 1997—July 2000. Results indicate that share prices of these listed teams are very insensitive to match outcomes in terms of both returns and trading volume. The explanation here is that a new type of investor, the “investor-fan,” does not trade on information that may affect cash flows like a traditional investor, but rather gains value from mere ownership of a “trophy stock” (Zuber et al., 2005).

In a case study of the German publicly traded football club Borussia Dortmund, Stadtmann (2006) generates an econometric model to evaluate the effects of sport and corporate governance-related variables on the team’s stock price. While the overarching results paralleled those suggesting that sports performance affects stock price in an asymmetric manner, the subtle yet more relevant aspect of this study is the elimination of player news in its final specification. That is, the author acknowledges that he considered whether a player renews his contract, a new player is hired, or a player is sold to another club, but no coefficient proved to be statistically significant.

Stadtmann’s (2006) brief mention of how club stock prices are uninfluenced by player news appears to be the only available information on the subject. No other
academic research, to the best of my knowledge, has examined this issue, creating a major gap in the literature. While Stadtmann (2006) finds insignificance with respect to player news on Borussia Dortmund’s stock price, the study lacks generalizability. For example, of the numerous publicly traded teams, Stadtmann (2006) only evaluated the effects of player news on a single team. Additionally, no other published academic research has demonstrated any interest in such a relationship.

Though player news may be an important factor in share price fluctuation, previous research may have ignored this subject due to the academics’ obsession with sports performance. Sports performance in European football is a perfect and convenient means to assess the news model, as generally teams play about once a week during non-trading days (i.e., the weekend). This provides frequent and systemic news to investors. However, player news is more complicated. For example, though official purchasing and selling of players occurs on a specific day, rumors beforehand may provide a signal to investors, leading researchers to avoid such complications. This contrasts sharply with sports performance, as the outcome of the event is not known until it actually occurs.

To support any conclusion as to whether (and/or how) player news affects share prices for publicly traded football clubs, the literature on this topic must be expanded. Moreover, we must also gain a more comprehensive view of the issue by studying many different clubs and time periods. Even if complications such as rumors may affect results, this does not permit an absence of literature in a potentially important determinant of a club’s share price.

Indeed, player news may very well significantly affect share prices for publicly listed football clubs. For example, Hausman and Leonard (1997) show that the television
audience is directly related to the presence of “basketball stars” in NBA games. These “stars” also increase important financial revenue streams for the teams they represent, such as gate receipts and merchandising sales, as attending games and purchasing player-related merchandise becomes more attractive to fans. Conversely, a team with no standout players may financially struggle, as the lack of identifiable players can lead to decreased revenue in much the same but opposite way that teams with these players increase their revenue. As a result the rational investor should most certainly consider the publicly traded team’s players, as well as its player news, in making his or her investment decisions.

While “star” players may affect finances more than the average player, any player can surely affect club support, performance, and finances. Especially in the case of publicly traded teams, financial transactions concerning a player are ultimately business investment decisions that are thus fundamentally derived from valuation of the player himself. This valuation includes assessing the player’s past, present, and future in addition to identifying the team’s present and future needs. Whether buying or selling these athletes, altering the team’s fundamental value assets that are the players can substantially affect both its competitive and financial performance. Consequently, news about player transactions may indeed affect shareholder price. Thus, the present paper further examines this currently unexplored issue.

III. The Present Paper

Perhaps surprisingly, the existing literature to the best of my knowledge has not examined the effects of player transfers on publicly traded football clubs. As a result the current research aims to fill this gap by examining if and how the transferring of players,
that is, the purchasing and selling of players, affects the stock price of publicly traded football clubs.

To do so, the current project utilizes a myriad of clubs from different countries and leagues listed on multiple stock exchanges. That is, not only does this paper examine teams from different countries such as Celtic FC (listed on the London Stock Exchange) and Olympique Lyonnais (listed on the Euronext Paris, a French stock exchange), it also compares teams from the same country such as Juventus F.C. and AS Roma (listed on the Borsa Italiana, an Italian stock exchange).

The major research question for the present study asks: “What effects, if any, does buying and selling players have on a publicly traded football team’s share price?” I argue that if players are bought or sold at any point during the transfer windows, the announcement of these transfers could yield abnormal returns. It is unclear however whether these changes in stock prices will be positive or negative because investors may see the purchase or sale of individual players differently. That is, investors may perceive one player to be purchased at a value price, whereas they may consider another player to be purchased as overvalued. The current study ignores transfers in the form of loans, as loaned players tend to be insignificant in the grand scheme of an entire club (they are generally very young), and thus are much less likely to affect shareholder prices. Moreover, loans generally do not involve any transfer fee, meaning that the “purchasing” club does not actually pay anything for the player’s temporary services.

The rest of the paper proceeds as follows: First, a brief discussion of the transfer window and club ownership provides general background information. Next, a description of data, methodology, and results from preliminary analysis is presented. This
preliminary analysis serves as precedent for subsequent event studies on how player transfers affect club share prices. Since no known published literature exists on this topic, we must first establish sound evidence that justifies the deeper investigation into this topic. Lastly, methodology, data, and results from subsequent event studies are presented; a more general discussion concludes the paper.

IV. Background of International Football

IV.1 The Transfer Window

International football, unlike most major professional sports leagues in the United States, deals with the buying and selling of athletes (that is, the labor market for athletes) through two major time periods. These registration periods, often referred to as transfer windows, permit the relocation of a player from one team’s playing staff to another via mutual agreement amongst the two teams as well as the player being transferred. While each national football association determines its own transfer windows (i.e., the dates of each), the first registration period may not exceed 12 weeks while the second may not surpass four weeks. Consequently, teams may not purchase or sell a player outside of these two windows unless a player’s contract expires outside of them, in which case teams may sign the “free agent.” An exception to this rule is in England, where transfers between clubs in the same association are permitted.

Irrespective of the national football associations’ choice of dates, the two registration periods follow a “pre-season” and “mid-season” schedule. Moreover, a player may be transferred to another team even if the date for the club selling its player lies outside its transfer window, as long as the date coincides with the purchasing club’s window. Still, most European leagues’ transfer windows generally coincide.
IV.2 The Transfer Process

In order for a player to move from one club to another, a twofold process must occur. First, the two clubs involved in the transaction must mutually agree on an amenable price for the player of interest, called the transfer fee. Once this is finalized, the purchasing club must then negotiate a wage contract with the player for his services. It should be noted that even if the two clubs agree upon a transfer fee for the player, the transaction does not occur if the purchasing club and player fail to come to terms on a contract (including a weekly wage, bonuses, clauses, etc.).

The two teams involved may also decide on sub clauses that can be exercised by either party, such as selling-on fees, in which the selling club would receive a portion of any future transfer, or buyback clauses, where the selling club would receive first option on the player should the purchasing team elect to sell the player.

Also occurring in the transfer window, two clubs may agree upon a loan deal, in which a player is loaned out to another team for a specified and finite amount of time (anywhere from weeks to multiple seasons), though the selling club still owns the rights to that player. As aforementioned, these loan deals are not considered in analysis.

IV.3 Ownership of Football Clubs

Much like any other business, football clubs can be privately or publicly held. Though most teams are privately held, the football world has seen a surge in the number of publicly traded clubs in the last few decades. There remain three types of publicly traded football clubs. The first include teams that are directly listed in an exchange as the clubs themselves, such as Manchester United of the English Premier League (EPL), which trades on the New York Stock Exchange (NYSE) with the ticker MNU.
The other types of publicly traded football club include those that are maintained by holding companies, which are in turn publicly held firms. An example is the English Premier League’s Arsenal FC, which is operated by the publicly traded firm Arsenal Holdings; furthermore, Arsenal Holdings is a subsidiary of the parent company KSE UK. Share prices for clubs under this umbrella reflect more about the holding companies than the actual clubs, and thus are eliminated from analysis. However, there are also holding firms for clubs whose primary source of business is the football clubs themselves. Holding companies that make additional revenue from stadium use, for instance, may not be exclusively club businesses, yet football maintains the primary business of focus. These listed clubs are incorporated into analysis.

V. Preliminary Analysis

V.1 Data Sources

In order to collect the relevant data, two main sources serve as the major databases for the variables of interest. The Bloomberg Terminal is utilized to extrapolate the share prices for each day of the sample dates for all relevant clubs and indices. For all football-related performance and transfer records, data are derived from www.transfermarkt.com. Team market values are also established using this website.

However, since the website only has data on team market values starting from 2005, this data is not available for the 1997—2004 English sample. Other financial data, such as profit, revenue, and wage cost, were found via Deloitte’s Annual Football Reviews. These financial fundamentals are used in place of the team market value for the English sample, and add an interesting comparison to the more subjective team market value.
V.2 Samples

The following analysis is broken into two distinct samples. The purpose behind this separation was to compare and contrast two different time periods as well as two disparate samples of clubs. In addition, the different sample periods reflect the relevant times clubs in each sample were listed. One sample consists of an older time period from 1997—2004; this sample contains nine English teams (see Table 1). West Bromwich Albion was excluded due to the fact that their share prices reflected the club’s holding company, which partook in a number of non-football related activities, as opposed to primarily the club itself. Of the remaining nine English teams, only Manchester United is currently listed (though on a different exchange).

The second sample is more contemporary, featuring 21 European football clubs across 10 different countries during the years 2007-2014. This European sample encompasses all but two of the current clubs listed on the STOXX Football Index (see Table 2). The two clubs excluded were Rangers International F.C. of the Scottish Premier League and Teteks Tetovo of the Macedonian top football division. Rangers International F.C. was excluded due to a limited listing time period (2012-current), while Teteks Tetovo’s lack of historical data and transfer spending (the primary variable of interest) kept the team from the European sample. Table 3 summarizes all clubs included in preliminary analysis.

In terms of the financial data, time periods refer to the previous four fiscal quarters from June of that year, which tend to be the end of the second quarter. For example, in the English sample, 1997 refers to the first two quarters of 1997, as well as the lasts two fiscal quarters of 1996. The purpose for this specific scheduling of time
periods is to coincide as closely as possible with the timetable for the common European football year.

To account for the rollover in years during a single season (since European football competition generally runs from August to May), the years specified for football data correspond with the year a season concluded. That is, the 2007 sample year represents the 2006-2007 football season.

Historical share prices for certain indices are also collected and integrated into the study. More specifically, the major market indices for each country are recorded, as are the STOXX Football Index and the Euro STOXX 50 Index (from here on, STOXX Market Index). These country indices and the STOXX Market Index are included to control for the general economic conditions of Europe and each clubs’ country; the STOXX Football Index was incorporated to control for the general market performance of all football teams publicly traded in Europe. Preliminary analysis of these indices will indicate whether or not they are sufficient to use as controls in subsequent event studies.

V.3 Variables

The intent of this study naturally makes share price the variable of interest. However, to be more precise, the share price is defined as the “last price,” also known as the closing price for the day, in terms of the domestic currency. However, while the last price is used for preliminary analysis, daily changes in share prices are utilized in the subsequent event studies in order to identify abnormal returns resulting from transfer activity.

Again, the nature of this research also leads to transfer expenditure being a significant variable of interest. Still, transfer expenditure (in €s) can be defined in two
different ways. The first is net expenditure (NetExp), which illustrates how much the club spends on purchasing players minus the amount gained from selling players in a given year (i.e. from the two transfer windows of that season). Another is absolute expenditure (AbsExp), which represents how much total money a club exchanges in transfers in a given season. That is, AbsExp is equal to the total amount a team spends on purchasing players plus the total receipt amount from selling players. Moreover, amount spent on purchasing players (Arrvls) and amount received on selling players (Depts) are also recorded.

To capture on-pitch performance, the percentile a club finishes in within its league (PercLeague) is encompassed. This is used instead of what position a club finishes in because of the issue of different number of teams in a league. Since different leagues maintain different numbers of clubs in their league, simply using final league position would lead to bias. If a team finishes 12 in a league with 16 teams, this is clearly a worse performance than a team that finishes 12 in a league with 20 teams. The win variable captures whether a team in a given year won their league or a cup tournament, such as the Europa League, Champions League, or a domestic cup (i.e. FA Cup, Italian Supercup). Qualifying for Europe is also a performance variable, which indicates whether a club qualified for either of the two major European tournaments (Champions League or Europa League).

Team Market Valuation (TmMrktVal) denotes the clubs’ total market value in terms of its primary assets that are its players. This variable sums every player’s market value on a given team to determine the club’s value as a whole. Though player valuation
is subjective in nature, these valuations still reflect the general market consensus for what a player is relatively worth.

It is important to note that while data for share price are daily and used for the primary event study analyses, data for all other variables are annual. Still, this share price data are useful for the preliminary analysis insofar as the share price at May 31 (or the closest available day to May 31) from each year for each team is used to create a correlation matrix between the share price and all annual data variables. In this case, the annual share prices are indexed at 100 for the first year to account for differing share price currencies. The share price at May 31 is used because this ensures that all clubs’ seasons will be complete, and that the transfer window for the next year will not be open for any team. Event studies of specific transfers follow this preliminary analysis, where the data for daily changes in share prices of both clubs and relevant indices are used to find abnormal returns deriving from specific transfers.

V.4 Preliminary Analysis

In order to gain precedent for subsequent event study analysis of the effects of transfer window activity on club share price, preliminary analysis of relevant on-field performance, financial, and transfer activity variables is conducted. This analysis includes correlations between yearly variables separated by sample, as well as a correlation between overlapping variables for both samples combined; the contemporary European sample lacks financial data, while the English sample lacks team market value data. Sufficient evidence from these correlation matrices, such as significant relationships between transfer variables and club share price, will justify further exploration via event studies of specific transfer effects on club share prices.
Additionally, correlations between each team’s yearly share prices and the two
STOXX Indices are also conducted (separated by the two samples). This will
demonstrate the extent to which the team share prices move together and the extent to
which they follow the Market Index and the Football Index. If there is adequate
correlation between club share prices and the two STOXX indices, this will support the
use of these indices in event studies as control variables.

Again, the yearly share prices for each club are simply the share prices at the date
on or closest to May 31. The reasoning here is that most information for the given
football season (i.e. on-field performance, transfer market activity, etc.) will be complete
at this time, and information for the next season will not be revealed yet (the transfer
window generally does not open until around mid-June). Moreover, the key assumption
here is market efficiency such that all information is known to all investors at the same
time (i.e. no private information), and that these investors internalize this information in
making investment decisions. In this way, the correlations with indexed share prices
should appropriately indicate variable relationships.

Lastly, three plots are made for each country in the sample. These plots include
share prices for clubs (separated by country) and: 1.) the STOXX Market Index; 2.) the
STOXX Football Index; and 3.) the relevant country index. These plots supplement the
correlations between clubs’ annual share prices and the two STOXX indices by
illustrating the period-to-period movements that underlie these correlations. The country
indices are included as supplementary information, but are not used in further analysis.
V.5 Variable Correlation Matrix Sample 1: STOXX Football Index Composition, 2007—2014

In this matrix (Matrix 1), results indicate that the on-field performance variables correlate with club share price in the expected direction. For example, being in the upper echelon of the league table, winning the league or a trophy, and qualifying for Europe tournaments (i.e. succeeding on the pitch enough to bring in additional revenue through major world tournaments) all have positive correlations with a club’s share price; the percentage in the league is negatively correlated because a lower percentage means a higher position in the league table. Though these correlations are not significant at the 95% level, the expected relationships hold and may be more significant with greater sample size (each team only has 8 yearly data points).

Still, the most interesting finding here is that the team market value (as defined by the sum of individual players’ market values) is not only positively correlated with team share price, but also significant at even the most stringent 99% level ($r = .2505$, $p = .0011$). This means that the more valuable a club’s players are (i.e. the better the players are), the higher the share price. What makes this finding so interesting is that no other academic study has ever used a team’s market value in any analysis. Consequently, we can conclude that this is a clear indication the players on a club do indeed affect share price; this result supports the need for an event study examining how transfer window activity affects shareholder prices for publicly traded football clubs.


Much like the Sample 1 correlation matrix, we can see that the performance variables correlate with the team share price in the expected ways. However, this matrix
(Matrix 2) does not include team market value because the data for this variable does not extend before 2005. Thus, instead this matrix utilizes financial variables to examine the relationship between more traditional investment valuations for firms and share prices. As expected, both profit and revenue are positively correlated with share price. Though wage cost, which includes the costs paid to players, is positive, this relationship is both economically and statistically insignificant ($r = .0631, p = .6094$).

This insignificant relationship with share price may reflect the concept that higher wages generally go to better players (remember that team market value is positively correlated with share price), which subsequently make the team more likely to succeed, and therefore offset the negative effects of higher costs. Lastly, it should be noted that pre-tax profit is the only financial variable that is both economically and statistically significant ($r = .2830, p = .0193$), which indicates that investors may not simply be “fanvestors” who hold shares for the purposes of owning a “trophy stock,” but rather traditional investors who are concerned with the financial state of the club.

V.7 Variable Correlation Matrix Both Samples: Overlapping Variables

Once again, we can see from this matrix (Matrix 3) that the performance variables are correlated with share price in the expected direction. However, the most noteworthy and relevant aspects to the current study are the relationships between transfer window activity and share price. Of the four transfer activity variables, only net expenditure’s correlation with share price is insignificant ($r = .0877, p = .1732$).

All other transfer market activity variables, including how much a club spends on purchasing players (Arrvl), how much a club receives from selling players (Depts), and how much total transfer activity a club engages in (Absolute Expenditure), are not only
economically but also statistically significant ($r_{\text{arrvls}} = .2312, p_{\text{arrvls}} = .0003; r_{\text{depts}} = .1393, p_{\text{depts}} = .0300; r_{\text{absExp}} = .2112, r_{\text{absExp}} = .0009$). These positive results may suggest that: 1.) investors care more about transfer activity than the activities themselves; and 2.) investors tend to agree with the transfer decisions being made by clubs.

The former is supported by the significant correlation between absolute expenditure (monetary amount gained from selling players plus monetary amount lost from purchasing players) and share price, as well as by the insignificant relationship between net expenditure (monetary amount spent from purchasing players minus monetary amount gained from selling players) and share price. The latter is supported by the significant correlations between both arrivals (monetary amount spent on purchasing players) and departures (monetary amount received from selling players) and share price.

Once again, the results from this matrix support the general motivation and necessity for studying the effects of transfer window activity on share prices for publicly traded football clubs. If simple annual correlations demonstrate such significant relationships between transfer window activities and clubs’ share prices, then a more in-depth analysis is surely warranted.

**V.8 Plots and Club Correlations**

In general, most European teams tend to correlate positively with both STOXX indices (see Matrix 4). We can see this from both the yearly share price correlations amongst clubs and the indices as well as from the plots of daily share prices (see Figures 1—24). We would expect these European teams to correlate positively with the STOXX Football Index since these teams comprise the underlying assets in the index. Also, as with all equity stock assets, since systemic risk can never be fully eliminated the positive
relationship with the STOXX Market Index illustrates the expected effect that the more
general economy has on these stocks and their prices. That is, as the European economy
is either bullish or bearish, so too should be clubs’ equity.

However, we also observe a much weaker relationship between English clubs and
the STOXX Market Index (see Matrix 5). Although the STOXX Football Index didn’t
begin until 2002 (necessitating its exclusion from the correlation analysis), daily share
prices for the STOXX Football Index are included in English plots (see Figures 25—30).
Only four of the nine clubs in this sample demonstrated a positive correlation with the
STOXX Market Index, though the relationships are insignificant. However this may be
due to other factors such as ownership structure, in which higher institutional ownership
and percentage of top holders may help better explain these deviations from the STOXX
Market Index. It may be interesting for future research to investigate if corporate
governance of publicly traded football clubs alters the effects transfers have on club share
price.

An equally plausible explanation for the divergent trends may also be the
formation of the Eurozone. The English sample runs from 1997—2004, during which the
common currency of certain European countries (the Euro) was created and implemented.
The Euro (€) was created for the purpose of leveraging the benefits that deeper economic
integration offered in Europe. As a result of this deeper economic integration, the markets
of these participating member states are more likely to move together. Since England
remains outside the Eurozone, using instead the British Pound Sterling (GBP), clubs from
this country are less likely to move with the STOXX Market Index, which aims to track
the performance of Europe.
We can even see evidence of this outside of the English sample. In the more contemporary European sample, clubs in the Eurozone whose domestic currency is the Euro, such as all Italian and Portuguese clubs, are strongly positively correlated with the STOXX Market Index. On the other hand, we can contrast these findings with the results from clubs outside of the Eurozone, such as Turkish clubs (the domestic currency of Turkey is the Turkish Lira). Here, we can see that all four Turkish clubs maintain negative correlations with the STOXX Market Index. It is highly possible that clubs in countries that do not utilize the Euro are more likely not to correlate with this European Index. Even though Turkey can be considered European, its use of the Turkish Lira instead of the Euro may help explain deviance from the STOXX Market Index. Still this cannot be a full explanation, as clubs from Denmark that utilize the Danish Krone as their currency do tend to correlate with the STOXX Market Index.

Another interesting trend we see from the club correlations and plots is how larger clubs in more prominent leagues appear to have a stronger relationship with the two STOXX indices. This may be more obvious for the STOXX Football Index, as the bigger clubs likely make up a greater weight of the index than the smaller clubs (due to larger market capitalization), and thus affect the index more than smaller clubs. Even more noteworthy is this trend with the STOXX Market Index. Larger clubs in prominent leagues may correlate more with the Market Index than smaller clubs in less famous leagues due to differences in the type of investor. It may be that more traditional investors tend to invest in larger clubs from more famous leagues because they find these clubs as the better stock option. For example, a club like Juventus is much more popular worldwide than a club like Trabzonspor Sportif, and thus brings in more merchandising
and other forms of revenue. Additionally, the television deals from the more prominent Italian league (Serie A) are far more lucrative for clubs within this league than are the deals for Trabzonspor Sportif’s Turkish league (Super Lig).

As a result, financial fundamentals tend to favor these bigger clubs from more lucrative leagues. A comparison of the market capitalizations and revenues from each of these clubs in 2014 support this hypothesis. For example, adjusting for currency differences, Juventus maintained much higher revenue and respective market capitalization than Trabzonspor Sportif. These more attractive fundamentals may suggest that traditional investors are the ones to invest in bigger clubs from more lucrative leagues. Thus, consistent with standard investing, traditional investors respond accordingly as the general economy or market fluctuates. If these more traditional investors are the ones buying shares in these more prominent clubs, then it follows that they would sell these securities when the economy (i.e. the STOXX Market Index) is bearish and buy when the economy is bullish. We see this in the case of Juventus ($r_{\text{StoxxMarketIndex}} = .8416, \ p_{\text{StoxxMarketIndex}} = .0088$).

In comparison, smaller clubs’ share prices being less correlated with the STOXX Market Index may support the “fanvestor” concept. Here, smaller clubs may benefit more from the additional funds the equity market brings, yet traditional investors may be wary to provide these funds due to less attractive reputation, revenue, market capitalization, etc. For example, the average investor is far more likely to invest in large cap companies with more favorable reputations such as Apple than they are in similar but smaller technology companies with more risk involved. As a result, the individuals providing equity capital to these smaller clubs may be more fans of the club than anything else.
This may help explain why smaller clubs from less lucrative leagues such as the Turkish League’s Trabzonspor Sportif \((r_{\text{StoxxMarketIndex}} = -.2460, p_{\text{StoxxMarketIndex}} = .5571)\) correlated less with the STOXX Market Index. Though this trend does hold perfectly, further research might focus on whether or not the type of investor depends on the type or size of the club.

While this trend holds, it does not necessarily hold perfectly. Since there are smaller clubs that do correlate with the STOXX Market Index, such as Danish club Aarhus Elite \((r_{\text{StoxxMarketIndex}} = .8555, p_{\text{StoxxMarketIndex}} = .0067)\), this points to the aforementioned possible extraneous factors that may contribute to fluctuations in share prices like ownership structure. For instance, institutional investors may monopolize enough volume such that a small number of investors can influence price more than the average investor, and thus these factors might be better indicators of price than the general market. Once again, future research might want to delve deeper into these topics.

**IV.9 Preliminary Analysis: Conclusion**

After evaluating the results from the preliminary analysis, we can see evidence for the necessity of event studies on how transfers affect share prices for publicly traded clubs. First, we note that club market value, as determined by the sum of all individual player market values, does have a significant relationship with share price \((r = .2505, p = .0011)\). This indicates that the fundamental assets of a club which are the players may certainly affect shareholder price, and therefore changes in these fundamental assets via transfers may as well.

Next, we find that financials, specifically profit and revenue, also have positive correlations with club share price. This may suggest that investors do indeed care about
financials, and are not simply “fanvestors” who purchase “trophy stocks.” Still, the type of club may impact the type of investor. Nevertheless, the popularity, talent, and overall value of clubs’ players affect merchandising sales, gate receipts, and on-field performance, ensuring that these players strongly influence financials such as revenue. Consequently, for those investors who do care about finances, player news should affect club share prices.

Additionally, results from the positive correlations between transfer variables and club share prices support the concept that purchasing and selling players significantly affect the price of these shares. Not only were all transfer variables positively correlated with share price, but all except net transfer spending were at least statistically significant the 95% level. These results, complemented by the above outcomes, sufficiently justify the need for further event studies related to transfer activity.

Lastly, the club correlation matrix and plots validate the use of both STOXX indices in this paper’s event studies. The strong relationships between club share prices and these two indices indicate that both the STOXX Market Index and the STOXX Football Index are appropriate control variables in this paper’s event studies.

VI. Event Studies

VI.1 Methodology

An event study uses financial market data to measure the effects of a particular event on the value of a firm (MacKinlay, 1997). Rationality amongst investors indicates that all relevant information (i.e. the event) is incorporated efficiently and immediately into security prices. Identifying the effects of specific relevant information via the event study involves three distinct steps (Athanasiou, 2013):
i. Spot the event of interest and relevant timing of the event

ii. Specify a benchmark model to measure normal stock return behavior

iii. Calculate and analyze abnormal returns around the event date

As for the first step, the events of interest include the exact dates that a club officially announces the transfer of a player. However, to account for factors such as player news announcements (i.e. the event) that occur after the stock market closes, defining the event window to be longer than the single day of the event is an accepted practice in event studies (MacKinlay, 1997). For the current study, all event windows are defined as a week’s worth of trading; that is, the event windows include the day of the transfer announcements as well as two trading days prior and after.

Step two requires an appropriate benchmark model to determine a club’s normal stock return. This estimation window uses a certain number of trading days prior to the event window to determine what the “normal” return is for a given stock. Though using a larger or smaller estimation window may yield different results, Brown and Warner (1985) state that these differences are generally insignificant. In fact, after testing 30 and 45 trading days prior to the event window in two of the event studies to determine normal returns, the present paper found no substantial differences in results. Consequently, an estimation window of 30 days is applied.

To properly determine normal return performance of the club stocks, the standard market model assumes a linear relationship between daily returns of the club and the relevant market index. Though more sophisticated models exist, the additional explanatory power of these multifactor models is limited (Athanasios, 2013). For the current event studies two different indices are utilized: the STOXX Market Index and the
STOXX Football Index. Using just one index at a time as a control, each transfer event has two separate results (one using the STOXX Market Index, the other using the STOXX Football Index). The purpose of testing the same event with two different market indices is to examine whether results hold across different control indices. The market model equation is:

Equation 1: \[ R_{it} = \alpha_i + \beta_i R_{mkt} + e_{it} \]

where \( R_{it} \) is the daily return for club i at time t, \( \alpha_i \) is the intercept for club i, \( \beta_i \) is the coefficient of \( R_{mkt} \) which is the daily return for the market portfolio, and \( e_{it} \) is the zero mean disturbance term for club i at time t. The measure of normal returns for club i is the return around the event window (i.e. date of event ± 2 trading days) that would have followed in the absence of any abnormalities.

The Schwarz Bayesian Information Criteria (BIC) is used to control for the appropriate amount of lags in a club’s and index’s share price. The Schwarz BIC is a criterion based on Bayesian statistics for selecting the preferred model amongst a finite set of models; the model with the lowest BIC is chosen (Schwarz, 1978). In our case, the BIC selects the best number of lags to use in a model for predicting normal returns. The BIC is defined as follows:

Equation 2: \[ \text{BIC} = -2\ln(L_m) + m\ln(n) \]

where \( L_m \) is the maximized likelihood objective function of the model, \( m \) is the number of parameters in the model, and \( n \) is the sample size (Wit et al., 2012). For the event studies, not only is BIC used to create the appropriate number of lags for the club share price, but it is also used to create the proper number of lag prices for market indices. A summary of
share price lags included in analyses is shown in *Table 4*. Thus, including these lags in the normal returns equation we have:

**Equation 3**: \( R_{it}^\hat\ = \alpha_i + \beta_i R_{i,t-n} + \ldots + \beta_i R_{i,t-1} + \beta_i R_{mkt,t-n} + \ldots + \beta_i R_{mkt} + e_{it} \)

Note here that should BIC suggest no lags for club and index prices, the extra terms in Equation 3 are removed and we maintain Equation 1. If BIC recommends any number of lags for either only the club share price or only the index share price, only those terms concerning the appropriate lagged share prices are included. Equation 3 holds if and only if BIC proposes at least one lag for both the club and index share prices.

Once normal returns have been established, abnormal returns are calculated by simply subtracting the predicted normal returns from the actual returns of the event window. In equation form:

**Equation 4**: \( AR_{it} = R_{it} - R_{it}^\hat\)

where \( AR_{it} \) is the daily abnormal return for club i’s stock at time t, \( R_{it} \) is the actual daily return for club i at time t, and \( R_{it}^\hat\) is defined as above, which is the normal return of the stock. To fully analyze the data, we must then find the Cumulative Abnormal Return (CAR) by aggregating all abnormal returns observations covering the event window. In order to determine whether or not the event (i.e. transfer) produced significant abnormal returns for a club, the CAR was divided by the standard deviation of Equation 4. Statistical significance was tested at the traditional 90%, 95%, and 99% levels. All event study analyses were conducted via STATA, and followed the Princeton University Library of Data and Statistical Services guidelines.
VI.2 Data

Daily share prices for all event studies are collected from the Bloomberg Terminal. Since not all clubs provide dividends, daily returns for club securities are instead defined as the daily change in share price from the previous trade day. This data is collected for every club utilized in event studies, as well as for the accompanying STOXX Market and Football Indices.

Certain criteria are used to determine which clubs and transfers qualify for an event study. In terms of the contemporary European sample, one club from each country that had multiple teams is chosen to ensure that the analysis is holistic. The club chosen to represent multi-club countries is the one whose share price (positively) correlated the strongest and most significantly with the two STOXX indices. This led to one club from Italy (Juventus), Portugal (Sporting Lisbon), and Denmark (Aarhus Elite).

Though Turkey had multiple clubs in the preliminary analysis, none of them positively correlated with the STOXX indices, and thus were eliminated from event studies; some were positively correlated with the STOXX Football Index, but these relationships were not strong (see Matrix 4). Amongst those countries with only one club, only those with statistically significant (at the 95% level) positive relationships with the STOXX indices were eligible for event studies. This eliminated all but two of these clubs (AIK Football and Olympique Lyon).

As for the older sample with all English clubs, the criteria were more lenient. Since only four of the nine clubs’ share prices positively correlated with the STOXX Market Index (see Matrix 5), all four of these clubs are considered eligible for event studies including Manchester United, Tottenham Hotspur, Leeds United, and Charlton
Athletic. Still, none of these clubs demonstrated a significant correlation with the STOXX Market Index. A natural remedy to this situation would be to use the FTSE100 Index, England’s most prominent market index. However, using this index does not result in an improved correlation between club and index prices (see Figures 25—30). Thus to remain consistent with the rest of the analysis, and because using a different index does not improve results, the STOXX Market Index is used.

Since the STOXX Football Index did not begin until 2002, events prior to this could not be tested for significant abnormal returns using this index. Furthermore, even if a transfer occurred after this index began trading, Manchester United was the only English club included in it. Therefore, Manchester United is the only club in the English sample whose events test for significant abnormal returns using both the STOXX Market Index and the STOXX Football Index.

To determine which specific transfers were used, a review of each event study clubs’ transfers in the appropriate sample period was recorded. For example, all of Juventus’s transfer activity from 2007—2014 was documented. Then, the specific transfer chosen for a given club was established by identifying the most expensive transfer in that sample period. The assumption here is that the most expensive transfer for each club is the most important and thus has the greatest chance to result in abnormal returns. For Juventus and Manchester United, additional event studies are conducted. The purpose behind including multiple transfers for these two clubs is to include “high profile” transfers that are not necessarily the most expensive, but highly publicized. Overall, 12 specific transfers spanning 9 different clubs were identified and analyzed via individual event studies. A comprehensive summary of all transfers used in the event
studies can be seen in Table 5. The market value of each player transferred indicates how much the player was worth at the time of the purchase. English transfers lack this data since www.transfermarkt.com only began recording player market values in 2005.

VI.3 Event Study Analyses: Results

A comprehensive overview of all transfer event study results can be seen in Table 6. Of the 12 transfers analyzed, exactly half (six) yielded significance when tested at the 90% level using at least one index as the control. Amongst these, three of them yielded significance with both the STOXX Market Index and the STOXX Football Index. An interesting note here is that even though there were an equal number of purchases and sales included in the event studies, only one of the six statistically significant transfers was a sale (AIK Football sale of Tetteh Bangura to Bursaspor for €3.3M). The concept of selling versus purchasing will be discussed later.

In general, for the European sample using the STOXX Market Index did not produce much different results than utilizing the STOXX Football Index as a control. In fact, of the four European sample transfers that demonstrated significance, only one (Aarhus Elite purchase of Dioh Williams for €1.1M) failed to show significance with both indices. However for Manchester United, the only club in the English sample that tested for significance using both indices, the STOXX Football Index yielded much more significant results for all three of its event studies. The Cristiano Ronaldo purchase, using the STOXX Football Index was statistically significant (CAR = 7.61834, p<0.1) even though Manchester United does not correlate strongly with the STOXX Market Index (see Matrix 5 and Figure 25). As aforementioned, this may be because England does not use the Euro, making the clubs within it less likely to correlate with an index that tracks
Europe. Still, the importance of identifying the appropriate indices for control is highlighted here. Further studies may want to examine which indices deliver the best and most accurate results.

Of the additional “high profile” transfers, only Manchester United’s purchase of Cristiano Ronaldo proved statistically significant (CAR = 7.61834, p<0.1). Juventus’ sale of striker Zlatan Ibrahimovic was a very important transfer at the time, yet the move was highly expected much before the transfer since Ibrahimovic made it publicly clear throughout the year that he wanted out of the club. Furthermore, Manchester United’s sale of midfielder David Beckham was also generally expected, as the manager at the time, Sir Alex Ferguson, claimed that Beckham’s attitude of being “bigger than the club” ended his run at Manchester United (Ferguson, 2013). Though the young 17 year old Cristiano Ronaldo was highly touted as one of the best prospects in the world in 2003 (the time of his signing) and was certain to leave his former club Sporting Lisbon for a bigger club, where he would end up was still a mystery. Indeed, while many clubs including Arsenal and Liverpool were rumored to be interested in the prodigy, it is generally acknowledged that Manchester United ended up abruptly signing the youngster after he impressed the club with a dazzling performance as his side defeated the English club in a preseason match. This may explain why the “high profile” transfer of Ronaldo yielded significant results while the others did not.

Additionally, the two monetarily largest transfers not included as “high profile” purposes also showed no statistical significance in abnormal returns. The first is Olympique Lyon’s sale of striker Karim Benzema to Real Madrid in 2009 for €35M, and the other was Leeds United’s sale of defender Rio Ferdinand to Manchester United in
2002 for €46M. Intuitively, we may be inclined to think that the bigger the transfer, the stronger it would affect club share prices. However, media and press coverage may certainly help to explain why reality does not seem to follow. Unofficial rumors and reports circulate months before the transfer window even opens, and thus may disturb the clean signaling that official player news should hypothetically convey to the market. In an attempt to remedy this issue, the event windows were widened to two weeks of trading, however there remained no differences in results. This may be indicative of investors hearing reports much earlier than the official announcement and adjusting their portfolios accordingly.

Therefore, future research may want to test for this by following rumors, reports, etc. very closely throughout the year (more specifically a month or two before the transfer window opens) to identify potentially big transfers. Subsequently, this research can test to see if these earlier unofficial reports affect club share prices. If a deal actually happens, researchers can compare these effects to the official announcement of the transfer. This may be more plausible to do with a selling club, as generally rumors for a club selling a player is more accurate than rumors for which club ends up purchasing the player. That is, if a player is rumored to leave, there is only one possible selling club but a multitude of potential purchasing clubs.

The largest monetary transfer for all event studies was Rio Ferdinand’s move from Leeds United to Manchester United for €46M. This transfer is especially interesting not only because it was the largest transfer fee, but also because analysis of both sides of the transfer was possible. Though the results for both teams were not significant (see Table 6), it is noteworthy that investors reacted negatively for both clubs. This
demonstrates the vital importance of investor perception: Manchester United investors likely believed that the club paid too much for the defender. In fact, the concept of purchasing at a premium is a common one in finance. For example, it is a common practice for a firm to acquire another at a higher price than the market capitalization of the acquired firm. On the other hand, Leeds United investors likely had a pessimistic outlook for the club’s future after selling its best player.

Two further areas of study can be extrapolated from this. The first concerns the different effects of sales versus purchases on club share price. That is, does selling a player have different or stronger effects on club share prices than purchasing a player? Revisiting the fact that five of the six statistically significant transfers were purchases, this may suggest that purchases affect club share prices more than sales. Still, since results for purchases and sales were mixed (i.e. some purchases yielded negative abnormal returns, others yielded positive abnormal returns), it is likely that investor perception is more important than whether the transfer was a sale or purchase. However if purchases are in fact more unexpected than sales, further research may find that whether the club is the acquirer or seller does make a difference. The other area of interest concerns the clubs involved in the transfer. More specifically, it would be interesting to compare and contrast the effects of inter-country/league transfers against transfers that involve two clubs from disparate countries/leagues. Intuition may suggest that transfers within leagues are more important because in the eyes of investors these affect not just the on-pitch performance of the investing club but also the on-pitch performance of the investing club’s competition.
Results also suggest that smaller investments in players can be more significant in terms of affecting club share prices. Of the six transfers that proved significant in affecting club share price, only two were above a transfer fee of €10M. While Ronaldo’s (€17.5M) transfer was explained earlier, the other larger transfer that yielded significant abnormal returns was Juventus’ purchase of Felipe Melo for €25M. However, though the other five significant transfers affected share prices positively, this event negatively affected Juventus’ share price. Again, this can be intuitively explained through the concept of investor perception. This result suggests that investors believe Juventus overvalued Felipe Melo, and is supported by the underlying numbers of the deal. Of all 12 transfers in the event studies, Felipe Melo’s move had by far the biggest discrepancy between the transfer fee paid for his services (€25M) and his market value at the time of the transfer (€9.5M, according to transfermarkt.com). To be more concrete, Juventus paid €15.5M, or 263.16%, above market value for Felipe Melo. It may be worthwhile for additional research to further explore this area by investigating how and if player market value impacts the effects transfers have on club share prices.

Conversely, the other four significant transfers not yet discussed all involved transfer fees of under €10M, and were also positive. This may be illustrative of investor preference to smaller transfers. Players, regardless of their “high profile” status or lack thereof, are still fundamental assets to the team and its success. Though they may not be news headliners, these players being bought and sold at lower prices still add talent to a club (and at a reasonable price). Thus, it may be that investors take more seriously the overall value that a player brings to the team, and not just the publicity aspect. In this way, investors may perceive these more conservative transfers as more valuable to the
club. Additional research may consider the different effects transfers with large transfer fees have in comparison to transfers with smaller such fees.

Lastly, there are two areas of further research that extend beyond the purposes of the current paper yet remain very relevant in expanding the literature on the topic of transfer activity and club share price. The first relates to lack of transfer activity. That is, does a club’s lack of spending or selling in the transfer windows affect share prices? Hypothetically, this could be a negative or positive signal to investors, indicating that the club is either unable/unwilling to improve or that it is already in prime position to succeed. However, it may be that lack of transfer window activity is a stronger signal during the in-season transfer window, since this is the window that is meant for clubs to make moves during their final push of the season.

This last point highlights the other area of further research that may be worthwhile to explore, which concerns the specific transfer window. That is, is one of the transfer windows more important in affecting club share price than the other? As aforementioned, the in-season window allows clubs to improve immediately as they make their final push of the season. However, the summer transfer window allows clubs to improve for the entirety of the upcoming season. Therefore, it would be interesting to see if player news during the in-season transfer window affects club share price differently than player news during the summer transfer window.

VII. Conclusion

Though the literature concerning sports and finance is abundant, only recently has literature on publicly traded football clubs began to emerge. With the publicly held football club becoming more commonplace, academics have increasingly become more
interested in the topic. However, most literature on this topic relates on-field performance with share price, observing abnormal returns after match outcomes (especially with “unexpected” outcomes). While academics tend to agree that on-field performance does significantly affect club share price, none have attempted to delve deeper by studying additional determinants. This thesis expands the literature for publicly traded football clubs by examining the impact player news (i.e. the purchasing and selling of players) has on club share price. Since players are the ones who actually participate in the matches, they are the ones who ultimately determine the outcome of matches and thus on-field performance. Therefore, if news about on-field performance significantly affects club share price, then so too should news about the players who determine this on-field performance.

The present study first conducted preliminary analysis to more formally establish player news as a plausible candidate for affecting club share price. This preliminary analysis used yearly correlation variables such as those representing transfer window activity and team market value to provide sufficient justification for more in-depth event study analysis on how player news affects club share price. After results provided this justification, further preliminary analysis via correlations between clubs’ share prices and indices’ share prices investigated which indices would be best to use in subsequent event studies of specific player transfers. These results validated the use of both the STOXX Market Index and the STOXX Football Index as controls in event studies.

Following these preliminary analyses, certain criteria were used to identify appropriate transfers in event studies. The criteria generated 12 specific transfers to be tested, evaluating if these events yielded abnormal returns for the share prices of the
clubs involved. Though not all significantly affected club share price, half (six) did provide empirical support for the notion that transfer activity yields abnormal returns for publicly traded football clubs. Still, the non-significant transfers highlight the importance of other factors that certainly need to be taken into account, such as an imperfect news model. For instance, rumors and unofficial reports of transfers are often circulated to investors far before the day of the official announcement, leaving the instantaneous news model flawed. If investors do not all hear the same exact information at the exact same time, the underlying news may not be incorporated in club security prices efficiently.

This imperfect news model may be related to the insignificant results of the “high profile” and expensive transfers. It may be that only truly unforeseen transfers affect club share price, yet these “high profile” and expensive transfers are often expected before the official announcement actually occurs. Future research may want to change the event from the official announcement day to the introduction of rumors, unofficial reports, etc. It is also plausible that the effects these expected transfers have on club share are diluted, spreading the effects out during weeks or months as opposed to during a specific “event window.” In this way even anticipated transfers may have a significant effect on club share price, however the effect is broken into smaller periodical effects, as investors learn about or expect the transfer at different times.

Results from the event studies also emphasize the importance of investor perception on transfers. For instance, sales did not all yield abnormal returns in the same direction (the same applies to all purchases). Instead, whether a transfer yielded positive or negative abnormal returns depended on the specific transfer. This leads us to believe that the effect a transfer may have on a club is highly dependent upon whether the market
agrees with the club’s decision, as investors may value the player differently than the club. If investors agree with the club’s valuation and decision, we would expect positive returns, whereas otherwise we should observe negative abnormal returns.

Event study results also suggest that investors may tend to agree more with smaller transfers. Investors may see less popular and lower priced players as more valuable in terms of dollar per spent to the club. Even so, these cheaper transfers may have demonstrated significance at least partially due to the fact that they are more unexpected than large transfers, which tend to get much more press coverage before the official announcement.

Overall, this paper provides new evidence on the question of if and how player news affects publicly traded football clubs’ share prices. Though results varied, there remains sufficient evidence in the present paper to justify additional research in this area. Not only should more studies replicate this one using different data and methodology to help validate and/or further probe the present results, but more research related to this topic should be expanded as well. This includes, but is certainly not limited to, examining: the different effects inter-league and intra-league transfers have on club share prices; whether one transfer window is more influential in affecting club share prices than the other; and whether a lack of transfer activity affects share price.
Appendices

*Table 1.* England Sample, 1997—2004.

<table>
<thead>
<tr>
<th>Team</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aston Villa</td>
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<tr>
<td>Charlton Athletic</td>
<td>England</td>
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**Table 2. Europe Sample, 2007—2014.**

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<td>Trabzonspor Sportif</td>
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Table 3. Summary of Clubs in Preliminary Analysis.

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<tr>
<th>Club</th>
<th>Country</th>
<th>Exchange Traded</th>
<th>Ticker</th>
<th>IPO Date</th>
<th>Bloomberg Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juventus</td>
<td>Italy</td>
<td>Borsa Italiana</td>
<td>JUVE</td>
<td>12/20/01</td>
<td>Juventus Football Club S.p.A. is a professional soccer club which belongs to the Italian Serie A division. The Turin-based club's activities include sports operations, media, and entertainment.</td>
</tr>
<tr>
<td>SS Lazio</td>
<td>Italy</td>
<td>Borsa Italiana</td>
<td>SSL</td>
<td>7/6/98</td>
<td>Societa Sportiva Lazio S.p.A. is a professional soccer club which belongs to the Italian Serie A division. The team is controlled by food company Cirio S.p.A.</td>
</tr>
<tr>
<td>AS Roma</td>
<td>Italy</td>
<td>Borsa Italiana</td>
<td>ASR</td>
<td>5/23/00</td>
<td>A.S. Roma S.p.A. is a professional soccer club which belongs to the Italiana Serie A division. The company was founded in 1927 and is controlled by the Sensi family. A.S. Roma's activities include sports operations, media, and entertainment.</td>
</tr>
<tr>
<td>Sporting Lisbon</td>
<td>Portugal</td>
<td>EN Lisbon</td>
<td>SCP</td>
<td>6/2/98</td>
<td>Sporting Clube De Portugal - Futebol, SAD is a football club playing in Portugal's First Division. The club's other sports include basketball, hockey, and track and field are played in the stadium owned by the company.</td>
</tr>
<tr>
<td>Club Name</td>
<td>Country</td>
<td>City</td>
<td>Code</td>
<td>Date</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------</td>
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<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Benfica F.C.</td>
<td>Portugal</td>
<td>EN Lisbon</td>
<td>SLBEN</td>
<td>5/1/07</td>
<td>Sport Lisboa e Benfica, SAD was established in 1904 and competes in the Portuguese 1st Division. The club receives television, licensing, sponsorship, and other revenue in addition to revenue from ticket sales. Benfica has won 27 first division championships, three Supercups, 23 Cups, and two European Cups.</td>
</tr>
<tr>
<td>F.C. Porto</td>
<td>Portugal</td>
<td>EN Lisbon</td>
<td>FCP</td>
<td>6/1/98</td>
<td>Futebol Clube do Porto – Futebol, SAD was established in 1893 and competes in the Portuguese 1st Division. F.C. Porto has won fifteen 1st Division championships and four national championships. The club receives TV, licensing, sponsorship, and other revenue in addition to revenue from ticket sales.</td>
</tr>
<tr>
<td>Aalborg Boldspilklub</td>
<td>Denmark</td>
<td>Copenhagen</td>
<td>AAB</td>
<td>9/11/98</td>
<td>Aalborg Boldspilklub A/S (AaB A/S) is a professional soccer club in Denmark. The company profits from ticket sales to games, sponsor agreements, product promotions and media rights for events, as well as through buying and selling player contracts. The club plays in the top Danish SAS league.</td>
</tr>
<tr>
<td>Company</td>
<td>Country</td>
<td>City</td>
<td>Code</td>
<td>Date</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------</td>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Aarhus Elite (AGF)</td>
<td>Denmark</td>
<td>Copenhagen</td>
<td>ELITEB</td>
<td>6/8/06</td>
<td>Aarhus Elite A/S operates a professional football club, AGF. The company generates revenues from ticket sales, merchandise, media rights, sponsor and advertising income, and player contracts.</td>
</tr>
<tr>
<td>Brondby IF</td>
<td>Denmark</td>
<td>Copenhagen</td>
<td>BIFB</td>
<td>11/22/87</td>
<td>Brondbyernes IF Fodbold A/S operates a professional football club, Brondby IF, and manages Brondby Stadium. The company generates revenues from ticket sales, merchandise, media rights, sponsor and advertising income, and player contracts. The club plays in the top Danish SAS league.</td>
</tr>
<tr>
<td>F.C. Copenhagen</td>
<td>Denmark</td>
<td>Copenhagen</td>
<td>PARKEN</td>
<td>12/1/97</td>
<td>Parken Sport &amp; Entertainment A/S manages Parken soccer stadium and operates the professional football club F.C. Kobenhaven (FCK) in Copenhagen. The company also hosts large conferences, rock concerts, car racing, and other events at the stadium. Parken generates revenues from ticket sales, merchandise, media rights, and player contracts. FCK plays in the top Danish SAS league.</td>
</tr>
<tr>
<td>Country</td>
<td>City</td>
<td>Brand</td>
<td>Date</td>
<td>Description</td>
<td></td>
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<tr>
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<td></td>
</tr>
<tr>
<td>Denmark</td>
<td>Copenhagen</td>
<td>SIFB</td>
<td>6/30/08</td>
<td>Silkeborg IF Invest A/S operates a professional football club in Denmark, Silkeborg I.F., and manages Silkeborg Stadium. The company profits from ticket sales to games, sponsor agreements, product promotions, and media rights for events, as well as through buying and selling player contracts. The club plays in the top Danish SAS league.</td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>Instabul</td>
<td>TSPOR</td>
<td>4/15/05</td>
<td>Trabzonspor Sportif Yatirim ve T.A.S. owns the rights to the Trabzonspor sports team brands. The company operates and franchises TS club merchandise shops throughout Turkey. Trabzonspor Sportif also receives broadcast, stadium, advertising and licensing rights revenues. The company also operates sports complexes in Trabzon, Ankara and Instanbul.</td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>Instabul</td>
<td>GSRAY</td>
<td>2/20/02</td>
<td>Galatasaray Sportif Sinai ve Ticari Yatirimlar AS is a marketing company. The company holds the rights to market merchandise bearing the name of the Galatasaray soccer team.</td>
<td></td>
</tr>
<tr>
<td>Company Name</td>
<td>Country</td>
<td>City</td>
<td>Code</td>
<td>Date</td>
<td>Summary</td>
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<tr>
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<td>-----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Fenerbahce Sportif</td>
<td>Turkey</td>
<td>Instabul</td>
<td>FENER</td>
<td>2/20/04</td>
<td>Fenerbahce Futbol A.S. owns license rights to the Fenerbahce sports team brand. The company receives broadcast, stadium, advertising, sponsorship, licensing and merchandising rights revenues.</td>
</tr>
<tr>
<td>Besiktas</td>
<td>Turkey</td>
<td>Instabul</td>
<td>BJKAS</td>
<td>2/20/02</td>
<td>Besiktas Futbol Yatirimlar Sanayi ve Ticaret A.S. is a professional soccer club which belongs to the Turkish super league.</td>
</tr>
<tr>
<td>AFC Ajax</td>
<td>Netherlands</td>
<td>EN Amsterdam</td>
<td>AJAX</td>
<td>5/17/98</td>
<td>AFC Ajax NV operates the professional Dutch soccer club. Ajax sponsors professional soccer teams, youth training programs, and scouting. The company derives revenue from selling television, merchandising rights, and advertising.</td>
</tr>
<tr>
<td>AIK Football</td>
<td>Sweden</td>
<td>Stockholm</td>
<td>AIKB</td>
<td>7/1/06</td>
<td>AIK Football AB owns and operates a sports club in Sweden. The club's members represent several different sports including soccer, ice hockey, golf, and bowling.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OL Groupe operates the Olympique Lyonnais football club. The company operates as a holding company generating revenues from broadcasting rights, ticket revenues, sponsorship, publicity, derived products, travel arrangements and events. Olympique Lyonnais Groupe conducts property development activities with a new stadium project.</td>
</tr>
<tr>
<td>Club</td>
<td>Country</td>
<td>City</td>
<td>Code</td>
<td>Date</td>
<td>Description</td>
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<tr>
<td>----------------------</td>
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</tr>
<tr>
<td>Ruch Chorzow</td>
<td>Poland</td>
<td>Warsaw</td>
<td>RCW</td>
<td>12/4/08</td>
<td>Ruch Chorzow SA is a professional soccer club.</td>
</tr>
<tr>
<td>Borussia Dortmund</td>
<td>Germany</td>
<td>Xetra</td>
<td>BVB</td>
<td>10/31/00</td>
<td>Borussia Dortmund GmbH &amp; Co KGaA is a professional soccer club that plays in Germany's first division. The club receives revenue from TV and radio broadcasts, ticket sales, corporate sponsorship and advertising, as well as merchandising. Borussia also manages an amateur and a youth soccer team as well as a female handball team.</td>
</tr>
<tr>
<td>Celtic</td>
<td>Scotland</td>
<td>London</td>
<td>CCP</td>
<td>9/29/95</td>
<td>Celtic plc operates a professional football club and provides all on-field related activities for the team. The company derives its revenues from gate receipts, season tickets, team sponsorship, advertising, publishing, merchandise sales and donations.</td>
</tr>
<tr>
<td>Manchester United</td>
<td>England</td>
<td>London</td>
<td>MNU</td>
<td>6/11/91</td>
<td>Manchester United Ltd. of United Kingdom operates as a professional sports club. The company manages the soccer team and all affiliated club activities of the Manchester United Football Club, which includes the media network, foundation, fan zone, news and sports features, and team merchandise. Manchester United is based in England.</td>
</tr>
<tr>
<td>Football Club</td>
<td>Country</td>
<td>City</td>
<td>Code</td>
<td>Date</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------</td>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Tottenham Hotspur</td>
<td>England</td>
<td>London</td>
<td>TTNM</td>
<td>12/10/83</td>
<td>Tottenham Hotspur PLC owns and operates a professional football club. The company offers entertainment services, related commercial activities, issuance of loan notes, and other related commercial activities.</td>
</tr>
<tr>
<td>Aston Villa</td>
<td>England</td>
<td>London</td>
<td>ASV</td>
<td>5/7/97</td>
<td>Aston Villa plc operates a professional football club and related businesses. The club consists of teams that play in the Premier and Pontin Leagues, as well as the Midland Melville Team.</td>
</tr>
<tr>
<td>Newcastle United</td>
<td>England</td>
<td>London</td>
<td>NCU</td>
<td>4/2/97</td>
<td>Newcastle United plc owns and provides marketing for the Newcastle United professional football team. Newcastle, a member of the Premier League, plays at St. James' Park. The group also provides the arrangement for the team's television coverage on several networks in the UK.</td>
</tr>
<tr>
<td>Southampton</td>
<td>England</td>
<td>London</td>
<td>SOO</td>
<td>4/1/94</td>
<td>Southampton Leisure Holdings PLC is the holding company for a group of companies that operate a professional football club and related businesses. The company also provides stadium operations and merchandising. Southampton Leisure also offers property development and investment.</td>
</tr>
<tr>
<td>Club Name</td>
<td>Country</td>
<td>Location</td>
<td>Code</td>
<td>Date</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
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<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Leeds United</td>
<td>England</td>
<td>London</td>
<td>LUFC</td>
<td>8/3/96</td>
<td>Leeds United plc is a holding company for Leeds United Football Club, an English soccer club. The group owns and operates the club and the stadium, and receives gate receipts and the television revenue (through a premier deal with BSkyB). Leeds has three retail sites at Elland Road, Wakefield, and Morley.</td>
</tr>
<tr>
<td>Sheffield United</td>
<td>England</td>
<td>London</td>
<td>SUT</td>
<td>1/17/97</td>
<td>Sheffield United PLC operates as a professional sports club. The company manages the soccer team and all affiliated club activities. Sheffield United is based in England.</td>
</tr>
<tr>
<td>Nottingham Forest</td>
<td>England</td>
<td>London</td>
<td>NGF</td>
<td>10/10/97</td>
<td>Nottingham Forest plc is the holding company for the Nottingham Forest Football Club. The group earns revenue through matchday hospitality, broadcasting, royalties and advertising, catering and merchandising. The football club plays in the English 1st Division.</td>
</tr>
</tbody>
</table>
Table 4. Share Price Lags, According to BIC.

<table>
<thead>
<tr>
<th>Club</th>
<th>Event</th>
<th># Lags (Club)</th>
<th># Lags (STOXX Market Index)</th>
<th># Lags (STOXX Football Index)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juventus</td>
<td>Purchase of Felipe Melo</td>
<td>2</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Juventus</td>
<td>Sale of Zlatan Ibrahimovic</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Aarhus Elite (AGF)</td>
<td>Purchase of Dioh Williams</td>
<td>0</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Sporting Lisbon</td>
<td>Purchase of Marcos Rojo</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Olympique Lyon</td>
<td>Sale of Karim Benzema</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>AIK Football</td>
<td>Sale of Tetteh Bangura</td>
<td>0</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Manchester United</td>
<td>Purchase of Cristiano Ronaldo</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Manchester United</td>
<td>Sale of David Beckham</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Manchester United</td>
<td>Purchase of Rio Ferdinand</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Leeds United</td>
<td>Sale of Rio Ferdinand</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Tottenham Hotspur</td>
<td>Sale of Robbie Keane</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Charlton Athletic</td>
<td>Purchase of Jason Euell</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

1 Denotes “high profile” transfer.
Table 5. Summary of Transfers for Event Studies.

<table>
<thead>
<tr>
<th>Club</th>
<th>Player</th>
<th>Purchase/Sale</th>
<th>Moving From/To</th>
<th>Date of Transfer</th>
<th>Transfer Fee (€M)</th>
<th>Player Market Value (€M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juventus</td>
<td>Felipe Melo</td>
<td>Purchase</td>
<td>Fiorentina</td>
<td>July 15, 2009</td>
<td>25</td>
<td>9.5</td>
</tr>
<tr>
<td>Juventus&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Zlatan Ibrahimovic</td>
<td>Sale</td>
<td>Inter Milan</td>
<td>August 10, 2006</td>
<td>25</td>
<td>24.8</td>
</tr>
<tr>
<td>Aarhus Elite (AGF)</td>
<td>Dioh Williams</td>
<td>Purchase</td>
<td>BK Hacken</td>
<td>August 1, 2007</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Sporting Lisbon</td>
<td>Marcos Rojo</td>
<td>Purchase</td>
<td>Spartak Moscow</td>
<td>July 19, 2012</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Olympique Lyon</td>
<td>Karim Benzema</td>
<td>Sale</td>
<td>Real Madrid</td>
<td>July 9, 2009</td>
<td>35</td>
<td>29</td>
</tr>
<tr>
<td>AIK Football</td>
<td>Teteh Bangura</td>
<td>Sale</td>
<td>Bursaspor</td>
<td>August 1, 2011</td>
<td>3.3</td>
<td>2.5</td>
</tr>
<tr>
<td>Manchester United&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Cristiano Ronaldo</td>
<td>Purchase</td>
<td>Sporting Lisbon</td>
<td>August 12, 2003</td>
<td>17.5</td>
<td>N/A</td>
</tr>
<tr>
<td>Manchester United&lt;sup&gt;1&lt;/sup&gt;</td>
<td>David Beckham</td>
<td>Sale</td>
<td>Real Madrid</td>
<td>July 1, 2003</td>
<td>37.5</td>
<td>N/A</td>
</tr>
<tr>
<td>Manchester United</td>
<td>Rio Ferdinand</td>
<td>Purchase</td>
<td>Leeds United</td>
<td>July 22, 2002</td>
<td>46</td>
<td>N/A</td>
</tr>
<tr>
<td>Leeds United</td>
<td>Rio Ferdinand</td>
<td>Sale</td>
<td>Manchester United</td>
<td>July 22, 2002</td>
<td>46</td>
<td>N/A</td>
</tr>
<tr>
<td>Tottenham Hotspur</td>
<td>Robbie Keane</td>
<td>Sale</td>
<td>Liverpool</td>
<td>July 1, 2002</td>
<td>10.5</td>
<td>N/A</td>
</tr>
<tr>
<td>Charlton Athletic</td>
<td>Jason Euell</td>
<td>Purchase</td>
<td>Wimbledon F.C.</td>
<td>July 1, 2001</td>
<td>7.5</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<sup>1</sup> Denotes “high profile” transfer.
Table 6. Event Study Results

<table>
<thead>
<tr>
<th>Club</th>
<th>Event</th>
<th>Cumulative Abnormal Returns (CAR)—STOXX Market Index</th>
<th>Cumulative Abnormal Returns (CAR)—STOXX Football Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juventus</td>
<td>Purchase of Felipe Melo (€25M)</td>
<td>-5.15818***</td>
<td>-3.14106**</td>
</tr>
<tr>
<td>Juventus¹</td>
<td>Sale of Zlatan Ibrahimovic (€25M)</td>
<td>-6.23979</td>
<td>-6.8281</td>
</tr>
<tr>
<td>Aarhus Elite (AGF)</td>
<td>Purchase of Dioh Williams (€1.1M)</td>
<td>6.61273**</td>
<td>1.2588</td>
</tr>
<tr>
<td>Sporting Lisbon</td>
<td>Purchase of Marcos Rojo (€8M)</td>
<td>2.213974***</td>
<td>1.958414***</td>
</tr>
<tr>
<td>Olympique Lyon</td>
<td>Sale of Karim Benzema (€35M)</td>
<td>-7.11357</td>
<td>-6.37649</td>
</tr>
<tr>
<td>AIK Football</td>
<td>Sale of Teteh Bangura (€3.3M)</td>
<td>54.32432**</td>
<td>60.45813***</td>
</tr>
<tr>
<td>Manchester United¹</td>
<td>Purchase of Cristiano Ronaldo (€17.5M)</td>
<td>3.33366</td>
<td>7.61834*</td>
</tr>
<tr>
<td>Manchester United¹</td>
<td>Sale of David Beckham (€37.5M)</td>
<td>5.255841</td>
<td>10.2692</td>
</tr>
<tr>
<td>Manchester United</td>
<td>Purchase of Rio Ferdinand (€46M)</td>
<td>-1.78571</td>
<td>-2.15483</td>
</tr>
<tr>
<td>Leeds United</td>
<td>Sale of Rio Ferdinand (€46M)</td>
<td>-1.12583</td>
<td>N/A</td>
</tr>
<tr>
<td>Tottenham Hotspur</td>
<td>Sale of Robbie Keane (€10.5M)</td>
<td>-1.78571</td>
<td>N/A</td>
</tr>
<tr>
<td>Charlton Athletic</td>
<td>Purchase of Jason Euell (€7.5M)</td>
<td>4.15281*</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Significant at the 90% level.
**Significant at the 95% level.
***Significant at the 99% level.
¹ Denotes “high profile” transfer.
**Matrix 1. Yearly Variables Correlations with Statistical Significance, Europe Sample.**

<table>
<thead>
<tr>
<th></th>
<th>Share Price</th>
<th>TmMktVal</th>
<th>Arrvls</th>
<th>Depts</th>
<th>NetExp</th>
<th>AbsExp</th>
<th>Perc League</th>
<th>Win</th>
<th>Qual Eur</th>
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<tbody>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>TmMktVal</td>
<td>0.2505***</td>
<td>1.0000</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Arrvls</td>
<td>0.2489***</td>
<td>0.7420***</td>
<td>1.0000</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depts</td>
<td>0.1217</td>
<td>0.5477***</td>
<td>0.5510***</td>
<td>1.0000</td>
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</tr>
<tr>
<td>NetExp</td>
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*Significant at the 90% level.
**Significant at the 95% level.
***Significant at the 99% level.
Matrix 2. Yearly Variables Correlations with Statistical Significance, England Sample.

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**Significant at the 95% level.
***Significant at the 99% level.
**Matrix 3. Yearly Variables Correlations with Statistical Significance, Both Samples, Overlapping Variables.**

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*Significant at the 90% level.
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*Significant at the 90% level.
**Significant at the 95% level.
***Significant at the 99% level.

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*Significant at the 90% level.
**Significant at the 95% level.
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Figures 1—3. Italian Clubs’ & Indices Share Prices.
Figures 4—6. Portuguese Clubs’ & Indices Share Prices.
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Figures 29—30. Leeds United, Nottingham Forest, Sheffield United, Charlton Athletic & Indices Share Prices.
Figure 31. STOXX Indices Share Prices.
References


Bloomberg L.P Database.


Transfermarkt website [http://www.transfermarkt.com/].

