

FINANCE AND FOOTBALL

The market reaction to football player transfers in Europe

Master Thesis

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Abstract

This paper sheds further light on the impact on shareholders wealth from sales and acquisitions of football players within a football club. Our empirical analysis employs an event study using data from 30 listed football clubs in Europe. The study covers the period 1998 to 2012. We find evidence that the sale of players results in positive abnormal club stock returns and the acquisition of players is associated with negative club stock returns around the date of the event. These results indicate asymmetric wealth effects and support nonsynergetic theories of human resources turnover. We take subsamples of our dataset separating to UK and non UK clubs and transfers that occurred in the playing and the close season. We also test the relationship of cumulative abnormal returns around the event date with four set of explanatory variables which represent the player characteristics, buying club characteristics, selling club characteristics and time effects by using OLS regressions.

Table of Contents

1. Introduction....4
2. Literature Review....5
2.1 The Economics of major league sports and the Industrial Structure....5
2.2 The Economics of Football Labor Market....7
2.2.1 Institutional framework of football....7
2.2.2 Transfer of players....7
2.2.3 Open and Closed leagues and differences between U.S. and European leagues....8
2.3 The Bosman Case and its implications for football transfer markets....10
2.3.1 Player remuneration and contract lengths in European Football....11
2.3.2 Is discrimination a case in European football after Bosman ruling?....12
2.3.3 Transfer fees in European football and their determinants....12
2.4 Effects on share price performance of listed clubs through the sporty performance and the transfers of football players....15
2.5 Hypothesis....17
3. Data and Methodology....17
3.1 Sample Selection and Data sources....17
3.2 Methodology....21
3.2.1 Event Study....21
3.2.2 Factors that affect CARs for player acquisitions and sales....30
3.2.3 Econometric model....32
3.2.4 Summary Statistics....33
4. Results....33
5. Conclusion....40
References....42
Appendix....46

1. Introduction

European football is without any doubt the world's most popular sport (Matheson, 2003). It is also the national sport for many countries in Latin America, Africa and even Asia. An increasing number of economists have dealt with the football market. Frick (2007) states that football industry in the last 15 years has experienced an unprecedented growth which can be attributed to fundamental changes in the professional football such as the availability of detailed information on player salaries, transfer fees, contract lengths and career durations which made the empirical analyses feasible. Moreover, the dramatic changes in the regulatory framework governing football players' due to the verdict of the European court concerning the case of Belgian player Jean-Marc Bosman, persuaded a number of economists in Europe to devote more attention to the structure of the football market. Football industry is appropriate in our study because football players are treated as balance sheets items by football clubs, they are valued in monetary terms and they constitute the most expensive asset of football clubs (Amir and Livne (2005)). The human capital that consists of football teams cannot be easily imitated or replaced and can contribute significantly in firm performance. This paper seeks to extend the existing literature concerning the effect that may have on shareholder wealth around the announcement date, the purchase and the sale of football players above € 8 million of 30 listed football clubs. In order to examine that we undertake an event study. Our dataset covers the period 1998 - 2012. In our knowledge there are only two previous studies trying to interpret this topic. The first one is from Amir and Livne (2005) and the second one from Fotaki, Markellos and Mania (2009). This study tests also the determinant factors that may explain the cumulative abnormal returns of the listed club shares around the transfer announcement date. The four main categories of that factors are player characteristics, buying club characteristics, selling club characteristics and time effects. In order to test that relationship we use OLS regressions. In our knowledge there is important empirical evidence concerning the determinant factors of transfer fees (Carmichael and Thomas (1993), Dobson and Goddard (1997), Speight and Thomas (1997), Reilly and Witt (1995), Dobson et al (2000)).

This paper is structured as follows. Section 2 summarizes the existing literature review and discusses our hypothesis. Section 3 describes the dataset and the

methodology employed in the empirical analysis. Section 4 shows the empirical results of this paper. Finally, section 5 concludes the paper.

2. Literature review

2.1 The Economics of major league sports and the Industrial Structure

Rottenberg (1956) is a path-breaking paper concerning some market problems that exist in the organization of the baseball industry and the baseball labor market. As long as there is a baseball player who has not signed a contract with a baseball team, this player is a free agent and baseball teams can offer him a contract. It is also highly possible that a baseball player will be paid a bonus for signing with one team rather than another. When a player signs a contract, then it must be a uniform contract and after that moment this player is not a free agent any more. The uniform contract includes the reserve clause which gives the permission to the team to renew the contract of the player for the next year with the constraint that the salary will not be lower than 75 per cent of the current salary. The main restriction of the uniform contract is that no team can negotiate with a baseball player under contract and under the reserve rule players can negotiate only with the team that they are under contract. As a result, this rule limits the freedom in the baseball labor market and increase the appearance of monopsony to the market. A major reason that it is good to apply this rule is that it helps an equal distribution of playing talent among teams that is necessary in order to be competitive the major baseball league and the outcome of the results to be uncertain that will provoke more interest for the consumers. The above argument is based on the reason that there are rich and poor baseball clubs and if the market was free then the rich clubs could buy all the good players. However, Rottenberg proves that this reason is false. Rottenberg states that if teams behave like rational maximizers then a market which is limited by a reserve rule distributes players among teams more or less equally than a free market. Players will be equally distributed and each team will get the highest return from their services and this is the same that happens in the free market. In general, free markets would give the same results as other kind of markets like the baseball industry but the only difference is that in a free market each worker will get full value of his services. Another contribution of Rottenberg's paper concerns the transfer fees of players under the reservation system. He states that the player's capitalized value of the buying team is

higher. On the other hand, Sloane (1969) mentions that if teams are utility maximizers, then this may not happen because the capitalized value of the player to the buying team may not be higher than the value to the selling team. Noll (1982) argues that under the player reservation system a team can extract monopsonistic rent from a player's services. Noll accepts Rottenberg's aspect in two points. The first one is that the reservation system does not affect the equally distribution of playing talent. The second one is that teams will gain a share of the higher Marginal Revenue Product (MRP) of the player to his new team. As a result we can have the Rottenberg-Noll hypothesis which states that the transfer fee of a player will be set larger than the capitalized value of the player's skills to the selling team due to the fact that the selling club can extract a monopoly rent.

Another important contribution in the field of professional sports is the study of Neale (1964). Neale argues that the firm in professional sports differs in the way that we look at it in the pure competitive market. Generally, we consider as an ideal position of a firm in a competitive market to be close to a monopoly in order to have the opportunity to maximize profits. As a result, a firm experience better position if the competition is less important. Neale proves that this does not happen in professional sports by providing the example of Louis-Schmelling paradox where a heavy-weight fighter in order to maximize his profits, he needs a strong contender to fight. The outcome of pure monopoly for the boxer would be a disaster because the heavy-weight fighter would have no one to fight and as a result no income. The paper concludes that the paradox exists because the firm in law as it is organized in the sporting world, is not the firm as we can understand in the economic theory and the product sold by the sporting firm is not the same as the product of firms sold as we expect in the economic theory. In the sporting world the firm is the league or the championship or in the above example the firm is all professional heavyweights. A business firm in the sporting world cannot produce any utilities alone, at least it must have a second firm to produce the game. As a result theoretically Neale concludes that each professional sport is a natural monopoly. Finally, Neale argues that professional sports are a natural monopoly with peculiarities in the structure and the functioning of their markets. Sloane (1971) in his study in professional football argues that the objective of the football club is the utility maximization and not the profit maximization and support his view because owners of football clubs are quite

successful in other fields and their primary purpose is not economic profit but power and prestige.

We can conclude that the above authors assume firms in professional sports as different than conventional firms. There is a link and mutual interdependence among the firms in each professional sport in order to exist a competitive balance among the teams and the level of competitiveness may affect the future profits of each firm.

2.2 The Economics of Football Labor Market

2.2.1 Institutional framework of football

In a worldwide level the International Federation of Association Football (FIFA) is the international governing body of association football, futsal and beach soccer. The president of FIFA is Sepp Blatter and the headquarters are in Zurich, Switzerland. FIFA was founded in Paris on 21st of May 1904 and recognizes 209 national associations which are members of FIFA. FIFA recognizes six confederations which are the AFC, CAF, CONCACAF, CONMEBOL, OFC and UEFA. The most important organization of FIFA is the World Cup. One of the six continental confederations of FIFA, the Union of European Football Associations (UEFA) is the related body for association football in Europe and partially Asia. UEFA consists of 54 national associations members. UEFA was founded on 15th of June 1954 and its headquarters are in Nyon, Switzerland. The president of UEFA is Michel Platini. UEFA organizes national and club competitions such as the UEFA Championship, UEFA Champions League, UEFA Europe League and UEFA Super Cup. Concerning the organization of football championships and tournaments in a national level in Europe and worldwide, the responsible governing body of each country is the national football association such as the Italian Football Federation (FIGC) in Italy, the English Football Association (FA) in England, the Royal Spanish Football Federation in Spain, the French Football Federation (FFF) in France and many others football associations all over the world.

2.2.2 Transfer of players

The scope of FIFA concerning the transfer market of players is to foster and sustain a transparent transfer market based on integrity, accountability and innovation. The regulation system is based on the article 5 of the FIFA Statutes. Regulations for

the transfer of players should settle down disputes between clubs and players. Also such regulations should also provide a mechanism to reward clubs investing in the training and education of young players. Generally, a transfer refers to the transferring of a player's registration from one professional association football club to another. In players that are under contract there is a sort of compensation for the player's rights and when a player moves from one club to another his old contract is terminated and he negotiates a new one with his new club. In some illegal cases FIFA uses a method of club punishment by banning football transfers for a specific period. Players can only be transferred during transfer windows. FIFA has set up the rules concerning the registration period for football players in section 6 on the Regulation on the Status and transfer of Players (version 2012). Players can register to a football club only during one of the two annual registration periods which are determined by the relevant association. Mainly, the first registration period begins after the completion of the season and ends before the start of the new season. This period will not exceed 12 weeks. The second registration period will occur in the middle of the season and will not exceed four weeks. The above periods are related with the league's season cycle and are determined by the governing body of each national league. In order to be registered players have to submit a valid application from the club to the relevant football association during a registration period. Most football associations especially in Europe have the same pre-season and mid-season window which extend from 1st of July till 31st of August and from 1st of January till 2nd of February, respectively. In this study it is used the above mentioned transfer window. There are some exceptions like Nordic countries due to weather constraints. In these countries the pre-season window is 1st of March till 30th of April and the Mid-Season window is 1st to 31st of August. The transfer window can be extended in case of the end of the period is not a working date and the extension can be prolonged until the working day thereafter.

2.2.3 Open and Closed leagues and differences between U.S. and European leagues

In the majority of countries in Europe, Football, Basketball and other sport leagues are open leagues where there is a system of promotion and relegation which gives clubs more access to the top divisions. In North America, major leagues such as the Major Baseball league, the National Basketball league, the National Football league and the National Hockey league are closed leagues with a fixed number of

participants every season. There are some other important differences in the structure of U.S. and European sports leagues. In U.S. in the player market there is a rookie draft and salary caps (NFL, NBA) but on the other hand in Europe there is an active transfer market. In U.S. concerning revenue sharing there is equal division of national broadcast income and gate sharing in some leagues like NFL. However, in European leagues there is little or no gate revenues sharing and in some cases no equal sharing of television income. Moreover, another difference can be considered through the aspect that dominates in Europe that American clubs are profit maximizers whereas European clubs have pure sporting objectives ((Sloane), 1971)). Rosen and Sanderson (2001) state that all schemes used in the United States like salary caps, roster limits, payroll caps and luxury taxes in major professional sports leagues punish excellence in one way or another. On the other hand the European football punishes failure by the system promotions and relegations of teams. Excellent teams in minor leagues have the opportunity to promote to the major league and at the same time poor performing teams in major leagues will relegate in minor leagues. The punishment in European football depicts the huge economic loss for a potential relegation. Buzzacchi, Szymanski and Valletti (2003) propose a way to test whether North American closed leagues and the open leagues of Europe give more competitive balanced results. As balanced results assume the expectations of funs about which team will be the winner of the league. Stronger competitive balanced results will increase the interest of the fans. The measure of the competitive balance that they develop permits the comparison between different sport leagues across time and at the same time they take into account the promotion and relegation system. Also with their method, Buzzacchi et al (2003) can measure competitive balance in a dynamic sense rather than a static sense which is more suitable in order to measure the uncertainty concerning the overall outcome of a championship. This method differs with Quirk and Fort (1992) method which measures the competitive balance with the standard deviation of winning percentages in a season and the greater the variance in outcomes in a season results to the less balanced contest. The weakness of this method is that it doesn't measure the identity of the teams across seasons. Buzzacchi et al (2003) compare three North American leagues (Major Baseball league (MLB), The National Football League (NFL) and the National Hockey League (NHL)) to three national football leagues in Europe (England, Italy and Belgium). They show that North American Leagues are much more balanced than European football leagues in the

aspect that a bigger percentage of teams in the league is highly possible to experience a given level of success within a given period of time.

2.3 The Bosman Case and its implications for football transfer markets

Prior to 1995/1996 season most European football leagues imposed restrictions on player transfers and these restrictions placed limits to the operations of a free market. Simmons (1997) mentions two basic restrictions. First, a transfer fee had to be payed for a player in order to change a club even if his contract had expired. Second, there was a limit in the number of foreign-born players that could be members of a team in a particular match. In December 1995 the case of the professional footballer Jean Marc Bosman who played in the Belgian club R.C. Liegois provoked important changes in the football transfer market in Europe. The European Court of Justice declared that the above restrictions for football player transfers were incompatible with article 48 of the Treaty of Rome which is related to the freedom of movement of labour. Antonioni and Cubbin (2000) state that European court decision based on the principle that sporting activities are not an exception of the Treaty of Rome and that the article 48 of the Treaty of Rome excludes the activity of any sporting body to arrange its own affairs. Also, Article 48 judged as incompatible the restriction concerning the number of foreign players that can be part of a team. As a result the ruling provoked panic and the soccer world mentioned some issues. Firstly, clubs and especially small clubs will stop investing in training young players and add extra value to player's skills because they will not receive any fee for out of contract players. Secondly, players that a club can demand a fee in order to sell them may be regarded on the club's balance sheet as intangible assets. The new ruling will cause the clubs to write off the player's asset values from balance sheets and an important source of revenues from football clubs will be withdrawn. Renneboog and Vanbrabant (2000) argue that the Bosman Verdict caused problems to clubs adhered to the 'asset view' accounting method which means that clubs booked as Immaterial Fixed Assets the value of the player instead of the 'zero value' method which does not convey any value to the player. The clubs with an 'asset view' method had to depreciate and reduce the players' value to zero to their balance sheets. The third reason was that star players will become concentrated in rich clubs and the fourth reason was that football teams will buy many cheap foreign players and domestic players may be displaced. Antonioni and Cubbin (2000) develop a

modelling framework based on Dixit and Pindyck (1994) to end that club's optimal and investment decisions, with some underlying assumptions, are not affected in a great degree by the new rules. Financial disaster cannot happen because the Bosman Ruling has affected only the transfers for out of contract players which are a small fraction of the market. A payment of a transfer fee is still mandatory for players who change clubs within a contract. Furthermore, the behaviour of clubs and players within the system can adapt easily to the new changes, as the Coase theorem predicts. The development of a predatory market against small clubs is not correct because players from small clubs that are highly talented and fulfill the requirements to be signed in a large club will sign to a big club because no club will wait the player to be out of contract because then will risk the fact that any rival club could buy the player. Simmons (1997) mentions two implications concerning player salaries. Transfer fees that would have been paid for player transfers will be converted into higher player salaries and signing-on fees for those who move out of contract without a fee. Also, the distribution of salaries will be widen because players from lower division will receive lower wages because of the great influx of foreign players.

2.3.1 Player remuneration and contract lengths in European Football

Generally European clubs could cooperate in order to keep player salaries low because their primary purpose is to maximize utility instead of profits (Sloane, 1969). However, Frick (2007) argues that the total revenues of merchandising, ticket sales and specifically the value of broadcasting rights have increased tremendously the last years. He mentions that in Germany, average player salaries have increased from € 550,000 in 1995/1996 to above € 1 million in 2006/2007. The degree of players' salary differs with respect to the age of the player, the number of goals scored in previous seasons and a very important determinant factor which is the position of the player. Many studies have shown that midfielders earn a significant premium to their salaries in comparison with players who play other positions in the field. In a pioneering study Franck and Nuesch (2006) find that the existence of 'superstar effect', which is measured by the number of Google hits, can impact player's wage. Bryson, Frick and Simmons (2012) conclude that there is a premium to players remuneration concerning their capability to use perfectly both feet. Their research is concentrated in five European leagues which are England, France, Germany, Italy and

Spain. They show that the premium is 18.6% in European cross section and 13.2% in Bundesliga.

Concerning the contract duration, Feess, Frick and Muehlheusser (2004) find that contract lengths after Bosman ruling have increased by about 6 months. Also they show that contact duration may have a positive impact on players' wage. But we can mention that longer contracts may provoke the 'moral hazard effect' where a player's performance will be lower in longer contracts. The post-Bosman ruling era according to Frick et al (2007) results that the liberalization of the player market on player's careers will increase the career durations in Bundesliga. Finally, Simmons (2007) argues that the Bosman ruling will result in longer player contracts than previously and in some cases longer than many players would desire. Generally, the competitive environment of Football will be riskier and clubs will become more anxious to protect their investment in players and players will demand contingency clauses in their contracts in order to be able to search for new opportunities in their professional careers.

2.3.2 Is discrimination a case in European football after Bosman ruling?

The Bosman ruling resulted in a large influx of foreign players in European football leagues. A main question is if there is any discrimination issues against foreign players in Europe. Frick (2007) argues that discrimination happens when the race or nationality of a player can affect negatively his payment, transfer fees, playing time and career duration. Frick (2006) finds that players from Eastern Europe can earn 15% higher salaries than German players and players from Western Europe and South America can have a 30% and 50% premium to their salary respectively. Frick et al (2007) state that there is no discrimination in players from specific regions in the world concerning the duration of their careers. Kalter (1999) finds that shirts of players from South America are bestsellers compared with players from Western Europe.

2.3.3 Transfer fees in European football and their determinants

Frick (2007) mentions that the percentage of player transfers to different clubs involving a transfer fee has declined more than 40% from the middle of 1990s to the middle of 2000s. This is a clear consequence of the Bosman ruling as we mentioned

above, any player can change a club after his contract expired without any transfer fee to be paid to his previous club. However, Frick states that players out of contract are not cheaper than players within a contract because for many out of contract players a 'signing bonus' has to be paid to their new team and many times the amount of the 'signing bonus' is comparable with the amount of transfer fees that has to be paid for under contract players.

Carmichael and Thomas (1993) apply a two-person bargaining theory to analyze the determination of transfer fees. They argue that the Nash Bargaining framework can capture features of the bargaining process of the football market. Their data set includes 214 observations from the English Football League during the period 1989-1990 to 1990-1991. Their model to estimate transfer fees depicts that the relative bargaining strengths of the selling and the buying club are determined by both the characteristics of the player (age, number of league appearances during the season before the transfer, number of goals scores by the player in the prior season, dummy variables of players positions) and the characteristics of the buying club and the selling club (previous season of the transfer goal difference, buying club's position at the beginning of the month in which the transfer recorded, club attendance as the previous season's average attendance and the financial status using a variable that shows the earnings before tax).

Reilly and Witt (1995) use data of the playing season 1991-1992 from the English league. They test if there is racial discrimination against black players and if they face unequal treatment in the football market. Their results show that there is little statistical evidence to strengthen the view that black players face unequal treatment in terms of the transfer fees they command.

Speight and Thomas (1997) use data for the English football league for the seasons 1985-86 through 1989-90 and their dataset includes 164 arbitrated cases. They analyze the determination of transfer fees settled through the arbitration procedure of the Football League Appeals Committee (FLAC). They suggest that a large variation of transfer fees is determined by certain case facts such as player and club characteristics, rather than a compromise between the buyer and the seller. In general, their study is in accordance with the aspect that conventional arbitration

systems generate little useful information in terms of final-offers from the disputant parties.

Gerrard and Dobson (1997) use a sample of 1,350 English professional football transfer fees covering the period of June 1990 to August 1996. They found that monopoly rents exist and they are not only limited to high transfer fees, but also exist to low and medium level transfers where the degree of monopoly rents may differ. Monopoly rents exist when the selling club extract some of the extra value of the buying club's net valuation of a player over the selling club's reservation price. They developed a theoretical model which shows that a testable obligatory condition for the existence of monopoly rents is whether buying-club characteristics are jointly significant determinants of observed transfer fees after controlling for player characteristics, time effects and selling-club characteristics. They found that the absence of monopoly rents in the transfer market would signify that transfer fees would only depend on player and selling-club characteristics. However, if rents are observed then transfer fees depend on player characteristics, selling-club characteristics and buying-club characteristics.

Dobson, Gerrard and Howe (2000) use 114 transfer fees during the period 1988 to 1997 from the English nonleague clubs. They develop an empirical model in which they showed that transfer fees are determined by player characteristics, time effects, selling-club characteristics and buying-club characteristics. They follow the study of Dobson and Gerrard (1997) and they use four sets of explanatory variables to explain 114 transfer fees. These sets of variables are divided into player characteristics, time effects, selling-club characteristics and buying-club characteristics. Some of the players characteristics are the age, the number of previous clubs, the number of goals scored and the number of appearances. Also, as time effects they use specific years and a dummy variable that indicates whether the transfer occurred in the playing or close season. Some of the selling and buying club characteristics consist of the league position of the club the season prior to the transfer, the goal difference in the previous season, the ground capacity and the average league attendance in the previous seasons.

In conclusion, we can mention that the above studies indicate that transfer fees in football players market are highly systematic and are determined by the

characteristics of the player being transferred, the timing of the transfer and the size and status of the selling and buying clubs.

2.4 Effects on share price performance of listed clubs through the sporty performance and the transfers of football players

Renneboog and Vanbrabant (2000) test if the stock prices of football clubs listed on the London Stock Exchange (LSE) or the Alternative Investment Market (AIM) are affected by the soccer teams' weekly sporty performance. One day after the trading they find approximately 1% positive abnormal stock returns after a victory, -2.5% after a defeat and -1.7% following a draw. They mention that preceding promotion and relegation games much larger abnormal returns can be observed because the future income in terms of television broadcasting rights and the sponsoring income can change in a great degree. They also argue that football clubs listed on the LSE in comparison to others listed on the AIM can have larger share price increases subsequent to victories. On the contrary, listed clubs to AIM face larger reductions after defeats. Duque and Ferreira (2005) use share prices of two soccer clubs (Sporting Lisbon and Porto FC) listed in Euronext Lisbon Stock Exchange. They use the ARCH and GARCH methodology in order to test how the sporting performance impacts on share price returns for football clubs. They argue that there is some association between share prices and end of the season victories in the national championship. They found signs of clustering that made them use the ARCH-family model for testing football share behaviour. They found that positive sporting performance (victories) in football clubs is positively related to increases in share price performances in the Stock Exchange. However, negative sporting performances (defeats and draws) are related to negative stock price returns. These results are in accordance with Renneboog and Vanbrabant (2000) with the difference that they use different methodology. Moreover, they incorporated a new variable in order to measure the sporting success because the impact of a victory at the start of the season has different effect on stock prices than a victory at the end of the season when at that time the football club tries to win the championship.

Two previous studies have dealt with the topic of the effects of share price performance of listed clubs through the transfers of players. Amir and Livne (2005) use a sample of 58 football companies for which they obtained full financial

statements for the period 1998-2003. More specifically their sample includes all listed football companies on the London Stock Exchange or the Alternative Investment Market (AIM). In their first analysis, they estimate the association between accounting-based measures of future economic benefits and current and lagged investment in player contracts. They argue that investments in player contracts are associated with current and future sales but the duration of this association is at most two years and this period is shorter than the duration implied by the amortization period reported by sample companies. Moreover, they conduct a market-based analysis using a valuation model based on Ohlson's (1995) framework. Their model relates market value of equity to net income, book value of equity and investments in player contracts. They found that share prices of Uk soccer clubs are positively and significantly associated with investments in player contracts. They also distinguish between the period prior to FRS 10 and after FRS 10. Finally, market-based analysis seems that do not support the aspect that contractual rights of the football industry are valued by the market as assets, consistent with the requirements of FRS 10. Next, in their research paper Fotaki, Markellos and Mania (2009) perform an event study using panel data from 15 listed UK football clubs that participate in the English or Scottish Premiership. The period of their sample is from May 7th 1997 to June 1st 2004.They consider turnover of human resources as part of the overall process for corporate asset divesture, acquisition and accumulation. From an accounting perspective they found that player transfer fees should be capitalized and amortized rather than expensed which is an extension of the previous study by Amir and Livne (2005). They found that shareholders react significantly to changes in human resources. More specifically, their results show that the acquisition of football players is connected with negative abnormal stock returns and the sale and loan of soccer players is associated with positive abnormal stock returns around the date of the event after controlling for sporty performance, heteroscedasticity, autocorrelation and cross-sectional dependence. Their findings can suggest a non-synergetic explanation of the human resources turnover process. They mention that the negative sign of the abnormal club stock return after an acquisition of a player can be explained if they assume that there is an overpricing in football players by shareholders because they think that the market is not fully efficient. They assume as another explanation the case that shareholders are myopic and take into account only the short term curvilinear effect of new employees which is negative and ignore any long term positive effects.

2.5 Hypothesis

In this paper we expect non-synergetic results of the selling and buying football players of listed football clubs and also the fact that shareholders react significantly to changes of football players. We expect an increase in shareholder wealth when we have sales of players and a decrease in shareholder wealth in acquisition of players. More specifically we introduce two hypothesis.

Hypothesis 1

The acquisition of a football player will result in negative abnormal football club stock returns around the announcement date.

Hypothesis 2

The sale of a football player will trigger positive abnormal football club stock returns around the announcement date.

3. Data and Methodology

3.1 Sample Selection and Data sources

In our empirical analysis, we employ data from listed football clubs in the STOXX Europe Football Index that covers all football clubs that are listed on a stock exchange in Europe or Eastern Europe, Turkey or the EU-Enlarged region. The index accurately represents the breadth and depth of the European football industry. We also include UK football clubs that participate in the English or the Scottish Premiership and were listed on the LSE, AIM (Alternative Investment Market) and OFEX. In our analysis we examine the effect of football player transfers of listed football clubs on shareholder's wealth that are equivalent or larger than € 8 million. As a result, our dataset covers 14 football clubs listed on the STOXX Europe Football Index, 8 football clubs listed on the London Stock Exchange, 5 football clubs listed on the Alternative Investment Market and 3 clubs listed in OFEX. An overview is given in table 1.

(Insert table1)

Among 30 clubs the IPO date and possible delisting date were checked in order to obtain the period that we can collect data for football transfers. Table 2 lists our sample of football clubs, the country of origin, the flotation date, delisting date and the change of the stock price after one week and after one month of the IPO. We have to mention that one week after the offering, stock prices declined below the offer price for 13 out of 14 clubs listed on the STOXX Europe Football Index[1], 6 out of 8 clubs listed in the LSE, 3 out of 5 listed in the AIM[2] and 1 out of 3 listed in the OFEX[3]. Also, Table 3 shows the name of the stadium, capacity of the stadium and the average capacity rate for 15 years for each club which is the time period used in this research.

(Insert table 2 and table 3 here)

[1]The new STOXX Europe Football Index launched on 22nd of April 2002

[2]AIM is a sub-market of the LSE, allowing smaller companies to float shares with a more flexible regulatory system than is applicable in the main market.AIM companies are also exempt from seeking shareholder approval prior to substantial share transactions. Important to the AIM admissions procedure is the nomination of nominated brokers who organize the actual floatation and the advisor who supervises the floatation and advises the company thereafter

[3]OFEX is an unregulated trading facility in which JP Jenkins LTD is the main market maker. Transactions take place ex-exchange between JP Jenkins and other member firms of the stock exchange and are supervised by the Sucurities and Futures Authority ltd. OFEX does not guarantee liquidity. For shares to be traded via OFEX, the listing-committee of the stock exchange verifies whether the firm's accounting system fulfills certain requirements.

Data concerning all incoming and outgoing transfers for each listed club, exact transfer dates, player characteristics, selling-club characteristics, buying-club characteristics, stadium capacity, average occupancy rates were obtained from the following websites: www.transfermarkt.co.uk, www.soccerbase.com, www.footballtransfer.co.uk, www.stadiumguide.com, www.european-football-statistics.co.uk. Observations were verified by the official websites of the listed football clubs.

In table 5a we can notice that the sample contains data of 336 football players among soccer clubs and at least one of them is listed at the moment of the transfer. Transfers took place from June 1998 till August 2012. Our analysis covers a period of 15 years. The dataset contains all transfers above or equivalent to € 8 million in that period excluding those players that were out of contract and players on loan. Also we excluded all transfers that were announced the same day from the same club. As can be seen the result of the above selection criteria is a list of 336 players, consisting of 184 acquisitions and 152 sales. Table 4 depicts that the total cost of the transfer is € 2,880,580,543 and the total revenue is € 2,715,109,866. Player acquisition costs exceed sale revenues by € 165,470,677 million. In these 336 transfers 30 clubs were involved where 13 out of them originated from continental Europe and 17 from UK. The first transfer occurred at 1st of January 1998 and the last transfer at 12th of July 2012. The highest total cost of acquisitions of players can be seen in Tottenham Hotspur which is approximately € 337 million and the highest amount of revenues experience Porto which is € 464 million. We identify as the event date, the date of the official transfer announcement or the next working day that is closest to the event.

(Insert Table 4 and Table 5a here)

We collected daily closing total returns of the stocks of the soccer clubs from Datastream[4]. As a proxy for the market portfolio we use three market indices. When we test our dataset the impact on the stock price of sales of players of listed football clubs then we use the S&P Europe Total Return index both for UK and European clubs. When we test the impact on the stock prices of acquisitions of players for transfers of UK clubs then we use the FTSE Small Cap Total Return Index and for the European clubs we use the Dow Jones Total Return Market Index. The FTSE Small Cap Total Return Index is an index of small market capitalization companies consisting of the 351st to the 619th largest listed companies on the London Stock Exchange main market. The index is a constituent of the FTSE All Share Index which is an index of all 620 companies listed on the main market of the LSE. The Dow Jones Total Return Market Index covers 95% of the European market capitalization as it includes small, mid and large capitalization firms across 18 countries[5]. The Financial data is obtained from the AMADEUS database[6].

[4] Datastream contains stock market, financial and economic data on companies and industries from selected countries, and worldwide exchange and interest data.

[5]United Kingdom, Switzerland, Sweden, Spain, Portugal, Norway, The Netherlands, Luxemburg, Italy, Ireland, Iceland, Greece, Germany, France, Finland, Denmark, Belgium, Austria

[6]AMADEUS is a pan-European financial database containing information on over 10 million public and private companies from 41 countries, including all the EU countries and Eastern Europe.

In tables 5b and 5c we can see an overview of turnover and EBIT for listed soccer clubs considered in this sample through the period 1997-1998 to 2011-2012. All data are not available for the whole period for all clubs. Observing the mean of our sample regarding the turnover we can notice that there is an increase through time. Also we can mention that SS Lazio had a very important decrease of 87% of its turnover through the period 2001-2002 to 2005-2006 and Manchester City a tremendous increase of 264% of its turnover from 2006-2007 to 2011-2012. The club with the highest turnover on average in the period that we examine is Manchester United. Concerning the table that depicts the profitability of clubs in terms of EBIT we can observe that most of the years of our sample, football clubs didn't have positive profitability before interest and taxes that means that the increasing turnover through years didn't result into higher profitability. The club with the highest profitability through years is Manchester United. During the period of our sample only 8 out of 30 clubs could show positive sign on average in terms of EBIT and only 3 of them could have continuous data from 1998 to 2012.

(Insert table 5b and 5c here)

3.2 Methodology

3.2.1 Event Study

In many cases economists have to measure the effects of an economic event on the value of firms. MacKinlay (1997) states that using financial market data, an event study measures the effect of a specific event on the value of a firm. Assuming rationality in the marketplace, the effects of an event will be incorporated immediately in security prices. There is a broad range of techniques used in event studies. Bowman (1983) identifies 5 steps in order to conduct an event study. These are:

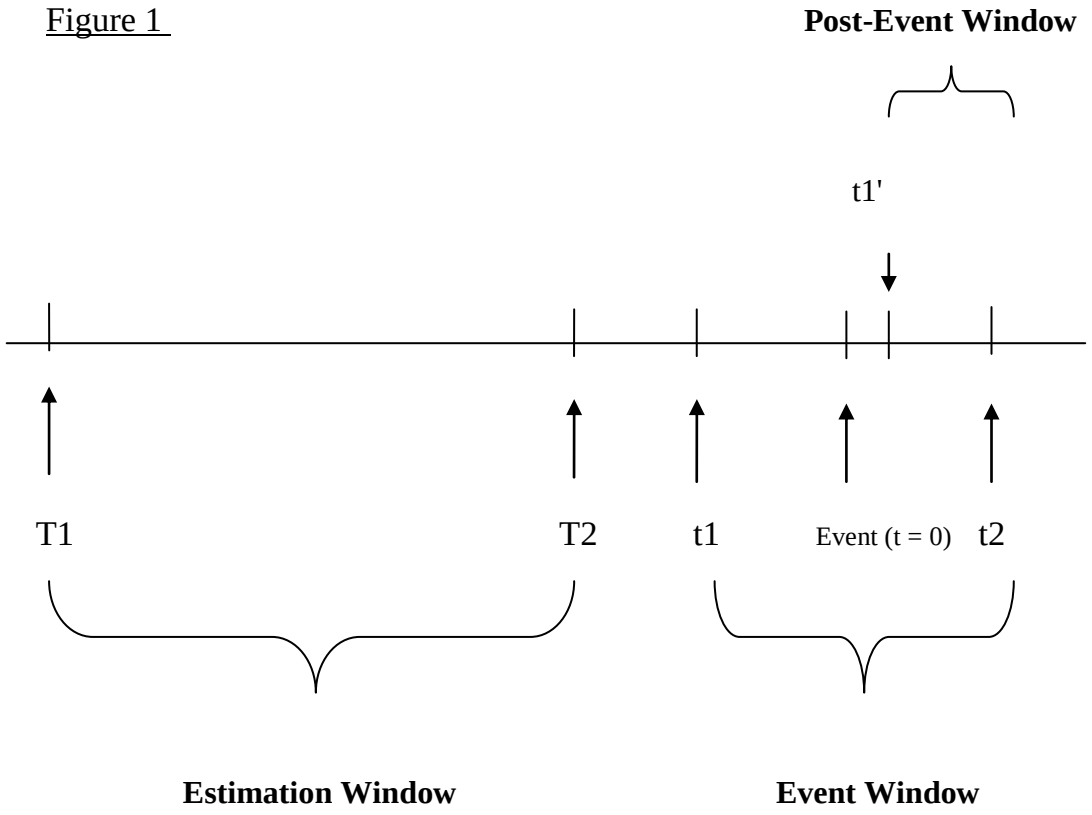
i. Identify the event of interest
ii. Model the security price reaction
iii. Estimate the excess returns
iv. Organize and group the excess returns
v. Analyze the results

De Jong and De Goeij (2011) reduce the above five steps into three:

i. Spot the event of interest and more specifically the timing of the event
ii. Specify a benchmark model to measure the normal stock return behaviour
iii. Calculate and analyze abnormal returns around the event date

Concerning the first step as we have mentioned above we regard as the event date, the date of the official transfer announcement or the next working day that is closest to the event. Some uncertainty regarding the event date is sometimes unavoidable, and one has to take some care interpreting the results of an event study in such cases. Next, in order to conduct an event study we have to choose an appropriate benchmark model to measure the normal stock return behaviour. There is a great range of models available in the literature and the main difference of them is the chosen benchmark return model and its estimation interval. For some methods, in order to determine the normal returns requires estimation of some parameters. This estimation is performed through an estimation period $[T_1, T_2]$ which precedes the event period $[t_1, t_2]$. McKinlay (1997) states that it is common to define the event window to be larger than the specific period of interest in order to permit the examination of periods close to the event. Specifically, the period of interest includes multiple days, at least the day of the announcement and the day after the announcement in order to capture the price effects of announcements which occur after the stock market closes on the announcement day. Also, the periods prior to the event and after the event may be considerable. In order to select the estimation window, it is common to choose the period prior to the event window. Generally, the event period itself is not included in the estimation period to deter the fact that can influence the normal performance model parameter estimates. The event date is indicated by t=0. In this paper the time index t count as an event time, the number of days from the event and not the usual calendar time. The time line around the event is depicted by Figure 1 below.

Figure 1



Source: Frank de Jong and Peter de Goeij (2011)

In order to measure the event's impact requires a measure of the abnormal return. The abnormal return (AR) is the ex post return of the security (R) over the event window minus the normal return (NR) of the firm over the event window.

$$ARit = Rit - NRit$$

Plenty of approaches are available to calculate the normal return of a security. The mean-adjusted model uses the benchmark as the average return over some period for example the estimation period (T1,T2). The normal returns is defined as:

$$NRit = \frac{1}{T}\sum_{t=T1}^{T2} Ris$$

where T=T2-T1+1 is the number of time periods in order to calculate the average return (the length of the estimation period). Brown and Warner (1980) use a 35-month period that finishes 10 months before the event. Copeland and Mayers (1982) use an estimation period after the event. The mean-adjusted return model is perhaps the simplest model but Brown and Warner (1980,1985) find that its results are similar to

those of more sophisticated models. This can be attributed to the fact that the variance of the abnormal return is not reduced a lot by choosing a more sophisticated model (McKinlay (1997)). A major disadvantage of this method is the absence of market wide share price movements from the benchmark return. More specifically if the events for different firms happen at the same time, this method can trigger biased results if the whole market goes up or down in the event period. As a result strong abnormal returns will be measured that may not be related to the event but to the market wide price movements. The market index Rmt as the benchmark can be used in order to correct for the above problem:

$$NRit = Rmt$$

An important issue for discussion is which market index is the most suitable to use. As long as US research the best choice is the CRSP equally weighted and value weighted indexes. Brown and Warner (1980) end up that an equally weighted and a value weighted index give the same results. Also the S&P 500 index is a good choice for US research. An important disadvantage of the market adjusted method is a major restriction that assumes that the beta of each stock is equal to one. In general, it is better to use such restricted model if necessary and it is crucial to consider the chances of biases that can originate from the imposition of the restrictions. A better way to calculate abnormal returns is to use a model that relates the return of any given security to the return of the market portfolio. We can calculate abnormal returns as residuals of the market model using the below formula:

$$Rit = ai + \beta iRmt + \varepsilon it$$

where Rit and Rmt are the period-t returns on security i and the market portfolio, respectively, and eit is the zero mean disturbance term. Then, the abnormal returns can be defined as the residuals or prediction errors of the below model,

$$NRit = ai + \beta iRmt$$

where a and β are OLS estimates of the regression coefficients. Most studies and also the study of this paper use an estimation period to estimate the market model preceding the event period. An improvement of the market model comparing to the

mean-adjusted return model is that removes the fraction of the return that is related to variation in the market's return and as a result the variance of the abnormal return is reduced. A possible disadvantage of the market model is the calendar time effects. The weekend effect illustrates that returns on Monday are lower and on Friday a bit higher than on other trading days. Abnormal returns could be biased and not reliable if events are clustered on one of these days. De Jong, Kemna and Kloek (1992) solve this problem by adding calendar dummy variables in the market model from which abnormal returns are calculated.

Alternatively, the CAPM can be used where excess returns can be calculated as:

$$Rit - Rft = \beta i * (Rmt - Rft) + \varepsilon it$$

The normal return of the CAPM is:

$$NRit = Rft + \beta i * (Rmt - Rft)$$

Next, other statistical models like multifactor models can be used. APT is a multifactor model. The APT (Stephen Ross (1976)) is an asset pricing model where the expected return of an asset is a linear combination of multiple risk factors. The gains from employing multifactor models for event studies are limited. Using the APT the most important factor behaves like a market factor and additional factors add little explanatory power. Therefore, there is little reduction in the variance of the abnormal return and the gains from using the APT model instead of the market model are small. In this paper the market model will be used. In order to do the third step as we have already mentioned above the event date is defined as time t = 0. Figure 1 defines the event window as t = t1 to t = t2 and t = T1 to t = T2 constitutes the estimation window. The post event window is t = t1' to t2. It is typical to set the event window larger than one because this can facilitate the use of abnormal returns near the event date. As we have already mentioned above generally the estimation and the event window don't overlap. In our case we consider as event windows the following: (-15,+15), (-10,+10), (-5,+5), (-3,+3), (-1,+1). In our study there is more than one transfer for each football club so each transfer is considered as if it pertains separate firms. We define an event period from t1 to t2 and we assume that we have N firms in

the sample (the total of our sample constitutes 336 firms). We can construct a matrix of abnormal returns that has the below form in figure 2:

Figure 2

$$\begin{pmatrix} AR1,t1.....ARN,t1 \\ | \qquad\qquad | \\ AR1,-1.....ARN,-1 \\ AR1,0.....ARN,0 \\ AR1,1.....ARN,1 \\ | \qquad\qquad | \\ AR1,t2.....ARN,t2 \end{pmatrix}$$

Source: Frank de Jong and Peter de Goeij (2011)

Columns of Figure 2 depict a time series of abnormal returns for firm i and each row is a cross section of abnormal returns for time period t. In order to improve the results of our study and avoid the problem that information unrelated to the event study can affect stock price movements, we average the information over a number of firms and we use the below formula:

$$AARt = \frac{1}{N}\sum_{i=1}^{N} ARit$$

In order to have overall inferences for the event of interest we have to aggregate abnormal return observations over longer periods surrounding the event. We aggregate along two dimensions - through time and across securities. We define cumulative abnormal returns from t1 to t2 (event window) where $T1 \le t1 \le t2 \le T2$. The below formula is used:

$$CARi = ARi,t1 + ... + ARi,t2 = \sum_{t=t1}^{t2} ARit$$

Usually, in event studies CARs are aggregated over the cross-section of events to take cumulative average abnormal returns (CAAR):

$$CAAR = \frac{1}{N}\sum_{i=1}^{N} CARi$$

Another way to obtain CAAR is to aggregate the AARt's over time:

$$CAAR = \sum_{t=t1}^{t2} AARt$$

In order to test whether or not the calculated abnormal returns are statistically different from zero we use the test-statistic. First, we assume that the abnormal returns are independently and identically distributed. We consider that they follow a normal distribution with mean zero and variance σ^2. The independence assumption assumes that all abnormal returns are cross-sectionally uncorrelated: $E(ARitARjt) = 0 \; for i \neq j$.

We want to test the significance of the cumulative abnormal returns across all football transfers. In our test we use robust standard errors. We want to test the abnormal performance of our clubs over longer event periods. We use the following procedure. The null hypothesis to be tested is: H0: E(CARi) = 0

We define the cumulative abnormal return as:

$$CARi = ARi,t1 + ... + ARi,t2 = \sum_{t=t1}^{t2} ARi,t$$

The cross-sectional average is:

$$CAAR = \frac{1}{N}\sum_{i=1}^{N} CARi$$

and standard deviation:

$$S = \sqrt{\frac{1}{N-1}\sum_{i=1}^{N}(CARi - CAAR)^2}$$

The formula of the t-test used is: $\text{TS}=\sqrt{N}\frac{CAAR}{S} \approx N(0.1)$

The central limit theorem states that the test statistic converges to a normal distribution when the number of events increases. We can find non-normality for small samples that use 5 or 10 events. Generally in event studies where the sample is over 30 like in our case, the non-normality of daily returns does not have any significant impact on the event study methodology.

Fama et al (1969) mention in their study that stock returns are not normally distributed but they follow a fat tailed distribution. So the assumption that abnormal returns are normally distributed does not hold. The assumption of cross-sectional homoskedasticity ($\sigma i^2 = \sigma^2$) is very strong especially for daily stock returns which are more volatile than monthly stock returns. In order to solve this problem, it can be used a weighted average of abnormal returns that implements a lower weight on abnormal returns with higher variance. Time-series estimate of the standard deviation of abnormal returns is a common used weight. For the estimation period [T1,T2] can be calculated the time series average of the abnormal returns for firm i.

$$E(ARi) = \frac{1}{(T2 - T1) + 1} \sum_{t=T1}^{T2} ARit$$

The time series variance for football club i is calculated:

$$si = \sqrt{\frac{1}{T2 - T1} \sum_{t=T1}^{T2} (ARit - E(ARi))^2}$$

Then the standardized abnormal return (SAR) is:

$$SARit = \frac{ARit}{Si}$$

The cross sectional average of the SAR's is calculated as below:

$$ASARt = \frac{1}{N}\sum_{i=1}^{N} SARit = \frac{1}{N}\sum_{i=1}^{N} \frac{ARit}{Si}$$

$ASARt$ is a weighted average of the AR's of each firm, using weights that are inversely related to the estimated time-series standard deviation of that particular firm's abnormal return. In case that the variance of the AR's is constant over the period that they use then the variance of the standardized abnormal return is equal to one. If the SAR's are uncorrelated across firms then the t-test is:

$$TS = \sqrt{N} \times ASARt = \frac{1}{\sqrt{N}}\sum_{i=1}^{N} SARit \approx N(0,1)$$

Concerning the cumulative abnormal returns the t-test has the following formula:

$$TS = \sqrt{\frac{N}{T} CASAR} \approx N(0,1)$$

Potential statistical problems of t-test are cross-sectional dependence, event-induced variance, serial correlation, thin or non-synchronous trading and event-date uncertainty. If we have event clustering when several events happen in the same period then it is highly possible that we have cross-sectional correlation between abnormal returns. Brown and Warner (1980) solved this problem with the crude dependence adjustment method which calculates the variance of the average abnormal returns precisely from time series of observations of average abnormal returns in the estimation period. The following formulas indicate that:

$$s = \sqrt{\frac{1}{T-1}\sum_{t=T1}^{T2} (AARt - \frac{1}{T}\sum_{t=T1}^{T2} AARt)^2}$$

The t-test statistic for cumulative abnormal returns is:

$$TS = \frac{1}{\sqrt{T}} \frac{CAAR}{S} \approx N(0,1)$$

Through the Central Limit Theorem the t-test converges to a standard normal distribution as the sample getting larger. The assumption that the variance of abnormal returns is the same over time is often violated. It is violated when we have event-induced variance. Boehmer et al (1991) construct a t-test that divides the average standardized abnormal returns by their estimated cross sectional standard deviation. Next, Brown and Warner (1985) mention that for short-horizon event studies serial correlation is minimal but for long-horizon event studies is a potential problem. In some studies it is difficult to identify the accurate date of the event date and there is an event-date uncertainty. A method to approach this problem is to expand the event window to two days (day 0 and day +1). Finally, Scholes and Williams (1977) deal with the problem of non-synchronous trading by calculating a consistent estimator of beta in the presence of non trading based on the assumption that the true return process is uncorrelated through time.

In our study we use daily data. Some authors state that even in large samples the assumption that returns are distributed normally is very poor and the Central Limit Theorem does not hold but as we mentioned above we deal with this problem.. Also in our case we used some transfers that were announced in very close dates. In order to account for event clustering we test the significance of the abnormal returns by using the Wilcoxon signed-rank test which is a non-parametric test. The Wilcoxon signed-rank test is distribution-free and robust to event clustering.

3.2.2 Factors that affect CARs for player acquisitions and sales

The second part of our study is related to any characteristics that can affect the CARs in the event windows that we mentioned above during an acquisition or a sale of a player. In order to do that we run OLS regressions.

Choice of variables

Gerrard and Dobson (1997) prove that there are monopoly rents in the transfer fees by testing if buying-club characteristics are important determinants to influence transfer fees after controlling for player characteristics, time effects and selling-club

characteristics. Following the study of Gerrard and Dobson (1997), Dobson, Gerrard and Howe (2000) use four sets of variables to determine the factors that can affect transfer fees. The four sets of variables are: i. player characteristics; ii. time effects; iii. selling-club characteristics; and iv. buying-club characteristics. In our study we use mainly variables of the above scientific studies. We do not use all of them due to the fact that some of them are not applicable to our study and also in some cases we can not find accurate data. We divide player characteristics as career/experience, current-form and positional characteristics. As for career/experience we have the player's age (AGE) where experience increases with age but we expect that ability will decline. So we use also a quadratic term of age (AGESQ) in order to test for possible non-linear relationship. We measure the current form of a player by using data that indicate the number of appearances (APPS) and goals scored (GOALS) for the season prior to the transfer. Next, we combine these two variables to calculate the goals scored per game in the previous season (GOALRATE). We categorize players as defenders, midfielders and attackers and we incorporate three positional dummy variables DEF, MID and FOR to capture any positional characteristics. We interact the dummy variable FOR with GOALRATE to give GRFOR variable as Dobson, Gerrard and Howe (2000) did in their paper. We also include a quadratic term (GRFORSQ) to capture any nonlinear effects. As time effects we use the dummy variable (CLOSE) which takes zero value if we have a transfer during the playing-season and the value one if the transfer occurs during the close-season. Next, we incorporate the selling-club characteristics. We use a variable which indicates the league position in the season prior to the transfer (SPPOS), goal difference in the previous season (SELLGD), average league attendance in the previous season (SGATE) and number of seats in the selling club's football stadium (SSEAT). As for buying-club characteristics we use a similar set of variables to those for the selling-club. The league position of the buying club in the season prior to the transfer (BPPOS), goal difference in the season prior to the transfer (BGD), average league attendance of the buying club in the previous season (BGATE) and the number of seats in the buying club's stadium (BSEAT). Finally, we use a set of control variables where we incorporate the time effects that we mentioned above but also the transfer fee (TRANSFERSUM) of the acquisition or sale of the player. We rescale the transfer fee with the natural logarithm because the rise in values of football players is exponential as players become more expensive through time. In the set of control

variables we also added 4 dummy variables that indicate the stock exchange that each football club was listed or is still listed. These variables include clubs listed in the London Stock Exchange (LSE), Alternative Investment market (AIM), OFEX (OFEX) and the STOXX Europe Football Index (SEFI). Finally, we add the dummy variable White to test for racial discrimination in players as Reilly and Witt (1995) did in their study. In table 6 can be seen an overview of the definitions of the variables.

(Insert Table 6 here)

3.2.3 Econometric model

It is now possible to construct an econometric model after choosing the variables. An ordinary least squares method will be used to estimate the unknown parameters. Concerning the acquisitions of players the econometric model will have the following formula:

$$\begin{aligned}\text{CARi} = \beta o + \beta 1 * \text{AGE}^2\text{i} + \beta 2 * CLOSEi + \beta 3 * APPSi + \beta 4 * GRFORi + \beta 5 * \\ BPOSi + \beta 6 * \text{BGDi} + \beta 7 * \text{BG}ATEi + \beta 8 * BSEATi + \beta 9 * AIMi + \beta 10 * \\ WHITEi + \beta 11 * TRANFERSUMi + \varepsilon t\end{aligned}$$

fot i = 1,2,..,184

As for the Sales of the players the econometric model is:

$$\begin{aligned}\text{CARi} = \beta o + \beta 1 * \text{AGE\^{}2i} + \beta 2 * \text{CLOSEi} + \beta 3 * \text{APPSi} + \beta 4 * \text{GRFORi} + \beta 5 \\ * \text{SPPOi} + \beta 6 * \text{SELLGDi} + \beta 7 * \text{SGATEi} + \beta 8 * \text{SSEATi} + \beta 9 * \text{AIMi} \\ + \beta 10 * \text{LSEi} + \beta 11 * \text{WHITEi} + \beta 12 * \text{MIDi} + \beta 13 * \text{DEFi} + \beta 14 \\ * \text{TRANSFERSUMi} + \varepsilon t\end{aligned}$$

for i = 1,2,...,152

Subscript i depicts the CAR of each specific transfer of player. These two models explain which variables can be used to represent player characteristics, time-effects, buying club characteristics and selling club characteristics. In section four we discuss the results of the regressions.

3.2.4 Summary Statistics

Summary statistics for acquisitions and sales of players depict that the mean transfer sum for sales of players which is € 18,124,752 million is higher than that of acquisition of players which is € 15,163,522 million. For acquisitions, the transfer fee ranges from € 8,019,912 to € 88,522,859 and for sales ranges from € 8,217,792 to € 56,552,662. The average age of players for acquisitions is 24.46 and for sales 25.01. Next, the average goalrate for acquisitions is 0.24 and is slightly higher than that of sales which is 0.22. In terms of average league attendances, buying clubs have higher league attendance which is 48,789 people than that of selling clubs which is 40,617. However, in performance terms buying clubs perform slightly poorer than selling clubs by measuring the goal difference which is 23.64 for buying clubs and 24.51 for selling clubs. A detailed overview of the summary statistics is presented in tables 7a and 7b.

(Insert Tables 7a and 7b here)

4. Results

The results of the CAARs in the below tables are robust to event clustering. It can be seen in Table 8 the market reaction to football player transfers measured by the CAARs. We use five event windows surrounding the official announcement date of the football transfer or the next working day closest to the event. More specifically, concerning the acquisitions of football players we can notice negative cumulative abnormal returns for the event windows (-1,+1), (-3,+3), (-5,+5), (-10,+10), (-15,+15): -0.63%, -1.09%, -1.60%, -2.75%, -3.95%, respectively. The abnormal returns for longer event windows such as (-10,+10) and (-15,+15) are significant at 5% and robust for event clustering. Shorter event windows such as (-1,+1), (-3,+3) and (-5,+5) are insignificant. As for the sales of football players we can see that the sign of cumulative average abnormal returns is positive for all event windows and all event windows except from (-1,+1) are statistically significant. For the event windows (-1,+1), (-3,+3), (-5,+5), (-10,+10), (-15,+15) the change is 1.37%, 1.20%, 1.92%, 1.91%, 3.86%, respectively. The CAARs for the event windows (-3,+3), (-5,+5) and (-15,+15) are statistically significant at the 1% level of significance and for the event

window (-10,+10) the CAAR is statistically significant at the 10% level of significance. The above results and the signs of the CAARs are consistent with the finding of the study of Fotaki et al (2009) who found that shareholders react significantly to changes in human resources and more specifically player sales have a positive effect on share prices near the announcement date with highly significance and also acquisitions have negative impact on share prices which is statistically significant at the 8% level of significance. According to Fotaki et al (2009) a negative sign to player acquisitions depicts a possible non-synergetic explanation of the human resources turnover process. Possible explanations are that managers of football clubs want to achieve their own goals and aspirations rather than maximize the shareholders wealth. Also there may be an information asymmetry between the acquiring team and the player in terms of form, injuries, player's condition etc. Another explanation is that shareholders think that the market of players is not fully efficient and football players many times tend to be overpriced. Hitt et al (2001) mention that the acquisition of human resources has a curvilinear effect on performance which investors may think that is negative in the early stages.

(Insert Table 8 here)

Table 9 depicts the CAARs for player acquisitions and sales of UK football clubs and European football clubs. The market reaction of football player acquisitions is negative across all event windows for UK and European clubs. This is consistent with the combined sample of Uk and European clubs acquisitions of table 8. As for the Uk clubs in panel A for the event windows (-1,+1), (-3,+3), (-5,+5), (-10,+10), (-15.+15) we have an impact of -0.17%, -0.39%, -1.49%, -3.28%, -4.56%, respectively. None of the CAARs across the above event windows are statistically significant. Turning to the European clubs we can notice that there are not any statistically significant result across all event windows. For the event windows (-1,+1), (-3,+3), (-5,+5), (-10,+10), (-15,+15) the share impact is -1.09%, -2.08%, -1.70%, -2.08%, -3.35%, respectively. In panel B we can see that the sales of players of football clubs result in a positive market reaction across all event windows for UK and European football clubs. This is consistent with the findings in table 8 where we combine the transfer data of UK and European clubs. In Uk clubs the table 9 shows that we have statistically significant results for longer event windows. For the event window (-5,+5) the abnormal return 1.87% which is statistically significant at the 5%

level. For the event windows (-10,+10) and (-15,+15) the impact is 2.94% and 3.85%, respectively. In both event windows, the abnormal returns are statistically significant at the 10% level of significance. For shorter event windows such as (-1,+1) and (-3,+3) the cumulative average abnormal return is positive but statistically insignificant. Checking for event clustering we can see that the Wilcoxon p-value for the event window (-5,+5) is 0.0486 which is statistically significant. Turning to the subsample of Sales for European clubs we can see that the CAAR for the event windows (-1,+1) (-3,+3), (-5,+5), (-10,+10), (-15,+15) is 0.15%, 1.34%, 1.95%, 1.29%, 3.86%, respectively. The CAAR for the event windows (-3,+3) and (-5,+5) are statistically significant at the 5% level and for the event window (-15,+15) is statistically significant at the 10% level of significance. As for the remaining CAARs we result in insignificant results. The p-value for the Wilcoxon signed rank test is statistically significant for the event windows (-3,+3) and (-5,+5).

(Insert Table 9 here)

Table 10 shows the market reaction to football player transfers that occurred in the close season and the playing season[7] for the combined sample of European and UK clubs. Dobson, Gerrard and Howe (2000) examine the factors that determine the transfer fees in the semiprofessional or nonleague football games. As for the determinants of transfer fees, they control for player characteristics, time effects, selling and buying club characteristics. One of the findings concerns the time effects where they conclude that football clubs pay a premium if they purchase a player during the playing season. In panel A, concerning the subsample of close season acquisitions we can see that the CAARs have all a negative sign. For the event windows (-1,+1), (-3,+3), (-5,+5), (-10,+10), (-15,+15) the share price yield a negative impact of -0.74%, -1.39%, -2.64%, -4.37%, -6.08%, respectively. The results for the shorter event windows of (-1,+1) and (-3,+3) are statistically significant and robust at the 10% level however the results of the Wilcoxon test for these event windows depict some caution. As for the event windows (-5,+5), (-10,+10) and (-15,+15) the results are robust and statistically significant at the 10% and 1% level of significance respectively. The subsample of playing season acquisitions consists of 34 observations. It depicts negative CAARs across all event windows. In longer event

windows (-10,+10) and (-15,+15) we can notice only statistical significant results in the 5% level which yield a negative share impact of -6.63% and -9.37%. The results in panel A concerning the acquisitions of players are consistent with the results in table 8 and the sign of the coefficients across all event windows is negative. In panel B the sign of the coefficients concerning the subsample of close and playing season sales are positive across all event windows and the results are consistent with the findings of Table 8. We have to mention that the subsample of playing season transfers is very limited with only 28 transfers and this can trigger more caution to our results. As for the close season sales the CAARs for the event windows (-1,+1), (-3,+3), (-5,+5), (-10,+10) and (-15,+15) are 0.12%, 1.20%, 1.80%, 1.44%, 3.04%, respectively. The results for the event windows (-3,+3) and (-5,+5) are statistically significant at the 1% level and for the event window (-15,+15) the CAAR is statistically significant at the 10% level of significance. In the remaining event windows the results are not statistically significant. Finally, in the subsample of the playing season transfers the results for the event windows (-5,+5), (-10,+10) and (-15,+15) are statistically significant at the 5%, 1% and 5% level, respectively. We can notice that the impact in longer event windows is quite high for the event windows (-10,+10) and (-15,+15) which is 6.74% and 9.30% in comparison with shorter event windows such as (-1,+1) and (-3,+3) which is 0.51% and 1.62%.

(Insert Table 10 here)

[7]The playing season transfer period is from 1st of January till 2nd of February and the close season is from 1st of July till 31st of August.

As we mentioned in previous section, we will try to explain the determinant factors of CAARs of player acquisitions and sales. Below you can find the interpretation of the results of the OLS regressions. Dobson and Gerrard (1997) and Dobson, Gerrard and Howe (2000) argue that transfer fees of football players can be determined after controlling for player characteristics, time effects and buying and selling club characteristics. First, we have to mention that we provide an analytic overview of the definitions of the variables in table 6 in section 3. Concerning acquisitions our sample consists of 184 observations. In table 11a we regress the dependent variable which is the CAR on the quadratic term of players age in order to allow for a nonlinear relationship due to the fact that the player's ability declines as becomes older, the variable APPS and the variable GRFOR which both of them account for the players characteristics. Also we regress the dependent variable CAR on the buying club's characteristics which we can measure them with the variables BPOS, BGD, BGATE, BSEAT. Moreover, we account for time effects with the dummy variable CLOSE and finally we use a set of control variables such as the dummy variable AIM , the dummy variable WHITE to account for possible discrimination effects like Reilly and Witt (1995) test in their study and at last we use the variable TRANSFERSUM. As for the event window (-1,+1) we can notice that the independent variables BPOS, BGD and TRANSFERSUM are statistically significant at 10% level of significance. All of them have a positive sign and they suggest that a buying club's league position in the season prior to the transfer, buying's clubs goal difference and the transfer fee of a transfer of a player have a positive impact in the CAR. The greatest impact on CAR of the above variables has BGD where one standard deviation increase results in 1.43% increase of the dependent variable CAR. Next to the event window (-3,+3) we can see that the coefficients of the variables BPOS and BGD are positive and significant in 5% level but the variable TRANSFERSUM is insignificant. In the event window (-5,+5) the variable TRANSFERSUM is significant at the 1% level and the variable BGD is significant at 10% level. Both variables have positive coefficients. Next to the event window (-10,+10) we can see that we have significant coefficient at the 10% level for the dummy variable CLOSE which depicts whether a transfer took place in the close season or not. The dependent variable CAR is negatively related to CLOSE that shows that transfers in the close season have negative impact in the CAR. The strength of the impact is -7.4%. The independent variable APPS which depicts the

number of appearances of the player the season prior to the transfer has negative coefficient at the 10% level. At longer event windows the variable BPOS is statistically significant at the 10% level but it has negative sign and lowers the CAR. The coefficient of the variable TRANSFERSUM is positive and statistically significant at the 5% level that depicts the positive impact of the transfer fee at the CAR. The last event window that we test is (-15,+15). The quadratic term of age is statistically significant at the 10% level and the coefficient is negative which shows that CARs increase at a decreasing rate with age. The negative impact to the CAR is -0.07%. Next, the dummy variable CLOSE has again negative sign and it is statistically significant at the 1% level. The reduction of the CAR from this variable is -14.18%. The variable APPS is negative and statistically significant at 10% level and finally the coefficient of the variable TRANSFERSUM is positive and statistically significant at 5% level.

(Insert Table 11a here)

In table 11b concerning the sales of players we use as independent variables the quadratic term of players age, the variables APPS, GRFOR, MID and DEF which count for the player characteristics. We also use the dummy variable CLOSE to capture time effects. We use the variables SPPOS, SELLGD, SGATE, SSEAT to measure the impact of the selling club characteristics and at last we use a set of control variables such as the dummy variables AIM, LSE, WHITE and the variable TRANSFERSUM. Our sample consists of 152 observations. As for the event window (-1,+1) the variable APPS which depicts the number of appearances of the player the season prior to the transfer is statistically significant at 5% level and has a positive impact to the CARs resulted from the sales of players. The variable APPS increases the dependent variable CAR at 1.01%. The variable GRFOR is statistically significant at the 10% level and has a positive sign. The dummy variable AIM which depicts football clubs that are listed in the Alternative Investment Market is statistically significant at the 10% level and has a positive impact of 5.1% to the CAR. Also the positional dummy variables MID and DEF are both significant at the 10% level and increase the CAR. Next to the event window (-3,+3), the variable that shows the number of appearances of the player the season before the transfer increase the CAR about 1.07% and it is statistically significant at the 5% level. The variable SGATE which shows the average league attendance of the selling club in the season previous

to the transfer has a negative impact on the dependent variable at the 10% level. Also, the number of seats of the selling club's stadium seems to have a positive and significant impact at the 10% level. At last, the dummy variable AIM is significant at the 5% level and has a positive coefficient. In the event window (-5,+5) we can see that the variables SGATE and SSEAT are statistically significant at the 10% level and the first one has a negative coefficient and the second one has a positive impact to the CAR. So we can see that if the number of league attendance for the selling club gets higher then this can lower the CAR but on the other hand selling clubs that have bigger stadiums can increase the CAR. The variable APPS is again positive and statistically significant but now at the 10% level. As we test for longer event windows, we notice that a greater number of variables are statistically significant. The dummy variable AIM is statistically significant at the 5% level and yield a strong positive impact of 15.51% to the CAR. The positional dummy variables MID and DEF are statistically significant at 1% and 10% level respectively. The first one has a negative impact of -11.19% and the reduction of the second one is -8.25%. The variable APPS is positive and statistically significant at all event windows and at the event window (-10,+10) is significant at the 10% level. The variables SPPOS and SSEAT which measures part of the selling club characteristics are significant at the 10% level and they are both positive. The variable SPPOS which depicts the selling club league position at the period prior to the transfer has a positive impact of 2.74%.

Finally, we test the characteristics that affect the CARs at the event window (-15,+15). The dummy variables MID and DEF that depicts which players are midfielders and defenders are statistically significant at the 1% and 5% level, respectively. They are both negative and they have both a strong negative impact to the CAR. The dummy MID lowers the CAR -16.95% and the reduction of the dummy DEF is -14.32%. The variables that shows the selling club characteristics are all statistically significant. SPPOS, SELLGD, SSEAT are positive and statistically significant at the 1% and 10% level. The variable which depicts the average number of attendance for the previous year of the transfer is negative and significant at the 5% level. The coefficient of the variable GRFOR is negative and statistically significant at the 10% level. Next, if a player has more appearances in the season prior to the transfer this can increase the impact in the CAR. The last variable that is statistically significant at the 10% level is the dummy AIM which can increase the dependent variable CAR by 15.83%.

(Insert table 11b here)

5. Conclusion

This paper has investigated whether the share prices of 30 soccer clubs listed in the LSE, AIM, OFEX and the STOXX Europe Football Index are influenced by sales or acquisitions of football players. We used a sample of 336 football transfers greater than € 8 million covering the period 1998-2012. We conducted an event study and we tested our results across five different event windows. We found evidence that shareholders react significantly to changes in human resources of listed football clubs. The results show that sales of players have positive effect to stock prices and acquisitions of players have negative effect. It has to be mentioned that the impact on shareholder's wealth is getting stronger as the event window is getting bigger around the official announcement of the transfer which is the event date. Possible explanation for the negative effect of an acquisition of a player could be that shareholders consider the football players market as inefficient and for that reason they tend to overprice their values. Another explanation could be the fact that shareholders are myopic and take into account only the negative effect that new football players may have in their early stages into the firm. Finally, information asymmetry may arise because the acquiring team is in a position that cannot have completely access to detailed information of the player such as minor injuries, form, unpredicted injuries, etc. Further research would be possible to test for comparable results in other industries. Also, it would be interesting to measure the impact of human resources turnover on stock price volatility. The second topic that investigated in this paper is the determinant factors that can explain the cumulative abnormal returns of incoming and outgoing football players for five different event windows. In order to obtain our results we develop a theoretical model and we run OLS regressions. We use four sets of explanatory variables which consist of player characteristics, buying and selling club characteristics and time effects. Concerning the acquisitions the variable that is statistically significant for 4 out of 5 event windows is the transfer fee of each football transfer. Great impact has the dummy variable CLOSE which depicts the transfers that occurred during the end of the season. As for the sales the variable which represents the number of appearances of the football players for the season prior to the transfer and the variable that depicts the number of seats of the selling's club stadium are statistically significant across all the event windows. However, the variable with

the greater impact for longer event windows is the dummy variable which represents the midfielder players. Further research can be conducted for the determinants of cumulative abnormal returns in case we take into account the fact that remaining contract duration for the transferred player may has major importance for the strength of the cumulative abnormal return. Finally, variables measuring the financial performance of the teams and the number of times that players are most valuable during a football season prior to the transfer can be incorporated in our model.

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Appendix

Table 1

Listed UK football clubs and European clubs by stock exchange

This Table depicts the names of football clubs traded via LSE, AIM, OFEX and STOXX Europe Football Index

a. listed on the STOXX Europe Football Index
AFC Ajax, AS Roma, Besiktas, Borussia Dortmund, Fenerbahce Sportif Hizmet, Futebol Clube Do Porto, Galatasaray, Juventus, Olympique Lyonnais, Sporting Lisboa E Benfica, SS Lazio, Trabzonspor Sportif Yatir, Celtic, Sporting Lisbon
b. listed on the London Stock Exchange (LSE)
Aston Villa, Leeds United, Leicester City, Manchester United, Newcastle United, Southampton, Sunderland, Tottenham Hotspur,
c. listed on the Alternative Investment Market (AIM)
Birmingham City, Charlton Athletic, Chelsea FC, Nottingham Forest, Watford
d. traded via OFEX
Arsenal, Manchester City, Rangers FC,

Source: http://www.stoxx.com http://www.footballeconomy.com and Official Football Clubs Web Sites

Table 2

Listed clubs and share price returns after the Initial Public Offering

This table shows the listed soccer clubs included in our sample and gives the date of the Initial Public Offering and gives the date of the Initial Public Offering and the change in stock price 1 week and 1 month after the floatation.

Listed Club	Country	IPO date	Delisting date	Change in Stock price	
				After 1 week	*After 1 month*
AFC Ajax	The Netherlands	11/05/1998	-	-13%	-14%
Arsenal	United Kingdom	09/08/2002	-	4%	4%
AS Roma	Italy	22/05/2000	-	3%	0%
Aston Villa	United Kingdom	06/05/1997	17/10/2006	-18%	-26%
Besiktas	Turkey	19/02/2002	-	-41%	-58%
Birmingham City	United Kingdom	22/03/1997	11/11/2009	-5%	-28%
Borussia Dortmund	Germany	30/10/2000	-	-11%	-20%
Celtic	United Kingdom	28/09/1995	-	16%	-25%
Charlton Athletic	United Kingdom	20/03/1997	21/09/2006	46%	53%
Chelsea FC	United Kingdom	29/03/1996	26/08/2003	-20%	-19%
Fenerbahce Sportif Hizmet	Turkey	17/09/2004	-	-2%	-5%
Futebol Clube Do Porto	Portugal	01/06/1998	-	-13%	-16%
Galatasaray	Turkey	19/02/2002	-	-25%	-28%
Juventus	Italy	19/12/2001	-	-4%	-4%
Leeds United	United Kingdom	06/12/1989	28/04/2004	44%	48%
Leicester City	United Kingdom	22/04/1997	25/11/2002	0%	-25%
Manchester City	United Kingdom	26/02/2002	23/07/2007	-11%	-11%
Manchester United	United Kingdom	07/06/1991	21/06/2005	-25%	-25%
Newcastle United	United Kingdom	01/04/1997	18/07/2007	2%	-10%
Nottingham Forrest	United Kingdom	09/10/1997	16/04/2002	-25%	-25%
Olympique Lyonnais	France	08/02/2007	-	-2%	-10%
Rangers Football Club	United Kingdom	22/04/1988	30/07/2012	0%	0%
Southampton	United Kingdom	21/04/1994	02/10/2009	-2%	-36%
Sporting Lisboa E Benfica	Portugal	22/05/2007	-	-45%	-36%
Sporting Lisbon	Portugal	02/06/1998	-	-14%	-20%
SS Lazio	Italy	06/05/1998	-	-7%	-15%
Sunderland	United Kingdom	23/12/1996	05/08/2004	28%	26%
Tottenham Hotspur	United Kingdom	12/10/1983	16/01/2012	-7%	-4%
Trabzonspor Sportif Yatir	Turkey	15/04/2005	-	-6%	-5%
Watford	United Kingdom	01/08/2001	01/06/2011	25%	25%

Source: http://www.footballeconomy.com, Datastream, STOXX Europe Football Index, official websites clubs

Table 3

Stadium Capacity and Occupancy rates of listed football clubs

This Table shows the country of origin, the Stadium name, Stadium Capacity and the average occupancy rate for the period 1998-2012 for the listed football clubs used in the sample.

Listed Club	Country	Stadium Name	Stadium Capacity	Occupancy rate (%)
AFC Ajax	The Netherlands	Amsterdam ArenA	53,052	95
Arsenal	United Kingdom	Emirates Stadium	60,361	99
AS Roma	Italy	Stadio Olimpico	70,634	51
Aston Villa	United Kingdom	Villa Park	42,788	79
Besiktas	Turkey	Inonu Stadi	32,086	73
Birmingham City	United Kingdom	St Andrew's	30,016	63
Borussia Dortmund	Germany	Westfalenstadion	80,720	100
Celtic	United Kingdom	Celtic Park	60,500	84
Charlton Athletic	United Kingdom	The Valley	27,111	64
Chelsea FC	United Kingdom	Stamford Bridge	41,837	99
Fenerbahce Sportif Hizmet	Turkey	Sukru Saracoglou	50,530	84
Futebol Clube Do Porto	Portugal	Estadio do Dragao	50,399	70
Galatasaray	Turkey	Turk Telekom Arena	52,650	79
Juventus	Italy	Juventus Stadium	41,000	92
Leeds United	United Kingdom	Elland Road	39,460	59
Leicester City	United Kingdom	King Power Stadium	32,312	71
Manchester City	United Kingdom	Etihad Stadium	48,000	98
Manchester United	United Kingdom	Old Trafford	75,811	99
Newcastle United	United Kingdom	St James' Park	52,339	95
Nottingham Forrest	United Kingdom	City Ground	30,756	71
Olympique Lyonnais	France	Stade Gerland	40,494	87
Rangers Football Club	United Kingdom	Ibrox Staddium	51,082	91
Southampton	United Kingdom	St Mary's Stadium	32,689	94
Sporting Lisboa E Benfica	Portugal	Estadio da Luz	64,400	66
Sporting Lisbon	Portugal	Estadio Jose Alvalade	50,049	69
SS Lazio	Italy	Stadio Olimpico	72,698	45
Sunderland	United Kingdom	Stadium of Light	49,000	80
Tottenham Hotspur	United Kingdom	White Hart Lane	36,310	99
Trabzonspor Sportif Yatir	Turkey	Huseyin Avni Aker	24,169	70
Watford	United Kingdom	Vicarage Road	17,477	73

Source: http://www.stadiumguide.com http://www.emfootball.co.uk http://www.football-league.co.uk http://www.european-football-statistics.co.uk and official website clubs

Table 4

Total Transfers of players, Costs and Revenues per Football Club

This table presents the listed soccer clubs included in our sample and gives the total transfers, total costs and total revenues. This table represents transfers equal or above € 8 million for the period 1998 - 2012. In this sample, the total number of transfers is 336, of which 184 are acquisitions and 152 sales. The number of 151 transfers concern UK clubs and 185 transfers European clubs. The total cost of the transfers is € 2.88 billion and the total revenue is € 2.72 billion.

Football Clubs	Acquisitions	Sales	Total Transfers	Total Costs (€)	Total Revenues (€)
Arsenal	16	9	25	235,250,748	226,083,949
Aston Villa	6	3	9	59,265,091	42,443,267
Birmingham City	2	2	4	18,065,365	22,311,806
Leeds United	5	6	11	77,175,294	109,502,643
Charlton Athletic	0	1	1	-	14,394,714
Sunderland	1	0	1	11,310,132	-
Tottenham Hotspur	26	9	35	362,767,812	152,583,962
Chelsea FC	1	1	2	12,184,097	9,778,692
Manchester City	4	3	7	52,576,928	52,263,932
Manchetser United	11	3	14	234,397,157	88,204,490
Newcastle United	13	3	16	256,100,325	44,238,066
Nottingham Forest	0	1	1	-	8,225,550
Southampton FC	0	8	8	-	90,069,777
Celtic	4	2	6	36,970,593	19,689,911
Leicester City	0	2	2	-	25,833,370
Watford	0	1	1	-	13,572,158
Rangers FC	2	6	8	28,563,216	71,568,522
Juventus	22	8	30	319,984,662	114,870,721
AS Roma	13	8	21	218,977,607	121,507,223
SS Lazio	11	10	21	291,749,828	294,909,198
Sporting Lisbon	1	6	7	9,096,384	91,220,096
Sporting Lisboa E Benfica	6	6	12	59,179,476	168,189,857
Futebol Clube Do Porto	8	22	30	90,117,296	464,023,878
AFC Ajax	6	13	19	59,378,191	214,443,842
Galatasaray	2	2	4	17,582,114	21,746,299
Fenerbahce Sportif Hizmet	8	2	10	80,911,094	22,620,264
Besiktas	1	0	1	8,225,550	-
Trabzonspor Sportif Yatir	0	2	2	-	19,227,224
Olympique Lyonnais	9	7	16	245,283,787	118,841,743
Borussia Dortmund	6	6	12	95,467,796	72,744,712
Total	184	152	336	2,880,580,543	2,715,109,866

Source: http://www.transfermarkt.co.uk/ http://www.soccerbase.com/ and official football clubs websites

Table 5a

List of football transfers

This table presents the total number of football transfers used in our sample. The transfers involve sales and acquisitions of players with market values equal or above € 8 million. The clubs are listed at the date of the official announcement of the transfer. The total number of transfers is 336 and 28 transfers are named twice because both football clubs are listed at the date of the announcement of the transfer. The sample of transfers involves 30 listed football clubs, 17 out of them are UK football clubs and 13 come from the rest of Europe.

Player	From Club	To Club	Transfer Window	Season	Transfer Announcement	Transfer Amount (€)
Santi Cazorla	Malaga Cf	Arsenal	Summer	2012-2013	07/08/2012	19,535,683
Lukas Podolski	FC Koln	Arsenal	Summer	2012-2013	02/07/2012	12,338,326
Alex O. Chamberlain	Southampton	Arsenal	Summer	2011-2012	08/08/2011	14,189,075
Gervinho	Lille	Arsenal	Summer	2011-2012	12/07/2011	12,338,326
Mikel Arteta	Everton	Arsenal	Summer	2011-2012	31/08/2011	12,338,326
Laurent Koscielny	Lorient	Arsenal	Summer	2010-2011	07/07/2010	12,852,423
Thomas Vermaelen	Ajax	Arsenal	Summer	2009-2010	01/07/2009	12,338,326
Andrey Arshavin	Zenit	Arsenal	Winter	2008-2009	02/02/2009	16,965,198
Samir Nasri	Marseille	Arsenal	Summer	2008-2009	11/07/2008	16,451,101
Eduardo	Dinamo Zagreb	Arsenal	Summer	2007-2008	02/07/2007	13,880,617
Bacary Sagna	Auxerre	Arsenal	Summer	2007-2008	12/07/2007	9,253,744
Tomas Rosicky	Borussia Dortmund	Arsenal	Summer	2006-2007	23/05/2006	10,281,938
Tomas Rosicky	Borussia Dortmund	Arsenal	Summer	2006-2007	23/05/2006	10,281,938
Aleksandr Hleb	VFB Stuttgart	Arsenal	Summer	2005-2006	01/07/2005	15,422,907
Theo Walcott	Southampton	Arsenal	Winter	2005-2006	20/01/2006	10,796,035
Theo Walcott	Southampton	Arsenal	Winter	2005-2006	20/01/2006	10,796,035
Emmanuel Adebayor	Monaco	Arsenal	Winter	2005-2006	13/01/2006	10,281,938
J. Antonio Reyes	Sevilla FC	Arsenal	Winter	2003-2004	28/01/2004	35,986,785
Stiliyan Petrov	Celtic	Aston Villa	Summer	2006-2007	30/08/2006	10,281,938

Stiliyan Petrov	Celtic	Aston Villa	Summer	2006-2007	30/08/2006	10,281,938
Milan Baros	Liverpool	Aston Villa	Summer	2005-2006	23/08/2005	9,089,233
Bosko Balaban	Dinamo Zagreb	Aston Villa	Summer	2001-2002	24/08/2001	8,019,912
Juan Pablo Angel	River Plate	Aston Villa	Winter	2000-2001	15/01/2001	14,805,991
Dion Dublin	Coventry City	Aston Villa	Winter	1998-1999	05/11/1998	8,842,467
Steve Stone	Nottingham Forest	Aston Villa	Winter	1998-1999	01/03/1999	8,225,550
Steve Stone	Nottingham Forest	Aston Villa	Winter	1998-1999	01/03/1999	8,225,550
Emile Heskey	Liverpool	Birmingham City	Summer	Birmingham City	20/05/2004	9,582,766
David Dunn	Blackburn	Birmingham City	Summer	Birmingham City	03/07/2003	8,482,599
Robbie Keane	Inter	Leeds United	Summer	Leeds United	21/5/2001	18,507,489
Seth Johnson	Derby County	Leeds United	Winter	Leeds United	18/10/2001	11,824,229
Rio Ferdinand	West Ham	Leeds United	Summer	Leeds United	27/11/2000	26,639,568
Olivier Dacourt	Lens	Leeds United	Summer	Leeds United	15/05/2000	10,796,035
Mark Viduka	Celtic	Leeds United	Summer	2000-2001	21/07/2000	9,407,973
Mark Viduka	Celtic	Leeds United	Summer	2000-2001	21/07/2000	9,407,973
Tore Andre Flo	Rangers	Sunderland	Summer	2002-2003	30/08/2002	11,310,132
Tore Andre Flo	Rangers	Sunderland	Summer	2002-2003	30/08/2002	11,310,132
Rafael van der Vaart	Real Madrid	Tottenham	Summer	2010-2011	31/08/2010	10,281,938
Sandro	Internacional	Tottenham	Summer	2010-2011	18/08/2010	10,281,938
Peter Crouch	Portsmouth	Tottenham	Summer	2009-2010	27/07/2009	10,796,035
Sebastien Bassong	Newcastle	Tottenham	Summer	2009-2010	06/08/2009	9,562,202
David Bentley	Blackburn	Tottenham	Summer	2008-2009	30/07/2008	22,620,264
Luka Modric	Dinamo Zagreb	Tottenham	Summer	2008-2009	01/07/2008	21,592,071
Roman Pavluychenko	Spartak Moscow	Tottenham	Summer	2008-2009	01/08/2008	17,890,573
Robbie Keane	Liverpool	Tottenham	Winter	2008-2009	02/02/2009	17,170,837
Jermain Defoe	Portsmouth	Tottenham	Winter	2008-2009	06/01/2009	16,862,379

Wilson Palacios	Wigan	Tottenham	Winter	2008-2009	21/01/2009	15,422,907
Heurelho Gomes	PSV Eindhoven	Tottenham	Summer	2008-2009	01/07/2008	9,253,744
Darren Bent	Charlton Athletic	Tottenham	Summer	2007-2008	29/06/2007	25,447,798
Vedran Corluka	Manchester City	Tottenham	Summer	2008-2009	01/09/2008	14,189,075
Alan Hutton	Rangers	Tottenham	Winter	2007-2008	30/01/2008	13,366,520
Younes Kaboul	Auxerre	Tottenham	Summer	2007-2008	05/07/2007	12,338,326
Jonathan Woodgate	Middlesbrough	Tottenham	Winter	2007-2008	28/01/2008	11,104,493
Dimitar Berbatov	Bayer Leverkusen	Tottenham	Summer	2006-2007	03/07/2006	16,142,643
Didier Zokora	Saint-Etienne	Tottenham	Summer	2006-2007	17/07/2006	12,698,194
Pascal Chimbonda	Wigan	Tottenham	Summer	2006-2007	31/08/2006	10,281,938
Jermaine Jenas	Newcastle	Tottenham	Summer	2005-2006	31/08/2005	15,422,907
Jermaine Jenas	Newcastle	Tottenham	Summer	2005-2006	31/08/2005	15,422,907
Andy Reid	Nottingham Forest	Tottenham	Winter	2004-2005	03/01/2005	8,225,550
Jermain Defoe	West Ham	Tottenham	Winter	2003-2004	02/02/2004	10,796,035
Helder Postiga	FC Porto	Tottenham	Summer	2003-2004	25/06/2003	9,253,744
Robbie Keane	Leeds	Tottenham	Summer	2002-2003	2/9/2002	10,796,035
Robbie Keane	Leeds	Tottenham	Summer	2002-2003	2/9/2002	10,796,035
Dean Richards	Southampton FC	Tottenham	Summer	2001-2002	21/09/2001	12,492,555
Dean Richards	Southampton FC	Tottenham	Summer	2001-2002	21/09/2001	12,492,555
Sergiy Rebrov	Dynamo Kyiv	Tottenham	Summer	2000-2001	01/06/2000	18,477,111
Jesper Gronkjaer	AFC Ajax	Chelsea	Winter	2000-2001	03/01/2001	12,184,097
Jesper Gronkjaer	AFC Ajax	Chelsea	Winter	2000-2001	03/01/2001	12,184,097
Rolando Bianchi	Reggina	Manchester City	Summer	2007-2008	13/07/2007	13,375,648
Georgios Samaras	Heerenveen	Manchester City	Winter	2005-2006	30/01/2006	8,749,356
Nicolas Anelka	Paris Saint-Germain	Manchester City	Summer	2002-2003	01/07/2002	20,375,625
Robbie Fowler	Leeds United	Manchester City	Winter	2002-2003	30/01/2003	10,076,299

Robbie Fowler	Leeds United	Manchester City	Winter	2002-2003	30/01/2003	10,076,299
Wayne Roomey	Everton	Manchester United	Summer	2004-2005	31/08/2004	38,075,664
Gabriel Heinze	Paris Saint-Germain	Manchester United	Summer	2004-2005	01/07/2004	10,288,960
Alan Smith	Leeds	Manchester United	Summer	2004-2005	27/05/2004	9,260,064
Cristiano Ronaldo	Sporting Lisbon	Manchester United	Summer	2003-2004	12/08/2003	17,984,120
Cristiano Ronaldo	Sporting Lisbon	Manchester United	Summer	2003-2004	12/08/2003	17,984,120
Louis Saha	Fulham	Manchester United	Winter	2003-2004	23/01/2004	18,002,600
Kleberson	Atletico Paranaense	Manchester United	Summer	2003-2004	12/08/2003	8,850,019
Rio Ferdinand	Leeds United	Manchester United	Summer	2002-2003	22/07/2002	47,296,917
Rio Ferdinand	Leeds United	Manchester United	Summer	2002-2003	22/07/2002	47,296,917
Juan Sebastian Veron	SS Lazio	Manchester United	Summer	2001-2002	12/07/2001	43,778,486.4
Juan Sebastian Veron	SS Lazio	Manchester United	Summer	2001-2002	12/07/2001	43,778,486.4
Diego Forlan	Independiente	Manchester United	Winter	2001-2002	02/01/2002	11,316,888
Fabien Barthez	Monaco	Manchester United	Summer	2000-2001	31/5/2000	12,043,231
Jaap Stam	PSV Eindhoven	Manchester United	Summer	1998-1999	01/07/1998	17,500,208
Joey Barton	Manchester City	Newcaste	Summer	2007/2008	02/07/2007	8,852,2589
Joey Barton	Manchester City	Newcaste	Summer	2007/2008	02/07/2007	8,852,2589
Damien Duff	Chelsea	Newcastle	Summer	2006-2007	24/07/2006	15,953,344
Obafemi Martins	Inter	Newcastle	Summer	2006-2007	24/08/2006	15,437,400
Michael Owen	Real Madrid	Newcastle	Summer	2005-2006	31/08/2005	25,735,600
Albert Luque	Deportivo de la Coruna	Newcastle	Summer	2005-2006	26/08/2005	20,586,720
Scott Parker	Chelsea	Newcastle	Summer	2005-2006	01/07/2005	9,262,440
Jean-Alain Boumsong	Rangers	Newcastle	Winter	2004-2005	03/01/2005	11,624,536
Jean-Alain Boumsong	Rangers	Newcastle	Winter	2004-2005	03/01/2005	11,624,536
Jonathan Woodgate	Leeds United	Newcastle	Winter	2002-2003	31/01/2003	13,880,617
Jonathan Woodgate	Leeds United	Newcastle	Winter	2002-2003	31/01/2003	13,880,617

Laurent Robert	Paris Saint-Germain	Newcastle	Summer	2001-2002	01/08/2001	14,742,717
Craig Bellamy	Coventry	Newcastle	Summer	2001-2002	25/06/2001	9,264,024
Carl Cort	Milton Keynes Dons	Newcastle	Summer	2000-2001	04/07/2000	10,808,952
Kieron Dyer	Ipswich	Newcastle	Summer	1999-2000	14/07/1999	9,265,608
Duncan Ferguson	Everton	Newcastle	Winter	1998-1999	24/02/1998	11,015,778
John Hartson	Coventry	Celtic	Summer	2001-2002	02/08/2001	9,264,024
Chris Sutton	Chelsea	Celtic	Summer	2000-2001	11/07/2000	9,778,692
Chris Sutton	Chelsea	Celtic	Summer	2000-2001	11/07/2000	9,778,692
Neil Lennon	Leicester City	Celtic	Winter	2000-2001	08/12/2000	8,868,172
Neil Lennon	Leicester City	Celtic	Winter	2000-2001	08/12/2000	8,868,172
Eyal Berkovic	West Ham	Celtic	Summer	1999-2000	08/07/1999	9,059,705
Michael Ball	Everton	Rangers	Summer	2001-2002	17/08/2001	10,035,168
Tore Andre Flo	Chelsea	Rangers	Summer	2000-2001	03/07/2000	18,528,048
Sebastian Giovinco	Parma	Juventus	Summer	2012-2013	02/07/2012	11,296,560
Alessandro Matri	Cagliari	Juventus	Summer	2011-2012	01/07/2011	15,913,788
Mirko Vucinic	AS Roma	Juventus	Summer	2011-2012	01/08/2011	15,397,800
Mirko Vucinic	AS Roma	Juventus	Summer	2011-2012	01/08/2011	15,397,800
Arturo Vidal	Bayer 04 Leverkusen	Juventus	Summer	2011-2012	21/07/2011	12,835,900
Eljero Elia	Hamburger SV	Juventus	Summer	2011-2012	31/08/2011	9,246,600
Milos Krasic	CSKA Moscow	Juventus	Summer	2010-2011	20/08/2010	15,413,640
Jorge Martinez	Calcio Catania	Juventus	Summer	2010-2011	01/07/2010	12,333,024
Diego	SV Werder Bremen	Juventus	Summer	2009-2010	01/07/2009	27,737,,424
Felipe Melo	AC Fiorentina	Juventus	Summer	2009-2010	15/07/2009	25,689,400
Amauri	US Palermo	Juventus	Summer	2008-2009	01/08/2008	23,426,726.4
Christian Poulsen	Sevilla	Juventus	Summer	2008-2009	14/07/2008	10,017,150
Tiago	Olympique Lyon	Juventus	Summer	2007-2008	02/07/2007	15,412,320

Mohamed Sissoko	Liverpool	Juventus	Winter	2007-2008	29/01/2008	11,296,560
Jorge Andrade	Deportivo de La Coruna	Juventus	Summer	2007-2008	02/07/2007	10,276,640
Patrick Vieira	Arsenal	Juventus	Summer	2005-2006	15/07/2005	20,548,000
Patrick Vieira	Arsenal	Juventus	Summer	2005-2006	15/07/2005	20,548,000
Emerson	AS Roma	Juventus	Summer	2004-2005	02/08/2004	28,769,694
Zlatan Ibrahimovic	AFC Ajax	Juventus	Summer	2004-2005	31/08/2004	16,438,400
Zlatan Ibrahimovic	AFC Ajax	Juventus	Summer	2004-2005	31/08/2004	16,438,400
Matteo Brighi	Parma	Juventus	Summer	2004-2005	01/07/2004	11,818,136
Fabio Cannavaro	Inter	Juventus	Summer	2004-2005	31/08/2004	10,275,760
Stephen Appiah	Brescia	Juventus	Summer	2003-2004	01/07/2003	8,220,608
Marco Di Vaio	Parma	Juventus	Summer	2002-2003	02/09/2002	26,623,560
Mauro Camoranesi	Hellas Verona	Juventus	Summer	2002-2003	01/07/2002	8,734,396
Erik Lamela	River Plate	AS Roma	Summer	2011-2012	01/07/2011	17,464,304
Pablo Osvaldo	Espanyol	AS Roma	Winter	2011-2012	31/01/2011	16,177,392
Miralem Pjanic	Olympique Lyon	AS Roma	Summer	2011-2012	31/08/2011	11,301,400
Miralem Pjanic	Olympique Lyon	AS Roma	Summer	2011-2012	31/08/2011	11,301,400
Nicolas Burdisso	Inter	AS Roma	Summer	2010-2011	02/08/2010	8,218,496
Jeremy Menez	Moncao	AS Roma	Summer	2008-2009	27/08/2008	12,328,800
Julio Baptista	Real Madrid	AS Roma	Summer	2008-2009	14/08/2008	10,269,600
Cicinho	Real Madrid	AS Roma	Summer	2007-2008	02/07/2007	9,247,392
David Pizarro	Inter	AS Roma	Summer	2006-2007	21/08/2006	13,357,344
Cristian Chivu	AFC Ajax	AS Roma	Summer	2003-2004	01/07/2003	18,491,616
Cristian Chivu	AFC Ajax	AS Roma	Summer	2003-2004	01/07/2003	18,491,616
Antonio Cassano	AS Bari	AS Roma	Summer	2001-2002	02/07/2001	29,275,884
Gabriel Batistuta	Fiorentina	AS Roma	Summer	2000-2001	06/06/2000	33,393,360
Emerson	Bayer 04 Leverkusen	AS Roma	Summer	2000-2001	01/08/2000	20,546,240

Jonathan Zebina	Cagliari Calcio	AS Roma	Summer	2000-2001	03/07/2000	18,905,779.2
Hernanes	Sao Paulo	SS Lazio	Summer	2010-2011	02/08/2010	13,869,900
Sergio Floccari	Genoa	SS Lazio	Winter	2010-2011	06/01/2010	8,733,648
Mauro Zarate	Al-Sadd	SS Lazio	Summer	2009-2010	01/07/2009	20,755,257.6
Bernardo Corradi	Inter	SS Lazio	Summer	2002-2003	2/09/2002	10,275,760
Gaizka Mendieta	Valencia CF	SS Lazio	Summer	2001-2002	19/07/2001	49,315,200
Jaap Stam	Manchester United	SS Lazio	Summer	2001-2002	27/08/2001	26,455,550
Jaap Stam	Manchester United	SS Lazio	Summer	2001-2002	27/08/2001	26,455,550
Stefano Fiore	Udinese Calcio	SS Lazio	Summer	2001-2002	02/07/2001	25,687,200
Hernan Crespo	Parma	SS Lazio	Summer	2000-2001	11/07/2000	56,497,320
Claudio Lopez	Valencia CF	SS Lazio	Summer	2000-2001	03/07/2000	23,626,152
Juan Sebastian Veron	Parma	SS Lazio	Summer	1999-2000	01/07/1999	30,837,840
Christian Vieri	Atletico de Madrid	SS Lazio	Summer	1998-1999	03/08/1998	25,696,000
Eduardo Salvio	Atletico de Madrid	Benfica	Summer	2012-2013	31/07/2012	11,307,208
Ola John	FC Twente	Benfica	Summer	2012-2013	02/07/2012	9,251,352
Axel Witsel	Atletico Madrid	Benfica	Summer	2010-2011	01/07/2010	8,739,647
Roberto Jimenez	Boca Juniors	Benfica	Summer	2010-2011	02/08/2010	8,636,828
Nicolas Gaitan	Newell's	Benfica	Summer	2007-2008	02/07/2007	11,993,881
Oscar Cardozo	Atletico de Madrid	Sporting Lisbon	Summer	2011-2012	29/08/2011	9,096,384
Elias	Jaguares de Chiapas	FC Porto	Summer	2012-2013	09/07/2012	9,048,105
Jackson Martinez	Santos	FC Porto	Winter	2011-2012	03/01/2011	13,366,520
Danilo	Maldonaldo	FC Porto	Summer	2011-2012	01/06/2011	9,870,661
Alex Sandro	Atletico Madrid	Benfica	Summer	2010-2011	01/07/2010	8,739,647
Joao Mutinho	Sporting Lisbon	FC Porto	Summer	2010-2011	05/07/2010	11,306,240
Joao Mutinho	Sporting Lisbon	FC Porto	Summer	2010-2011	05/07/2010	11,306,240
Nicolas Otamendi	CA Velez	FC Porto	Summer	2010-2011	10/09/2010	8,225,550

Hulk	Tokyo Verdy	FC Porto	Summer	2008-2009	25/07/2008	19,535,683
Lucho Gonzalez	River Plate	FC Porto	Summer	2005-2006	01/07/2005	10,538,987
Deco	Benfica	FC Porto	Winter	1998-199	04/01/1999	8,225,550
Demy de Zeeuw	AZ Alkmaar	AFC Ajax	Summer	2009-2010	27/07/2009	8,225,550
Miralem Sulejmani	SC Heerenveen	AFC Ajax	Summer	2008-2009	07/07/2008	16,708,150
Albert Luque	Newcastle	AFC Ajax	Summer	2007-2008	01/08/2007	8,225,550
Klaas-Jan Huntelaar	SC Heerenveen	AFC Ajax	Winter	2005-2006	02/01/2006	9,253,744
Nikolaos Machlas	Vitesse	AFC Ajax	Summer	1999-2000	01/07/1999	8,739,647
Giorgi Kinkladze	Manchester City	AFC Ajax	Summer	1998-1999	01/07/1998	8,225,550
Nordin Amrabat	Kayserispor	Galatasaray	Summer	2012-2013	19/07/2012	8,842,467
Zvjezdan Misimovic	VFL Wolfsburg	Galatasaray	Summer	2010-2011	02/08/2010	8,739,647
Raul Meireles	Chelsea	Fenerbahce	Summer	2012-2013	03/09/2012	10,281,938
Moussa Sow	Lille	Fenerbahce	Winter	2011-2012	17/01/2012	10,281,938
Emmanuel Emenike	Karabukspor	Fenerbahce	Summer	2011-2012	01/07/2011	9,253,744
Mamadou Niang	Marseille	Fenerbahce	Summer	2010-2011	16/08/2010	8,225,550
Mehmet Topuz	Kayserispor	Fenerbahce	Summer	2009-2010	01/07/2009	9,253,744
Daniel Guiza	RCD Mallorca	Fenerbahce	Summer	2008-2009	01/07/2008	14,394,714
Stephen Appiah	Juventus	Fenerbahce	Summer	2005-2006	01/07/2005	8,217,792
Stephen Appiah	Juventus	Fenerbahce	Summer	2005-2006	01/07/2005	8,217,792
Nicolas Anelka	Manchester City	Fenerbahce	Winter	2004-2005	24/01/2005	11,001,674
Nicolas Anelka	Manchester City	Fenerbahce	Winter	2004-2005	24/01/2005	11,001,674
Rodrigo Tabata	Gaziantepspor	Besiktas	Summer	2009-2010	03/08/2009	8,225,550
Yoann Gourcuff	Bordeaux	Olympique Lyon	Summer	2010-2011	25/08/2010	22,620,264
Lisandro Lopez	FC Porto	Olympique Lyon	Summer	2009-2010	07/07/2009	24,676,652
Lisandro Lopez	FC Porto	Olympique Lyon	Summer	2009-2010	07/07/2009	24,676,652
Michel Bastos	Lille	Olympique Lyon	Summer	2009-2010	13/07/2009	18,507,489

Aly Cissoko	FC Porto	Olympique Lyon	Summer	2009-2010	24/07/2009	16,656,740
Aly Cissoko	FC Porto	Olympique Lyon	Summer	2009-2010	24/07/2009	16,656,740
Bafetimbi Gomis	Saint-Etienne	Olympique Lyon	Summer	2009-2010	29/07/2009	113,366,520
Dejan Lovren	Dinamo Zagreb	Olympique Lyon	Winter	2009-2010	13/01/2010	8,225,550
Ederson	Nizza	Olympique Lyon	Summer	2008-2009	01/07/2008	15,320,088
John Mensah	Rennes	Olympique Lyon	Summer	2008-2009	21/07/2008	8,636,828
Keita	Lille	Olympique Lyon	Summer	2007-2008	02/07/2007	17,273,656
Marco Reus	Gladbach	Borussia Dortmund	Summer	2012-2013	02/07/2012	17,582,115
Evanilson	Parma	Borussia Dortmund	Summer	2003-2004	01/07/2003	15,422,907
Torsten Frings	Werder Bremen	Borussia Dortmund	Summer	2002-2003	01/07/2002	8,739,647
Amoroso	Parma	Borussia Dortmund	Summer	2001-2002	04/07/2001	25,704,846
Koller	RSC Anderlecht	Borussia Dortmund	Summer	2001-2002	25/05/2001	13,109,471
Thomas Rosicky	Sparta Praha	Borussia Dortmund	Winter	2000-2001	02/01/2001	14,908,810
Robin van Persie	Arsenal	Manchester United	Summer	2012-2013	17/08/2012	31,565,551
Alex Song	Arsenal	Barcelona	Summer	2012-2013	20/08/2012	19,535,683
Aleksandr Hleb	Arsenal	Barcelona	Summer	2008-2009	16/07/2008	17,479,295
Cesc Fabregas	Arsenal	FC Barcelona	Summer	2011-2012	15/08/2011	34,958,591
Samir Nasri	Arsenal	Manchester City	Summer	2011-2012	24/08/2011	28,275,331
Adebayor	Arsenal	Manchester City	Summer	2009-2010	20/07/2009	29,817,621
Kolo Toure	Arsenal	Manchester City	Summer	2009-2010	28/07/2009	19,227,225
Thierry Henry	Arsenal	FC Barcelona	Summer	2007-2008	02/07/2007	24,676,652
Gareth Southgate	Aston Villa	Middlesbrough	Summer	2001-2002	11/07/2001	10,024,890
Ugo Ehiogu	Aston Villa	Middlesbrough	Winter	2000-2001	20/10/2000	12,625,646
Dwight Yorke	Aston Villa	Manchester United	Summer	1998-1999	20/08/1998	19,792,731
Matthew Upson	Birmingham City	West Ham United	Winter	2006-2007	31/01/2007	12,955,242
Jermaine Pennant	Birmingham City	Liverpool	Summer	2006-2007	26/07/2006	9,356,564

Scott Parker	Charlton Athletic	Chelsea	Winter	2003-2004	30/01/2004	14,394,714
Harry Kewell	Leeds United	Liverpool	Summer	2003-2004	09/07/2003	10,281,938
Jimmy Floyd Hasselbaink	Leeds United	Atletico Madrid	Summer	1999-2000	04/08/1999	17,170,837
Emile Heskey	Leicester City	Liverpool	Winter	1999-2000	10/03/2000	16,965,198
Ashley Young	Watford FC	Aston Villa	Winter	2006-2007	23/01/2007	13,572,158
Gareth Bale	Southampton FC	Tottenham	Summer	2007-2008	02/07/2007	15,114,449
Kenwyne Jones	Southampton FC	Sunderland	Summer	2007-2008	29/08/2007	9,253,744
Peter Crouch	Southampton FC	Liverpool	Summer	2005-2006	20/07/2005	10,796,035
James Beattie	Southampton FC	Everton	Winter	2004-2005	05/01/2005	9,253,744
Wayne Bridge	Southampton FC	Chelsea	Summer	2003-2004	21/07/2003	10,796,035
Kevin Davies	Southampton FC	Blackburn Rovers	Summer	1998-1999	01/06/1998	11,567,180
Peter Crouch	Tottenham	Stoke City	Summer	2011-2012	31/08/2011	11,618,590
Roman Pavlyuchenko	Tottenham	Lokomotiv Moscow	Winter	2011-2012	31/01/2012	9,253,744
Darren Bent	Tottenham	Sunderland	Summer	2009-2010	05/08/2009	12,132,687
Didier Zokora	Tottenham	Sevilla FC	Summer	2009-2010	08/07/2009	9,253,744
Dimitar Berbatov	Tottenham	Manchester United	Summer	2008-2009	01/09/2008	39,071,366
Robbie Keane	Tottenham	Liverpool	Summer	2008-2009	28/07/2008	24,676,652
Jermain Defoe	Tottenham	Portsmouth	Winter	2007-2008	31/01/2008	9,562,202
Mido	Tottenham	Middlesbrough	Summer	2007-2008	16/08/2007	9,048,105
Michael Carrick	Tottenham	Manchester United	Summer	2006-2007	31/07/2006	27,966,872
Shaun Wright-Phillips	Manchester City	Chelsea	Summer	2005-2006	29/08/2005	32,412,996
David Beckham	Manchester United	Real Madrid	Summer	2003-2004	01/07/2003	38,596,800
Juan Sebastian Veron	Manchester United	Chelsea	Summer	2003-2004	06/08/2003	23,152,140
Scott Parker	Newcastle	West Ham	Summer	2007-2008	02/07/2007	9,987,973
Jonathan Woodgate	Newcastle	Real Madrid	Summer	2004-2005	20/08/2004	18,827,186
Barry Ferguson	Rangers FC	Blackburn	Summer	2003-2004	29/08/2003	10,036,262

Giovanni van Bronckhorst	Rangers	Arsenal	Summer	2001-2002	06/07/1998	13,894,848
Brian Laudrup	Rangers FC	Chelsea	Summer	1998-1999	08/06/1998	11,323,664
Diego	Juventus	VFL Wolfsburg	Summer	2010-2011	27/08/2010	15,923,336
Domenico Criscito	Juventus	Genoa	Summer	2008-2009	01/07/2008	11,817,124
Zlatan Ibrahimovic	Juventus	Inter	Summer	2006-2007	10/08/2006	25,483,884.8
Gianluca Zambrotta	Juventus	Barcelona	Summer	2006-2007	21/07/2006	14,383,600
Emerson	Juventus	Real Madrid	Summer	2006-2007	03/07/2006	11,816,112
Matteo Brighi	Juventus	AS Roma	Summer	2004-2005	02/08/2004	16,438,400
Marco Di Vaio	Juventus	Valencia CF	Summer	2004-2005	15/07/2004	10,790,472
Fabio Borini	AS Roma	Liverpool	Summer	2012-2013	09/07/2012	13,662,079
Jeremy Menez	AS Roma	Paris SG	Summer	2011-2012	25/07/2011	8,218,496
Alberto Aquilani	AS Roma	Liverpool FC	Summer	2009-2010	07/08/2009	20,544,480
Mancini	AS Roma	Inter	Summer	2008-2009	15/07/2008	13,350,480
Cristian Chivu	AS Roma	Inter	Summer	2007-2008	02/07/2007	15,412,320
Walter Samuel	AS Roma	Real Madrid	Summer	2004-2005	01/07/2004	23,622,104
Cristiano Zanetti	AS Roma	Inter	Summer	2001-2002	29/06/2001	11,299,464
Stephan Lichtsteiner	SS Lazio	Juventus	Summer	2011-2012	01/08/2011	10,274,880
Pavel Nedved	SS Lazio	Juventus	Summer	2001-2002	12/07/2001	42,336,131
Aleksandar Kolarov	SS Lazio	Manchester City	Summer	2010-2011	26/07/2010	23,327,972.8
Stefano Fiore	SS Lazio	Valencia	Summer	2004-2005	01/07/2004	17,468,792
Hernan Crespo	SS Lazio	Inter	Summer	2002-2003	02/09/2002	36,989,568
Alessandro Nesta	SS Lazio	Milan	Summer	2002-2003	01/07/2002	31,338,384
Marcelo Salas	SS Lazio	Juventus	Summer	2001-2002	23/08/2001	25,678,400
Sergio Conceicao	SS Lazio	Parma	Summer	2000-2001	01/08/2000	17,471,784
Christian Vieri	SS Lazio	Inter	Summer	1999-2000	03/08/1999	46,244,800
Miguel Veloso	Sporting Lisbon	FC Genua	Summer	2010-2011	30/07/2010	9,252,936

Nani	Sporting Lisbon	Manchester United	Summer	2007-2008	02/07/2007	26,212,164
Hugo Viana	Benfica	Zenith	Summer	2012-2013	03/09/2012	13,102,716
Aldo Duscher	Benfica	Real Madrid	Summer	2011-2012	14/07/2011	13,361,920
Axel Witsel	Benfica	Real Zaragoza	Summer	2011-2012	01/08/2011	41,120,640
Fabio Coentrao	Benfica	Real Madrid	Summer	2010-2011	08/07/2010	30,832,560
Roberto Jimenez	Benfica	Chelsea	Winter	2010-2011	01/02/2011	8,840,180.8
Angel Di Maria	Benfica	Chelsea	Summer	2010-2011	13/08/2010	33,930,397
David Luiz	FC Porto	Zenit	Summer	2012-2013	04/09/2012	30,845,815
Ramires	Fc Porto	Inter	Summer	2012-2013	02/07/2012	22,620,264
Hulk	FC Porto	Atletico Madrid	Summer	2011-2012	18/08/2011	56,550,662
Fredy Guarin	Benfica	Zenith	Summer	2012-2013	03/09/2012	11,310,132
Falcao	Benfica	Real Madrid	Summer	2011-2012	14/07/2011	48,325,111
Bruno ALves	FC Porto	Zenit	Summer	2010-2011	04/08/2010	22,620,264
Raul Meireles	FC Porto	Liverpool	Summer	2010-2011	30/08/2010	13,366,520
Lucho Gongalez	FC Porto	Marseille	Summer	2009-2010	02/07/2009	19,535,683
Ricardo Quaresma	FC Porto	Inter	Summer	2008-2009	01/07/2008	25,293,568
Jose Bosingwa	FC Porto	Chelsea	Summer	2008-2009	16/07/2008	21,077,974
Anderson	FC Porto	Manchester United	Summer	2007-2008	02/07/2007	32,388,106
Maniche	FC Porto	Dinamo Moscow	Summer	2005-2006	01/07/2005	16,451,101
Luis Fabiano	FC Porto	Sevilla Fc	Summer	2005-2006	01/08/2005	10,281,938
Ricardo Carvalho	FC Porto	Chelsea	Summer	2004-2005	27/07/2004	30,845,815
Paulo Ferreira	FC Porto	Chelsea	Summer	2004-2005	01/07/2004	20,563,877
Deco	FC Porto	Barcelona	Summer	2004-2005	06/07/2004	21,592,071
Carlos Alberto	FC Porto	Corinthias	Winter	2004-2005	31/01/2005	10,281,938
Helder Postiga	FC Porto	Tottenham	Summer	2003-2004	25/06/2003	9,253,744
Jorge Andrade	FC Porto	Deportivo la Coruna	Summer	2002-2003	01/07/2002	13,366,520

Jardel	FC Porto	Galatasaray	Summer	2000-2001	03/07/2000	16,451,101
Zlatko Zahovic	FC Porto	Olympiakos	Summer	1999-2000	02/08/1999	13,880,617
Sergio Conceicao	FC Porto	SS Lazio	Summer	1998-1999	03/08/1998	9,253,744
Jan Vertonghen	AFC Ajax	Tottenham	Summer	2012-2013	12/07/2012	12,852,423
Vurnon Anita	AFC Ajax	Newcastle	Summer	2012-201	16/08/2012	8,739,647
Luis Suarez	AFC Ajax	Liverpool	Winter	2010-2011	31/01/2011	27,247,137
Thomas Vermaelen	AFC Ajax	Arsenal	Summer	2009-2010	01/07/2009	12,338,326
Klaas-Jan Huntelaar	AFC Ajax	Real Madrid	Winter	2008-2009	05/01/2009	27,761,234
Johnny Heitinga	AFC Ajax	Atletico Madrid	Summer	2008-2009	01/07/2008	10,281,938
Wesley Sneijder	AFC Ajax	Real Madrid	Summer	2007-2008	13/08/2007	27,761,234
Ryan Babel	AFC Ajax	Liverpool	Summer	2007-2008	16/07/2007	17,736,344
Andy van der Meyde	AFC Ajax	Inter	Summer	2004-2005	01/08/2003	12,338,326
Sunday Oliseh	AFC Ajax	Juventus	Summer	1999-2000	02/08/1999	10,273,120
Arda Turan	Galatasaray	Atletico Madrid	Summer	2011-2012	09/08/2011	13,366,520
Abdul Kader Keita	Galatasaray	Al-Sadd Sports Club	Summer	2010-2011	06/07/2010	8,379,779
Emmanuel Emenike	Fenerbahce	Spartak Moscow	Summer	2011-2012	01/08/2011	10,281,938
Nicolas Anelka	Fenerbahce	Bolton Wanderers	Winter	2006-2007	11/01/2008	12,338,326
Gokdeniz Karadeniz	Trabzonspor	Rubin Kazan	Summer	2007-2008	03/07/2007	8,945,286
Fatih Tekke	Trabzonspor	Zenit	Summer	2006-2007	04/08/2006	10,281,938
Hugo Lloris	Olympique Lyon	Tottenham	Summer	2012-2013	31/08/2012	12,955,242
Jeremy Toulalan	Olympique Lyon	Malaga CF	Summer	2011-2012	01/07/2011	11,301,400
Karim Benzema	Olympique Lyon	Real Madrid	Summer	2009-2010	09/07/2009	35,986,785
Hatem Ben Arfa	Olympique Lyon	Marseille	Summer	2008-2009	01/07/2008	12,338,326
Florent Malouda	Olympique Lyon	Chelsea	Summer	2007-2008	09/07/2007	19,535,683
Eric Abidal	Olympique Lyon	FC Barcelona	Summer	2007-2008	02/07/2007	15,422,907
Shinji Kagawa	Borussia Dortmund	Manchester United	Summer	2012-2013	22/06/2012	16,451,101

Lucas Barrios	Borussia Dortmund	Guangzhou	Summer	2012-2013	02/07/2012	8,739,647
Nuri Sahin	Borussia Dortmund	Real Madrid	Summer	2011-2012	01/07/2011	10,281,938
Torsten Frings	Borussia Dortmund	Bayern Munich	Summer	2004-2005	28/06/2004	9,510,793
Evanilson	Borussia Dortmund	Parma	Summer	2001-2002	02/07/2001	17,479,295

Source: http://www.transfermarkt.co.uk/ http://www.soccerbase.com/ and official football clubs websites

Table 5b

Turnover of listed football clubs

This table presents the turnover for the period 1997-1998 to 2011-2012. The summary statistics are calculated across clubs. Missing data is denoted as N/A.

Listed Club	Turnover (x 1000)														
	1997-'98	1998-'99	1999-'00	2000-'01	2001-'02	2002-'03	2003-'04	2004-'05	2005-'06	2006-'07	2007-'08	2008-'09	2009-'10	2010-'11	2011-'12
AFC Ajax	38,860	40,093	46,120	49,449	55,383	76,517	64,233	66,625	74,430	64,891	61,892	67,154	67,154	67,154	67,154
Arsenal	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	202,968	288,112	281,937	344,064	436,892	298,131	304,127
AS Roma	42,043	53,994	98,951	104,429	132,772	136,655	119,532	107,457	120,601	153,928	167,965	143,332	135,141	125,145	111,267
Aston Villa	45,592	53,971	59,747	63,629	74,484	64,698	80,949	76,050	72,443	70,265	61,936	53,785	56,337	57,112	61,300
Besiktas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	37.891	48.063	50.004	50.514	70.184	46.595	73.369
Birmingham City	N/A	N/A	N/A	N/A	N/A	52,751	67,116	62,421	59,575	36,904	61,856	31,466	69,086	68,065	48,440
Borussia Dortmund	70,089	86,902	97,028	84,845	112,979	129,113	98,068	75,275	89,055	97,115	115,514	111,631	112,230	162,390	224,082
Celtic	39,926	52,368	64,298	67,808	90,693	86,225	100,022	91,585	84,909	107,929	92,246	79,705	70,982	61,280	64,253
Charlton Athletic	8,280	25,184	19,577	45,709	48,846	50,026	61,743	59,979	60,175	58,366	51,447	44,677	46,796	47,440	50,919
Chelsea FC	126,729	141,645	177,952	151,133	183,834	159,105	161,964	164,648	165,293	160,326	141,320	122,722	128,544	130,313	139,870
Fenerbahce Sportif Hizmet	N/A	N/A	N/A	N/A	N/A	N/A	11,407	30,691	25,933	29,499	32,849	25,985	33,120	52,361	108,208
Futebol Clube Do Porto	N/A	N/A	23,123	14,571	24,085	25,269	47,631	45,025	46,477	55,782	52,864	67,202	56,822	77,629	68,255
Galatasaray	N/A	N/A	N/A	N/A	N/A	N/A	24,402	23,871	25,740	36,908	31,145	29,057	36,520	52,081	110,992
Juventus	N/A	76,038	127,073	154,819	167,378	202,109	182,003	206,059	221,046	169,621	202,082	236,995	194,227	142,317	212,094
Leeds United	40,563	57,213	95,107	139,228	129,927	91,117	92,754	94,291	94,661	91,816	80,932	70,281	73,616	74,628	80,101
Leicester City	19,248	36,852	43,397	47,361	46,558	41,577	42,324	43,026	43,195	41,896	36,930	32,070	33,591	34,054	36,551
Manchester City	N/A	N/A	N/A	N/A	N/A	68,334	92,786	89,737	90,277	83,668	104,726	99,719	151,894	175,801	304,416
Manchester United	126,109	171,269	193,342	209,151	232,842	246,282	245,026	247,932	248,903	241,423	212,804	184,799	193,566	196,229	210,620
Newcastle United	70,574	69,201	75,150	88,646	112,957	137,304	130,659	128,141	122,881	119,188	105,059	91,233	95,562	96,876	103,981

Table 5b (continued)

Nottingham Forrest	16,112	26,312	15,807	15,309	15,119	13,501	13,744	13,972	14,026	13,605	11,992	10,414	10,908	11,058	11,869
Olympique Lyonnais	N/A	N/A	N/A	N/A	N/A	N/A	N/A	116,639	166,110	214,077	211,642	191,995	146,089	132,796	131,935
Rangers Football Club	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	90,461	59,917	81,497	43,597	64,739	66,674	71,564
Southampton	21,185	24,644	34,680	46,970	61,435	69,578	72,202	66,040	35,080	33,380	18,862	16,380	17,157	17,393	18,668
Sporting Lisboa E Benfica	N/A	N/A	N/A	N/A	N/A	N/A	35,351	34,194	38,644	44,484	40,899	42,591	61,331	64,589	60,254
Sporting Lisbon	N/A	N/A	N/A	N/A	N/A	17,607	25,820	29,889	27,810	31,697	33,681	33,706	29,873	32,511	32,164
SS Lazio	53,353	62,278	118,226	117,432	103,062	92,064	88,637	74,917	54,883	82,500	86,286	92,993	77,964	72,882	84,702
Sunderland	27,016	37,261	53,298	74,287	69,869	60,437	44,029	44,758	44,934	43,583	38,417	33,361	34,944	35,425	38,023
Tottenham Hotspur	44,759	65,901	79,957	85,223	103,671	94,677	96,115	103,933	109,652	147,886	145,145	124,094	137,804	190,621	204,600
Trabzonspor Sportif Yatir	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13,093	17,669	14,979	16,701	19,914	36,367	50,969
Watford	N/A	N/A	16,801	9,978	16,824	8,667	8,523	8,529	8,526	29,912	22,363	23,079	11,258	11,532	11,532
Mean	49,402	63,596	75,770	82,630	93,827	87,437	80,282	80,988	82,989	89,147	88,376	83,843	89,142	87,915	103,209
Standard Deviation	34,766	39,621	51,419	53,188	58,358	60,718	56,519	57,023	63,282	69,623	69,032	75,086	83,356	65,904	80,508
Minimum	8,280	24,644	15,807	9,978	15,119	8,667	8,523	8,529	8,526	13,605	11,992	10,414	10,908	11,058	11,532
Median	41,303	53,994	64,298	74,287	90,693	73,048	72,202	70,771	66,309	62,404	61,914	60,470	68,120	66,914	72,467
Maximum	126,729	171,269	193,342	209,151	232,842	246,282	245,026	247,932	248,903	288,112	281,937	344,064	436,892	298,131	304,416

Source: Datastream and Amadeus Database

Table 5c

Profit before tax of listed football clubs

This table presents the profit before tax for the period 1997-1998 to 2011-2012. The summary statistics are calculated across clubs. Missing data is denoted as N/A.

Listed Club	EBIT (x 1000)														
	1997-'98	1998-'99	1999-'00	2000-'01	2001-'02	2002-'03	2003-'04	2004-'05	2005-'06	2006-'07	2007-'08	2008-'09	2009-'10	2010-'11	2011-'12
AFC Ajax	-3,599	9,299	9,299	9,299	-24,479	-7,291	15,182	5,998	-6,675	-13,052	12,835	-783	-783	-783	-783
Arsenal	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	26,645	33,804	72,956	71,219	86,087	34,455	63,875
AS Roma	1,636	4,181	8,299	10,825	9,044	-90,403	-12,094	-27,033	10,355	39,241	21,990	2,680	-26,746	-29,115	-59,149
Aston Villa	16,849	31,196	-8,083	308	-378	-16,397	-15,234	-3,637	-11,400	-11,057	-9,746	-8,464	-8,865	-8,987	-9,646
Besiktas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-3,556	1,467	775	-10,433	-20,104	-59,168	-33,870
Birmingham City	N/A	N/A	N/A	N/A	N/A	4,947	8,494	-3,647	-6,556	-20,948	37	-24,691	1,221	-13,811	-4,942
Borussia Dortmund	4,053	5,894	5,797	-6,589	5,295	6,796	-61,807	-72,744	-13,087	16,660	8,776	-898	-884	20,949	39,239
Celtic	10,409	1,568	-8,562	-15,117	-3,311	-6,527	-8,889	-9,486	-3,626	23,337	6,952	3,064	-1,630	962	-8,236
Charlton Athletic	-2,449	2,280	-4,292	818	-16,265	397	17,090	2,952	-2,329	-2,259	-1,992	-1,729	-1,811	-1,836	-1,971
Chelsea FC	17,692	22,006	11,892	-17,284	-26,955	-46,300	-47,134	-47,914	-48,103	-46,657	-41,126	-35,714	-37,408	-37,923	-40,703
Fenerbahce Sportif Hizmet	N/A	N/A	N/A	N/A	N/A	N/A	8,809	33,233	27,242	29,682	32,279	30,503	30,999	24,512	15,942
Futebol Clube Do Porto	N/A	N/A	2,623	-21,379	-14,891	-15,929	27,840	564	-27,267	24,126	10,797	27,218	-987	-5,025	-19,900
Galatasaray	N/A	N/A	N/A	N/A	N/A	N/A	28,588	19,177	26,563	40,793	42,502	41,904	13,252	-28,200	2,611
Juventus	N/A	7,050	11,951	10,776	-75,147	-6,328	-6,220	-7,676	-17,270	-7,744	-3,918	17,913	-23,279	-99,848	-25,696
Leeds United	2,919	3,561	5,648	-6,425	-44,483	-59,838	-60,913	-61,923	-62,165	-60,297	-53,149	-46,155	-48,344	-49,010	-52,604
Leicester City	1,172	-9,328	1,750	-9,421	-23,891	-21,335	-21,719	-22,079	-22,165	-21,499	-18,950	-16,457	-17,237	-17,474	-18,756
Manchester City	N/A	N/A	N/A	N/A	N/A	-18,642	-22,061	-16,410	-6,852	-10,916	-34,426	-84,358	-149,400	-223,632	-130,116
Manchester United	20,836	35,183	28,348	35,170	52,307	56,284	40,535	41,207	41,368	40,125	35,368	30,714	32,171	32,614	35,005
Newcastle United	5,509	2,235	-30,005	-7,056	2,991	13,340	12,251	7,606	-8,999	-7,694	-6,682	-6,999	-7,095	-7,615	-7,615
Nottingham Forrest	-5,986	13,216	-24,398	-23,630	-23,337	-20,840	-21,214	-21,566	-21,651	-21,000	-18,510	-16,074	-16,837	-17,069	-18,321

Table 5c (continued)

Olympique Lyonnais	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18,598	25,343	29,935	31,911	9,899	-53,001	-35,847	-33,594
Rangers Football Club	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,229	-7,200	10,510	-12,883	6,445	2,539	2,726
Southampton	-1,038	3,197	-5,560	15	8,170	2,550	7,639	3,497	-1,420	1,698	-3,384	-2,938	-3,078	-3,120	-3,349
Sporting Lisboa E Benfica	N/A	N/A	N/A	N/A	N/A	N/A	-5,022	-2,436	2,989	21,593	3,277	-33,485	6,766	13,943	15,345
Sporting Lisbon	N/A	N/A	N/A	N/A	N/A	-24,985	-8,380	62,786	1,920	17,839	-582	-12,119	-9,696	-44047	-40,542
SS Lazio	5,992	8,220	18,304	-41,817	-88,403	-144,772	39-,264	-25,546	6,655	15,188	29,653	23,380	11,395	7,186	-9,199
Sunderland	1,378	3,282	1,641	6,241	-2,900	-27,154	-17,594	-17,886	-17,956	-17,416	-15,352	-13,332	-13964	-14,156	-15,194
Tottenham Hotspur	-828	2,734	-77	-4,460	2,602	-8,957	-2,178	8,612	4,994	42,211	10,936	45,409	-212	4,459	4,786
Trabzonspor Sportif Yatir	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13,056	17,697	13,327	21,060	20,598	29,742	5,532
Watford	N/A	N/A	3,791	-5,404	-7,145	-9,501	-3,662	-1,532	-4,963	8,311	1,052	-1,421	-3,656	-5,676	-5,676
Mean	4,659	8,575	1,493	(4,481)	(14,272)	(20,040)	(6,154)	(5,280)	(3,223)	5,199	4,604	(132)	(7,869)	(17,699)	(11,827)
Standard Deviation	7,940	11,227	13,565	16,294	31,178	39,564	25,781	29,294	21,689	25,969	25,464	30,199	37,104	48,579	34,406
Minimum	(5,986)	(9,328)	(30,00)	(41,81)	(88,403)	(144,77)	(61,807)	(72,744)	(62,16)	(60,297)	(53,14)	(84,35)	(149,40)	(223,63)	(130,11)
Median	2,278	4,181	2,623	(5,404)	(7,145)	(12,715)	(5,621)	(3,037)	(3,591)	5,005	2,165	(1,575)	(2,445)	(6,646)	(7,926)
Maximum	20,836	35,183	28,348	35,170	52,307	56,284	40,535	62,786	41,368	42,211	72,956	71,219	86,087	34,455	63,875

Source: Datastream and Amadeus Database

Table 6

Variable Definitions

This table presents the definitions of variables used in the OLS regressions.

AGE	Age of player. We include also quadratic term AGESQ for nonlinear effect.
APPS	Number of appearances in the previous season of the transfer.
GOALS	Number of goals scored in the previous season of the transfer.
GOALRATE	GOALS/APPS
DEF	Dummy variable that equals 1 if the player is defender and 0 otherwise.
MID	Dummy variable that equals 1 if the player is midfielder and 0 otherwise.
FOR	Dummy variable that equals 1 if the player is attacker and 0 otherwise.
GRFOR	Dummy variable FOR interacted with GOALRATE. We include also quadratic term GRFORSQ to test for nonlinear effect.
CLOSE	Dummy variable that equals 1 if the transfer occurred in the close season and 0 otherwise.
SPPOS	Selling club league position in the previous season of the transfer.
SELLGD	Selling club goal difference in the previous season of the transfer.
SGATE	Average league attendance of the selling club in the season prior to the transfer.
SSEAT	Number of seats in the selling club's stadium.
BPOS	Buying club league position in the season prior to the transfer.
BGD	Buying club goal difference in the previous season.
BGATE	Avearge league attendance of the buying club in previous season.
TRANFERSUM	Transfer fee of a player.
BSEAT	Number of seats in the buying club's stadium.
AIM	Dummy variable that equals 1 if the football is transferred at AIM and 0 otherwise.
LSE	Dummy variable that equals 1 if the football is transferred at LSE and 0 otherwise.
OFEX	Dummy variable that equals 1 if the football is transferred at OFEX and 0 otherwise.
SEFI	Dummy variable that equals 1 if the football is transferred at STOXX Europe Football Index and 0 otherwise.
WHITE	Dummy variable that takes a value of 1 if the player is white and 0 otherwise.

Table 7a

Descriptive Statistics: Acquisitions

This table presents an overview of the summary statistics for acquisition of players. It is presented the player characteristics, buying club characteristics and control variables used for the OLS regression

	Acquisitions				
N = 184					
	Mean	**St.Dev**	**Median**	**Minimum**	**Maximum**
Player characteristics					
Age	24.46	2.78	25	17	30
APPS	37.29	11.28	37	8	67
Goals	9.11	7.91	7.00	0	36
Goalrate	0.24	0.20	0.20	0	1
Def	0.16	0.37	0	0	1
For	0.43	0.50	0	0	1
Grfor	0.17	0.23	0	0	1
Buying club characteristics					
Bppos	4.91	4.16	3	1	1
Bgd	23.64	21.19	26	(24)	90
Bgate	48,789.32	56,561.86	38,146	2,883	667,765
Bseat	52,467.38	14,378.96	50,509	30,016	80,645
Control Variables					
Transfersum	15,163,522	9,533,078	12,328,800	8,019,912	88,522,589
LSE	0.34	0.47	0	0	1
AIM	0.02	0.13	0	0	1
OFEX	0.12	0.33	0	0	1
SEFI	0.52	0.50	1	0	1
White	0.67	0.47	1	0	1
Close	0.81	0.39	1	0	1

Table 7b

Descriptive Statistics: Sales

This table presents an overview of the summary statistics for sales of players. It is presented the player characteristics, selling club characteristics and control variables used for the OLS regressions.

	Sales				
N=152					
	Mean	**St.Dev**	**Median**	**Minimum**	**Maximum**
Player characteristics					
Age	25.01	2.64	25	17	30
APPS	40.03	11.65	40	12	68
Goals	9.25	9.49	7	0	53
Goalrate	0.22	0.21	0.18	0	1.09
Def	0.23	0.23	0	0	1.09
For	0.34	0.48	0	0	1
Grfor	0.14	0.23	0	0	1.09
Selling club characteristics					
Sppos	5.03	4.97	3	1	20
Sellgd	24.51	22.49	25	(34)	86
Sgate	40,617.22	13,199.47	38,501	11,586	80,521
Sseat	52,000.67	14,472.85	50,399	19,920	80,645
Control Variables					
Transfersum	18,124,752.26	10,014,553.22	13,887,732.50	8,217,792.00	56,550,662.00
LSE	0.22	0.41	0	0	1
AIM	0.04	0.2	0	0	1
OFEX	0.1	0.31	0	0	1
SEFI	0.64	0.48	1	0	1
White	0.66	0.48	1	0	1
Close	0.86	0.35	1	0	1

Table 8

Market reactions to football player transfers

This table presents the coefficients of the cumulative average abnormal returns (CAARs) surrounding the official announcement date of the football transfer for five event windows. It is presented the market reaction to an acquisition and sale of a football player. The p-values (in parenthesis) of the t-test and the Wilcoxon signed-rank test are presented in the first and second rows following the CAAR's, respectively.

	N	Market reaction to football transfers				
	CAAR	(-1,+1)	(-3,+3)	(-5,+5)	(-10,+10)	(-15, +15)
Transfers in (acquisitions)	184	-0.0063	-0.0109	-0.0160	-0.0275	-0.0395
p-value of t-test		(0.114)	(0.223)	(0.113)	(0.078)	(0.055)
p-value Wilcoxon		(0.4867)	(0.7381)	(0.1964)	(0.1978)	(0.0913)
Transfers out (Sales)	152	0.0137	0.0120	0.0192	0.0191	0.0386
p-value of t-test		(0.717)	(0.009)	(0.003)	(0.090)	(0.010)
p-value of Wilcoxon		(0.5859)	(0.0028)	(0.0027)	(0.1125)	(0.0376)

Source: Own calculations

Table 9

Market reaction in a subsample for European and UK clubs

This table shows the coefficients of the cumulative average abnormal returns (CAARs) surrounding the official announcement date of the football transfers for five event windows. Panel A and Panel B depict the market reaction to acquisitions and sales of a football players, respectively. The table presents two subsamples concerning the UK and European clubs. The p-values (in parenthesis) of the t-test and the Wilcoxon signed-rank test are presented in the first and second rows following the CAARs, respectively.

	N	Market reaction to football transfers				
	CAAR	(-1,+1)	(-3,+3)	(-5,+5)	(-10,+10)	(-15, +15)
Panel A:						
Transfers in (acquisitions)						
UK clubs	91	-0.0017	-0.0039	-0.0149	-0.0328	-0.0456
p-value of t-test		(0.659)	(0.602)	(0.215)	(0.126)	(0.128)
p-value Wilcoxon		(0.6248)	(0.6561)	(0.1875)	(0.1313)	(0.1157)
European clubs	93	-0.0109	-0.0208	-0.0170	-0.0208	-0.0335
p-value of t-test		(0.119)	(0.243)	(0.297)	(0.352)	(0.242)
p-value of Wilcoxon		(0.4935)	(0.5455)	(0.6069)	(0.7366)	(0.3861)
Panel B:						
Transfers out (Sales)						
UK clubs	61	0.0012	0.0096	0.0187	0.0294	0.0385
p-value of t-test		(0.849)	(0.207)	(0.048)	(0.079)	(0.075)
p-value Wilcoxon		(0.7305)	(0.1505)	(0.0486)	(0.1112)	(0.1784)
European clubs	91	0.0015	0.0134	0.0195	0.0129	0.0386
p-value of t-test		(0.758)	(0.022)	(0.022)	(0.388)	(0.057)
p-value of Wilcoxon		(0.6719)	(0.0081)	(0.0217)	(0.4665)	(0.1208)

Source: Own calculations

Table 10

Market reaction in a subsample for close and playing season football transfers

This table presents the coefficients of the cumulative average abnormal returns (CAARs) surrounding to the official announcement date of the football transfer for five event windows. In Panel A, it is presented the market reaction to an acquisition of a football player and in Panel B the market reaction to a sale of a football player. The table presents two subsamples concerning the close-season and playing-season transfers for each panel. The p-values (in parenthesis) of the t-test and the Wilcoxon signed-rank test are presented in the first and second rows following the CAAR's, respectively.

	N	Market reaction to football transfers				
	CAAR	(-1,+1)	(-3,+3)	(-5,+5)	(-10,+10)	(-15, +15)
Panel A:						
Transfers in (acquisitions)						
Subsample close-season	150	-0.0074	-0.0139	-0.0264	-0.0437	-0.0608
p-value of t-test		(0.083)	(0.068)	(0.014)	(0.011)	(0.000)
p-value Wilcoxon		(0.2892)	(0.1570)	(0.0189)	(0.0289)	(0.0013)
Subsample playing-season	34	-0.0066	-0.0079	-0.0259	-0.0663	-0.0937
p-value of t-test		(0.730)	(0.466)	(0.124)	(0.022)	(0.017)
p-value of Wilcoxon		(0.3744)	(0.2579)	(0.1421)	(0.0541)	(0.0261)
Panel B:						
Transfers out (Sales)						
Subsample close-season	124	0.0012	0.0120	0.0180	0.0144	0.0304
p-value of t-test		(0.750)	(0.009)	(0.010)	(0.241)	(0.074)
p-value Wilcoxon		(0.7121)	(0.0021)	(0.0048)	(0.4897)	(0.2106)
Subsample playing-season	28	0.0051	0.0162	0.0354	0.0674	0.0930
p-value of t-test		(0.730)	(0.361)	(0.030)	(0.008)	(0.012)
p-value of Wilcoxon		(0.4665)	(0.3603)	(0.0289)	(0.0026)	(0.0145)

Source: Own calculations

Table 11a
Market reactions to football transfers: regression results for Acquisitions

This table presents the OLS regression results explaining the cumulative abnormal returns (CARs) for incoming transfers of the five event windows surrounding the official announcement of the transfer date. The dependent variable is the CAR. Detailed explanations of the independent variables are presented in table 6. The p-values of the estimated coefficients are in parenthesis. All regressions have 184 observations. *, **, *** denote the statistical significance at the 10%, 5%, 1% level, respectively.

	ACQUISITIONS				
Dep. Variable CARi	**(-1,+1)**	**(-3,+3)**	**(-5,+5)**	**(-10,+10)**	**(-15,+15)**
Constant	- 0.0361778 (0.244)	- 0.1112951 (0.156)	- 0.0535201 (0.469)	0.2805836 (0.031)**	0.4238771 (0.011)**
AGESQ	0.000012 (0.726)	0.0000553 (0.523)	- 0.0000141 (0.863)	- 0.000142 (0.231)	- 0.0002685 (0.076)*
CLOSE	- 0.0005901 (0.962)	- 0.0193175 (0.532)	- 0.034725 (0.235)	- 0.0737592 (0.075)*	- 0.1417676 (0.008)***
APPS	- 0.0003973 (0.338)	- 0.0005104 (0.625)	- 0.0010652 (0.281)	- 0.0025453 (0.073)*	- 0.0034475 (0.058)*
GRFOR	0.0059202 (0.776)	- 0.0152439 (0.771)	0.0351141 (0.479)	0.0238702 (0.735)	- 0.0011662 (0.990)
BPOS	0.0033207 (0.092)*	0.01057 (0.034)**	0.0045215 (0.335)	- 0.0136838 (0.073)*	- 0.0154104 (0.118)
BGD	0.0006753 (0.068)*	0.0022346 (0.017)**	0.0016116 (0.068)*	- 0.0100675 (0.498)	- 0.0008839 (0.642)
BGATE	- 0.000107 (0.892)	0.0000171 (0.931)	0.0000123 (0.510)	0.0000112 (0.702)	0.0000801 (0.830)
BSEAT	- 0.000247 (0.492)	- 0.000873 (0.336)	- 0.0000402 (0.638)	- 0.000654 (0.596)	- 0.000101 (0.523)
AIM	0.0301628 (0.387)	- 0.0107783 (0.902)	0.0563042 (0.498)	0.0886183 (0.478)	0.1353793 (0.397)
WHITE	0.0065692 (0.520)	0.0177859 (0.490)	0.0241108 (0.322)	0.0013683 (0.968)	0.0132905 (0.760)
TRANSFERSUM	0.000639 (0.087)*	0.0000145 (0.125)	0.000256 (0.004)***	0.000270 (0.044)**	0.000474 (0.014)**
N	184	184	184	184	184
F-Statistics	1.31	1.32	2.44	1.67	2.46
R-squared	0.076	0.0769	0.1328	0.0974	0.1382
Prob > F	0.2227	0.2140	0.0075	0.0846	0.0821

Table 11b

Market reactions to football transfers: regression results for Sales

This table shows the OLS regression results explaining the cumulative abnormal returns (CARs) for outgoing transfers of the five event windows surrounding the official announcement of the transfer date. The dependent variable is the CAR. Detailed explanations of the independent variables are presented in table 6. The p-values of the estimated coefficients are in parenthesis. All regressions have 152 observations. *, **, *** denote the statistical significance at the 10%, 5%, 1% level, respectively.

	SALES				
Dep. Variable CARi	**(-1,+1)**	**(-3,+3)**	**(-5,+5)**	**(-10,+10)**	**(-15,+15)**
Constant	- 0.0872373 (0.000)***	- 0.0412386 (0.263)	-0.0635806 (0.214)	- 0.0930706 (0.284)	- 0.0816458 (0.468)
AGESQ	- 0.000866 (0.773)	0.0000291 (0.429)	0.0000454 (0.374)	0.00003 (0.730)	0.000091 (0.865)
CLOSE	0.0023472 (0.849)	0.0008235 (0.956)	-0.0079077 (0.701)	- 0.0318812 (0.363)	-0.0342 (0.451)
APPS	0.0008648 (0.024)**	0.0009173 (0.049)**	0.0011371 (0.078)*	0.0021212 (0.054)*	0.0028259 (0.047)**
GRFOR	0.0443733 (0.068)*	0.014071 (0.687)	-0.0267836 (0.580)	- 0.0911761 (0.269)	-0.1817727 (0.088)*
SPPOS	0.0007343 (0.483)	- 0.0016194 (0.214)	0.0025314 (0.162)	0.0055057 (0.075)*	0.0107491 (0.008)***
SELLGD	0.0001939 (0.429)	0.0000173 (0.955)	0.0004156 (0.333)	0.0012063 (0.102)	0.0021295 (0.026)**
SGATE	- 0.000563 (0.210)	- 0.000893 (0.093)*	-0.000131 (0.076)*	- 0.00177 (0.161)	-0.000326 (0.048)**
SSEAT	0.000101 (0.029)**	0.000101 (0.069)*	0.000151 (0.051)*	0.00245 (0.062)*	0.000358 (0.036)**
AIM	0.0510276 (0.021)*	0.0581663 (0.040)**	0.0452366 (0.248)	0.1550997 (0.021)**	0.1582816 (0.067)*
LSE	0.0176272 (0.129)	0.0103716 (0.478)	0.0071153 (0.726)	0.0325475 (0.346)	0.0355265 (0.431)
WHITE	0.0021725 (0.795)	- 0.016153 (0.104)	-0.0191424 (0.345)	- 0.0071193 (0.763)	-0.0144997 (0.634)
MID	0.0210213 (0.090)*	- 0.0046564 (0.786)	-0.0191424 (0.422)	- 0.1119319 (0.006)***	-0.1694668 (0.002)***
DEF	0.0262064 (0.049)*	0.0084744 (0.642)	-0.0069135 (0.785)	-0.08250994 (0.057)*	-0.1431571 (0.011)**
TRANSFERSUM	-0.0000477 (0.286)	- 0.0000425 (0.433)	-0.0000814 (0.280)	- 0.0000453 (0.723)	-0.0000716 (0.668)
N	152	152	152	152	152
F-Statistics	2.30	1.20	1.07	2.16	2.66
R-squared	0.1936	0.1150	0.1042	0.1908	0.2264
Prob > F	0.0074	0.2850	0.3891	0.0128	0.0020