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Influence of Club Ownership Structure on Football Player Transfer Fees

Finance

Master's thesis

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OBJECTIVES OF STUDY

The purpose of this study is to find, whether the ownership of Premier League clubs influences the transfer fees of acquired football players. The increasing number of foreign and wealthy investors purchasing clubs and financing player acquisitions motivated conduction of this study. The ownership categories studied are foreign, billionaire, and public entities. It is reviewed, if billionaires and foreign owners pay a transfer fee premium. These owners are rather attracted by the ownership status than potential profit, which possibly influences player valuation.

DATA AND METHODOLOGY

The sample consists of 293 summer transfers in the seasons 2009/10-2012/13, where a Premier League club is the acquirer. Free transfers, winter transfers, and goalkeepers are excluded from the sample. The transfer information and financial statements are derived from public databases, and Ordinary Least Square regression is used to study the determinants of transfer fee i.e. the value of player. Logarithm of transfer fee is the dependent variable in all specifications regarding influence of ownership on transfer fee. In addition, influence of ownership structure on revenue, profitability, leverage, and liquidity of a club studied.

RESULTS

The results indicate that ownership structure influences the transfer fee paid for acquired players and club's financial ratios. Premier League clubs owned by billionaires are found to pay a premium of 16% and clubs in foreign ownership pay a premium of 8% for a similar player. Ownership structure also influences financial ratios of club, as billionaire ownership increases revenues by 48% and foreign ownership by 36% in comparison to the other ownership structures. On the contrary, billionaire ownership decreases profitability by 48% and foreign ownership decreases profitability by 17% for a similar financial year. Ownership structure does not have statistically significant correlation to liquidity but foreign ownership increases debt ratio by 15% whereas billionaire owner decreases leverage by 6% for a similar fiscal year. Public ownership has a controversial effect on player acquisitions and financial results. For a similar player, the transfer fee decreases by 12%. Public ownership increases profitability by 64% and decreases leverage by 28% for a similar financial year.

Keywords player valuation, ownership structure, transfer fee, football, Premier League

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TUTKIMUKSEN TAVOITE

Ulkomaalaisten ja miljonääriomistajien lukumäärä on kasvanut Valioliigassa, kuten myös siirtohinnat sekä seurojen velkaantumisaste ja taloudelliset tappiot. Tavoitteena on tutkia, onko omistusrakenteella vaikutusta ostettujen pelaajien siirtohintoihin tai seuran taloudelliseen tilanteeseen. Valioliigaseurat ovat kategorisoitu pääomistajan mukaan ulkomaalaisiin, miljonääreihin ja julkisiin yhteisöihin. Tutkimuksessa tarkastellaan, maksavatko miljonäärit tai ulkomaalaisomistajat preemiota hankkimista pelaajistaan. Näitä omistajia houkuttelee seuraomistajan asema tuottoja enemmän, mikä mahdollisesti vaikuttaa pelaajien arvomääritykseen.

LÄHDEAINEISTO JA METODOLOGIA

Aineisto koostuu kausilla 2009/10-2012/13 kesän siirtoikkunan aikana tehdyistä Valioliigaseurojen 293 pelaajahankinnasta. Aineistossa ei ole huomioitu vastikkeettomia siirtoja, talven siirtoikkunan aikaisia siirtoja eikä maalivahteja. Siirtohinnat, tilastot ja tilinpäätöstiedot ovat kerätty julkisista tietokannoista. Siirtohintaan vaikuttavien tekijöiden määrittämisessä käytetään OLS -regressioanalyysia. Riippumattomat muuttujat ovat kategorisoitu omistusrakennetta, taloudellisia tunnuslukuja ja pelaajan ominaisuuksia kuvaaviin malleihin. Riippuva muuttuja kaikissa malleissa on siirtohinnan logaritmi, kun tarkastellaan omistusrakenteen vaikutusta siirtohintaan. Tämän lisäksi omistusrakenteen vaikutusta tuottavuuteen, kannattavuuteen, velkaantumisasteeseen ja likviditeettiin tutkitaan omilla malleilla.

TULOKSET

Tulokset osoittavat, että omistusrakenteella on vaikutusta sekä ostettujen pelaajien siirtohintaan että seuran taloudellisiin tunnuslukuihin. Miljonäärit maksavat 16 % preemiota ja ulkomaalaiset omistajat 8 % preemiota vastaavasta pelaajasta. Omistusrakenne vaikuttaa myös seuran tuottoihin, miljonääriomistaja kasvattaa tuottoja 48 % ja ulkomaalaisomistaja 36 % muihin omistusrakenteisiin verrattuna. Toisaalta miljonääriomistus laskee seuran kannattavuutta 48 % ja ulkomaalaisomistus 17 % vastaavalla tilikaudella. Tilastollisesti merkittävää korrelaatiota ei löydetty likviditeetin ja omistusrakenteen välillä, mutta ulkomaalaisomistaja kasvattaa seuran velkaantumisastetta 15 %, kun miljonääriomistaja laskee 6 % vastaavalla tilikaudella. Julkisomisteiset seurat maksavat 12 % vähemmän vastaavista hankkimistaan pelaajista. Julkinen omistus myös parantaa seuran kannattavuutta 64 % ja laskee velkasuhdetta 28 % muihin omistusrakenteisiin verrattuna.

Avainsanat arvonmääritys, omistusrakenne, siirtohinta, jalkapallo, Valioliiga

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1. Introduction

1.1. Background and motivation

Moneyball: The Art of Winning an Unfair Game (2003) tells the story of Oakland A's, a MLS baseball team, which introduced sabermetrics to facilitate the assembly of a competitive team despite of weak revenue situation. Oakland implemented new player performance indicators and used extensive statistical analysis to find the undervalued players on the market. The strategy had a desired outcome, as the team was victorious regardless of small budget. Successful results awakened interest towards statistical analysis in player valuation among sports clubs and academic literature. The individualistic characteristics of baseball enable large range of informative performance indicators despite of the team aspect. The rigorous use of statistical analysis to value players is more challenging in other team sports like football or ice hockey, for example, where individual performance is more dependent on team performance.

In football, a transfer fee i.e. price the acquiring club pays for the selling club of a player is argued to measure best the value of player. Market value of player fluctuates depending on their performance and behavior during a season, but transfers can be executed only twice a season. Thus, the transfer fee indicates player value at the time of purchase. Transfer activities draw high media attention, and players probably transferred and their fees are actively speculated. Transfer of a highly valued superstar is widely acknowledged all over the Europe and clubs enjoy the media attention. Player performance is argued to determine the player value to great extent and its influence on transfer fee has been subject to many studies. Frick (2007) summarizes studies conducted in different leagues and finds that number of goals scored and games played have a positive influence on transfer fee. The big five European football leagues: French Ligue 1, German Bundesliga, Italian Serie A, Spanish La Liga, and English Premier League have become international products themselves and thus there possibly is a need for extended model of player valuation. Players increasingly have high brand values, which is important for the club in addition to good performance.

Premier League clubs generated aggregated revenue of €2.9 billion and cumulative revenue of big five leagues was €9.8 billion, in season 2012/13. On the other hand, operating profits have decreased and leverage increased resulting in aggregate pre-tax losses of £316 million and aggregate net debt of £2.5 billion (Deloitte, 2014a). Wages account for 71% of the revenue in Premier League and overall football clubs differ from traditional corporations significantly. The big

five leagues (Premier League, Bundesliga, Ligue 1, Serie A, and La Liga) and particularly Premier League have greatly commercialized in 21st century, but it can be argued that the financials lag behind. One possible reason for this is changes in ownership, as internationalization of Premier League has awakened foreign investors' interest. However, the objectives of new owners are multifaceted and segmented. In some cases, Premier League clubs are considered rather as a plaything than profitable investment, which is interesting given the revenue potential and market size. Ownership status and emotional return on sporting performance attract some billionaire and foreign owners more than profit generation. The win- and profit maximization objectives explain differences to some extent but it is to be seen, if certain similarities in win maximizers can be recognized.

Examples of Manchester City and Paris Saint-Germain motivated this study. These clubs were acquired by wealthy, foreign investors who turned them from mediocre clubs into winning clubs in short time. The new owners poured in money to enable acquisition of best players and thus the high transfer budget was independent of club's financial situation. The offset is very different from that of rigorous statistical analysis used to find undervalued players. It is possible that clubs with wealthy owners overvalue players as a result of more lousy valuation and secured financing.

1.2. Research Problem

The increased number of foreign owners, augmenting transfer fees, and billionaires increasingly investing in player transfers and Premier League clubs beg the question, if the ownership of an acquiring club influences the transfer fee. In particular, a potential premium paid by billionaire or foreign owned clubs is of interest. Billionaire owners are subject to agency problem of free cash flow, which increases the probability of investments of negative net present value. Furthermore, it is assumed that most billionaire owners maximize games won over profit, which decreases incentive for accurate valuation. Foreign owners and billionaires pour a lot of money into transfer fees particularly in the building up phase and, in consequence, possible overvaluation affects transfer market and its efficiency in whole.

Q1: Do billionaires and foreign investors pay a transfer fee premium?

There is no empirical evidence, whether the acquiring club's financial situation influences player valuation. Transfer fee is a result of negotiations and it is possible that profit generating clubs pay higher transfer fees compared to those reporting deficit. It is assumed that clubs in weaker financial situation make more careful decisions regarding transfers and look for undervalued players. Revenues generated are to great extent spent of players, as according to Deloitte (2014a) in Premier

League salaries accounted for 71% of revenue in season 2012/13. Hence, revenues play an important role in transfer decisions, yet to my knowledge, there is no empirical evidence of its influence on player valuation.

Q2: Does financial situation of the acquiring club influence player valuation?

The influence of Premier League clubs' ownership on financial ratio is studied with respect to revenues, profitability, and leverage. Billionaire owners are able to cover the losses resulting from excessive expenditure on players and thus are assumed to influence capital structure. The difference in owner objective triggers the potential relationship between club ownership and financial results.

Q3: Is there a relationship between club ownership and financial ratios?

In addition to the influence of acquiring club on transfer fee, that of player performance is studied. Better players are considered to be more valuable, but it is unclear if there are some characteristics that decrease player value like proneness to injuries or disrespected performance. Thus, injuries and cards received are added to traditional set of player performance proxies including games played and goals scored, for example.

1.3. Main findings and contribution to the literature

Determinants of football player transfer fees are widely studied, yet with a focus on influence of player performance and characteristics (Frick, 2007). Carmichael et al. (1999) study a probability of transfer and Tunaru et al. (2005) introduce an option pricing framework for football player valuation. Wilson et al. (2013) study the influence of ownership on league performance, but to my knowledge there is no empirical evidence of the relationship between club ownership structure and transfer fee. Deloitte (2014) and Nauright and Ramfjord (2010), for example, acknowledge the recent changes in Premier League club ownership and the increasing number of foreign and billionaire owners investing in Premier League. However, the consequences of ownership changes on player valuation are little studied.

The results indicate that ownership structure of Premier League club influences the transfer fee of player acquisitions and club's financial ratios. Clubs with billionaire owners pay a transfer fee premium of 16% and foreign owners a premium of 8% for a similar player. On the contrary, public ownership decreases transfer fee by 12% for a similar player, indicating a difference in owner objectives. Billionaire and foreign owners rather maximize wins and publicly held clubs profit. Ownership status of a Premier League club attracts billionaire and foreign owners as their business profile and network increases in addition to emotional returns on sporting success. Agency problem

of free cash flow also explains the premium paid by billionaire owned clubs to some extent, in particular given win maximization. The increased probability of undertaking investments of negative net present value following high free cash flow is recognized, for example, by Jensen (1986).

A billionaire owner increases club's revenue by 48% and foreign owner 36% for a similar fiscal year. Win maximizing clubs like those in billionaire ownership generate higher profit in consequence of sporting performance and international attraction. Qualification to UEFA Champions League is a significant source of revenue along with the game day revenues and broadcast contracts. Furthermore, billionaire and foreign owners can exploit their international network in negotiations with corporate partners. However, a billionaire owner decreases EBIT, indicating club's profitability, by 48% and foreign owner by 17% for a similar fiscal year, which is a result of excessive expenditures on players. In season 2012/13, Premier League clubs spent on average 71% of turnover on salaries (Deloitte, 2014a) and 29% on transfer fees. Wealth of the owner mitigates risks of significant losses as billionaires have ability to sustain them. Hence, billionaire ownership decreases leverage by 6% in comparison to other ownership structures and foreign ownership increases leverage by 15%. Controversial results are found for publicly held clubs, as public ownership increases EBIT by 64% for a similar fiscal year and decreases leverage by 28%. These results support profit maximization objective and taking profitability into consideration in player acquisitions.

No statistically significant results for ownership influence on liquidity is found, but the findings regarding influence of player performance and characteristics on transfer fee are consistent with previous studies. A minute played increase transfer fee by 23%, a goal scored by 5%, and an assist given by 8% for a similar player. A premium of 4% is paid for forwards in comparison to a similar player of different position. In addition, a premium of 9% is paid for within-UK transfers.

1.4. Limitations

There are few limitations in the conduction of this study, greatest of which is related to dependence on unreliable public data. There are numerous Premier League statistics publicly available regarding transfers and performance, but validity of data is challenging to prove as there is no official and monitored database. The risk of biased data is mitigated by careful selection of databases and critical analysis of inputs. Hand collection of data also increases the risk of falsified inputs. Thus, the study should be replicated to verify results due to extensive use of public data. Furthermore, dependence on publicly available data limits the selection of variables. For example,

remaining length of contract is expected to influence the transfer fee but cannot be studied due to undisclosed information. Clubs rigorously collect and analyze statistics to improve and track performance of both club and players, but the data are not disclosed for study purposes. In addition to statistics, most of the information about Premier League clubs is derived from public data sources like newspapers which are not as reliable source of information as academic literature.

Another main limitation lies in the categorization of owners. A threshold is set and clubs either belong to the category or not, which generalizes ownership. However, the ownership structures of Premier League clubs have unique features and not all the billionaire owners have similar objectives, for example. The wealth of the owner or their citizenship does not directly correlate to their behavior with respect to player acquisitions. Hence, the results indicate the generalized influence of ownership structures on transfer fees. Furthermore, non-exclusive categories increase probability of multicollinearity which further decreases significance of correlation coefficients.

Capitalization of player performance and characteristic indicators complicates player valuation as all aspects cannot be included yet. The best players also are valuable in other terms than talent as they tend to create a positive hub around the club. Brand and media values are challenging to measure as well as popularity. Internationalization and digitalization seem to increase the importance of brand value – at best billions of people all over the world follow the actions of a particular player, on and off the field. Furthermore, the team aspect of football also complicates the valuation of an individual player.

1.5. Structure

This study is structured as follows; first the existing literature on transfer market and sports economics is reviewed. In chapter three, the hypotheses are presented, followed by the description of the data. Chapter five illustrates the methodology used and results are reported in chapter six. Conclusions are drawn in chapter seven.

2. Theoretical background

In this section, the sports economics literature regarding the four most important issues is considered. Competitive balance, ownership objectives and structures, player valuation, and the relationship between sporting and financial performance are relevant topics considering the ownership structure's influence on transfer fee paid in Premier League. To begin with, the transfer market and English Premier League are defined.

2.1 Transfer market

Football players are purchased and sold in transfer market which resembles stock market to some extent. Players are clubs' assets that are valued and change owners in a liquid market. Valuation in monetary terms differentiates the transfer market system from that of the American professional sports major leagues, where players are changed for players or drafting rights. Furthermore, a new contract is negotiated and signed following the transfer, unlike in the American major leagues where only the ownership of player is changed. The transfer market of football players is international and regulated by Fédération Internationale de Football Association (FIFA). The transfer fee is a result of set of negotiations between the selling club, player's agent, and acquiring club. Thus, the transfer fee paid does not necessarily equal to the player's market value. The market value fluctuates along the performance and the clubs can profit if the value of player has increased of acquisition.

The transfer market is open twice a year for a limited time period. Summer transfer window opens after the season and closes prior to season opening. The winter transfer window is a one month period in the beginning of the year enabling changes to the roster during season (FIFA T.M.S., 2014). Clubs actively build the teams in the summer and there is lots of speculation in the media about the possible transfers. The objective of winter transfers is to strengthen the team, typically to compete of the league title or fight the relegation. This study focuses on valuation of player acquisitions, but selling the players also is an important part of transfer market strategy. Win maximization often directs player acquisitions, yet certain players are possibly sold to improve profitability as selling of an underperforming player realizes salary relaxation in addition to the transfer fee received.

The transfer fee is paid for clubs owning players under contract as a compensation for breaching the contract. However, there are also players with expiring contracts on the market, for the transfer of whom the fee is not paid. The number of free transfers is significant – in seasons 2009/10-2012/13 29% of transfers involving a Premier League club were free transfers. The free transfers were

enabled by Bosman ruling in 1995, which is a European Court of Justice Decision concerning the freedom of movement for workers and freedom of association (EUR-Lex, 2014). This decision improved the players' rights significantly as the clubs were no longer able to inhibit the players to leave the club after more suitable contract. In the initial case, Jean-Marc Bosman could not transfer to Dunkerque after his contract expired as his club did not accept the transfer fee and he had to stay although he did not make it to the first-team (Burton, 1995).

The initiative for transfer can depart from selling or acquiring club, or even from the player itself. Clubs use scouts to find players fulfilling the requirements set by coaches and manager. If a club desires to purchase a player under contract, a written offer must be made. After submitting the written offer, the negotiations regarding the transfer fee start. The negotiations typically take a while as the clubs try to compromise the transfer fee by setting multiple conditions. Player is represented by his agent in the negotiations. The agent also agrees on personal terms including salary, bonuses, clauses, duration of the contract, player's anticipated role at the club, and image rights. The acquiring club also usually pays a fee for agent's compensation. The use of player's image in marketing has increased and thus the parties agree on compensation for exploitation of image, or at least of the degree to which the player can control the commercial use of image. Some players even establish, with the help of their agents, a company for the purpose. Negotiations do not always result in transfer, but if a contract is signed, the player must undergo a medical examination prior to joining the team. In general, very little information is disclosed regarding the details of the contract.

2.2. English Premier League

Barclays Premier League is the top division in England, and one of the most followed and best leagues in Europe. Along with German Bundesliga, Spanish La Liga, Italian Serie A, and French Ligue 1, Premier League comprises the "big five" leagues. Premier League has a notable international reputation and presence in the media around the world. In addition, the games are broadcast and fantasy leagues set up in various countries. The best players are known internationally by name and it is not extraordinary to see Premier League clubs' jerseys worn overseas. Clubs going on pre-season international tours is part of branding and marketing strategy. Premier League also is an interesting product domestically, of which attendance is a good indication. In season 2013/14, the average attendance was 35,931 and stadium utilization was 95.3% (Premier League, 2014). English Premier League placed second in the UEFA country coefficient ranking which is based on the performance in the UEFA club competitions, indicating

the excellence of the league. Quality of the Premier League games is one reason for the international interest and global fan base (UEFA, 2014).

Premier League is a great target of sport economics studies due to its commercialization and attractiveness in the eyes of investors. In addition, all the information, statistics, and annual reports are widely available in English. Significantly increased revenue well indicates the value of the league in the eyes of investors, companies, and fans. The Premier League revenue in season 2012/13 was £1.28 billion, compared to that of £46 million in 1992/93. Particularly, Premier League is suitable for this study as clubs are very active in the transfer market, in terms of superstars in particular. Premier League clubs in aggregate are net acquirers of the players, and thus the clubs are assumed to have decent player valuation models enabling clubs to accurately calculate, how much the player is worth at maximum in the race with other clubs. (UEFA, 2011) Furthermore, internationalization of the league shows in the increasing number of ownership changes. Notably, the number of foreign and wealthy investors is increasing and influencing the transfer market and league table. After a number of clubs delisted from stock market in 21st century, there have been many changes in ownership. Thus, the ownership of clubs is multifaceted and fruitful for closer scrutiny.

There are 20 clubs racing for the championship of Barclays Premier League each season, of which the bottom three is relegated and four top teams qualify for the UEFA Champions League. Each club plays against each other twice during the season that begins in August and ends in June (Premier League, 2013a). 43% of the clubs played in Premier League in all four seasons considered. In total there were 28 different clubs competing in seasons 2009/10-2012/13, of which six participated in three times and six only once in the time period. Remaining four clubs played two seasons.

Table 2.1: Clubs competing in Premier League in seasons 2009/10 - 2012/13

Each season there are 20 clubs competing of the league title. "1" indicates that the club played in Premier League in that season and "0" that the club played in a lower division. In total, 28 clubs have played in Premier League in seasons 2009/10-2012/13. Total is the number of seasons played in Premier League in 2009/10-2012/13, minimum is one season and maximum four seasons.

	2009/10	2010/11	2011/12	2012/13	Total
Arsenal FC	1	1	1	1	4
Aston Villa	1	1	1	1	4
Birmingham City	1	1	0	0	2
Blackburn Rovers	1	1	1	0	3
Blackpool FC	0	1	0	0	1
Bolton Wanderers	1	1	1	0	3
Burnley FC	1	0	0	0	1
Chelsea FC	1	1	1	1	4
Everton FC	1	1	1	1	4
Fulham FC	1	1	1	1	4
Hull City	1	0	0	0	1
Liverpool FC	1	1	1	1	4
Manchester City	1	1	1	1	4
Manchester United	1	1	1	1	4
Newcastle United	0	1	1	1	3
Norwich City	0	0	1	1	2
Portsmouth FC	1	0	0	0	1
Queens Park Rangers	0	0	1	1	2
Reading FC	0	0	0	1	1
Southampton FC	0	0	0	1	1
Stoke City	1	1	1	1	4
Sunderland AFC	1	1	1	1	4
Swansea City	0	0	1	1	2
Tottenham Hotspur	1	1	1	1	4
West Bromwich Albion	0	1	1	1	3
West Ham United	1	1	0	1	3
Wigan Athletic	1	1	1	1	4
Wolverhampton Wanderers	1	1	1	0	3
Total	*20*	*20*	*20*	*20*	

2.3. Ownership objectives and structures in football clubs

2.3.1 Ownership structures

Ownership structure is typically taken into consideration, if agency problems between shareholders and managers arise (Hu and Izumida, 2008). The owners of companies, where the ownership is concentrated, have a strong monitoring power over the managerial decisions due to their incentive to safeguard their investment. On the contrary, if ownership is dispersed, the owners are less interested in monitoring management and paying attention to strategic decision making. Most of the Premier League clubs have one major owner, with exception of Swansea City and Everton FC. It is possible that the concentrated ownership actually leads to overuse of financial resources, depending on the owner's objectives. Jensen (1956) finds agency problems of free cash flows resulting in overinvestments and undertaking negative net present value investments.

According to Hamil and Chadwick (2010), there are three types of ownership models present in the English Premier League; stock market model, supporter trust model of ownership, and the foreign ownership. The stock market model of ownership originates from 1980s in the Premier League and Tottenham Hotspur was the first team to list on the stock market in 1983 (Wilson et al. 2013). In 1990s, most of the teams listed on the stock market, but already in the beginning of 21st century most of the clubs de-listed. One of the possible reasons behind the short period is the significant decrease in the share price due to poor investment returns. The football club was not found as lucrative investment as expected, particularly from city institutions' point of view, probably due to clubs' difficulties in generating profit (Hamil and Chadwick, 2010). In the beginning of season 2013/14, Arsenal and Manchester United were the only English Premier League clubs listed on stock market, as Tottenham also delisted in 2011. However, Arsenal is a holding company and Manchester United has only listed small part of its value in New York Stock Exchange (Conn, 2014).

Hamil and Chadwick (2010) introduce supporter trust as one of the three ownership models in English Premier League. Wilson et al. (2013) on the other hand argue that it is not applicable to the Premier League clubs because of their size. The entities in Premier league are significantly larger in terms of size and revenue than those in lower division and thus should be using corporate finance. Therefore, they replace the supporter trust ownership model with domestic ownership. I find this rational, as there are no supporter trusts present in the English Premier League, and the domestic owners tend to have an emotional attachment to a particular club like supporters. Recently the trend in football club ownership models has been towards the foreign ownership. In particular, the wealthy investors from oil-rich countries have rather drastically changed the ownership models of

European football clubs. The investors are either wealthy individuals or even countries through indirect ownership aim at improving their profile through popular sport. This phenomenon does not only apply to English Premier League, but more generally to the big five leagues. For example, Qatar Investment Authority, the country's sovereign wealth fund, bought Paris Saint Germain (The Economist, 2012). However, the countries are more present in the role of sponsor and individuals typically are the major owners. Qatar Air pours money into FC Barcelona, and most recently Azerbaijan has been financing the Atletico Madrid's success, whereas, Sheikh Mansour bin Zayed Al Nahyan has used his wealth to make Manchester City a winning team (Gibson, 2014).

In this study the ownership models considered are public, domestic, and foreign retelling those of Hamil and Chadwick (2010). Public corresponds to stock market model including clubs listed on stock market and those that are public limited companies. Domestic ownership model considers the clubs with a British major owner and foreign ownership those with non-UK residents.

2.3.2. Owner objectives

In corporate world, maximizing shareholder value is considered as the principle of corporate governance, which results in focusing on the profit maximization (Lazonic and O'Sullivan, 2000). However, in sports, the owners' objective can also be to maximize wins, which results in different utilization of resources than if profit was maximized instead. This topic has intrigued in the European top divisions due to the increased ownership of wealthy foreign investors who tend to prioritize winning trophies at the expense of profit.

In comparison to the American major leagues, the European clubs tend to put the sports ambitions first (Fort, 2000). One difference between the leagues is the openness of the European leagues – after each season, some teams promote and some relegate. As the American major leagues are closed, the clubs may possibly concentrate more on making profit since they are not in danger of relegation. Interestingly, Andreff and Staudohar (2000) argue that European leagues are evolving towards American model, where the aim is at profit maximization. The study of Garcia-del-Burro and Szymanski (2006) however supports the possible reasons for differences in European football club objectives and those of American major leagues. Firstly, the American major leagues are closed without a possibility of relegation and franchising rights tend to be sold to big cities. Furthermore, the American major leagues have salary caps and elements of revenue sharing in place, which limit the economic competition. These restraints are not present in European football leagues, which possibly make the clubs more interesting for the potential investors (Wilson et al., 2013). The ownership structure is also somewhat different as the American major league clubs tend

to belong to larger commercial enterprises, whereas the European football clubs included in the sample tend to be free-standing enterprises with little activities outside football.

Késanne (2000a) finds that revenue sharing improves the competitive balance under both the profit- and utility-maximizing hypotheses. Yet in his later study, (Késanne, 2005) he challenges the invariance principle and argues that under an n-team general model, the revenue sharing would decrease the competitive balance for profit-maximizing clubs. The win-maximizing clubs, on the other hand, would experience revenue sharing resulting in an increase in competitive balance. The invariance proposition states that the transfer decision does not influence the competitive balance but increases salaries and reduces exploitation (Vrooman, 2007).

El-Hodiri and Quirk (1971) and Quirk and El-Hodiri (1974) build a formal dynamic model which illustrates two examples of the invariance principle. If the teams have different revenue generating potential, profit maximization will not lead to an equal distribution of resources i.e. talent and redistributing revenue, for example by sharing gate receipts, does not influence the distribution of playing talent. Szymanski (2006) applies Coase theorem into Champions League, using data from English football. He argues that plausible trading mechanisms do not achieve Coasian efficiency. Vrooman (2009), on the other hand, finds that under assumption of profit-maximizing owners, the revenue sharing does not affect the competitive balance holding the invariance proposition. However, if the owners are win maximizers, the revenue sharing may lead to increased uncertainty of outcome and higher payrolls. The erosion of monopsonistic exploitation provides evidence for sportsman effect which means that the owners are willing to sacrifice profit in order to win (Vrooman, 2007).

Rottenberg (1956), in his paper regarding the unrestricted baseball labor market, makes an assumption that baseball-team owners are rational maximizers of money quantities. In academic literature, the assumption of profit maximization is often made because it is a crucial assumption for economic models regarding football transfer market. However, the assumption is not always necessarily realistic. Vrooman (2007) argues that win-maximizing club owners are driven by Champions League revenue hopes at upper extreme and fear of relegation at lower extreme. In addition, he argues that win-maximizing clubs are at the threshold of insolvency as the sportsmen are ready to rely on debt in order to ensure the quality of their teams.

Garcia-del-Barro and Szymanski (2006), study the Spanish and English football clubs in order to find out whether the clubs are rather maximizing wins or profit. They argue that the clubs are maximizing wins subject to budget constraint, particularly in the short term. In addition, they find

that clubs in threat of relegation tend to increase their spending relative to the profit maximization position. The ownership structure seems to have some influence on the focus of maximization. Of the shareholder owned clubs (SAD), the ones that are tightly controlled may have more tendencies towards profit maximization. As the variable was not significant, more evidence is needed. It could be argued that clubs need to make a trade-off between maximizing the profits and wins in the increasing competition – to succeed on the field, club cannot generate decent profit and vice versa. Manchester United owned by the American Glazer family however is one of the most valuable sports clubs in the world (Forbes, 2014), performing well in the Premier League and one of the few profitable clubs. In conclusion, as profit maximization is the prevailing assumption in academic literature, it may be that under the win maximization, the transfer market is not efficient.

The status of Premier League club ownership may motivate billionaire and foreign owners more than profit potential. Business profile and network increase along with emotional return on sporting performance (Deloitte, 2014a). This explains the win maximization objective of billionaire and foreign owners. The future of owners' objectives is uncertain as the effect of UEFA's Financial Fair Play (FFP) rules are to be launched season 2012/13 onwards. Wilson et al. (2013) argue that there is a possibility of development towards profit maximizing entities due to the UEFA's Financial Fair Play rules. The intention of FFP is to limit the financial mismanagement which has been a typical consequent of the foreign, wealthy investors acquiring clubs. Utility maximization introduced by Sloan (1971) is one possible outcome. He took a different approach to owner objective by introducing three possible objectives: security, sales maximization, and utility maximization. The purchase of better players with higher salaries fulfills the utility-maximizers desire for short-term sporting success.

2.4. Competitive balance

Competitive balance describes the degree of uncertainty of outcome in sports. The greater the uncertainty of outcome is, the more balanced the competition is and hence prediction of winner is more challenging. Concept of competitive balance is important to understand as it influences spectators who are in the core of business. Without spectators, the clubs would not be generating high revenues in the first place.

If a contest is perfectly balanced, both teams have equal chance of winning in the beginning. On the contrary, in a completely unbalanced situation, the exact outcome can be predicted by probability of one (Szymanski, 2001). The winning probability of 0.5 for any given team indicates the highest degree of uncertainty of outcome (Rottenberg, 2000). The competitive balance has been subject to

various studies; particularly its influence on attendance has been widely studied but with little consensus. The influence of revenue sharing on competitive balance has also been of interest. Although it is agreed that competitive balance is good to have, no consensus of the suitable degree has been found.

European football leagues are rather polarized than competitively balanced and increasing financial imbalance is only widening the gap between winning and losing teams. Although capital cities have traditionally dominated the leagues, some find financial power influencing the competitive balance unethical. In particular, this applies for clubs with foreign billionaire owners that are able to spend huge amounts on premium players. Furthermore, UEFA Champions League prizes and broadcast income play significant role in increasing disparity within the league. The best performing clubs have the required resources to acquire the best players that will lead the club to further trophies. This rat race is hard to intervene without an entrance of a wealthy owner willing to invest in players as has happened for Manchester City, for example.

The competitive balance of Premier League is weak, a good example of which is Manchester United crowned to champion 13 times out of 21. Manchester City, on the other hand, has won twice in seasons 2011/12- 2013/14. However, the race for relegation, and qualification for UEFA club competitions is typically tight in all “big five” leagues. According to study of Bloching and Pawlowski (2013), French and German leagues are most competitively balanced and Premier League the least, but in Spain, the race for championship has typically been a duel between Real Madrid and FC Barcelona, which decreases the competitive balance drastically. Numerous measures of competitive balance have been introduced with respect to the area of focus. According to Humphreys (2002), the dispersion of winning percentage within the league is one of the most commonly used measures of competitive balance. The pitfall of this particular measure is the inability to consider the variance over time. Of inequality or concentration measures Gini coefficient (Schmidt and Berry, 2001), relative entropy (Horowitz, 1997), and Herfindahl-Hirschman Index (Owen et al., 2008) are used.

Cairns, Jennett and Sloane (1986) introduce following measures of competitive balance. They distinguish long-term, medium-term, and short-term competitive balance. In the long-term, competitive balance is measured by using league tables to determine whether few teams have dominated the league for many years. This can be further divided into intra-season and intra-team competitive balance. Intra-season competitive balance is more of a static indicator and intra-team dynamic, yet standard deviation is used to measure both. In the long-term, Premier League is most unbalanced of the five leagues as five teams tend to dominate the league. In medium-term, the

concentration is more on sub-competitions like qualification to UEFA Champions League and race for championship or relegation. In medium-term, the ”big five” leagues are more equally balanced, except for the uncertainty of championship winner which is influenced by the Spanish duopoly. The medium-term competitive balance is measured by percentage of exiting games in the season i.e. games when uncertainty regarding sub-competition results is prevailing in the season. Short-term competitive balance focuses on uncertainty of outcome of individual games, and is linked to betting. Theil-index which exploits the betting odds to define the probabilities for home win, away win, and draw, is used to measure the short-term competitive balance (Theil, 1967). Comparing betting odds to the game result reveal information about the uncertainty of outcome. In the short-term, Premier League is again the most unbalanced of the five leagues according to the study of Bloching and Pawlowski (2013).

2.4.1 Importance of competitive balance for stadium fans and TV viewers

In theoretical literature of sports economics, it is argued that competitive balance increases interest in the league and game as predictability of the result is low. Consequently, attendance increases as fans are assumed to enjoy games of uncertain outcome. However, there is little consensus of the importance of uncertainty of outcome to attendance in the published empirical literature. Of the 22 published articles considered by Szymanski and Smith (2002), 10 provide evidence in favor of uncertainty of outcome hypothesis which assumes that greater uncertainty of outcome increases attendance and fan utility (Knowles et al.1992). Seven studies found weak support for the hypothesis and five did not find any evidence.

According to the study of Buraimo and Simmons (2008), fans watching a game at stadium prefer games that are less likely to finish with close score. Stadium fans typically are loyal supporters of the home team and tend to have a season-ticket for the games. Thus, they are willing to see the home team win, and with high certainty. Furthermore, the games with low home win probability also draw more attendance than games with mean home win probability. This is likely result of an increased excitement of the “David and Goliath” effect. There is a small change that the home team beats the top team, which would be memorable. Another possibility is that people are willing to see the top team with its superstars to play, or they are fans of FC Barcelona or Real Madrid, for example, instead of the home team. Pawlowski and Anders (2012) do not find evidence for fans preferring home team playing inferior team, but argue that strong brand of away team increases attendance in German Bundesliga.

Buraimo and Simmons (2009) find that the relationship between gate attendance and home win probability is U-shaped in Spanish Primera division, which is contrary to the theory. They also find support for the U-shaped relationship in the English Premier Division. (Buraimo and Simmons, 2008) These findings can be interpreted as an objection for the attempts to equalize the playing strength as the lack of extreme home win probabilities would decrease attendance and thus gate revenues. Pawlowski and Anders (2012) study the importance of uncertainty of outcome for stadium attendance in German and find results similar to Buraimo and Simmons, particularly regarding the negative effect of short-term uncertainty of outcome on attendance. They find that uncertainty of outcome has a significant positive influence on attendance, when either of the teams still have a theoretical change to win the championship. This indicates that the excitement of the game influences the fans' decision to enter the stadium. However, such effect was not found for the possibility to qualify for UEFA Champions League.

The importance of broadcasting has increased as the rights can be sold at good price and they generate a large proportion of revenues. A TV-viewer however differs from a stadium fan in the degree of supporting loyalty. TV-viewers are less-committed fans and may have no particular loyalty for either of the participating team. Hence, they prefer close games to more predictable games, as they are more interested in the quality of the game than in the success of a particular team. The TV-viewer is not captive to watch the particular game and has more alternatives for leisure time. Therefore, the uncertainty of outcome is important in broadcasting. As the two groups of audience have different perspective to competitive balance, it is controversial which group should be prioritized.

Buraimo and Simmons (2009) estimate that the increased broadcast revenue can dominate decreased gate revenue. However, this argument is subject to objection albeit the worldwide interest in European football leagues has increased, and the annual growth of 8.2% in TV income outpaces that of gate receipts (0.7%) (UEFA, 2011). Firstly, it must be borne in mind that Spanish league is one of the few with individual broadcasting contracts. Each league has different forms of broadcast revenue sharing based on rankings et cetera, but the top teams tend to benefit from the broadcasting the most. Furthermore, Deloitte's Annual Review of Football Finance (2012) argues that the increase in TV viewers would be rather small, around 6%, and probably not worth the effort of increasing competitive balance.

2.4.2 Attempts to increase competitive balance

In order to increase the competitive balance, some actions have been suggested and implemented. These actions to great extent regard redistribution of wealth, and are put in action mostly in the American major leagues. The competitive balance of the National Football League (NFL) is high and every team has a possibility to win their game. In NFL, the gate receipts are divided 60-40 between home and away team, in addition to which, the salary cap exists. These are examples of actions that aim at increasing the competitive balance by equalizing the wealth of teams. The influence of salary caps and other revenue sharing actions on the competitive balance and revenues has been of great interest in sports economics research. Before salary caps, reserve clause existed in baseball as the owners found that it was necessary for equalizing playing strength among teams. The reserve clause gave the baseball club owners advantage in contract renewing negotiations, as they had an option of renewing the contract, even with smaller salary. They also were able to sell and terminate the contract, whereas players had little options. Players had the alternatives of accepting the terms and signing or trying to negotiate an improvement in terms. However, the owner's final offer was not negotiable (Scully, 1974). The reserve clause motivated the early sports economics studies such as Rottenberg (1956), Scully (1974), and El-Hodiri and Quirk (1971). They all conclude that reserve clause does not influence the distribution of playing talent and removing it would benefit the baseball players.

There is little consensus in the literature regarding the revenue sharing's influence on the competitive balance. Under the invariance proposition, many researchers ((Quirk and El Hodiri (1974); Fort and Quirk (1995); Vrooman (1995)) argue that the gate revenue sharing has no impact on the competitive balance. However, Szymanski and Késenne (2004) find that the gate revenue sharing decreases the competitive balance and total investment in talent. Vrooman (2000) argues that revenue sharing among teams result in exploitation of players because the revenue sharing does not influence the competitive balance, but rather diminishes it. This is opposite to the widely held proposition of Quick and Fort (1992). They argue that if all clubs spent the amount equal to the salary cap, all the clubs in the leagues would have roughly the same playing strength.

The salary cap is a mean to control the expenses of clubs and increase the competitive balance of a league as the wealth would not influence the allocation of talent. They are present in NFL, National Hockey League (NHL), and National Basketball Association (NBA). Major League Baseball (MLB) has not introduced salary caps although there has been lots of discussion whether it would be applicable. Major League Football (MLS) has a salary cap with exception of "designated players". Késenne (2000b) studies the impact of salary caps in professional team sports and finds

that salary caps increase competitive balance and improve salary distribution among players. The clubs afford fewer top players and their salaries restricted or even decreased.

2.4.3 Difference in competitive balance between the U.S. and Europe

There is a difference in the degree of competitive balance between American professional sports major leagues and European football leagues. (Szymanski and Smith, 2002) The American major leagues are more balanced, which may result from the organizational differences between the leagues. In the U.S., restrictive actions are in use and leagues closed, whereas in Europe teams promote and relegate. Szymanski and Smith (2002) argue that the difference between the two league systems culminates to distinction between equality of opportunity and equality of outcome consequent of relegation and promotion. In Europe, more clubs have an opportunity to play at the highest level of competition. The European football leagues, however, are less competitively balanced in terms of dynamic measures than American major leagues where rules promoting competitive balance are present. However, the difference in competitive balance between the two continents is not one-fold. The European club owners, for example, tend to be win maximizers in comparison to the profit-maximizing American club owners. (Dejonghe and Van Opstal, 2010) Thus, European football clubs barely break even and have great amounts of deficit and debt. The income generated is spent on players, whereas in the U.S. the salary caps restrict the payroll and draft system is used to acquire players. Furthermore, there are no decent rivals for the main American major leagues and the teams even have territorial monopoly.

2.5. Club characteristics influencing the sports performance

The relationship between financial success and sports performance is expected to be positive in most research (Szymanski and Kuypers, 1999; Deloitte & Touche, 2000; Barajas et al., 2005), but it is uncertain whether good performance is caused by decent income or if the good performance leads to high revenues. Barajas et al. (2005) test the influence of Spanish clubs' revenues on sports performance. They use simple univariate regression analysis with logarithm of income variables, as the relationship between income and sports performance has an exponential character. The explanation degree between expected income and sports performance is 55.12% in Spain, which is in line with previous findings like Deloitte and Touche (2000). Of the income variables, sporting revenues explain the performance on the field the best and broadcasting rights also have a strong explanatory power. Overall, they find that sports performance influences the main revenues of Spanish football clubs. However, bearing in mind that most of the revenue goes into the salaries, the sports performance has little explanatory power over the economic results as Barajas et al., 2005,

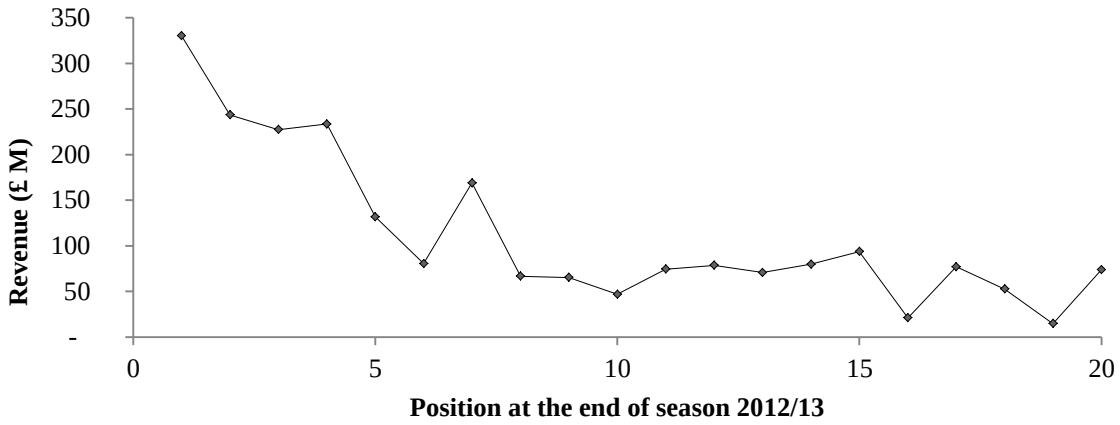
find that revenues and expenses are highly correlated. They also conducted an ordinary least squared regression analysis which shows that position, accumulated points obtained, and compound index only explain small part of the net profit. Altogether the independent variables explain 31% of the net profit (Barajas et al., 2005).

The study of Barajas et al. (2005) focuses on Spanish clubs and due to dominance of Real Madrid and Barcelona FC the results are not completely generalizable outside La Liga. However, a relationship between sports performance i.e. league position and revenues generated also is found for Premier League as Szymanski and Kuypers (1999) show supporting results along with Deloitte's annual report on football clubs. However, causality of financial and sports performance is challenging. The decent financial situation facilitates and enables sporting success as the club may acquire the best players and coaches, as well as, invest in the facilities. On the other hand, sporting success increases the revenues. For example, a team playing well is likely to draw more attendance than poorly playing team and the sales of merchandise increase. More importantly, in some competitions like UEFA club competitions, monetary prizes are awarded to the winners. Even qualification to these competitions ensure considerable revenue stream.

Return on investment in case of football clubs is the points gathered in the league compared to the club budget. Assuming clubs are maximizing wins instead of profits, the more points a club achieves, the better the return on investment. Figure 2.1 shows that there is a relationship between Premier League position and turnover in season 2012/13, as the top four teams generate significantly more revenues. Manchester United, which won the league title, is the only club generating revenues over £300 million, in season 2012/13. The clubs finishing second, third, and fourth generate revenues of same size, but £100 million less than the champion. The variance of turnover and strength of relationship decreases in the latter half of league table, with the exception of Reading in the 19th place with revenue of £14.7 million and Southampton in the 16th place with revenue of £21 million that are significantly smaller than those of any other Premier League club.

Figure 2.1: Relationship between league position and turnover

Revenues and positions of the Premier League clubs at the end of season 2012/13 illustrate the relationship between league and financial performance. Upper left corner indicates that a club generates high revenue and performs well in the Premier League. Lower right corner, on the contrary, indicates low revenue and poor performance in the league. Revenues in millions of pounds are presented on y-axis and position of the club in Premier League at the end of season 2012/13 in x-axis. In total, 20 clubs played in the league.



Wilson et al. (2013) study the interesting phenomenon of increasing foreign ownership in English Premier League clubs. The ownership of the clubs has drastically changed in the 21st century due to the great number of delists and new, wealthy foreign investors. They generally consider the clubs with foreign investors, with the exception of Manchester United, as win maximizers, but argue that the UEFA Financial Fair Play rules may ultimately return the football clubs to profit maximizing entities. Many Premier League clubs have sought after foreign investors as to ease the financial difficulties, but Wilson et al. (2013) well question, whether the foreign investment actually helps clubs in challenging financial situation or further deteriorates the financial distress due to the win maximization approach.

According to Wilson et al. (2013), in terms of financial performance, the domestic ownership outperforms the clubs under foreign ownership which in turn perform better on the field. The stock ownership model however is the most efficient. Further, the listed clubs are in better financial situation and the clubs prioritizing short-term sporting excellence are dependent on their foreign investors' money supply. These findings motivate this study of the ownership structure influences on the transfer fee paid as it would further prove that the poor financial health of foreign owned clubs partially results from the investments in player acquisitions and excessive transfer fees.

2.6 Financial performance of European football clubs

Most of the chapter's data are from Deloitte's Money League Report 2014, Deloitte's annual review of football finance 2014, and UEFA's European Football Licensing Benchmarking report 2011. The Money League report ranks European football clubs based on their ability to generate revenues from broadcast rights, games, and commercial operations. Thus, it gives a solid view of the revenue sources and development in the European football landscape. The reports are annual and hence mostly focus on the most recent season. Following analysis of the revenue sources primarily concentrates on season 2012/13, but development of revenues in the time period of 2009/10-2012/13 is studied when applicable. The financial information is reported in euros to facilitate comparison between leagues. Thus, Sterling exchange ratio may bias the results and Deloitte (2014b) argues that unfavorable movements in the exchange ratio partially influenced Manchester United's decreased ranking in 2012/13. In comparison to the Deloitte reports regarding big five leagues, UEFA's report takes all the European top-division clubs into consideration and hence gives a broader view of the financial situation. The numbers of UEFA's report date back to fiscal year 2011, which complicates the comparison between the reports but suits the time period of this study well.

2.6.1 Revenues

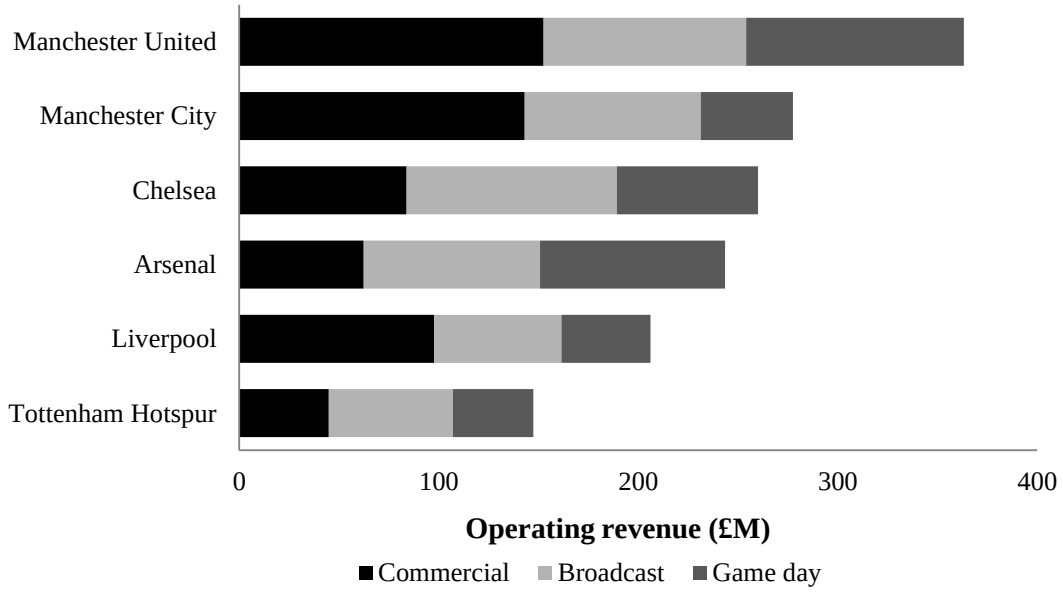
A number of factors dictate a club's ability to generate revenue. For the clubs from the top five and large divisions, the split of broadcast revenues, sponsorships, participation in UEFA competitions, stadium ownership, and ability to connect with the fan base are key factors (UEFA, 2011).The "big five" European leagues i.e. English Premier League, German Bundesliga, Spanish La Liga, Italian Serie A, and French Ligue 1 account for over half of the overall size of European football market of €19.9 billion in 2012/13. The cumulative revenue of the "big five" grew 2% from the previous season and that of the top 20 clubs grew 8% to €5.4 billion. English Premier League is the one generating most revenues, €2.9 million, but the revenues grew at highest rate, 14%, in Ligue 1. However, it is noteworthy that Paris Saint-Germain, the only French club in top 20, accounted for all the revenue growth. In the time period of 2003-2013, English Premier League revenue has grown from approximately €2 billion to almost €3 billion (Deloitte, 2014b).

The top 20 European football clubs generate significant operating revenues, but there are great differences between the clubs competing in the "big five" leagues. In the Premier League, for example, the range was from £363 million of Manchester United to £58 million of Wigan Athletic (Deloitte, 2014a). The difference in revenues can be explained by revenue mix, internationality,

sports performance, and ownership to some extent. As figure 2.2 shows, the exact revenue mix differs from league to league and from club to club, but three main sources of revenues, broadcast, commercial, and game day revenues, are generally recognized. Furthermore, importance of each revenue source sometimes changes from season to season. Sports performance also drives operating revenues as qualification in UEFA competitions like Champions League and Europe League are lucrative. Number of games increases, mirroring to tickets sold, games shown on TV, and reputation.

Figure 2.2: Revenue sources of Premier League clubs

Revenues are divided into commercial, broadcast, and game day revenues. Commercial revenue includes sponsorships and merchandise, for example. Broadcast indicates the revenue stipulated by broadcast contract and game day revenue mostly consists of tickets. The darkest bar in far left, indicates commercial revenue, the lightest bar in the middle broadcast revenue, and the grey bar far right bar indicates game day revenue. The colors show the proportion of each revenue source of the operating revenue. Total length of the bar illustrates the aggregate operating revenue of the club in millions of pounds. The six clubs listed are the clubs generating most revenue in English Premier League according to Deloitte's Money League report 2014 (Deloitte, 2014b).



2.6.1.1 Commercial revenue

Global appeal of Premier League drives increasing commercial revenue which includes items related to sponsorships and merchandise. It was the main area of growth in season 2012/13 for Premier League clubs. The increase of 21% to £129 million was greatly driven by the significant growth in the commercial sector by the three big clubs – Liverpool FC, Manchester City, and Manchester United (Deloitte, 2013). The global appeal in particular drives the commercial revenues

of the biggest and winning Premier League clubs. The clubs have potential to increase their commercial revenue by expanding into new markets and developing their brands. International visibility plays a key role in attracting big international corporations, in addition to which, foreign owners exploit their international networks in sponsorship negotiations. Commercial revenue also indicates the value of Premier League brand overseas and foreign owners increase global perspective of business plans (Deloitte, 2013). All six Premier League clubs ranked in the Deloitte's top 20 Money League report have an international major owner. In particular, the individual and corporations from the U.S. and Middle East are attracted by the Premier League, and this is expected to drive the commercial revenue growth, as clubs find ways to exploit the most lucrative emerging markets, technologies, and best practices (Deloitte, 2014b).

Generally, public realizes sponsorship of a football club in jerseys and stadiums. The growth of commercial revenue, particularly, compared to the other revenue sources can also be explained by the possibility of creating innovative ways to make money. If the brand value of a club is high, like that of the highest-ranked Premier League clubs, corporations are willing to co-operate as they find it value adding. For example, Manchester United named their training facility after Aon (Deloitte, 2014b). The traditional kit deals are also valuable, of which Manchester United's seven-year long deal with Chevrolet (£53million/year) beginning in 2014/15 is a great example (Deloitte, 2013). Manchester United has also signed a lucrative kit deal with Adidas, effective from season 2015/16. The deal is notable as it costs £750 million in ten years to Adidas which expects to generate £1.5 billion from the jerseys sold, well describing the market size of merchandise, particularly in case of high-ranked clubs (Sale and Lawton, 2014). The significant number of Middle Eastern airlines having jersey sponsorships with Deloitte's top 20 Money League clubs indicates the attractiveness of European football in the eyes of Middle East corporations and individuals (Deloitte, 2014b).

In addition to corporate partnerships, the commercial revenue consists of merchandise sold. The product mix is extensive, varying from jerseys to rubber ducks, particularly in case of top 20 European clubs. These clubs are known internationally and have superstars whom to use in the products. Most importantly, though, they have fans all over the world willing to show their support for the club. Manchester United, for example, has an online megastore to serve international fans and the merchandise is a considerable source of revenue for both the club and the official supplier.

2.6.1.2 Broadcast revenue

Broadcast income is one of the sources of revenue growth for many clubs as new contracts tend to exceed the previous ones in terms of value. However, broadcast revenue is not completely dependent on club's brand and ability to negotiate a lucrative contract. Some leagues like English Premier League use collective bargaining systems, whereas in Spanish Primera Division, the clubs negotiate the deals individually. In the Premier League, it is stipulated that 50% of the UK broadcast revenue is split equally between all the clubs. In addition to equal share, clubs receive a merit payment which is dependent on the results of the season and facility fees which is dependent on the number of club's games shown on TV in the UK. Both merit payment and facility fee account for 25% of the UK broadcast revenue. The international broadcast revenue is also divided equally between all the Premier League clubs. The equality of the system is seen in the top-to-bottom earning ratio which was 1.53:1 in season 2012/13. Hence, the winner of league received broadcast revenues 1.53 times the amount of the club finishing last – Manchester United's broadcast revenue was £60.8 million and that of Wigan Athletic £40.8 million (Premier League, 2013b). Of the three revenue sources, broadcast revenue has the most direct relationship to sporting performance as the revenue is dependent on the league ranking. This increases the incentive to maximize wins and qualify to the UEFA club competitions.

Collective bargaining system improves the competitive balance of Premier League as the broadcast revenue is relatively more important to the bottom teams with smaller commercial revenue and lower degree of internationalization and attendance to home games. The broadcast revenue in Premier League is assumed to grow as a three year domestic broadcast rights contract worth of £3 million is effective from season 2013/14 with a 70% increase on the previous value (Deloitte, 2013). The two clubs generating most broadcast revenues in big five leagues are Real Madrid and FC Barcelona, with revenues of £161.4 million and £161.3 million in season 2013/14, respectively. Consisting 39% of the total revenue it is FC Barcelona's most important source of revenue and for Real Madrid it accounts for 36% of the total revenue (Deloitte, 2014b). The dominance in the broadcast revenue results from the Spanish clubs' ability to negotiate individual broadcast rights contracts. In consequence, those two clubs enjoy a significant revenue advantage compared to their domestic and international peers. For example, the broadcast revenue generated by Real Madrid is 1.59 times that of Manchester United. Hence, the difference between two clubs with most broadcast revenue in La Liga and Premier League is 6 percentage points greater than that between top and bottom clubs in Premier League.

2.6.1.3 Game day revenue

The game day revenue mostly consists of tickets sold. The main determinants of top 20 clubs' game day revenues are number of home games, ticket prices, and stadium capacity. Consequently, Manchester City's game day revenue only accounts to 15% of total revenues as the club has the cheapest season ticket in the English Premier League in season 2012/13. On the other hand, smaller clubs, in terms of operating revenue, have smaller stadiums and cities with less population draw smaller audience. Additionally, the winning teams are able to attract fans from greater distance and the competitive balance also influences the revenues. Arsenal is the only Money League top 20 club generating most of its revenues (38%) from game days. Revenues of this magnitude are mostly enabled by the impressive stadium. However, according to Deloitte (2014b), it is likely that the other revenue sources will overtake the game day revenues despite of the increasing attendance.

Sporting performance influences game day revenues generated in form of participation to international competitions. Among the Money League top 20 teams, the difference in revenues generated comes from performance in the international competitions, but among the "big five" league clubs there is a significant difference between the qualified and unqualified teams. Thus, in most clubs the objective of the season is set to qualify to the UEFA club competitions as it is an important source of revenue. The qualification to UEFA Champions League, for example, increases the number of games played, improves the club's brand overseas, and increases the attractiveness in the eyes of potential corporate partners. The increased number of quality games positively correlates to the number of tickets sold, and games shown on TV. In season 2012/13, Manchester United received £60.8 million as Premier League broadcast payments, which leaves £40.7 million for international competitions (Premier League, 2013b). Hence, the significant differences in game day revenue are consequences of participation in the UEFA competitions and relatively higher stadium capacities of qualified clubs.

2.6.2 Expenses

There are many more sources of revenue compared to the outflow of money. A very detailed breakdown and analysis of operating expenses is rather hard to make as the clubs are not required to disclose the numbers. However, most of the income goes into the staff expenses, including the players' salaries. In the English Premier League, the wages to revenue ratio was 71% in 2012/13 increasing 2 percentage points from the previous season (Deloitte, 2014a) It is noteworthy that Premier League was the only one of the "big five" leagues, where the ratio increased. Buraimo et al. (2006) argue that English clubs' insolvency problems are attributed to excessive salary growth. For

the first time, the 70% threshold was exceeded and Queens Park Rangers reported highest ever ratio of 129%, in Premier League (Deloitte, 2104a). Salary plays an important role in transfer negotiations and thus clubs must offer competitive salaries in order to get the desired players. It would also be interesting to study, whether there is a relationship between the salaries and ownership structure. The salaries are a much greater outflow of money but less transparent than transfer fees. In season 2012/11, the transfer fees paid increased 28% to £722 million, mostly due to the grown payments on international transfers. The transfers are typically measured as net transfer costs, where the net profits on sale of players is deducted from the amortization of past transfers and write-downs of transfer values (UEFA, 2011).

The operating expenses cover items such as cost of materials, game day expenses, sales and marketing, administration, write-down of goodwill, depreciation and rent of facilities, and youth football. It is estimated that altogether the operating expenses are 38% of the revenue on average in the European top-division clubs. The non-operating expenses are minor, few percentages of the revenue, and mainly consist of net financial costs. Furthermore, net gains on sales of non-player assets and tax gains and losses are taken into consideration. (UEFA, 2011) In addition to personnel and operating costs, the clubs invest in capital, of which the stadium projects are good examples. The clubs aim at increasing the capacity and enhancing the experience for the audience in hope of increased game day revenue. To some extent, an impressive stadium may also be considered as a status symbol. The clubs work in co-operation with their corporate partners to finance the facilities. For example, a recent trend has been to name the stadiums after the corporations like Arsenal's Emirates Stadium, Manchester City's Etihad Stadium, and Manchester United's Aon Training Center. However, not all clubs own their stadiums, resulting in different expense structures.

2.6.3 Profitability and financing

According to UEFA Club Footballing Landscape report of fiscal year 2011, 37% of European top-division clubs generate operating profit and 63% make loss. Most of the clubs (33%) report operating losses more than 20% of the fiscal year 2011 revenue and 24% of the clubs report operating profits of 0-10% of the revenue. However, Premier League reported aggregated profit for fiscal year 2011. Weak profitability of European football clubs increases probability of bankrupt and insolvency. Hamil and Walters (2010) argue that unprofitability of English football is a consequence of partially owner objectives and partially open league structure. Owners tend to be motivated by nonfinancial considerations like pursuing sporting success at the cost of profit, public relations benefiting their business interest in general or celebrity and vanity benefits related to

owning a club. Win maximization and increasing salaries explain losses that are result of expenses on players exceeding turnover. Win maximization has driven expenditures on players at an expense of profit and premium players do not generate return on investment, in general.

English football is dependent on the willingness of individual owners to cover losses and underwrite debt, a situation which would be intolerable and unsustainable in any other industry (Hamil and Walters, 2010). Open league system triggers an arms race as clubs spend beyond their means to achieve short-term sporting objective, were they to avoid of relegation, qualification to UEFA competitions, or winning the league title. The arms race results in player acquisitions and decreased profitability. Hence, Hamil and Walters (2010) argue that English football is a not-for-profit industry for the owners and other stakeholders, particularly, players and partners like TV and merchandise companies generate profit. UEFA has also acknowledged the weak profitability and launched Financial Fair Play rules to improve financial situation of European football clubs.

The transfers are not always completely driven by the sporting performance criteria as they sometimes have a great impact on the financial result of the club. This is particularly true for the smaller clubs competing in European top-divisions expect for the "big five" leagues. Firstly, their revenues are significantly smaller and thus the transfer fees received from selling potential players to better clubs overseas may account for over 10% of the revenue (UEFA, 2011). In consequence, some clubs have incentives to sell the best players in order to rebalance the shortfalls and others use their surpluses to strengthen the team. Premier League clubs tend to spend more on transfers than they generate revenue. 42% of the clubs generated net profit in 2012/13, yet the average net loss was £25.0 million compared to average net profit of £14.6 million (Orbis, 2014).

The increasing level of debt in football clubs has intrigued in 2010s and typically it has been connected to the increasing salaries and transfer fees, which in turn to are linked to win maximization and acquisition of premium players. The liabilities of football clubs are mostly of short-term, whereas the assets are mostly of long-term. The liabilities include items like bank and commercial loans, transfers payables, taxes and social charges, other long- and short-term liabilities, and liabilities to groups and related parties. In fiscal year 2011, the European top-division clubs had mostly bank and commercial loans (28%), secondly other short-term liabilities (23%), thirdly liabilities to groups and related parties (14%). The assets side mostly consists of fixed assets (31%), which include mostly items related to stadium and training facilities, and player assets (23%). The net equities of European top-division clubs are not impressive as 38% of the clubs had more liabilities than assets in fiscal year 2011 (UEFA, 2011). This is also true for Premier League clubs

studied as 9 out of 19 clubs reported negative net equity in fiscal year 2011. Worrying also is the trend of increasing debt in those clubs that have more liabilities than assets. The debt ratio has remained rather stable during time period of 2009/10-2012/13 for those clubs where assets exceed liabilities in value but increased in those clubs with more liabilities. At the same time, the average debt ratio has increased from 1.74 to 2.80 in clubs reporting negative net equities.

Debt is used to finance the operations which do not generate revenues enough to offset all the expenses. It is also possible that the clubs are not efficiently and profitably managed, and excessive transfer activity, for example, takes place. Another source of finance is the owners who may pour in money for the player acquisitions or to cover losses and liquidity shortfalls. It is possible that this type of financing has become more common along with the increased number of wealthy investors. Effective from season 2013/14 onwards, UEFA fully launched Financial Fair Play (FFP) regulations which force the clubs to pay more attention to financing and profitability. By intervening in the weakening balance sheets, one of the aims is to prevent debt from building up. The accepted levels of debt are set individually for each league, for example, the clubs competing in UEFA Champions League must fulfill stricter criteria than those competing in the Premier League. The sanctions for breaching the FFP vary from warning to fines and bans. In addition to controlling debt, a break-even requirement is set to limit the losses.

The break-even requirement limits the possibility of reporting losses, particularly for clubs willing to participate in UEFA competitions. In determining the clubs' financial qualification, the financial results of three years are taken into consideration. The aggregate deficit of maximum €5 million is accepted, or maximum of €45 million if it is covered unconditionally by owners or related parties. The threshold of €45 million will be lowered in the future, first to €30 million in 2014/15 and further in 2018/19. Small clubs where the revenues and expenses are less than €5 million are exempt from the break-even requirement. (Deloitte, 2013) The Premier League teams have agreed on limiting the aggregated losses of seasons 2013/14-2015/16 to £105 million. (Premier League, 2013c) Although the wealthy investors still can cover the club's deficit, the break-even requirement is a step in right direction as the increasing costs have been challenging. In particular, the sponsorship revenues from owner related companies are carefully investigated to control malpractice. Furthermore, the FFP aims at governing the costs towards facilities and youth, that are more long-term projects than acquired players, for example. Thus, the relevant expenses include transfer costs and finance costs, but exclude depreciation of tangible fixed assets, expenditure on youth and community development, and tax on profits. (Deloitte, 2011) In order to ensure

consistency, UEFA has clearly defined the standardized financial report items to be used and provides an IT solution to facilitate the calculation.

It remains to be seen how drastically the FFP regulations change football clubs' objectives and action with respect to player acquisition and compensation. Furthermore, expected improvements on the clubs' financial situation is realized, in short- or long-term are potential subjects of study in the future. The influence of the FFP regulations is argued to be observed already in the transfer market and first clubs have been fined for breaching the rules. Manchester City and Paris Saint-German, two clubs which have been heavily investing in players with help of their generous and wealthy owners, are punished in summer 2014 for losses exceeding the limit of €45 million and inflated sponsorships. The sanction is a combination of fine, transfer cap, and restriction of squad for UEFA competitions. A fine of €60 million must be settled and the squad reduced from 25 to 21 players. In addition, Manchester City promises to cut the transfer expenses and stabilize the wage level from financial periods of 2014 and 2015. If the punished clubs fulfil the agreed measurements, two-thirds of the fine will be returned (Blitz, 2014). The practice of transfer amortization enables profit generation by selling players below the purchase price, which possibly results in activity in transfer market to improve the financial result. Particularly, the effect is significant regarding the players acquired with high price.

2.7 Player Valuation

Transfer fee indicates player value in football where players are acquired and sold between clubs in the transfer market. In American major leagues, transfer fees are not in use and salary indicates value of player. Frick (2007) summarizes determinants of both transfer fee and salary finding similar results. In particular, the human capital valuation of baseball players has been studied, resulting from individualistic nature of the game and groundbreaking studies of Rottenberg (1956) and Scully (1974). Although there is information available regarding the athlete performance, facilitating human capital valuation in sports, riskiness and uncertainty of player investments must be taken into consideration. There are various factors like injuries which increase the possibility of an athlete not meeting the expectations. Partly due to the uncertainty of performance, some clubs, particularly European football clubs, face financial difficulties. In order to succeed on the field, great amounts are invested in best players and their salaries. However, if these players get injured or underperform, the club's sporting and financial performance possibly decreases (Kedar- Levy and Bar-Eli, 2008).

Consensus of the positive relationship between pay and performance has been prevailing ever since the first studies (For example, Scully (1974) and Rottenberg (1956)). However, different performance indicators have been applied over years. Some of the indicators are general and some sport discipline specific. Furthermore, the performance indicators can be divided into direct and indirect. For example, Scully (1974) selected experience and playing time as explanatory variables of current performance. Quirk and Fort (1992) used in baseball, explanatory variables such as share of team at-bats, games started, and age. These were found to have significant effect on current performance. Transfer fee and salary determinants studied are to great extent measures of player performance and hence the influence of ownership structure is studied.

2.7.1 Marginal revenue product and general theory

Vrooman (1995) introduces a general theory, where the revenue is a function of home market size and winning percentage which in turn is determined by relative share of league talent. The initial theory was subject of two-team league where profit-maximizing payroll is set to the point where marginal revenue product of talent is equal to the cost per unit of talent, assumed equal for both teams. Scully (1974) introduced the marginal revenue product (MRP) as equivalent to player salary, assuming perfectly competitive baseball labor market. He defines marginal revenue product in baseball as the player's ability or performance contributed to the team, or performance affecting the gate receipts. In 1970s, the gate receipts were absolutely the most significant source of revenue. Overall, the player performance statistics are regressed against team performance rates, which in turn are regressed against the revenue. The marginal revenue product theory of Scully and positive relationship found between pay and performance are applicable to all major leagues even today. However, the model has been developed by various researchers to adapt to the commercialized sport leagues. Sponsorships and broadcast, for example, have gained more importance in revenue mix and the players can influence the valuation of such contracts.

The appearance of players in the media has significantly increased and they are also important assets for the collaborative companies. Ambraham et al. (2013) determine the player's contribution to the team revenue by the player's contribution on TV contracts, sponsorship, gate receipts, concessions, apparel, and stadium revenue. They argue that off-the-field indicators are less uncertain that on-the-field performance. Thus, by using off-the-field indicators, the wage is set at such level that player is likely to meet the expectation. For example, injuries would not result in lower than expected contribution to the team revenue.

2.7.2 Player valuation studies

Transfer fee is considered to indicate player value at the time of purchase and thus determined by the expected contribution in the acquiring team's success. Player performance on the field is typically used to measure contribution on wins (Carmichael et al., 1999). The final transfer fee is a result of set of negotiations and Fees and Muehlheusser (2003) argue that following Bosman ruling, acquiring club's renegotiation payoff increases.

In general, player performance and characteristics are found to influence transfer fee. Frick (2007) summarizes studies conducted with respect to transfer fee and salary determinants in Premier League and Bundesliga. Experience of player, number of goals scored, and international caps played in addition to player's position are found to determine player value. Lee and Harris (2012) obtain similar results for USA Major League Football (MLS) – goals, assists and minutes of play positively affect salaries. However, ownership of MLS clubs differs from those of European clubs as the league owns all clubs and investors purchase shares of the league which struggles with profitability. In general, the studies relied on small number of exogenous variables, most of which were indirect measures of performance. Influence of club performance on transfer fee was also studied by variables like goal difference and league ranking (Frick, 2007). Dobson and Gerrard (1999) find negative effect of selling club's league position on transfer fee, whereas Speight and Thomas (1997) find positive effect in Premier League.

Torgler et al. (2006) take a controversial approach and argue that relative income position of player influences performance. They find that salary has a positive impact on player's performance and great income differences decrease individual performance. Most American major leagues have set salary caps to increase competitive balance and to enhance distribution of player salaries. Fees and Muehlheusser (2003) argue that Monti system, increasing freedom of movement, increases difference in wages. Possible overpayment of European football players is studied by Simmons (2007), and Késenne (2000b) finds that salary cap indeed increases competitive balance and enhances salary distribution at the cost of top player salaries. It can be questioned, if salary caps falsify player valuation, in particularly with respect to premium players. Késenne however argues that salary caps rationalize owner behavior to consider negative external effect of uncompetitive balance instead of excessive top player salaries.

Gulbransen and Gulbransen (2011) introduce a complete pricing framework for football players in which the value created for the club is reviewed. They argue that owners want to acquire players who can enhance the club performance in order to qualify for international competitions. In addition

to performance on field, ability to increase attendance, for example, influences player value. Furthermore, transfer market is imperfect enabling positive NPV investments given the differnt value of a player for each club. Thus, there is no market price for a player and value is dependent on a club's bargaining power in negotiations.

2.7.3 Riskiness and future of player valuation

The player investments are risky for the clubs as many uncertainties are included. It is not self-evident that the acquired player will adjust to the new environment and fit the team. In addition, the player performance is not an increasing function or even stable from year to year. The risks involved are not fully considered in measuring the marginal revenue product. Kedar-Levy and Bar-Eli (2008) emphasize the riskiness of the player investments and use an extended capital asset pricing model (CAPM) to value athletes. They consider two types of risks: standard business risk and uncertainty of player performance. The former describes the variability in relevant economic environment which indicates the fan's available income, ticket prices, and fluctuations in the markets for branded goods or broadcasting rights, for example. The study also acknowledges that in team sports, the returns are not solely dependent on one player's performance, but rather on the combined performance of all the team members with each other. Having a well cooperating forward pair may be more valuable than one superstar striker for the club. Kedar-Levy and Bar-Eli (2008) find that there should be a positive, linear functional relationship between the return each player should earn and their performance on the field. On the other hand, the expect covariability of return performance of a player and that of an entire team.

Tunaru et al. (2005) introduce option pricing framework for football player valuation as they argue that it is the best model to apply for decision making when the objects are not market traded. In addition to player's performance, they also include revenue from fans loyalty, club image, and player's image, for example. Access to Opta Index, which is the official player performance statistician to English Premier League, enables such variables. The Opta Index database is based on video evidence and includes all the possible variables, which is particularly helpful in determining the injuries' impact on player valuation.

Overall, despite of the chosen model for player valuation, the estimates are not very accurate. This has great influence on the club's financial situation, particularly as the wages are the largest item of expenditure and have been continuously increasing. Yet, the listed companies should satisfy the shareholder aspirations, at least to some extent. Athanasios (2013) find that player acquisitions have a negative influence on the stock returns around transfer date. It is possible that in the future, the

market values are used for valuation as the players could establish themselves as corporations and issue shares in exchange for a proportion of their earnings. These could come from licensed products, past performance, and appearances, for example. (Tunaru et al., 2005)

This kind of arrangement would be particularly applicable to premium players, the financing of whom is the most challenging for the clubs. Furthermore, the superstars are likely to be engaged in various off-the-field activities and create revenue for the club in addition to their on-the-field performance. The endorsement contracts and playing performance increase the personal brand, which in turn indicates increased popularity and more endorsement revenue. Pujol and Garcia-del-Barro (2008) introduce a player valuation model which considers the media value as the primary determinant of player's value. Notoriety and popularity are measured by the presence in the media by using filters to gather data from the internet. The results they get are very well in line with the actual transfer fees paid for the players.

3. Hypotheses

The following hypotheses of transfer fee determinants are partly based on literature and findings of previous studies and partly based on my rationing and instincts. The variables are expected to have either a positive or a negative influence on the transfer fee of an acquired player. Yet, it must be borne in mind that the transfer fee is a result of negotiations and, hence, the theoretical transfer fee may differ significantly from the realized value. It is further assumed that the club pays a transfer fee for the player acquired, although in reality free transfers are common for players with expiring contracts.

The hypotheses are divided into following categories: ownership structure, Premier League club's financial ratios, direct measurements of player performance, and player characteristics. The main interests of this study relate to club's ownership structure and financial situation as they are less studied topics and surfacing in the public discussion. The hypotheses, particularly those related to player performance, are rather universal but following hypotheses are made for Premier League clubs valuing their acquisitions of players.

3.1 Influence of ownership structure on the transfer fee

The foreign ownership in Premier Leagues has rapidly increased and some owners have invested great sums in the transfer market. For some wealthy foreign investors, owning a club seems to be more of an ownership status question or a hobby with a win maximization objective than an investment with high return expectations. Additionally, the agency problem of free cash flow is considered to partially explain the excessive expenditure on players. Hence, it is assumed that foreign investors and billionaires in general pay higher transfer fees due to decreased incentive to acquire undervalued players. However, it must be borne in mind that owners do not decide whom the club acquires, but they do have a word to say in determining the transfer budget. The power of the owner in creating the roster differs from club to club, yet it may be assumed that billionaire owners have greater influence on the decisions, as keeping them happy is important for the club to succeed.

A positive influence of billionaire ownership on transfer fee is one of the main hypotheses, as it is of interest, if the ownership status benefits motivating investment in Premier League club and consequent win maximization affect player valuation. Wealth of investors triggering agency problem of cash flow and an arms race following competition of the league title are assumed to result in billionaire owned clubs paying a transfer fee premium for the acquired players. The low profitability of Premier League clubs is consequent of player expenses exceeding operating

revenues. It is possible that clubs with billionaire owners maximize wins at the expense of profitability and do not prioritize detailed player valuation. It is also possible that these clubs desire a particular player and are ready to pay a premium so that the rival club cannot acquire the player.

H1: *Billionaire owners positively influence the transfer fees.*

The clubs owned by billionaires are also predicted to have strong correlations on financial ratios. Their extensive network is assumed advantageous in creating public relations and agreeing on sponsorships. The clubs owned by billionaires tend to perform well on the field, which increases the revenue generated. Thus, a positive correlation between billionaire owner and turnover is expected. On the contrary, I expect to find a negative correlation with profitability ratios due to weak cost control and excessive expenditure on transfer market with possible overvaluation. It seems that the owners are ready to lavish money for the team in order to win the championship. The win maximization should also result in weak liquidity. In the era of lavish benevolence, the billionaires do not need to issue debt to finance the operations, but have other money supplies. In consequence, a negative correlation with billionaire owner and debt ratio is predicted.

Like billionaire owners, foreign owners are assumed to maximize wins over profit, decreasing motivation for player valuation. The foreign owners are expected to pay a transfer fee premium because they are typically either investing in the higher-ranked clubs or trying to turn mediocre clubs into winning clubs, both of which require heavy investments in premium players. Investment in a Premier League club is potentially motivated by the ownership status and excitement rather than business potential resulting in excessive transfer fees and desire for particular players. Regarding foreign ownership, the number of U.S., Russian, and Middle Eastern owners in Premier League has increased, but no inconsistency with foreign owners in general is expected, although some differences in magnitude of influence can occur. Billionaire owners are hypothesized to have a stronger positive correlation on transfer fee than foreign owners, as it is more narrowed and powerful group.

H2: *Foreign ownership positively influences transfer fee.*

The foreign ownership is also predicted to influence financial situation of a club. Wilson et al. (2013) address whether foreign ownership improves club's financial situations or further deteriorates financial distress given the win maximization principle. The foreign owners often manage to negotiate valuable international sponsorships and exploit their international network, which should increase the revenue, but lavish money on players resulting in poor profitability. In consequence, a negative correlation with profitability and positive correlation with turnover is

predicted. Wilson et al. (2013) indeed find negative relationship between return on capital employed (ROCE), a measure of profitability, and foreign ownership. Not all foreign owners are billionaires with ability to cover losses, and therefore the foreign owned clubs are expected to have higher debt ratios due to the excessive expenditures financed by debt. Additionally, Deloitte (2013), for example, discusses a possible relationship between increasing foreign ownership and leverage, for which Wilson et al. (2013) find support. Due to the poorer expected financial situation, the foreign ownership is also assumed to negatively influence the liquidity.

On the contrary to billionaire and foreign ownership, publicly held clubs are assumed to maximize profits, and hence to look for undervalued players. Shareholders are looking for return on their investment and do not maximize wins at the cost of profitability, negatively influencing transfer fees of player acquisitions. Publicly held clubs are assumed to value players in greater detail, considering profitability. Joint ownership and relatively small shares of ownership also are likely to control the spending on transfer fees. The limitation of this variable is the small number of public companies in the sample, which possibly leads to biased results.

The publicly held clubs are assumed to have best financial situation due to the profit maximization objective and cost control. These clubs should generate less revenue but report better profitability ratios, resulting in expectations of negative correlation with turnover and positive with profitability ratios. Furthermore, public ownership is predicted to have negative influence on debt ratio and positive on current ratio. Wilson et al. (2013) find that publicly held clubs overall have the best financial situation with respect to leverage and profitability.

H3: *Public ownership negatively influences the transfer fees.*

Table 3.1: Hypothesized influence of ownership structure on financial ratios

Ownership structure of Premier League clubs is expected to influence the financial ratios of the club. The effect on a financial ratio is either positive or negative. EBIT is the difference between operating revenue and operating expenses, indicating profitability and turnover measures ability to generate revenue. Current ratio is the ratio of current liabilities to current assets indicating liquidity. Leverage of the club is measured with debt-to-assets ratio. All the financial ratios are for years of 2009-2013. A Premier League club is considered foreign owned if the major owner is non-UK resident and publicly held clubs are Public Limited Corporations or clubs listed in stock exchange. Billionaire refers to major individual owners with net wealth over $1 billion according to Forbes list of the World billionaires in 2009-2013.

	Turnover	EBIT	Debt ratio	Current ratio
Foreign	Positive	Negative	Positive	Negative
Public	Negative	Positive	Negative	Positive
Billionaire	Positive	Negative	Negative	Negative

3.2 Influence of club's financial situation in the transfer fee

The club's financial situation should determine the budget allocated to the players each season, and thus a positive relationship between turnover and player investments is expected. On contrary, poor financial situation may force clubs to sell players, but it is not in scope of this study. It is noteworthy that the financial period of most Premier League clubs end in May or June and hence the financial ratios describe well the amount available for transfer activities. The object is to analyze the influence of financial situation before opening of summer transfer window to the transfer fees paid for each player. The transfer fees paid in turn influence the financial situation of the ongoing financial period, but those effects are not hypothesized.

Earnings before interest and tax (EBIT) indicates the club's profitability, and thus influences activity in the transfer market. It is assumed that the more money the club generates in terms of revenue, the higher the probability of transfer fee premium due to agency problem of free cash flow. Need to carefully value players and look for undervalued players is lower due to high revenues. However, it is noteworthy that in this study, the transfer fees of individual players are reviewed although the clubs generally have transfer budgets for the whole time period. Turnover merely indicates the club's ability to generate revenues from the core operations, whereas the other financial ratios indicate, what is left to spend on the transfer market after the expenses. The ratios differ in the extent to which different expenditure items are taken into consideration, but high ratios are desirable in all cases. The profitability ratios are expected to have stronger positive correlations with transfer fee than turnover, as they take the expenses into consideration, and describe thus better the financial situation and transfer budget in prior to transfer activities.

The higher the current ratio, the more current assets the club has compared to current liabilities. Thus, the better the ratio, the better the liquidity and the higher transfer fees are expected to be paid due to possible overvaluation.

H4: *Turnover, EBIT, and current ratio positively influence the transfer fee.*

High leverage indicates financial instability and clubs with excessive debt are expected to be paying smaller transfer fees because they cannot afford the best players and hence must value players more accurately and find the undervalued players. The cost of capital increases with leverage and thus the players become relatively more expensive for highly leveraged clubs. This is not a problem though if the owner covers the costs of transfer activity. On the other hand, high debt ratio may indicate that the club has financed its past transfer activity by taking debt. It is consistent with the win maximization to prioritize the player acquisitions to paying back debt. As such, the debt ratio is expected to influence the transfer fee negatively.

H5: *Debt ratio negatively influences the transfer fees.*

3.3 Influences of direct measurement of player performance on transfer fee

Frick (2007) summarizes the findings of player performance influence on transfer fee and obtained correlation coefficients are employed in the following hypotheses. Of the direct measures illustrating player performance, I expect goals scored, assists given, and games played to have a positive effect on transfer fee paid. Study of Frick (2007) illustrates a strong positive influence of goals scored and games played on transfer fee, as all the reviewed papers studying the variables have found a positive effect regardless of the league and method. Lee and Harris (2012) find encouraging, positive influence of assists and minutes played on Major League Football players' salary. Minutes per goal is expected to have a negative impact in the transfer fee, as it measures efficiency - the less time it takes to score, the better. All these variables are gathered for the season preceding a transfer, as the most recent performance weights the most in decision making. Time played on the field indicates expectation of a player to contribute to win and goals are valuable for the team. This is particularly of great importance for win-maximizing clubs. Overall, the direct player performance measures try to predict the future performance by exploiting the previous season's performance indicators.

Goals scored is a direct and very often studied measure of performance, for which studies find positive effect on transfer fee. (Frick, 2007) Ability to score increases the probability of winning a game significantly and thus adds value for a club. However, the number of goals scored is

somewhat dependent on the position and club one plays for. The defenders do not get as many changes to score as forwards, hence, it could be interpreted that goal scoring ability is expected from the forwards and seen as a value-adding characteristic of defenders. The assists given is a much more rarely studied explanatory variable than goals scored, but should also add value for creating opportunities to score. This variable also is less dependent on the position, although the defenders do give less assists. Lee and Harris (2012) find a positive influence of assists on player's salary in MLS, which is indicative of potential positive influence on transfer fee as well.

It is assumed that better performing players play more and being on the field actually is the only way to provide value for a club and influence team performance in practice. Therefore, the games played should strongly impact transfer fee paid. Minutes played offer more accurate information than games played which only indicates, whether a player played in a game or not, but does not reveal as detailed information on the role of the player. However, due to multicollinearity problem both variables cannot be included and games played is omitted from the regression analysis. There is expected to be difference in the transfer fee between players who play 90 minutes week to week and substitutes who play tens of minutes irregularly. The best teams have lots of good players, all of whom cannot play full minutes, which decreases this variable's ability to indicate player talent. A substitute playing 15 minutes in Premier League probably would play 90 minutes in Championship. Furthermore, inclusion of international caps and UEFA competitions also cause small bias as not all players have possibility to partake in these games, at least to same extent.

H6: *Number of goals scored, assists given, and minutes played in the previous season, positively influence the transfer fee.*

Efficiency of player in scoring and influence of injuries in player valuation are not studied to great extent, and thus this hypothesis is assumptions of the potential influences on player valuation. Goal ratio measures the efficiency of players which should add value for a club and is manifested in transfer fee. The less time it takes to score, the better the performance of player is and the higher the value. Thus, low ratio is desirable. Efficiency is particularly important for substitutes who do not have as much time on field. Goal ratio also is of greater importance in valuing future talents as it indicates of good utilization of opportunities given. Yet, it is powerful in differentiating the forwards.

Injuries are expected to have a negative influence on the transfer fee as player performance decreases, at least temporarily. In particular, proneness to injuries should decrease player value as the probability of missing a game due to an injury increases and further value created for club

decreases. Additionally, the probability of injury increases with the minutes played yet the total minutes played in the season decrease in consequence of an injury. Proneness to injuries is hard to measure and therefore the possible influence of injury on transfer fee is reviewed with respect to number of games missed due to an injury in the season preceding acquisition. However, the number of games missed is not a direct indicator of proneness to injuries as it can also indicate the severity of the injury, which is expected to have a negative relationship to player performance, as well.

H7: *Minutes per goal- ratio and number of games missed due to an injury negatively influences the transfer fee.*

3.4 Influences of player characteristics on transfer fee

These indirect player performance measures characterize the player ability and human capital, and help in generating more accurate prediction of player value. The following hypotheses include relative measures, and thus their interpretation is more complicated than that of the direct ones due to varying circumstances.

The yellow and red cards are expected to have a negative effect on the transfer fee, as they can be considered as an indicator of a non-desired player nature, like quick temper on the field. Additionally, a red card and certain number of yellow cards in a season leads to game suspensions, which decreases the value created for the club. Red cards are expected to have a stronger negative correlation than yellow cards. The probability of a yellow and red card, particularly those resulting from game situations, is to some extent dependent on the position. The defenders and midfielders are sometimes forced to commit fouls in order to prevent the opposite team from scoring, which is their role. Forwards, in general, take more often unnecessary cards in result of frustration and losing temper. Therefore, the number of cards may actually indicate the position and playing style more than undesirable behavior. Interaction variable for position and number of cards would improve the results but as the scope of this study is in the ownership structure of the clubs, it is not applied.

H8: *Yellow and red cards negatively influence the transfer fee*.

Selection to a national team and international games played are expected to add value as they indicate excellence. Dobson and Gerrard (1999) find a positive effect of international caps on transfer fee studying Premier League and Frick (2007) summarizes that influence is independent of league and methodology. However, the level of national teams greatly varies from country to country, resulting in penalization of players from highly ranked countries like England and France. Additionally, the national teams play a different amount of games and for different purposes. The

top division clubs do not always give their players permission to partake in the friendlies to avoid unnecessary injuries and strain. Hence, the results should be interpreted carefully as reputation may sometimes overrule performance in the selection of national team. However, it is argued that the very best players are chosen to national team as coaches do not have financial restrictions and are able to assembly the best possible team.

H9: *International caps positively influence the transfer fee*.

Premier League clubs are expected to pay a premium for the within-UK transfers, as more detailed information is available, decreasing the uncertainty of performance. International transfers are riskier than domestic transfers as it is possible that the acquired player does not settle to the new country, league, or club. In addition, clubs must in greater extent rely on third-party information, in particular with respect to the history and nature of a player.

The position of the players influences the transfer fee paid as some positions seem to be appreciated more. The players in different positions generate value for the club in different terms. Albeit scoring is more visible performance than preventing the opposite team from scoring, it can be argued whether it is also more valuable. However, a premium is paid for forwards and midfielders in comparison to defenders. Particularly, this applies to forwards who are seen to make the difference in winning the games by scoring. Lee and Harris (2012), for example, find supporting results of premiums paid for forwards.

H10: *A premium is paid for domestic transfers and forwards.*

Table 3.2: Hypothesized influences on transfer fee

Either a positive or negative effect on transfer fee of an acquired player is hypothesized for the assumed determinants. Billionaire is a dummy variable referring to major individual owners with net wealth over $1 billion according to Forbes list of the World billionaires in 2009-2013. A Premier League club is considered foreign owned if the major owner is non-UK resident and publicly held clubs are Public Limited Corporations or clubs listed in stock exchange. EBIT is the difference between operating revenue and operating expenses, indicating profitability and turnover measures ability to generate revenue. Current ratio is the ratio of current liabilities to current assets indicating liquidity. Leverage of the club is measured with debt-to-assets ratio. All the financial ratios are for years of 2009-2013. Goals scored is the number of goals scored and assists the number of assists given in all the competitions for the season preceding acquisition. Games played indicate the number of games played in the season preceding acquisition. Minutes per goal is the sum of minutes played in all competitions divided by the number of goals scored for the season preceding acquisition. Injuries are defined as number of games missed due to an injury according to transfermarkt.co.uk. Yellow and red cards is the number of cards received in the season preceding acquisition. International caps is the number of all international caps played in the previous season. Domestic is a dummy variable for within-UK transfers and position dummies forwards and midfield indicate the position of acquired player in the preceding season. The number of hypothesis is marked in front of the explanatory variable.

Explanatory variable	Effect on transfer fee
H1: Billionaire ownership	Positive
H2: Foreign ownership	Positive
H3: Public ownership	Negative
H4: Turnover	Positive
H4: Profitability	Positive
H4: Liquidity	Positive
H5: Leverage	Negative
H6: Goals scored	Positive
H6: Assists	Positive
H6: Minutes played	Positive
H7: Minutes per goal	Negative
H7: Injuries	Negative
H8: Yellow cards	Negative
H8: Red cards	Negative
H10: International caps	Positive
H11: Domestic	Positive
H11: Position (forward)	Positive
H11: Position (midfielder)	Positive

4. Data and methodology

Performance and transfer data are collected from transfermarkt.co.uk for a time period of 2009/10-2012/13. Primary source of financial and organizational data is Orbis database in addition to the clubs' web pages and annual reports. Data are cross-checked the data with other databases like myfootballfacts.com on random basis to improve reliability. The data are hand collected for transfers taking place seasons 2009/10-2012/13, where an English Premier League club is the buyer. The players sold are excluded from the sample as the focus is on the acquiring club's player valuation. The main sample consists of 293 summer transfers in the seasons 2009/10-2012/13. The total number of transfers executed in the seasons 2009/10-2012/13 is 1,071, from which the winter transfers, free transfers, players sold, goalkeepers, and transfers lacking necessary information are excluded. The sample is of the same size with previous studies conducted. For example, Fees et al (2004) studied 239 transfers in the German Bundesliga in the seasons 1994/95-1999/2000.

Winter transfers are excluded because they differ in nature. The decisions illustrate club's situation in the middle of season, and players are mainly acquired to strengthen the team or to cover injured players. On the other hand, underperforming players are sold. Furthermore, the player value is determined by the most recent performance complicating collection of comparable statistics for summer and winter transfers. Player performance of winter transfers is either for half a season or outdated statistics of previous season. Free transfers are also omitted from the sample as no transfer fee is paid for these players changing club at the end of contract. Thus free transfers do not contribute for finding a potential transfer premium depending on the club ownership structure. Carmichael et al. (1999) include free transfers in their study of transfer probability, but most studies exclude them from the sample.

Economic downturn influenced transfer market in season 2010/11, as the transfer fee and sum of transfer fees declined on average. However, the recovery was rapid and aggregate sum of transfer fees has significantly increased from £347.9 million of season 2010/11 to £529 million in season 2012/13. The difference between minimum and maximum sums has decreased from £116.5 million to £83.6 million in the time period of 2009/10-2012/13. Nonetheless, a median club spends £5 million more on player transfers in season 2012/13 than 2009/10.

Table 4.1: Descriptive statistics of Premier League transfer fees

Median transfer fee indicates the median of transfer fees for players acquired by Premier League clubs each season in the time period of 2009/10-2012/13. Minimum transfer fee is the smallest transfer fee of a season for the Premier League clubs' player acquisitions in 2009/10-2012/13. Maximum transfer fee is the highest transfer fee of a season for Premier League player acquisitions in 2009/10-2012/13. Median transfer fee sum is the median of sum of a club's player acquisition transfer fees in Premier League in a season for 2009/10-2012/13. Minimum transfer fee sum is the smallest sum of a club's player acquisition transfer fees of Premier League clubs in a season for 2009/10. Maximum transfer fee sum is the greatest sum of a club's player acquisition transfer fees of Premier League clubs in a season for 2009/10. Aggregate transfer fee sum is the total sum of all Premier League clubs' player acquisition transfer fees in a season for 2009/10-2012/13. Values are in millions of pounds.

£M	2009/10	2010/11	2011/12	2012/13
Median transfer fee	3.5	4.9	9.9	3.6
Minimum transfer fee	1.5	1.1	0.88	0.45
Maximum transfer fee	25.5	26.4	39.6	35.2
Median transfer fee sum	16.9	12.7	12.4	21.9
Minimum transfer fee sum	6.1	0.2	3.0	6.0
Maximum transfer fee sum	122.6	128.0	81.2	89.6
Aggregate transfer fee sum	470.0	347.3	444.1	529.0

4.1 Ownership data

Organizational data is gathered from annual reports, Orbis database, and business magazine Forbes. Three main ownership categories – foreign owners, billionaires, and public entities – are recognized. Wilson et al. (2013) categorize Premier League clubs into stock market, foreign and domestic by ownership, studying the influence on the club performance. The number of foreign and billionaire owners has significantly increased in Premier League and categorization enables review of different ownership categories and their behavior in transfer market. Billionaire owners are compared to all other ownership categories i.e. domestic, foreign, and public entities. Foreign owners are primarily compared to domestic owners.

For each English Premier League club, which has competed in the league at least for one season in the time period of 2009/10-2012/13, information of owners, their nationality, personal wealth, and share owned of the club is gathered for categorization. Main drivers of categorization are country of residence and personal wealth of the owner. The major owner is considered as a billionaire if the wealth exceeds $1.0 billion and the owner appears on Forbes magazine's list of the World's billionaires in years 2009-2012. It is acknowledged that the net wealth only is an estimate of

personal wealth, but it is considered to give an impression of the magnitude. Private and public entities are also categorized, but no distinction is made between listed and non-listed public limited corporations. Furthermore, categories are non-exclusive and some clubs are, for example, considered as foreign and billionaire owned.

In total, following six Premier League club major owners are considered as billionaires, Roman Abramovic of Chelsea FC, Stanley Kronke of Arsenal FC, Joseph Lewis of Tottenham Hotspur, Glazer family of Manchester United, and Michael Ashley of Newcastle United. Forbes does not value families or royal fortunes if there is uncertainty of the initial owner of fortunes, and therefore Manchester City owner Sheik Mansour bin Zayed al Nahayan does not appear on Forbes list of the World's billionaires with exception of year 2009. He is however considered as a billionaire in this sample, since media refers to him as a billionaire and he stands first in FourFourTwo's Football rich lists 2010/11 and 2011/12. (FourFourTwo, 2011) Of the six billionaire owners, two are domestic and four foreign. Ownership is considered billionaire albeit a club is owned through a holding company which is common practice in Premier League clubs. However, corporations and institutions owning Premier League clubs are not considered billionaires regardless their wealth. Furthermore, only controlling shareholders are taken into consideration, a reason for which Arsenal FC's Alisher Usmanov is excluded from the list.

Definition of threshold is challenging as the net wealth fluctuates from year to year depending on the returns on investments. Furthermore, it is challenging to define what amount of wealth significantly distinct the billionaire owners from rest of Premier League owners. Billionaire categorization is based on public data, decreasing reliability of results. This is considerable limitation as results regarding billionaire owners are assumed to contribute the most.

Table 4.2: Net worth of billionaire owners 2009-2012

Net worth of billionaire owners is reported as listed by Forbes magazine in the list of the World's billionaires. Ranking on the list is in parenthesis. Manchester City owner Sheik Mansour bin Zayed al Nahayan is excluded from the list as Forbes does not value families or royal fortunes if there is uncertainty of the initial owner of fortunes.

Owner	Club	2009	2010	2011	2012
Roman Abramovic	Chelsea FC	$8.5bn (#51)	$11.2bn (#50)	$13.4bn (#53)	$12.1bn (#68)
Michael Ashley	Newcastle United	$1.1bn (#647)	$1.5bn (#655)	$1.9bn (#651)	$2.5bn (#451)
Stanley Kroenke	Arsenal FC	$3.0bn (#205)	$2.9bn (#342)	$2.6bn (#440)	$3.2bn (#358)
Joseph Lewis	Tottenham Hotspur	$2.5bn (#261)	$3.0bn (#316)	$3.2bn (#347)	$3.8bn (#290)
Malcom Glazer and family	Manchester United	$2.2bn (#305)	$2.4bn (#400)	$2.6bn (#440)	$2.7bn (#442)

Table 4.3: Ownership structures of English Premier League clubs

The list of clubs includes all 28 clubs that have played at least one season in the English Premier League in the time period of 2009/10-2012/13. In the table, "1" indicates positivity and "0" negativity given the category. "1" in the column "US" indicates that the major owner is U.S citizen and "1" in the column "Asia" that the owner comes from Asia, including Russia. "1" of foreign category is for non-UK owners and "0" for domestic owners. "1" in the column "Billionaire" indicates that the owner's personal wealth is over $1.0 billion according to Forbes list of the World's billionaires 2009-2012. Only the clubs owned by individuals or through their holding companies are considered as billionaires. "1" in the column "public" indicates that the club is a Public Limited Corporation or listed in a stock exchange. All categories are not mutually exclusive. There have been changes in ownership during the studied time period, and the year indicates the point from which on the club belongs to the category. Total is the number of clubs in a category as of 2014. % indicates the percentage of the clubs in a category of the total number of clubs.

	Foreign	Public	Billionaire	U.S.	Asia
Arsenal FC	1	1	1	1	0
Aston Villa	1	0	0	1	0
Birmingham City	1	0	0	0	1
Blackburn Rovers	2010-	0	0	0	0
Blackpool FC	0	0	0	0	0
Bolton Wanderers	0	0	0	0	0
Burnley FC	0	0	0	0	0
Chelsea FC	1	0	1	0	1
Everton FC	0	0	0	0	0
Fulham FC	1	0	0	2013-	2009-2013
Hull City	0	0	0	0	0
Liverpool FC	1	0	0	1	0
Manchester City	1	0	1	0	1
Manchester United	1	1	1	1	0
Newcastle United	0	0	1	0	0
Norwich City	0	1	0	0	0
Queens Park Rangers	2011-	0	0	0	2011-
Reading FC	1	0	0	0	1
Southampton FC	1	0	0	0	0
Stoke City	0	0	0	0	0
Sunderland AFC	1	0	0	1	0
Swansea City	0	0	0	0	0
Tottenham Hotspur	0	0	1	0	0
West Bromwich Albion	0	0	0	0	0
West Ham United	0	0	0	0	0
Wigan Athletic	0	0	0	0	0
Wolverhampton Wanderers	0	0	0	0	0
Total in 2014	*13*	*3*	*6*	*6*	*5*
%	*48 %*	*11 %*	*22 %*	*22 %*	*19 %*

Foreign ownership is further categorized by country of residence into U.S. and Asia. In this context, Russia is included in category Asia. Americans, Russians, and Middle Eastern are the major owner categories in addition to British people. Changes of ownership during the time period of 2009/10-2012/13 are taken into consideration and dummy variables adjusted accordingly. Overall, 48% of the clubs are in foreign ownership in July 2014. 19% of the 20 Premier league clubs are in U.S. ownership and 22% in Asian ownership. Clubs in public ownership or listed in stock market are categorized as public. The three public clubs are either Public Limited Corporations or listed in a stock market. The distinction to private and public companies was made by shareholder information available on Orbis and annual reports. Norwich City is a public limited company, Manchester United is partially listed on New York Stock Exchange and Arsenal FC's parent company is a non-quoted public company traded at a specialist market, PLUS. Arsenal FC and Manchester United also have billionaire owners in addition to listing.

4.2 Financial data

Financial data for each club are primarily derived from the financial statements available in Orbis database and cross-checked with the annual reports. Premier League clubs have complicated and differing ownership structures with parent and holding companies, thus club accounts are considered to ensure comparability. Not all clubs have a holding or parent company and the possibility of manipulation is greater in holding accounts. The financial year of Premier League clubs generally end in June or May, giving a good understanding of the club's financial situation in the beginning of the summer transfer window. Thus, if the financial situation is to influence the expenditure on players, it should be found out. The financial data were available for each club for the seasons competed in the English Premier League, except for Portsmouth FC which faced serious financial trouble and threat of liquidation in 2010. The supporters of the club eventually saved the club, but it was forced to sell all the players due to the financial difficulties. As Portsmouth FC only spent £7.8 million on acquisitions, compared to the amount received from the players sold £45.8 million, the exclusion is not significant.

Independent variables were selected so that together they would give a thorough view of the club's financial situation. Wilson et al. (2013) use gearing, debt, return on capital employed, profit, profit increase, and turnover increase as explanatory variables in their study regarding the relationship between ownership structure and sports performance, which guided the selection of explanatory variables of this study to some extent. Financial ratios studied are turnover, EBIT, debt ratio, and current ratio. These variables give an overview of club's profitability, leverage, and liquidity.

Turnover and EBIT are gathered from the profit and loss account. Turnover is the operating revenue describing the money generated during the financial year of which the operating expenses are subtracted to report the profit for the financial year. All these financial ratios measure the club's potential to generate profit. EBIT indicates earnings before interest and tax, indicating profitability of club independent of capital structure. Return on capital employed (%) could not be included in the explanatory variables due to the lack of data. It would have complemented the profitability ratios by giving the percentage of profit of net assets. Debt ratio is calculated as sum of current and non-current liabilities divided by total assets. Leverage describes the capital structure and indicates the defensive position. Current ratio is the difference of current assets and current liabilities indicating the liquidity of the club that is the ability to meet the short-term obligations. If the value is smaller than one, the club has more current liabilities than assets.

Table 4.4: Financial ratios and their interpretation

The calculations of financial ratios and their interpretation are shown. All ratios except for debt ratio are gathered from financial statements in Orbis as such. Debt ratio is calculated based on balance sheet figures of current liabilities, non-current liabilities, and total assets. Either high or low score of financial ratio is desirable. Turnover is the money gathered from the operations, EBIT indicates profitability, debt ratio leverage, and current ratio liquidity of the club at the end of fiscal year.

Indicator	Calculation	Interpretation
Turnover	Operating revenue	High score desirable
EBIT	Operating revenue – operating expenses	High score desirable
Debt ratio	(Current liabilities + non-current liabilities)/total assets	Low score desirable
Current ratio	Current assets/current liabilities	High score desirable

The financial situation of a club may significantly vary from season to season and from club to club as table 4.5 shows. The profitability measure EBIT ranges in Premier League clubs from £194.9 million to £126.5 million in seasons 2009/10-2012/13. Mean of EBIT is £-19.8 million indicating that on average Premier League clubs make losses. Turnover has the highest standard deviation of 77.4 and range of £9.3 million to £358.7 million in the seasons 2009/10-2012/13. For a club to have more current assets than current liabilities, the current ratio should exceed one. On average, the Premier League clubs have current ratios below one, which indicates poor liquidity. In fiscal years 2009-2011, three clubs reported current ratios above one. In 2012, Arsenal FC is the only club with a current ratio above one, however, the current ratio of 5.6 biases the mean value.

Table 4.5: Descriptive statistics of financial data

Turnover is the operating revenue in millions of pounds generated for 2009-2012. EBIT is the difference of operating revenue and operating expenses in millions of pounds in a season indicating profitability for 2009-2012. Debt ratio is the ratio of sum of current and non-current liabilities to total assets for 2009-2012. Current ratio is current liabilities to current assets for 2009-2012. Mean is the average of the financial ratios of Premier League clubs in 2009-2012 and median is the value separating higher and lower half of a financial ratio sample. Minimum is the smallest value of a financial ratio for Premier League clubs in 2009-2012 and maximum the highest value. Standard deviation is the variance from the average of a financial ratio in 2009-2012.

(£M)	Number of observations	Mean	Median	Min	Max	Standard deviation
Turnover	293	99.6	75.8	9.4	358.7	77.4
EBIT	293	-19.8	-16.4	-194.9	126.5	40.8
Debt ratio	293	1.72	1.22	0.34	7.72	1.34
Current Ratio	293	0.76	0.36	0.01	6.17	1.33

4.3 Performance and player characteristic data

Transfermarkt.co.uk is a public database used to gather player statistics and transfer information. Same database is used by UEFA and Athanasios (2013), for example. In addition to transfer fee, following statistics are hand collected for a season preceding transfer – goals scored, assists, minutes played, min/goal, yellow and red cards, international caps, and games missed due to an injury.

Goals are the sum of goals scored in all competitions in a season, excluding penalties. As table 4.6 shows, the number of goals scored in the seasons 2009/10-2012/13 range from 0 to 41, with an average of 6.7 goals. The standard deviation of 7.3 results from positional differences in probability of scoring. An assist point is awarded to the player giving the last pass to the goal scorer. Standard deviation of assists given is lower (4.8) as it is less dependent on the position than scoring. On average, players give 4.6 assists in a season with a range of 0 to 25. Minutes-to-goal ratio is an indicator of efficiency describing how many minutes it takes from a particular player to score, on average. If a player did not score during the season considered, the variable cannot be calculated. Thus, the number of observations of 255 is smaller than the sample size of 293. Standard deviation of 985.2 for the goal ratio is high and the values range from 107 to 4,954.

Minutes played are summed from all competitions in a season and table 4.6 shows that all players have played at least 261 minutes in a season, for 2009/10-2012/13. However, the range is large as at best 6,017 minutes were played in one season. On average, a player plays 2,916 minutes in a season, for 2009/10-2012/13. In addition to club competitions, international caps played are

considered. 65% of the 293 players had played at least one international cap in the season preceding transfer. The median of international caps is 3 games with a standard deviation of 4.65 for seasons 2009/10-2012/13.

The number of yellow cards received in the season by one player ranges from 0 to 15, with a median of four, in seasons 2009/10-2012/13. The standard deviation for yellow cards is 3.48 which is much greater than 0.40 of red cards. The red cards also have much smaller range, zero to two, and most players do not commit any fouls worth of red card during the season. Of the 293 players transferred, only 15% had received a red card previous season, but 95% of the transferred players got at least one yellow card. Injury statistics are not as reliable as those of player performance, because information cannot be collected by a third-party without a club disclosing it. On average, a player misses 1.6 games due to injuries in a season, but over 75% of the players do not miss a single game. However, clubs do not report all injuries and hence the percentage of uninjured players is higher in reality.

Of the sample for seasons 2009/10-2012/13, 26% of the acquired players by Premier League clubs are forwards, 40% midfielders and 34% defenders. The percentages represent well the proportion of players on field. The lineups depend on formation but typically there are fewer forwards on field than midfielders and defenders. 39 goalkeepers are omitted from the sample as their performance is measured by different statistics. Previous studies like that of Carmichael et al. (1999) have also excluded goalkeepers from the sample.

Table 4.6: Descriptive statistics of player performance data

The table summarizes the descriptive statistics of performance data. For each variable, number of observations, mean, median, minimum and maximum value, and standard deviation are reported. Mean indicates the average value of the variable in seasons 2009/10-2012/13. Median is the value separating the higher half of the variable sample in seasons 2009/10-2012/13. Minimum is the smallest value of the variable in seasons 2009/10-2012/13 and maximum is the greatest value. Standard deviation indicates the variance from the mean in seasons 2009/10-2012/13. The sample consists of transfers made in seasons 2009/10-2012/13 in which the buying club competes in English Premier League and a transfer fee is paid. Transfer fee is the value of a player paid by the acquiring club to the selling club in pounds for seasons 2009/10-2012/13, and log of transfer fee is the natural logarithm of transfer fee. Goals scored is the sum of goals scored in a season and assists the sum of assists given in a season. Min/goal is the ratio of minutes played and goals scored indicating the effectiveness of the player. Injuries is the number of games missed due to an injury in a season. Yellow cards is the number of yellow cards received in a reason and red cards the number of red cards. International caps is the number of international caps played in a season.

	Number of observations	Mean	Median	Minimum	Maximum	Standard deviation
Transfer fee	293	£6,110,253	£3,520,000	£88,000	£39,600,000	£6,416,950
Log of transfer fee	293	6.57	6.55	4.94	7.60	0.46
Goals scored	293	6.67	4.00	0	41.0	7.31
Assists	293	4.61	3.00	0	25.0	4.76
Minutes played	293	2,916	2978	261	6,017	1,111
Min/goal	255	944.85	566.00	107	4954	985.2
Injuries	293	1.63	0.00	0	26	4.14
Yellow cards	293	5.06	4.00	0	15	3.48
Red cards	293	0.16	0.00	0	2	0.40
Intl caps	293	4.26	3.00	0	22	4.65

4.4 Limitations of data

One of the greatest limitations of data is public unavailability of remaining length of contracts as it is assumed to influence the transfer fee paid which is also considered as a compensation for the selling club. Thus, the sooner a contract is to be expired, the smaller the transfer fee should be, ceteris paribus. As a consequence, the explanatory variables used in this study do not fully cover the determinants of transfer fee. Categorization of the clubs with respect to their ownership also limits the study as some judgments must be made. This particularly results from public data sources, such as newspapers, used in obtaining information, which reduces the reliability. Thus, attention was paid in evaluating the reliability of the source, and national media was selected whenever available. For example, in determining the clubs with billionaire owners the net wealth published only is an estimate and further it is challenging to understand what it consists of. Data of net worth, for

example, is hard to cross-check and billionaires hence challenging to define by using an alternative source. Furthermore, the owners have very different relationships to the clubs they own, which is likely to influence their behavior and monetary input but hard to measure. In conclusion, the numbers do not fully describe the human behavior and the publicly available information does not tell the whole truth. Categories are non-exclusive, which may bias the results. Foreign owners, for example, consists of billionaires, Asian and US owners, and private and publicly owned clubs, and thus the actual influence of pure foreign ownership is hard to define.

The sample consists of transfers where the buyer is an English Premier League club, yet the selling club may compete in any league. This possibly causes bias as in some, not so competitive, leagues it is relatively easier to score and mediocre players are given more responsibility. The level of league is taken into consideration in valuing players, but in determining influence of particular performance indicators on value it is not. Additionally, the number of games varies greatly from league to league and from club to club, as teams participate in other competitions, such as Champions League and FA Cup, in addition to the league. Furthermore, the inclusion of international games favors players coming from less competitive football countries as it is relatively easier to be selected to national team. In conclusion, the varying level of leagues and national teams probably bias the results.

Premier League clubs publish financial statements and notes in annual reports which are publicly available. However, primary source of data in this study is Orbis database. Notes for financial statements are not available in the database and figures can slightly differ from those of annual reports because of standardized reporting model. Standardization of reporting on the other hand enables reliable comparison between clubs. All data is gathered from public sources as access to Premier League clubs' transfer and management processes is limited. Use of public data increases the probability of weak inputs, which influences the quality of results. Furthermore, due to restricted access to valuation practices and analyses, it is possible that clubs apply different indicators of performance than studied.

4.5 Methodology

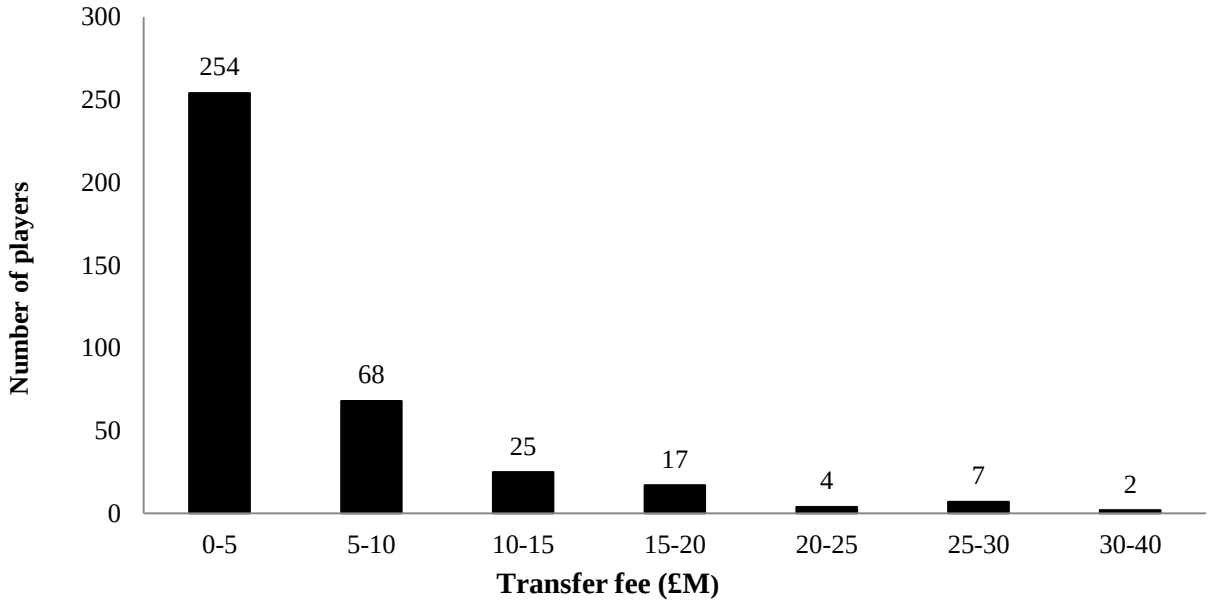
Ordinary Least Square (OLS) regression is used to find potential influence of chosen explanatory variables on logarithm of transfer fee, the dependent variable. It also is the most used method in defining the transfer fee determinants (Frick, 2007). OLS is based on minimizing the residual sum of squares and value of zero indicates perfect fit (Dougherty, 2007). Multiple regression analysis is applied as transfer fee is assumed to depend on more than one variable. The output of OLS

regression is a set of correlation coefficients, which indicate the influence of each explanatory variable on dependent variable, and their significances. Correlation coefficients show the sign, either positive or negative, and magnitude of effect on dependent variables. Obtained correlation coefficients and their significance are reported in the following chapter. In addition, for each data set the goodness of fit, R-squared, is considered.

Distribution of transfer fees is rather censored with mass point of zero if free transfers are taken into account. In that case, the OLS is not most appropriate method, but Heckman two-step procedure or Tobit estimation could be applied to control the selection bias. (Carmichael et al., 1999) However, the free transfers were omitted due to their different nature and hence the distribution of transfer fees is less censored. To ensure applicability of OLS regression and normal distribution, natural logarithm of transfer fee is considered as dependent variable. Logarithm of dependent variables is applied to manage the skewed distribution of player acquisition transfer fees.

Figure 4.1: Distribution of transfer fees in seasons 2009/10-2012/13

All transfer fees of Premier League clubs' acquired players, including free transfers, in millions of pounds are categorized to transfer fees of £0-5 million, £5-10 million, £10-15 million, £15-20 million, £20-25 million, £25-30 million, and £30-40 million. The count is shown on the y-axis indicting the number of acquired player transfer fees falling into particular group in the seasons 2009/10-2012/13. The transfer fees of player acquisitions have censored distribution, with 254 transfers of total 377 being valued £0-5 million in the seasons 2009/10-2012/13. There are only 13 transfers exceeding £20 million.



The Pearson product-moment correlation coefficients are observed to find out the potential multicollinearity problems. Naturally, there is a high correlation of 0.931 between games played

and minutes played and thus omitting either one of the variables must be considered. Games played is argued to be one of the variables explaining the player valuation the best and therefore probably more informative, but minutes played is considered more informative and accurate. Omitting either of highly correlated variables does not necessarily improve result and is particularly problematic if omitted variable belongs to model and insignificant correlation coefficient only is result of multicollinearity. (Dougherty, 2007) However, minutes played and games played both measure time spent on field and hence games played is omitted.

Player performance indicators are rather related to each other, particularly minutes played increases the possibility of scoring, assisting, injuries, and cards received as more time is spent on field. Applying ratios such as minutes-per-goal would decrease the high correlations between player performance explanatory variables. Possible collinearity is acknowledged but none of the variables is omitted to test how the set of variables explain transfer fee. However, in reviewing the results Pearson correlation coefficients are also taken into consideration given the high intra-correlation of sample set.

A multiple regression is run in order to find the possible influence of ownership on transfer fee. All explanatory variables indicating player performance, player characteristics, financial ratio, and ownership structure are included to understand the overall influence and determinants.

$$\log(transfer\ fee) = \beta_0 + \beta_1 * goals + \beta_2 * assists + \beta_3 * minutes + \beta_4 * min/goal + \beta_5 * injuries + \beta_6 * domestic + \beta_7 * yellow + \beta_8 * red + \beta_9 * intl\ caps + \beta_{10} * pos\_f + \beta_{11} * pos\_mf + \beta_{12} * turnover + \beta_{13} * EBIT + \beta_{14} * debt\ ratio + \beta_{15} * current\ ratio + \beta_{16} * foreign + \beta_{17} * billionaire + \beta_{18} * public \quad (4.1)$$

where goals are goals scored in previous season, assists indicate assists given, minutes is sum of minutes played, min/goal is minutes-per-goal ratio, injuries indicate number of games missed due to injury, domestic is a dummy variable for transfer between English clubs, yellow is the number of yellow cards received previous season and red is number of red cards received, intl caps is number of international caps played, pos_f is a dummy variable for forwards, and pos_mf for midfielders, turnover is operating revenue, EBIT is earnings before interest and tax, debt ratio is the proportion of total liabilities of total assets, current ratio is a liquidity indicator, foreign is a dummy variable for clubs with non-UK owners, billionaire for individual owners with personal wealth exceeding $1 billion, and public for publicly held clubs.

Regressions are also run separately for each specification - ownership structure (4.2), financial ratios (4.3), and player performance and characteristics (4.4). Natural logarithm of transfer fee is the dependent variable when determinants of player value are studied. In addition, the influence of ownership structure on revenue, profitability, leverage, and liquidity is studied. In this case, regression is run for each financial ratio reviewed and the dependent variables are turnover, EBIT, debt ratio, and current ratio. Explanatory dummy variables describing ownership structure; foreign, billionaire, and public are same in all regressions.

$$log(transfer\ fee) = \beta_0 + \beta_1 * foreign + \beta_2 * billionaire + \beta_3 * public \quad (4.2)$$

$$log(transfer\ fee) = \beta_0 + \beta_1 * turnover + \beta_3 * EBIT + \beta_4 * debt\ ratio + \beta_5 * current\ ratio \quad (4.3)$$

$$log(transfer\ fee) = \beta_0 + \beta_1 * goals + \beta_2 * assists + \beta_3 * minutes + \beta_4 * min/goal + \beta_5 * injuries + \beta_6 * domestic + \beta_7 * yellow + \beta_8 * red + \beta_9 * intl\ caps + \beta_{10} * pos\_f + \beta_{11} * pos\_mf \quad (4.4)$$

Formula 4.5 reviews the influence of ownership structure on revenue, 4.6 on profitability, 4.7 on leverage, and 4.8 liquidity.

$$turnover = \beta_0 + \beta_1 * foreign + \beta_2 * billionaire + \beta_3 * public \quad (4.5)$$

$$EBIT = \beta_0 + \beta_1 * foreign + \beta_2 * billionaire + \beta_3 * public \quad (4.6)$$

$$debt\ ratio = \beta_0 + \beta_1 * foreign + \beta_2 * billionaire + \beta_3 * public \quad (4.7)$$

$$current\ ratio = \beta_0 + \beta_1 * foreign + \beta_2 * billionaire + \beta_3 * public \quad (4.8)$$

5. Results

Overall, obtained standardized correlation coefficients for the multiple regression support most of the hypotheses made and these figures are used in analyses unless stated otherwise. In particular, clubs owned by billionaire owners pay a premium of 16% for a similar player and one pound increase in turnover increases the transfer fee paid by 35%. Public ownership on contrary decreases the transfer fee of a similar player by 12%. Furthermore, there is a strong positive correlation between turnover and billionaire owners, as 54% increase in revenue is found. The increased turnover enables acquisition of better players driven by win maximization of billionaire owners. R-squared values indicate that of the specifications, financial ratios tend to explain the transfer fee the best, followed by ownership and player performance and characteristics. Financial ratios explain 34% of the transfer fee, ownership 29%, and player performance 22%. Multiple regression including all the variables explain 50% of the transfer fee. The chapter is divided into four sections, based on the nature of explanatory variables. First, results regarding ownership are reported, followed by those of financial ratios. Lastly, results regarding player performance and characteristics are reviewed.

Table 5.1: Determinants of transfer fee

Dependent variable is in all cases logarithm of transfer fee of players acquired by Premier League clubs in seasons 2009/10-2012/13. Specification 1 indicates a regression where all variables were included, specification 2 includes ownership related variables i.e. billionaire, foreign, and Public. Specification 3 includes financial ratios turnover, EBIT, debt ratio, and current ratio and specification 4 player related variables. Independent variables of player performance and characteristics data set are goals scored, assists given, minutes played, min/goal, injuries, domestic, yellow cards, red cards, international caps, and positions. Specification 5 indicates the independent correlation of each independent variable on dependent variable transfer fee. Billionaire is a dummy variable for net worth over $1billion according to Forbes list of the World's billionaires 2009-2013 Foreign is a dummy for non-UK owners of Premier League clubs at the time of acquisition. Public is a dummy variable for listed and public limited corporations in the year of transfer. Turnover is measured for the year of transfer in pounds. EBIT is difference in operating revenue and expenses for the year of transfer. Leverage is a ratio of debt to assets and current ratio is a ratio of current assets and current liabilities for the year of transfer. Goals are for the season preceding transfer as well as assists, minutes played, minutes-to-goal ratio, injuries, yellow and red cards, and international caps. Position dummies are forward, midfield, and defenders for the year preceding transfer. Standardized coefficients are considered due to different units of measurement and P-values are in parenthesis, p<0.01 ***, p<0.05 **, p<0.1 *.

	(1.) Multiple regression	(2.) Ownership	(3.) Financials	(4.) Player Performance	(5.) Univariate
Billionaire	0.149* (0.083)	0.433*** (0.000)			0.532*** (0.000)
Foreign	0.080 (0.191)	0.229*** (0.000)			0.363*** (0.000)
Public	-0.125 (0.083)*	-0.051 (0.380)			0.086 (0.140)
Turnover	0.303 (0.001)***		0.433*** (0.000)		0.469*** (0.000)

	(1.) Multiple regression	(2.) Ownership	(3.) Financials	(4.) Player Performance	(5.) Univariate
EBIT	-0.222*** (0.001)		-0.302 (0.104)		-0.423*** (0.000)
Debt ratio	-0.101 (0.065)*		-0.118** (0.021)		-0.113* (0.054)
Current ratio	0.089 (0.122)		0.058 (0.324)		0.011 (0.851)
Goals	0.049 (0.490)			0.046 (0.596)	0.336*** (0.000)
Assists	0.090 (0.193)			0.105 (0.164)	0.386*** (0.000)
Minutes played	0.219** (0.002)			0.316* (0.043)	0.364*** (0.000)
Min/goal	-0.092 (0.142)			-0.085 (0.289)	-0.157** (0.012)
Injuries	0.107** (0.021)			0.189*** (0.001)	0.076 (0.193)
Domestic	0.096 (0.063)*			0.136*** (0.016)	0.054 (0.204)
Yellow cards	0.067 (0.208)			0.114* (0.054)	0.178** (0.002)
Red cards	0.090 (0.070)*			0.070 (0.208)	0.066 (0.261)
Intl caps	0.002 (0.970)			0.242*** (0.000)	0.119** (0.039)
Pos_f	0.056 (0.501)			0.134** (0.035)	0.056 (0.344)
Pos_mf	0.035 (0.583)				0.110 (0.060)*
Constant	5.856*** (0.000)	6.343*** (0.000)	6.286*** (0.000)	6.009*** (0.000)	
# of obs.	293	293	293	293	293
R-square	0.498	0.294	0.338	0.216	

5.1 Influence of billionaire owner on the transfer fee and financial ratios

Wilson et al. (2013) studies the influence of ownership structure on club performance, which guidelines the interpretation of results. Studying the influence of acquiring club's ownership structure on transfer fee however is novel and no major conclusions can be drawn based on one sample. Additionally, when reviewing the results, it must be borne in mind that a club manager is typically responsible for the transfer decisions but if the ownership is concentrated to wealthy investor who finances the transfer activities he is assumed to have some influence on the decision making. In addition to owners' ability and willingness to finance transfer activities, objectives like

win maximization also define player budget. Furthermore, the more power the owner has, the greater is the effect of personal characteristics on transfer decisions.

The phenomenon of the billionaires acquiring clubs has intrigued recently as they have been able to turn mediocre clubs into winning clubs partially because of heavy investments in the transfer market. Agency problems of free cash flow and win maximization objective are consequences of billionaire owners' wealth, which is assumed to influence valuation of player acquisition. Transfer fee premium paid and negative net present value (NPV) player investments would partially explain poor profitability of clubs. Findings regarding billionaire owner's influence on the transfer fee and financial ratios indicate that it is possible to buy success, which is an encouraging empirical finding supporting hypotheses and public speculation. Billionaire owned clubs pay a premium of 16% for a similar player and realize an increase of 54% in revenue compared to other ownership structures. Despite of the premium paid for players, billionaire owned clubs should be better off due to significantly greater revenue. The billionaire owned clubs i.e. Arsenal FC, Chelsea FC, Manchester City, Manchester United, Newcastle United, and Tottenham Hotspur spent on average 24% of turnover on transfer fees and the other clubs 31% on average in season 2012/13. Deloitte (2014a) report that 71% of the revenues in season 2012/13 was spent on salaries, indicating that revenues are almost in total used on players.

A robustness test is run on billionaire owners to review the transfer premium paid in more detail. Owners listed on Forbes' the World's billionaires list with personal wealth exceeding $1 billion are considered as billionaires (Forbes, 2014). In the robustness test, the billionaire dummy variable is replaced by logarithm of personal wealth as estimated by Forbes in the list of World's billionaires list for the year of acquisition. Logarithms of listed personal assets are regressed against logarithm of transfer fee. For Manchester City, value of FourFourTwo's football rich list is used, as Forbes does not value families or royal fortunes if there is any uncertainty of the initial owner of fortunes. There is a weak positive correlation between personal wealth and transfer fee – 1% increase in wealth increases transfer fee by 2.5%. The robustness test is only run for the 82 acquisitions by clubs with billionaire owners, in summer transfer windows of seasons 2009/10-2012/13. The multiregression sample consists of all 293 transfers and, thus, results are not completely comparable, but information about all Premier League club owners' personal wealth is challenging to gather reliably. Robustness test however supports billionaire owners paying transfer fee premium. Furthermore, it seems that the wealthiest billionaires even pay a premium with respect to other billionaires.

Jensen (1986) and Stulz (1990) introduce the agency problem of free cash flow and argue that due to monitoring difficulties, internally generated cash flow is potentially used on projects which are costly for shareholders, but beneficial for management. Harford (1999) finds that companies with high cash flows make acquisitions more probably, resulting in decreased operating performance. Richardson (2006) studies a large sample of firms and finds a positive relation between over-investment and free cash flow. The firms with high free cash flow are more likely to invest in negative NPV projects and additional projects than those required to maintain assets. These findings regarding agency problems and utilization of free cash flow are also applicable to football clubs. Billionaire owned clubs have greater cash flows due to higher revenue generated and wealth of the owner. Thus, the cash rich clubs are more likely to over invest in players, either in magnitude or value. Some mediocre clubs carefully analyze the transfer market and invest in one or two players needed to maintain the position at the league, whereas it can be argued that some winning teams could maintain their position with fewer player acquisitions. However, competing of championship easily triggers an arms race and it is challenging to argue whether all the investments were mandatory to win the league title. Defining over-investment is challenging in the corporate world with a profit maximization objective, yet the assumed win maximization of football clubs further complicates issue.

A negative relation between billionaire ownership and profitability is found despite of the relatively high revenue. A billionaire owner decreases profitability by 37% in comparison to other ownership structures. However, public ownership of a Premier League club increases profitability by 54% for a similar fiscal year indicating different objective of owners. Clubs in public ownership generate smaller revenues on average than clubs with foreign and billionaire owners, yet are significantly more profitable resulting of profit maximization over wins. The objective of most clubs is to maximize the wins and in order to achieve it revenues generated are spent on player acquisitions and even greater extent to salaries. Agency problem of free cash flow together with win maximization and secured finance provided by a billionaire owner explain transfer fee premium of 16%. The transfer fee premium decreases profit if the player is not able to generate enough revenues or points in return on investment. With respect to billionaire owned clubs, losses are not as great of a problem assuming the owner is committed to cover them. Again, billionaire owners are subject to problem of free cash flow, and ownership of football club can be considered as investment with negative net present value undertaken on purpose. In addition to business opportunities like networking, global growth and appreciating assets, billionaires acquire football clubs to show power and as a hobby. Particularly, if billionaire owner takes a role of benefactor, the

losses are insignificant for club, in consequence of which, the investments of higher risk can be undertaken and transfer fee premiums paid.

The return on investment in case of win maximizing club is rather measured in terms of points instead of profits. In particular, some billionaire owners consider owning a Premier League club rather as a hobby or medium to prove status than a profitable investment. Thus, winning the Premier League or UEFA Champions League can be argued to satisfy the owner more than generating a record profit. The return on investment and possible value created for the club is studied by considering the player performance in prior and after the acquisition. Goals scored, assists given, minutes played, and minutes-to goal ratio are taken into consideration in studying the changes in performance. Results are shown in table 5.2, and of the 15 most expensive players acquired by billionaire owned clubs only seven improve performance at least in one sector. Thus, acquisition of expensive players does not create value for clubs.

The results obtained indicate that the players of whom the highest transfer fees are paid do not perform as well as expected. Oscar is the only player able to improve in all sectors, in particular number of goals scored and games played increase significantly, 300% and 256%, respectively. Yaya Touré also improves performance particularly with respect to goals scored (400%), however assists given decrease by 13%. Assuming good performance increases probability of win and adds value for a club, the return on investment is low and overvaluation of players can be argued, even given win maximization.

Table 5.2: Change in player performance following a transfer

Player indicates the 15 most expensive players purchased by billionaire owned Premier League clubs in seasons 2009/10-2012/13. Transfer fee is the sum paid by the acquiring club for the selling club for the player, indicating the value of the player for the acquiring club. Domestic is a dummy variable for within-UK transfers in seasons 2009/10-2012/13. The acquiring clubs expect the performance to increase or at least to remain at the same level. Change in goals scored is (number of goals scored in a season in acquiring club - number of goals scored in a season in selling club) / number of goals scored in a season in selling club. Change in assists is (number of assists given in a season in acquiring club - number of assists given in a season in selling club) / number of assists given in a season in selling club. Change in games played is (number of games played in a season in acquiring club - number of games played in a season in selling club) / number of games played in a season in selling club. Change in minutes-to-goal is ((total minutes played in a season in acquiring club / number of goals scored in acquiring club) - (total minutes played in a season in selling club / number of goals scored in selling club)) / (total minutes played in a season in selling club/number of goals scored in selling club). Increase in goals scored, assists, and games and minutes played indicates improved performance and value added for the club. With respect to change in minutes-to-goal ratio, negative value indicates improved efficiency and value added for the club.

Player	Acquiring club	Transfer fee (£M)	Domestic	Change in goals scored	Change in assists	Change in games played	Change in min/goal
Kun Agüero	Manchester City	39.6	0	-6 %	50 %	2 %	2 %
Eden Hazard	Chelsea FC	35.2	0	-43 %	-4 %	15 %	75 %
Oscar	Chelsea FC	28.6	0	300 %	71 %	256 %	-30 %
Robin van Persie	Manchester United	27.0	1	-27 %	-6 %	-14 %	7 %
Yaya Touré	Manchester City	26.4	0	400 %	-13 %	6 %	-76 %
Mario Balotelli	Manchester City	26.0	0	-17 %	-70 %	-39 %	-22 %
Emmanuel Adebayor	Manchester City	25.5	1	-33 %	-25 %	-31 %	14 %
Carlos Tévez	Manchester City	25.5	1	81 %	-36 %	-36 %	-56 %
David Silva	Manchester City	25.3	0	-45 %	-7 %	8 %	91 %
Joleon Lescott	Manchester City	24.2	1	-60 %	-67 %	-48 %	30 %
Samir Nasri	Manchester City	24.2	1	-63 %	0 %	-19 %	105 %
Juan Mata	Chelsea FC	23.5	0	-8 %	-17 %	0 %	5 %
Aleksandar Kolarov	Manchester City	20.0	0	-40 %	0 %	-24 %	12 %
Ramires	Chelsea FC	19.4	0	-71 %	-100 %	-16 %	206 %
James Milner	Manchester City	19.4	1	-75 %	-58 %	-26 %	147 %

High capital investments of cash rich firms often are followed by poor future performance explained by agency costs (Richardson, 2006). Table 6.3 shows that investments in the most expensive players are followed by decreased financial ratios in most cases. For season 2012/13, Chelsea FC acquired Eden Hazard and Oscar for whom aggregate transfer fee of £63.8 million was paid. In consequence, significantly decreased financial ratios were reported in the fiscal year 2013

following the acquisition. Profitability indicator EBIT decreased by 50% and revenue increased 0.5% following the acquisitions. On contrary, Manchester United's profitability improved following the acquisition of Robin van Persie at £27 million for season 2012/13. EBIT increased 38% along with turnover increase of 13%. The figures are not fully comparable as Manchester United reports positive EBIT each year in the time period of 2009-2013 and Chelsea FC negative. Thus, the objectives of clubs differ with respect to profit maximization. Turnover increases 30% on average following acquisitions and it can be argued that expensive, yet talented, players increase club revenue in form of tickets and merchandise sold, for example. The roster may have indirect effect for commercial revenue, but Premier League club's aggregate revenue has increased 26% from 2009/10 to 2012/13, and hence the influence of superstars on club revenue following acquisition is arguable. The improved broadcast contracts, for example, drive revenue increase particularly for the best performing clubs.

The financial ratios of billionaire owned clubs are reviewed in prior and after the 15 most expensive transfers in seasons 2009/10-2012/13 similarly as for player performance. Changes in financial ratios are summarized in table 6.3 and financial ratios in general deteriorate after expensive transfers with the exception of turnover which significantly increases. Profitability of acquiring clubs significantly decreases 29% on average and debt ratios increase by 12% on average, which supports the win maximization hypothesis. Increased turnover does not offset the costs of acquisitions of good players, including transfer fee and salary. Hence, the most expensive players are not financially profitable investments. Majority of considered 15 players are acquired by Manchester City and thus it is possible that obtained results rather indicate the consequences to Manchester City than billionaire owned clubs in general. Table 6.3 also well indicates difference between profit and win maximizing clubs. Manchester City acquires expensive players and report significant losses whereas Manchester United takes profitability into consideration. Manchester City acquired the most expensive players during the winning roster building phase in seasons 2009/10-2010/11. This is a possible indication of decreased incentive to accurately value players in phase of turning clubs into winning ones. Aforementioned strategy requires significant investments in players yet the great number of top transfer fees is exceptional.

Table 5.3: Change in financial ratios following a player acquisition

Player indicates the 15 most expensive players purchased by billionaire owned Premier League clubs in seasons 2009/10-2012/13. Transfer fee is the sum paid by the acquiring club for the selling club for the player, indicating the value of the player for the acquiring club. Season is the time of acquisition in the time period of 2009/10-2012/13. Sample consists of player acquisitions by billionaire owned Premier League clubs. Percentage change is calculated as (financial ratio in fiscal year of acquisition- financial ratio one year before acquisition)/ financial ratio one year before acquisition. Average is the average change in the financial ratio of the 15 most expensive players. Increase in financial ratio is desired for turnover and profitability ratios net income, EBIT, and EBITDA. With respect to debt ratio, decrease is desired.

Player	Acquiring club	Transfer fee (£M)	Season	Turnover	EBIT	Debt ratio
Kun Agüero	Manchester City	39.6	2012/13	59%	47%	10%
Eden Hazard	Chelsea FC	35.2	2012/13	0.5%	-50%	-13%
Oscar	Chelsea FC	28.6	2012/13	0.5%	-50%	-13%
Robin van Persie	Manchester United	27.0	2012/13	13%	38%	-20%
Yaya Touré	Manchester City	26.4	2010/11	20%	-55%	28%
Mario Balotelli	Manchester City	26.0	2010/11	20%	-55%	28%
Emmanuel Adebayor	Manchester City	25.5	2009/10	47%	-71%	18%
Carlos Tévez	Manchester City	25.5	2009/10	47%	-71%	18%
David Silva	Manchester City	25.3	2010/11	20%	-55%	28%
Joleon Lescott	Manchester City	24.2	2009/10	47%	-71%	18%
Samir Nasri	Manchester City	24.2	2011/12	59%	47%	10%
Juan Mata	Chelsea FC	23.5	2011/12	11%	48%	-6%
Aleksandar Kolarov	Manchester City	20.0	2010/11	20%	-55%	28%
Ramires	Chelsea FC	19.4	2010/11	10%	-30%	18%
James Milner	Manchester City	19.4	2010/11	20%	-55%	28%
Average		*26.0*		*30%*	*-29%*	*12%*

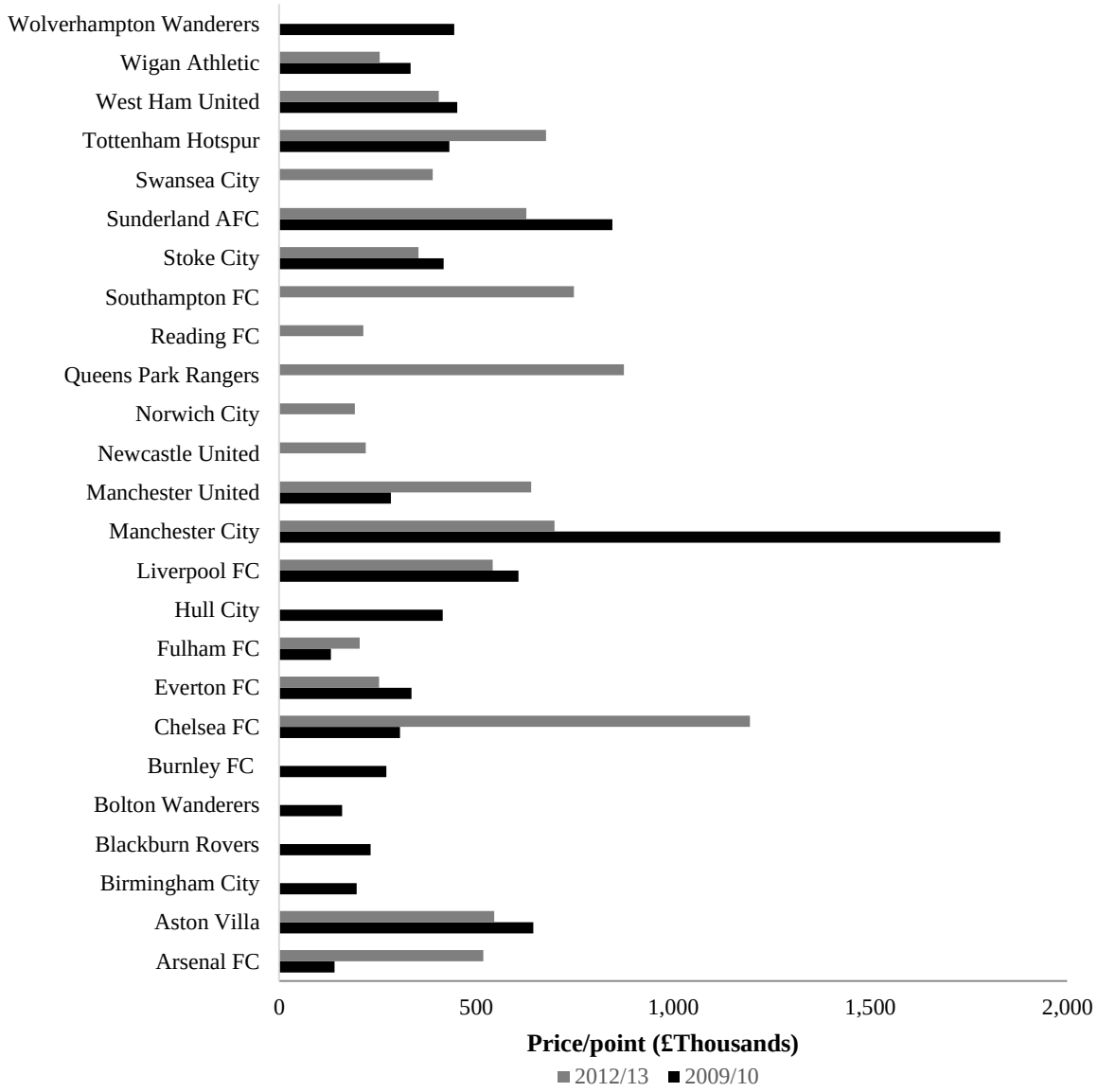
Considering the importance of wins and points for clubs, price paid for point with respect to transfer fees is calculated. The ratio enables comparison between under- and overachievers in addition to

consideration whether clubs get value for money spent on transfer fees. In season 2012/13, Chelsea FC paid £1,194,587 per point, Queen Park Rangers £874,720, and Southampton £748,000, being the three most underachieving clubs. The three most overachieving clubs in turn were Norwich City, Fulham FC, and Reading FC with ratios of £192,000, £204,651, and £220,322, respectively. In other words, with £1million Norwich won 5.21 points and Chelsea FC 0.84 points. The ratios differ considerably from season to season, for example, in season 2009/10, Chelsea FC paid £306,977 per point and Manchester City £1,829,612. In conclusion, billionaire owned clubs were not cost effective with respect to transfer market activities. With the transfer budget of Chelsea FC, Norwich FC could have won 466.64 points compared to 75 of Chelsea FC which finished third in the Premier League in season 2012/13. Creating a winning team is a long process and it can be argued that Queen Park Rangers and Southampton FC are in the beginning of the process having promoted to Premier League for seasons 2011/12 and 2012/13, respectively. Manchester City and Manchester United, on the other hand need to keep the roster competitive. It is considerable that owners of Queen Park Rangers and Southampton FC have of wealthy foreign owners in comparison to publicly held and most overachieving Premier League club, Norwich FC.

By far, the transfer fee premium paid by billionaires is explained by agency problem of free cash flow, win maximization, and billionaire characteristics. However, it is possible that transfer fee premium is a result of a winning team assembly for which the best players are acquired. Demand for the best players is high, which potentially increases the transfer fees, particularly as the final transfer fee is a result of set of negotiations between the clubs. If there are two or three big clubs fighting for a particular player, the transfer fee paid likely exceeds the theoretical value of player. The clubs in that case need to determine what the value added is for preventing fierce competitor from acquiring the particular player. It is also possible that billionaire owned clubs do not overvalue players, but a premium is a result of acquiring better players than clubs with different ownership structure. Clubs owned by billionaires are the winning clubs and thus have relatively better players. In season 2012/13, best five clubs, Manchester United, Manchester City, Chelsea FC, Arsenal FC, and Tottenham Hotspur were owned by billionaires.

Figure 5.1: Price per point in Premier League

Figure illustrates the transfer fee paid by a Premier League club for one point. The ratio is calculated as total sum of transfer fees of club/total points of club. Total of transfer fees is a sum of summer and winter transfers in a season for a club. Total points is a sum of points won in Premier League in a season for a club. Black bars indicate season 2012/13 and grey ones season 2009/10. Price per point is reported in thousands of pounds in x-axis for the seasons played in Premier League.



5.2 Influence of ownership structure on transfer fee and financial ratios

In addition to billionaire owners, foreign investors are found interesting because of their rapidly increasing number in Premier League. Nauright and Ramfjord (2010) state that well-known Premier League clubs have been in the target of international investors since 2002 and the pace of club acquisitions has only increased. Particularly investors from the U.S. and Russia have been interested

in club ownership. Of the six owners categorized as billionaires, two were U.S. citizens, one Russian, and one United Arab Emirates citizen. It is of interest if the internationalization and change in ownership explain increasing revenue in addition to decreasing profitability and leverage.

Specification 1, where all independent variables of ownership, financial ratios, and player performance are included, gives encouraging yet statistically insignificant results regarding influence of foreign ownership of transfer fee. Table 5.1 shows that a non-UK major owner increases the transfer fee by 8% for a similar player. In specification 2, where only ownership categories of billionaire, foreign, and public are included, clubs in foreign ownership are found to pay a transfer fee premium of 26% for a similar player. Billionaire owners pay a premium of 54% and public ownership decreases transfer fee by 5% in specification 2. Clubs owned by non-UK major owners pay a transfer fee premium of 8 percentage points smaller than Premier League clubs with billionaire owners with respect to specification 1. Of the 13 foreign owners, four are billionaires, which may influence the results but overall foreign owners pay a transfer fee premium. This can be a consequence of win maximization objective and process of assembling a winning team.

The two largest subcategories of foreign owners are U.S. citizens and Asians including Russians. Of the foreign owners, 38% are U.S. citizens and 46% Asian. Hence, it is reviewed, if there are significant differences in the transfer fees paid by U.S. owners and Asian owners. Dummy variable foreign is replaced by dummy variables of U.S. owners and Asian owners in specifications 1 and 2. The results obtained are statistically insignificant for specification 1, but the transfer fee premium paid by Premier League club owned by a U.S. citizen for a similar player is six percentage points higher than that of clubs owned by an Asian. Clubs with a U.S. major owner pay a transfer fee premium of 11% for a similar player. Specification 2 confirms the difference between the U.S. and Asian owners. A transfer fee premium of 29% for a similar player is found for the U.S. owners compared to statistically insignificant 9% premium paid by the Asian owners.

Foreign ownership has a significant influence on financial ratios of the club. Turnover increases by 36% but EBIT indicating profitability decreases by 17% for a similar fiscal year in comparison to other ownership structures. These findings support win maximization objective of foreign owners, as the operating expenses are greater than operating revenues. Again, similar results are found for clubs owned by billionaires, yet the effect is greater. Billionaire owner increases revenue by 48% and decreases profitability by 48% for a similar fiscal year. Increased revenue following foreign ownership can partially be explained by internationalization, as owners' international network facilitates search for corporate partners. (Deloitte, 2014a) Decrease in profitability is probably a

result of win maximization. Greater number and better players are acquired to assembly a team able to win the league title or qualify to UEFA competitions, at the expense of profit. In season 2012/13, salaries accounted for 71% of Premier League revenues, indicating high player expenses. (Deloitte, 2014a) Wilson et al. (2013) study the influence of ownership structure to financial and league performance of Premier League clubs in the period of 2001-2010. They categorize the club into stock market, foreign, and domestic based on the ownership and find that domestic clubs and stock market models generate higher net profit as a proportion of revenue in comparison to foreign ownership.

An increase of 15% in leverage is found for Premier League clubs in foreign ownership for a similar fiscal year in comparison to other ownership structure. However, foreign and billionaire owners have a controversial influence on leverage as a billionaire owner decreases debt ratio by 6%. Public ownership decreases debt ratio by 28% for a similar fiscal year. The results for billionaire owners are statistically insignificant but in general billionaires can finance win maximization strategy with their personal assets whereas foreign owners are more dependent of external financing like debt. Many billionaire owners cover the losses and finance transfers particularly following the acquisition of the club and in the phase of improving club performance. In the study of Wilson et al. (2013), all ownership models have positive relationship to debt ratio. Stock market model has lower debt level than privately owned clubs and foreign owned clubs further has higher debt level than other ownership models. UEFA, for example, has acknowledged the increasing leverage of European football clubs and the change in ownership with respect to increased number of foreign investors may explain it (UEFA, 2011). Owners also give interest-free soft loans for the clubs, which may affect the leverage (Deloitte, 2014a).

Dummy variable foreign owners is replaced by dummy variables U.S. and Asian indicating the citizenship of the major owner for the fiscal years of 2009-2012. Differences between the two largest subgroups of foreign owners are found. With respect to turnover, U.S. citizenship of major owner increases it by 48% and Asian major owner by 18% for a similar fiscal year. Nauright and Ramfjord (2010) argue that American owners can better exploit the business opportunities of Premier League due to their experience. In the American Major Leagues, the ownership of a franchise is considered as a business investment. Hence, the revenue may be a result of branding and marketing the club overseas. Manchester United, owned by American glazer family, goes regularly to pre-season overseas tour to play friendlies in other countries in marketing purposes. Asian owners rather use their ownership in Premier League club to market their other businesses or to improve their media profile and network. For example, Manchester City has a sponsorship deal

with Etihad Airways, the ownership to which Manchester City has close relations (Manchester City, 2014) (Orbis, 2014).

Citizenship of major owner also influences the profitability of Premier League club. U.S. major owner decreases profitability by 7% and Asian major owner by 30%. The result of U.S. ownership is however statistically insignificant. Higher revenues generated by clubs with U.S. owners give a better offset for player acquisitions and profitability. In addition, the owner objectives influence profitability. It is possible that U.S. owners take profitability in greater consideration in operations whereas Asian owners are win maximizers enjoying excitement and emotional returns on club performance. Dejonghe and Van Opstal (2010), for example, argue that American club owners are rather profit maximizers and European club owners win maximizers and it seems that U.S. owners apply same objectives to their international investments as well. However, to succeed in the Premier League they must also invest in the best players as a relationship between football club performance on the field and financial performance is found (Barajas et al., 2005). In particular, qualification to UEFA competitions increases revenues significantly and U.S. owners possibly have a utility maximizing objective in Premier League.

The debt ratio of Premier League club increases by 43% for a similar fiscal year if the major owner is Asian. On the contrary, U.S. major owner decreases debt ratio by 5%, yet the finding is insignificant. Revenue, profitability and leverage are related, as higher operating revenue increases probability of profit which in turn decreases need for external financing. However, the objective of owner and club eventually defines the operating expenses and profit. Win maximizing clubs spend on players at the cost of profit. Asian owned clubs were 23 percentage point less profitable than U.S. owned clubs, which increases the need for external financing in form of either interest free soft loans granted by owners or loans from financial institutions. Differences in influence on transfer fee and financial ratios among foreign owned Premier League clubs are interesting as the two clubs spending on average most on transfers, Manchester City and Chelsea FC, are in Asian ownership. In addition, they are among the clubs making most transfers and thus have relatively great influence on results. This supports the findings that win maximization results in weak profitability and increased leverage. However, Manchester United has shown that a winning club can also be profitable. In season 2011/12 Manchester United finished second with equally many points as Manchester City and reported EBIT of £45.3 million. Manchester City on the other hand reported losses of £104.1 million.

Public ownership has an overall positive effect on club's financial situation. Public ownership increases revenue by 27% for a similar fiscal year, which is an increase of 21 percentage points

smaller than that of billionaire owner and 9 percentage point smaller than that of foreign ownership. All the explanatory variables have a positive relationship to turnover but public ownership is the only one having a positive relationship with profitability ratio EBIT. Public ownership increases the profitability by 64% for a similar fiscal year in comparison to other ownership structure. The difference is significant to the influence of billionaire owner, for example, which decreases EBIT by 48% for a similar fiscal year. The ownership structure chosen influences the cost management and the publicly held clubs have to control the expenditures more closely. They do not have a benefactor who could cover the losses and the dispersed ownership potentially reduces overvaluation of the players and increases use of more detailed player valuation analysis. As there only are three publicly held clubs in the sample, Manchester United's profitability influences the results. Norwich FC is the only purely publicly held company left in Premier League, as there has been a change of ownership from listed clubs to clubs owned by foreign investors in the 21st century.

Table 5.4: Determinants of financial ratios

The sample consists of Premier League clubs in the seasons 2009/10-2012/13, excluding Portsmouth due to lack of financial information for season 2009/10. All the financial ratios are derived from the Orbis database. Due to the different units of measurement, the standardized coefficients are considered. Turnover is operating revenue, indicating club's ability to generate revenue and EBIT is difference in operating revenue and expenses, indicating profitability. Leverage is liabilities to assets and current ratio indicating liquidity is ratio of current assets and current liabilities. Foreign indicates Premier League clubs with non-UK major owners at the time of acquisition. Billionaire refers to owners, the personal wealth of whom exceeds $1 billion according on Forbes list of the World's billionaires 2009-2012, domestic or foreign. Only individual owners are taken into consideration. Public is a dummy variable for clubs that are Public Limited Companies or listed in stock market. P-values are in parentheses, p<0.01 ***, p<0.05 **, p<0.1 *.

Dependent variable	Turnover	EBIT	Current ratio	Debt ratio
Foreign	0.362***	-0.168***	0.048	0.151*
	(0.000)	(0.000)	(0.365)	(0.009)
Public	0.273***	0.640***	0.520***	-0.278***
	(0.000)	(0.000)	(0.000)	(0.000)
Billionaire	0.541***	-0.478***	-0.051	-0.059
	(0.000)	(0.000)	(0.380)	(0.355)
R-square	0.642	0.433	0.254	0.110

According to Wilson et al. (2013), the clubs under public ownership have a better financial situation in all terms; particularly they are more profitable and have better liquidity in comparison to other ownership structure. The owners of public companies are expecting return on their investment instead of league title, and agency problems are smaller. In case of win maximization the return on investment in club can be measured in points, but in case of profit maximizers profit generated is

applied. Public ownership further has a negative effect on leverage as it decreases debt ratio by 28% yet an increase of 15% is found for foreign owners for a similar fiscal year. Profitability of publicly held clubs enables internal financing of the operations, which decreases leverage. Overall, the assumed profit maximization objective of publicly held clubs induces good financial results.

The influence of ownership structure on current ratio indicating liquidity was also studied yet the correlations were weak and statistically insignificant with the exception of publicly held clubs for which an increase of 52% on current ratio is found for a similar fiscal year. Wilson et al. (2013) did not either find statistically significant results for influence of ownership structure on current ratio with the exception of stock market model which decreases current ratio by 43% in comparison to other ownership structures. Again, Manchester United's strong liquidity probably biases the results. In general, the ownership structure does not seem to influence the liquidity of Premier League clubs. The median of current ratio in fiscal years 2009-2012 is 0.36 indicating weak liquidity regardless of ownership structure.

It may be argued that the publicly held clubs maximize profits and privately held clubs maximize wins. Particularly the Asian owned clubs seem to prioritize winning, resulting in weak profitability and high debt ratios. These clubs seem to maximize wins but pay only a 4% transfer fee for a similar player. The win maximization may partially result from the fear of relegation and partially from the significant financial benefits following the qualification to UEFA competitions. It is possible that there is a link between the great number of de-listings and win maximization objective but without any studies causality is challenging to define. The decreasing profitability and increasing debt of European football clubs has also been perceived by UEFA which launched Financial Fair Play rules to improve the financial condition of the clubs partaking in its competitions. Thus, it is possible that clubs independent of ownership structure start to take profits into greater consideration, probably leading to utility maximization.

5.3 Influence of the club's financial situation on the transfer fee

The financial ratios studied describe the club's situation in prior to the summer transfer window and it was hypothesized that profit increases transfer fee. However, 1% increase in EBIT indicating profitability decreases transfer fee for a similar player by 11%. Causality of profitability and transfer fee is interesting, and transfer fee probably influences profitability. Win maximization drives clubs to acquire good players and investments in players exceed the revenue generated, resulting in unprofitability. According to Deloitte's Annual review of football finance (2014), 71% of the revenue is spent on salaries in season 2012/13, and in this sample the clubs spend on average

29% of the revenue in transfer fees in the same season. This illustrates one reason for poor profitability of Premier League clubs, of which 79% made loss in the seasons 2009/10.

Ownership and objectives also play a key role in profitability. It is possible that owners taking profit into greater consideration are not willing to pay as high transfer fees. Lower transfer fee paid for a similar player is not necessarily a consequence of more detailed valuation, but of owners tighter of their money. However, profit maximizing clubs are assumed to consider player valuation in greater detail than clubs maximizing wins. No evidence for clubs in poor financial situation being forced to look for undervalued players and buy cheaper players is found. On the contrary, it seems that poor profitability is consequence of high transfer fees and salaries of players acquired. Clubs on the verge of relegation possibly spend great amounts on players regardless of poor profitability in order to avoid relegation. Given the revenue potential of Premier League compared to that of Championship, the player investments may turn into positive net value.

One percent increase in turnover increases the transfer fee paid for a similar player by 30%. Hence, the big clubs pay a transfer fee premium. High revenue generated possibly triggers acquisition of good, expensive players and lessens the financial restrictions. Barajas et al. (2005) find that there is a positive relationship between sporting performance and financial performance with respect to revenues. Winning clubs tend to generate most revenues, yet it is challenging to argue whether sporting success is a result of financial success or financial success results of sporting success. Nevertheless, the winning clubs have money to acquire the best players who further enhance the probability of winning, which partly explains the positive relationship between turnover and transfer fee. In particular, qualification to UEFA competitions is an important source of revenue for the clubs, but player investments are needed to succeed and qualify.

Deloitte's (2014a) study of big five leagues financials' indicates that overall revenues tend to increase from season to season. In this sample, the increase in revenue from season 2009/10 to 2012/13 has been 48%. The increase in revenue mostly results from enhanced broadcast contract. Thus, the increased international interest to the Premier League is one explanation for the positive relationship between turnover and transfer fee. Negative relation between profitability and transfer fee however indicates win maximization and possible mismanagement of revenues. As argued with respect to billionaires, the free cash flow influences investment decisions also in the corporate world. Jensen (1986) argues that the free cash flow is used to finance investments in addition to those with positive net present value. Thus, as a consequence of high revenue, the incentives to in detail value player investments decreases, and players with negative net present value are acquired. Such investments in turn negatively influence profitability.

However, clubs maximizing wins possibly invest in players with negative net present value with respect to profit, if these players are considered to generate return on investment in form of points. Hence, win maximizing clubs report high turnover and low profit, explaining the positive relation of turnover to transfer fee and negative of profitability. It seems that Premier League clubs do not apply systematic analysis to find undervalued players in the market like Oakland A's did in the Major Baseball League. Finding an undervalued player probably does not turn the club profitable, but it is possible that building a roster by paying attention to player valuation and profitability would indeed increase the profitability.

Leverage has a negative influence on transfer fee as hypothesized. One percent increase of debt to assets decreases transfer fee paid of a similar player by 10%. High debt ratio is an indication of weak financial situation, as the profits are not necessarily enough to cover all the expenses and investments. The players are the most important assets of Premier League clubs and hence if the liabilities exceed assets in value, club probably has financed the acquisition of players by issuing debt. High debt ratio influences the behavior in transfer market alternatively. High debt ratio possibly signals of weak overall financial situation resulting in restricted transfer activities. The club may not afford the best players needed to strengthen the club. Furthermore, clubs with weak financial situation should look for undervalued players and overall consider transfer decisions more carefully. However, the negative relationship between EBIT and transfer fee indicates that high player investments to maximize wins rather explain unprofitability than poor financial situation limiting transfer activities. The cost of capital however increases along with debt ratio and thus the players become relatively more expensive for highly leveraged clubs.

Big clubs having billionaire owners are found to pay a transfer fee premium, but also have alternative financing options to debt. Having a billionaire owner is found to decrease leverage by 25% percent. Consequently, the negative relationship of leverage and transfer fee possibly is a result of smaller debt ratio of win maximizing billionaire owned clubs paying transfer premium, and generating higher revenues due to sporting performance and international recognition. Liquidity does not have a great influence on player valuation, as a small insignificant positive relationship between current ratio and transfer fee is found. One percent increase in current ratio increases transfer fee paid for a similar player by 8%.

In addition to the win maximization objective, media value is considered to influence the transfer decisions. Players that are on everyone's lips provide lots of media value and attention to the acquiring club, even if transfer is only speculated. In case of superstars, the demand is greater,

resulting in negotiations of the best offer. Thus, the superstars are not necessarily overvalued, but there are much more explanatory factors than the performance on field like brand value of player. The clubs do not only acquire a football player, but to some extent an identity for the club. The media value, for example, is hard to monetize, but valuable in building the brand image. The positive media value in turn translates to increased attendance and merchandise demand. However, in the race for a particular player, the costs may easily exceed the intangible and tangible value, especially when the salary is taken into consideration.

5.4 Influence of player performance and characteristics on transfer fee

Direct player performance explanatory variables predict future player performance and thus the value created for the acquiring club in upcoming seasons. Player performance influences winning probability and clubs pay more for players increasing winning probability as their return on investment is higher. Player performance proxies' influence on transfer fee has been subject of various studies and the hypotheses were to some extent based on the findings of previous studies conducted. The objectives, data, and methodologies used differ somewhat from study to study but it is possible to see if the influence of main variables has altered over time.

Insignificance of the correlation coefficients was surprising as numerous studies have found significant relationship particularly between player performance proxies and transfer fees. As seen from table 5.1, only games played and injuries had significant correlation coefficients at 10% significance level. Small sample size is generally one possible reason for insignificance but sample of 293 summer transfers is considered sufficient and is consistent with previous studies. The insignificancy of correlation coefficients can also be an indication of multicollinearity. Some of the player performance explanatory variables indeed are strongly related to each other. For example, minutes played increases the probability of scoring and assisting. Thus, Pearson correlation coefficients are also reviewed for direct player performance variables.

Table 5.5: Correlations of player performance variables

High correlations between player performance variable possibly cause multicollinearity problem in specifications 1 and 4. Games played is the sum of games played in a season for 2009/10-2012/13 and minutes played is the sum of minutes played. Assists given and goals scored are total number of assists and goals in all competitions in a season. Yellow cards is the sum of yellow cards received in a season. Forward is a dummy variable for players playing as forwards. The coefficients take values between -1 and 1. Positive values indicate positive relationship and negative values indicate negative relationship between the variables. P-values are in parentheses, p<0.01 ***, p<0.05 **, p<0.1 *.

	Games Played	Minutes played	Assists given	Goals scored	Yellow cards	Forward
Games Played	1	0.931*** (0.000)	0.554*** (0.000)	0.474*** (0.000)	0.390*** (0.000)	0.094 (0.109)
Minutes played		1	0.485*** (0.000)	0.405*** (0.000)	0.433*** (0.000)	0.059 (0.979)
Assists given			1	0.601*** (0.000)	0.120** (0.040)	0.215*** (0.000)
Goals scored				1	0.059 (0.318)	0.608*** (0.000)
Yellow cards					1	
Forward						1

Table 5.1 shows that 1% increase in minutes played increases the transfer fee by 23% for a similar player, indicating a significant positive relationship. As expected, the minutes played is highly valued by the acquiring club. This is rational as typically the best players play the most and player only creates value for club by being on the field. The previous studies have also found positive influence of number of games played previous season on transfer fee. (Frick, 2007) Of all player performance variables studied, minutes played previous season increases transfer fee the most. Thus, in addition to ownership structure, profitability, and revenue, minutes played influence the value of a player. It is argued that the league in which selling club plays influences value and performance of a player. Value of the players not playing in the big five leagues at the moment of acquisition is depreciated. (Frick, 2007) Yet, it is ambiguous, whether a key player of a Championship club is less valuable than Premier League substitute. Minutes played and goals scored are higher, but player value is however a sum of different items and age, for example, possibly can make the difference between players.

Five percent increase of one goal scored in transfer fee was not as strong as predicted, and insignificant. The goals are considered as the most direct measure of player performance, but the

results do not verify its high value for the club. It is also noteworthy that according to the results obtained, the assists should have a greater influence on the transfer fee paid than the goals scored, yet neither of the variables is statistically significant. The strength of correlation coefficients was expected to be vice versa due to the assumed greater value of goals to the club, in terms of increased probability of winning. With respect to goals scored and games played, the results indicating positive relationship with transfer fee are consistent with previous findings of Dobson and Gerrard (1999), for example. Carmichael and Thomas (1993) and Speight and Thomas (1997) study the transfers in English Premier League and do not either find significant correlation between goals scored previous season and transfer fee. Carmichael and Thomas (1993) find that one goal scored increases transfer fee by 4% which is of same size as found in this study.

One minute decrease per a goal scored increases transfer fee by 9%. The goal ratio is included only in few studies as player performance proxy although it measures the efficiency which is of clubs' interest. The efficiency of the player, particularly that of the substitutes is very valuable for the clubs as by their performance on the field, the players who can score in shorter time positively influence the probability of winning. Of the 293 players in the sample, 255 scored at least one goal enabling calculation of minutes-to-goal ratio.

Injuries is a variable different in nature from the others, as it has more indirect influence on the future performance and is less studied. Injuries suffered do not directly affect winning probability or the result of game. Injuries likely decrease player performance of the particular season, but it is ambiguous, what the influence on player value or future performance is. Injuries should not increase value, but it is possible that they do not affect valuation. Results for injuries are inconsistent with the hypothesis as an additional game missed due to an injury increases transfer fee of a similar player by 11%.

Pearson's correlation coefficient for injuries is insignificant but also indicates an increase of 8% in transfer fee. However, similar results were obtained by van der Berg (2011) who studied the influence of weeks missed due to injury on transfer fee. He found positive correlation between the variables using the same data source. Data regarding injuries is the least reliable, as information disclosure is dependent on the clubs to some extent. Positive correlation can however be a result of inability to withhold information about superstars' injuries. If these valuable players are not in the starting lineup, an injury is immediately speculated. Table 4.1 describing statistics shows that on average injuries kept players out of field for 1.6 games and most players did not suffer from any injury. The probability of injury increases along games played, and the most valuable players play most games, which may explain the unexpected positive influence of injuries on transfer fee.

Results obtained for the direct player performance measures are mainly consistent with hypotheses made and results of previous studies, and the univariate correlations of player performance variables to transfer fee encourage acceptance of hypotheses, with the exception of injuries. In reviewing the results, it must be borne in mind that the transfers are always results of long negotiations between clubs, and thus the theoretical value may greatly differ from the actual transfer fee paid. Depending on the selling and acquiring club's situation, some issues may be given more weight in the decision making, and in consequence the model fails to explain the transfer fee paid. The team may be in need of a leader, or the player acquired has previously played well together with a particular player, which increases the value. However, these and many other determinants present in team sports are hard to measure and value.

According to correlation coefficients presented in table 5.1, a 6% premium is paid for forwards with equal talent as expected. A premium of 4% indicates that midfielders are also highly valued. These findings are consistent with the previous studies summarized by Frick (2007). It is often argued that the premium for forwards results from a greater probability or ability to score, and thus create value for the club by increasing the probability of win. Indeed most of the goals are scored and assists are given by forwards or midfielders, but it is arguable if they create significantly more value for the club than great defense. A well-organized defense may increase the probability of win more than possession of an efficient forward. The collective performance is much more difficult to measure and value than individual performance, a reason for which it is little studied and individualistic sports like baseball exploit statistics in player valuation to greater extent. However, the preference of forwards and midfielders begs the question if attacking overall is considered more important and distinguished than defensing. A poorly defensing team with the best forwards unlikely wins the championship, but a well defensing team may exceed expectations given the roster. It can be argued that defensing is easier to learn and execute than attacking which requires more skills and creativity but in modern football, the defenders actively participating in attacking third are valued. Thus, it can be argued that wing backs should be paid a premium for adding value by affecting the game at both ends.

One percent increase in minutes played increases the transfer fee by 24%, but 1% increase in international caps played increases transfer fee only by 0.2% for a similar player. The influence on transfer fee is lower than expected, as the most valuable players were assumed to play most international caps. Regardless of the result, the international games are generally argued to indicate excellence, because the player is considered as one of the best in the country. The variance in the level of national teams is high, which results in overvaluation of the players from inferior football

countries. On the other hand, national team coaches do not have financial restrictions and hence can select the very best players for each position. This is particularly true for top countries like England and Germany, for example. The international caps may be subject to multicollinearity problem as there is a positive correlation of 0.490 between minutes played and international caps. Furthermore, the number of possible international games varies yearly dependent on the World cup qualifications, for example. The best players rarely are playing in friendly games, which may also bias the results.

Results in table 5.1 show support for the hypothesized premium paid for domestic transfers. Within-UK transfers increase transfer fee by 10% for a similar player. Magnitude of the premium is higher than that of forwards and thus significant. More accurate information available for the player and higher possibility to observe him playing live resulting in smaller uncertainty of performance is argued to cause the premium of domestic transfers over international ones. Furthermore, settling to a new country, culture, and league can be challenging, and increase the transfer fee due to higher risk. However, table 5.2 shows that the performance of players transferred within-UK decrease relatively more in the season following acquisition than that of international transfers, with respect to 15 most expensive acquisitions of billionaire owned clubs. The high valuation of domestic transfers should not, in general, be considered as an indicator of Premier League excellence over other leagues as players acquired from lower divisions are included in the sample and league should not determine player value.

The yellow and red cards are expected to have a negative influence on transfer fee, yet a positive correlation for both is found. One percent increase in yellow cards increases transfer fee by 7% and 1% increase in red cards by 9% for a similar player. The correlation of 0.969 for red and yellow cards is high, which may bias the results due to multicollinearity. Omitting yellow cards, however, only increases the influence of red cards on transfer fee. Great number of yellow or red cards received does not decrease the value of player as predicted. The influence of yellow and red cards on transfer fee is not typically reviewed in the previous studies, and the intention was to have a proxy for negative personal characteristics.

The positive and negative attributes of player nature affecting the team spirit, for example, are hard to measure and apparently yellow and red cards do not fulfill the criteria. The positive influence of yellow cards on transfer fee possibly results from the positive correlation of 0.411 to games played, which further has a positive influence on the transfer fee. The more games a player plays, the greater the possibility of receiving a yellow card. Furthermore, 95% of the players received at least one yellow card in the season, indicating that the number of yellow cards does not measure

extraordinary behavior. Number of red cards was assumed to be a better indicator of undesired nature than the yellow cards, as more severe foul must be committed. The sample of red cards is very small including only 15% of the transferred player, which may bias the results and explain statistical insignificance. Apparently, the clubs do not consider the cards as an indication of undesired nature or quick temperature, but they are rather seen as an unfortunate but evitable part of the game.

6. Conclusion

In this study, I have reviewed the influence of Premier League club ownership structure on transfer fee and financial ratios. The clubs are categorized into billionaire, foreign, and public ownership depending on the major owner. The sample consists of 293 summer transfers in seasons 2009/10-2012/13, where a Premier League club is the acquirer. It is found that clubs with billionaire owners pay a transfer fee premium of 16%, and clubs in foreign ownership pay a premium of 8% for a similar player. Billionaire ownership further increases revenues by 48%, but decreases profitability by 48% in comparison to the other ownership structures. Foreign ownership on the other hand increases revenues by 36%, and decreases profitability by 17% for a similar fiscal year.

Increasing number of foreign owners indicates of high brand value of Premier League and the clubs, as some of the foreign and billionaire investors are rather attracted by the ownership status of a club than profit potential. Emotional return on sporting performance, increased business profile, and benefits for other investments motivate the owners more than profit generation, resulting in win maximization objective. The personal wealth of billionaire owners and international corporate partners increase the revenue of clubs with foreign and billionaire owners, who tend to maximize wins. Hence, the high revenues enable increased player investments and decrease the need of detailed player valuation. The agency problem of free cash flow together with win maximization increase the probability of negative net present value investments, explaining the transfer fee premium.

Weak profitability regardless of high revenue indicates win maximization, as most of the revenue is spent on players in form of salaries and transfer fees. Premium players enable success on the field, and hence a club willing to win the league title heavily invests in players, even at the expense of profit. Excessive player acquisitions and transfer fee premium explain the weak profitability of the clubs with foreign or billionaire owners, regardless of high operating revenues. Some billionaire owners cover the losses and finance player acquisitions themselves, but foreign owners are more dependent on external financing. It is found that foreign ownership increases debt ratio by 15% and billionaire ownership decreases leverage by 6% for a similar fiscal year in comparison to the other ownership structures. Hence, the increasing debt ratio of Premier League clubs can rather be a consequence of need to invest in players regardless of weak revenue to achieve sporting objectives like qualification to UEFA competitions or avoidance of relegation.

Findings of ownership structure's influence on transfer fee and profitability indicate that in Premier League, success can be bought. Examples of Manchester City and Queen Park Rangers have shown that it is possible to turn mediocre clubs into winning clubs with the help of wealthy investors

financing operations and player acquisitions. The winning team is built at the expense of profitability, enabled by the owners acting as benefactors to great extent. For them, the return on investment is highly emotional with respect to the points and titles won. Public ownership, on the contrary, increases profitability by 64% and decreases leverage by 28% for a similar fiscal year, in comparison to the other ownership structures. Overall, the publicly held clubs are in better financial health and take profitability in greater consideration in operations. Furthermore, the public ownership decreases the transfer fee by 12% for a similar player, indicating that these clubs probably acquire players with positive net present value.

It can be argued that most of the owners maximize wins instead of profit, which is seen in high expenditures on players at the expense of profit. The aim of UEFA's Financial Fair Play (FFP) rules is to restrict the increasing losses and leverage of clubs, which could result in profit or utility maximization objective taking over. However, it is ambiguous, if the FFP rules will affect the behavior of billionaire owned clubs, in which the losses have been covered by the owners. In order to find the influence of FFP rules on transfer market and financial ratios, the study of ownership structure's influence should be repeated in few years, when the impact of changes is observable. It is interesting to see, whether the FFP rules and potential sanctions increase competitive balance or influence transfer market behavior. Furthermore, the rules possibly increase the competitive balance of the league.

In addition to the ownership structure and financial ratios, player performance and characteristics are found to determine the transfer fee. One percent increase in goals scored increases transfer fee by 5%, similar increase in assists increases transfer fee by 8%, and 1% increase in minutes played increases transfer fee by 23% for a similar player. The findings are consistent with previous studies summarized by Frick (2007), but the new independent variables included, yellow and red cards received, and injuries, do not have a great explanatory power. Results obtained indicate positive effect on transfer fee, controversial to the hypotheses. However, it is recognized that superstars have high brand values, and it is possible that player personality and visibility weights significantly when valuing superstars. The capitalization of brand value is challenging, but definitely should be studied to greater extent in the future. The return of investment is not only measured in form of points obtained but increasingly in form of media value received and revenues generated.

The findings of ownership structure's influence on transfer fee are encouraging, but the reasons for transfer fee premiums could be studied in greater detail. It is still ambiguous, if the billionaire owners similarly value all the acquired players, or if a relatively higher premium is paid for superstars, for example. It also is possible that the determinants of a football player transfer fee are

different with respect to billionaire and public ownership. Some clubs possibly prefer players with high brand value while others look for the undervalued players. A study with a sample of a different league would show, if the findings are unique for Premier League or general for the “big five” European football leagues. For example, German Bundesliga would be applicable as, Fees et al. (2004) study the transfer fee determinants in Bundesliga.

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