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OG AKERSHUS

Torgeir Nesje and Klas Tømmer Ufs

The Price is Right?

A study of EPL clubs' behaviour in the transfer market

Masteroppgave i Økonomi og Administrasjon

Høgskolen i Oslo og Akershus, Fakultet for samfunnsfag

Sammendrag

I denne oppgaven har vi studert driverne bak overganger i moderne fotball. Vi har undersøkt de tre siste sesongene av Engelsk Premier League (EPL), det betyr at seks overgangsvinduer og totalt 301 overganger er inkludert i vårt datasett. Vi har først beskrevet nåværende tilstand i overgangsmarkedet, deretter har vi forsøkt å forklare fotballklubbenes oppførsel igjennom økonomisk teori. Videre har vi testet vårt datasett for hypoteser basert på tidligere studier, økonomisk teori og egne antagelser. Til slutt sammenkobler vi våre resultater med økonomisk teori. Som en interessant avslutning tester vi ut våre estimerte verdier mot reelle verdier for å finne sammenhenger mellom vår beskrivelse av markedet og data fra markedet. Våre resultater antyder at de beste spillerne har en forhandlingsmakt som forstyrrer det frie markedet. Vårt bidrag til tidligere studier på dette feltet er at en spillers "x-faktor", potensiale og suksess i Europacupsammenheng er hoveddrivere for overgangssum blant spillerkarakteristika. Blant klubbkarakteristika vil klubbens omsetning sterkt påvirke overgangssummen. Klubbenes omsetning vil øke med den nye TV avtalen som blir introdusert i sesongen 2016/2017.

Abstract

In this thesis, we have studied the determinants behind transfer fees in modern football. We have investigated the last three seasons of English Premier League (EPL), meaning six transfer windows and in total 301 transfers are included in our dataset. In doing so, we have first described the current state of the transfer market, and then we try to explain the behaviours of football clubs through economic theory. Further, we test our dataset for hypotheses based on previous studies, economic theory and our own assumptions. Lastly, we link our results with economic theory. As an interesting ending, we test out estimated values against real values to find links between our description of the market and data from the market. Our results suggest that the best players have a bargaining power that disturbs the competitive market. Our contribution to previous studies in this field is that a players' "x-factor," potential talent and success in European cup competition are key determinants for transfer fees from player characteristics. While for club characteristics, the level of transfer fees is highly influenced by their financial position. The financial position will strengthens after a new TV deal that is set to be introduced in the season 2016/2017.

Høgskolen i Oslo og Akershus, Fakultet for samfunnsfag

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Foreword

This thesis is written as the final part of the Master of Science in Business and Administration at Oslo and Akershus University College of Applied Sciences.

Our lectures recommended us to choose a topic of own choice and interest. We were both above average interested in football, and thought valuing of human assets was an interesting issue. Football is the world most popular sport, and transfer fees have always been a discussed topic. We wanted to find out what was the key determinants of transfer fees in English Premier League. Our analytical major in Finance and Financial Management gave us the framework to address this issue.

When estimating through an econometric model like ours there will always be questionable assumptions. Since not all the details around transfers are made public, there is no guarantee for transfer fees to be 100 % accurate. To be consistent we have retrieved all transfer fees from Transfermarkt.

The work have been time consuming, extensive and challenging but very interesting and educational. This master thesis is our independent work and should be regarded as such. Any opinions addressed in this thesis are our own.

We would like to thank our supervisor, Helge Nordahl, for helpful guidance and meaningful discussions along the way.

Oslo 26.05.2015

Torgeir Nesje and Klas Tømmer Ufs

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1 Introduction

Today, the beautiful game of football is recognized as the most popular sport worldwide (FIFA, 2015). In this thesis, we will try to get an overview over transfers, market structure and the economic logic behind transfers in the English Premier League (EPL). Football has been played in England for over a thousand years in diverse rudimentary forms. In 1888, Aston Villa director William McGregor formed The Football League that consisted of 12 teams, which makes the English top division the oldest league in world football. These are some of the reasons why England is called the home of football. Because of a lucrative deal of television rights The Football League became the English Premier League in 1992. EPL consisted of 22 teams to start with. This was reduce to 20 teams in 1995, and has been so since. From the start in 1992 and until today (2015), there have only been five different winners. Manchester United (13), Blackburn Rover (1), Arsenal (3), Chelsea (4) and Manchester City (2).

Foreign players in EPL is a debated topic. CIES confirm the growing internationalization of football players' labour market. The EPL had a surprisingly 60.4 percentage of expatriate footballers in 2014. With an average squad of approximately 27 players per club, 326 players of the estimated 540 players in EPL was foreign. This is a dramatically change from the start in 1992 with only 23 foreign players (McCloskey, 2013). The increase in international mobility goes hand in hand with the decrease in the percentage of club-trained players. Despite the regulations introduced by UEFA, the relative presence of footballers playing for the club where they were trained reached a new record low at 21.2 percentage in 2014 (CIES Football Observatory , 2014).

Transfers fees in EPL have always been on people's lips. In 1905 Alf Commons where transferred from Sunderland to Middlesbrough for the shocking price of £ 1.000 (Sivertsen, 2015). This was a record-breaking fee at that time. From 1905 until today, this record has been broken many times. For example in 1996, Alan Shearer broke this record when he moved from Blackburn Rovers to Newcastle United for £ 15 million (Sivertsen, 2015). Today the record in EPL is £ 66 million, when Manchester United signed Angel Di Maria from Real Madrid in 2014 (Transfermarkt, 2015). With time, the clubs' revenues have increased and the transfer fees have increased with them. To provide these numbers a meaningful context, it may be useful to see the transfer fees as a proportion of the buying club's turnover. For Newcastle in 1996, the transfer fee paid for Alan Shearer amounted 35.63 % of the turnover

(Sivertsen, 2015). For Manchester United, Angel Di Maria amounted only for 15.24 % of the turnover (own calculation). In relative terms, Alan Shearer's transfer fee of £ 15 million was more than twice as expensive for Newcastle as the £ 66 million Manchester United paid for Angel di Maria.

Earlier studies have tried to solve what are the key factors behind the value a football player. These are all elderly studies. The quantity of statistics on the players have since then increased and it is now 20 years ago since the Bosman ruling revolutionised the transfer market. Since then the scope of football transfers and the revenues in football have changed drastically. We are now in the situation where debt threatens financial and contractual stability in the sport, additionally to criminality of the game, such as trafficking, illegal betting and fraud. New forms of investment in players challenges the regulator bodies of the sport and the club is more a company obliged by financial results to their stakeholders on the stock exchange, rather than being a football club.

We find transfers in football especially interesting because of the nature of sport as a product and how to value human capital. In football, transfers is referred to the heart of sport's governance:

- For the governing bodies, transfers rules are linked to competition fairness and balance. The rules are tools to enable fair and regular competition among clubs.
- For clubs, transfers are an important source for income.
- For players, transfers are a yardstick for their reputation and sporting value.
- For agents, transfers are an important source of income.
- For supporters, transfers are a part of the football season as they contribute to the overall excitement about the game and a judge of a clubs ambition.

(KEA European Affairs, Center of Law and Economics of Sport, 2013)

1.1 Research topic

"What are the key determinants behind the negotiations of transfer fees in EPL?"

We have studied the determinants of transfer fees in EPL based on data from the last three seasons. We wanted to test for what are the key determinants behind transfer fees and what is the rational explanation behind the fees. We start with explaining the transfer market in Europe, then we try to explain market behaviour based on economic theory and lastly we test our hypotheses to find the key determinants behind the transfer fees. We construct our model first to include only player characteristics, then we add club characteristics, further external

factors and lastly we include buying clubs' financial performance. In this way, we test whether player characteristics is determinant and consistent when expanding the model.

The rest of the thesis is set out as follows. Chapter 2-3 is the background for our thesis included a description of the status in the transfer market and existing literature. Chapter 4 is an attempt to explain why football clubs act the way they do, through the framework of economic theory. Chapter 5 present our data and includes a description of our variables. Chapter 6 presents our model. Chapter 7, 8 and 9 present our result, discussion, analysis and implications. Lastly, we offer some conclusions in chapter 10.

2 Background

Here we describe three essential factors that (among others) creates the environment where the clubs operate.

2.1 TV rights and revenues in EPL

From the start of EPL and until today, there has been a significant growth phase. Gate attendances have risen, TV revenues have increased sharply, and commercial revenues have developed as well. In total, the clubs in EPL are getting bigger economically. All the 20 clubs in EPL are at top 40 in Deloitte Money League 2015. The main reason for these is the rise of income related to TV rights (Deloitte Sports Business Group, 2015).

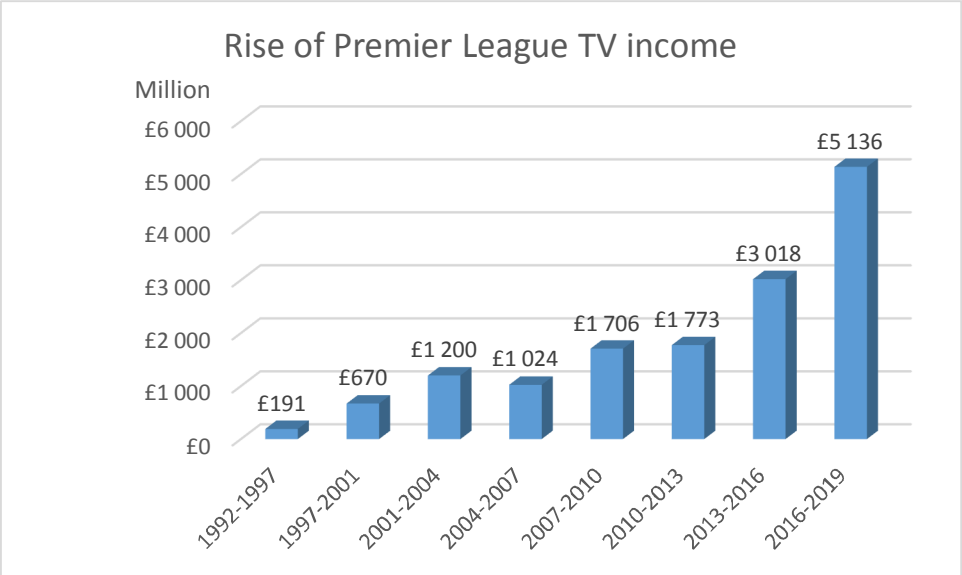

Figure 1. Rise of Premier League TV income (BBC Sport, 2015).

The TV right revenues continues to grow and EPL have already made a record deal for the rights from 2016 to 2019. The deal will give an increase of 70 % of the current deal (BBC sports, 2015). This will benefit the clubs and give them more financial flexibility. To set it in perspective, Premier League chief executive Richard Scudamore told BBC sports that Burnley is now economically bigger than Ajax. Cardiff that ended last in EPL previous season (2013/14) received £ 62 million. This is far more than Bayern Munich (£ 30 million), Atletico Madrid (£ 34 million) and Paris Saint-Germain (£ 36 million) received for winning their respective leagues (O'Connor, 2015). In the 2013/14 season, the teams that qualified to Champions League earned an average £ 32 million. For Premier League teams to qualify they need to be top four or win the Europa League (O'Connor, 2015). This tells us what the competitive advantage can be to participate in Champions League.

Figure 2. EPL total spending last 10 seasons (BBC Sport, 2015).

The buoyancy of EPL has been particularly reflected in the transfer market. The amount used to buy players to EPL set new record both in the 2013/14 season, and in the 2014/15 season. At the same time, the TV revenues have increased dramatically.

2.2 The Bosman ruling

The Bosman ruling in 1995 by the European Court of Justice, transformed the transfer market. This ruling established freedom for the players that where out-of-contract, to move between European clubs without a transfer fee being paid (Antonioni & Cubbin, 2000). It shifted the bargaining power from the club to the player and created what KEA and CDES calls *The Superstar-effect:* in negotiations, two elements appear essential, *information* and *timing*. Here the strategies of the actors play an important part. Since the Bosman case, some players and

agents involved in the higher primary market segment have increased their bargaining position (KEA European Affairs, Center of Law and Economics of Sport, 2013).

2.3 Regulations of the transfer market – Overview UEFA Financial Fair Play (FFP)

There is a clear tendency to overspend among football clubs and therefore UEFA initiated FFP. UEFA FFP has these objectives on getting football clubs move towards breakeven:

- Encourage clubs to be more rational and disciplined.
- Encourage clubs to manage with the revenues generated by the football itself.
- Encourage clubs to develop long-term projects and ensure the financial stability of the sector.

UEFA FFP aims to:

- Prevent clubs to spend more than what they can generate over a given period of time
    - i.e. prevent clubs from over-investing in sporting talent to win.
- Encourage clubs to operate with their income alone, without contribution from owners or third parties and without debts.
- Encourage spending in sport facilities and other activities for the long-term profit of the club rather than short-term speculative spending.

FFP favours the development of player training. Therefore, the transfer policy could see its relative cost raised through infrastructure expenditures.

Regulations due to FFP should ensure that European clubs could fund the success in sporting terms. Therefore should FFP limit the possibility of newcomers destabilizing the market by massively investing in acquiring talent (as Chelsea, Manchester City and QPR has done). The aim for the future is that transfer fees paid should be in line with the financial power of clubs, particularly with the revenue they make (KEA European Affairs, Center of Law and Economics of Sport, 2013).

In 2013/14 season, all English Professional divisions got rules that restricted the clubs' spending. These rules are considered a watershed for financial constraint in football. We can currently find FFP rules in UEFA competitions (for all clubs wishing to take part in the Champions League and Europa League), The Premier League (from 2013/14), The Championship (with punishments from 2013/14) and Leagues One and Two (Thompson, 2015).

The sanctions of breaking the rules have different range. UEFA have 9 sanctions, ranging from a warning to banned from UEFA competitions. Malaga was the first team banned from a UEFA competition, which proves that UEFA takes this seriously. For EPL the sanction is point deductions (plus other sanction yet to be confirmed). In The Championship, the sanction is a transfer ban and for the teams that overspend to promote to EPL there is an additional fine. An example of this is QPR who overspent when promoting to EPL in 2013/14 and are most likely to get a fine on £ 50 million. This is more than their turnover was last season. For League One and Two there is only transfer ban. (Thompson, 2015)

3 Existing literature

One of the first to study the labour market in professional football was Sloan (1969, 1971). He was early out to consider football clubs to be focused on utility maximizing instead of profit maximizing, as standard microeconomics theory would suggest.

Followed up by Garcia-del-Barro and Szymanski (2009) who looked at English and Spanish football clubs responses to the choices of other clubs. They found that both league tends to be close to win maximization with a zero-profit budget constraint, supporting Sloan's earlier work.

Robinson and Simmons (2009) results suggest that the objective of owners of English football league clubs are not profit maximization but win maximization. They found that removal of gate sharing increased the probability that players would move from teams in the second tier to a team in the first tier. They also found that there is an increased probability that players will be transferred within divisions. This goes against one of the main theoretical predictions of the sports economics literature; gate sharing will have no effect on competitive balance. One possible explanation is the objectives of the owners of the team. If they are win maximization, it will worsen the competitive balance when gate revenue sharing is removed.

On the other hand, Leach and Szymanski (2015) found no evidence of any shift of behaviour for English football clubs after flotation on the stock market. This provide a challenge to the received view that football clubs in England were utility maximizes rather than profit maximizes. They found that the profits decreased and performance improved on the pitch.

Econometric evidence suggests that the reason for this was that the floating clubs simply spent the flotation proceeds on players.

Carmichael and Thomas (1993) studied the English transfer market. They suggest that a Nash bargaining theory captures the features of the transfer market through identifying what influences the outcome. The results showed that the seller and buyer do not have symmetrical terms for bargaining, the sellers bargaining power is determined by the player's characteristics (ability and crowd pulling effect). For the buying club the performance and attendance have a positive influence on the fee, implying a negative relationship for the buying side. They might become more risk averse. However, relegation makes them less risk averse, thus strengthening their bargaining position. The relationship through profitability and bargaining strength appears to be positive, suggesting that the ability to buy a player may be in the buying clubs favour. High status clubs compete over the same player, this explains why the attitude to risk would be an important factor. High transfer fees might be a result from inflated or pre-emptive bids to capture players.

Reilly and Witt (1995); Speight and Thomas (1997); Carmichael, Forrest and Simmons (1999) all found empirical evidence on determinants on transfer fees in EPL. Significant determinants was age, international caps, games played previous season, career goals scored, goal scored current season, forward, goal difference of buying club, average attendance of buying club in previous season, average attendance of selling club in previous season, league position of selling club and the division selling club are playing in. In addition, Carmichael, Forrest and Simmons found U21 caps to be a determinant.

Dobson and Gerrard (1999) studied 1350 transfers in England ranging from 1990 to 1996. They found age, career games played, career goal scoring rate, games previous season, goals previous season, international caps, under 21-international caps, goal difference of buying club previous season, buying club playing in first or second division and goal difference selling club last season, to be significant in determining transfer fees. They also found that the determinants of transfer fees differs markedly among segments.

Dobson, Gerrard and Howe (2000) found that non-league transfer fees are determined by player characteristics, time effects, selling club- and buying club characteristics. Similar to those obtained for English professional football as seen in Dobson and Gerrard (1999); Carmichael, Forrest and Simmons (1999). Transfers in English non-league football provides support to Rottenberg's original hypothesis that the cash value of a player depends on both

player quality and the size and status of transacting clubs. With the actual value lying somewhere between the capitalized values of the player to the selling club (lower bound) and the buying club (the upper bound).

Dobson and Gerrard (2000) tested for monopoly rents in the market for playing talent. They assumed that the selling club were able to extract a share of any positive differential between the value of the player to the buying club and the reservation price to the selling club. Using a sample of 1350 transfer fees, they found that the necessary conditions for monopoly rents exists.

Bernd Frick (2007) summarized empirical evidence from several studies on German Bundesliga and EPL. Frick and Lehmann (2001);Feess, Frick and Muehlheusser (2004); Eschweiler and Vieth (2004) have all found significant results on determinants of transfer fees in German Bundesliga. These determinants was remaining contract years, age, career games played, career goals scored, international caps, buying club qualified for European cup competition and that the player is from South-America, log sponsoring revenues, log attendance of buying club, defender, midfielder, forward (reference variable: goalkeeper), FIFA-coefficient of country of origin, selling club from west Europe and time trend.

Franck (2010) found that most major clubs have spent most of their revenue to acquire the best players and many clubs have done what may considered as overspending on wages and players' transfers. Franck conclude that spending-power is the main driver of competitive advantage for clubs in European football.

Franck and Lang (2014) found that the existence of a SD ("sugar daddy") induces the club to choose a riskier investment strategy as compared with a scenario without bailout possibilities. They also found that a small-market club chooses a riskier investment strategy than a large-market club if the club's investment strategy has a sufficiently large influence on the club's bankruptcy probability. A more uncertain economic environment characterized, e.g., through a larger Champions League prize, induces risk seeking clubs to implement a riskier investment strategy and risk-adverse clubs to implement a less risky strategy.

Buraimo, Frick, Hickfang and Simmons (2015) found evidence that better performing and large market teams tend to attract better talent. This comes at a cost to the club of having to offer long-term guaranteed contracts, which are associated with the risk of unfulfilled player potential. They also found that increased contract length is associated with enhanced player performance.

4 The transfer market in an economic perspective

In this chapter, we will explain what the transfer market looks like and how the actors behave in economic terms. We first shortly describe the market, then we look at the logic behind transfers and lastly discuss the rationality behind the transfer fees.

4.1 Description of the market

The transfer fees and their determinants can be analysed in relation to both a cost-based approach and a talent-based approach. We will address this issue later in the thesis.
Among the most relevant studies, Dobson and Gerrard (1999); Carmichael, Forrest and Simons (1999) have both found significant results for the talent-based approach and what football clubs in EPL value in their investments. Talent is important to determine the relative value of the players, but there are certain other elements that disturb the transaction which affect the discrepancy between the transfer fee and the value of the player (KEA European Affairs, Center of Law and Economics of Sport, 2013). What affect this gap can be explained through three elements:

- A player's value is not just his value on the pitch, he also has some economic value (image, commercial value etc…).
- The best players (the star players) have a stronger negotiating position.
- Transfer fees have a speculative dimension which can lead to legally doubtful transactions.

It can also help understanding the economics of transfers focusing on the relationship between sporting and economic logic, where the paradox of sport as a product is highlighted; the competing teams must cooperate with each other to produce an interesting product. Therefore, special characteristics of the sports industry such as a level of uncertainty must be preserved. This uncertainty guarantee the value of the competition. We will in the following try to link transfer fees to economic theory.

4.1.1 Football as a product

What makes this labour market different from other labour markets is due to the paradox of sport as a product. Sport as a product has three specific characteristics compared with other industries:

- A joint production by business competitors.
- The production function of the various business firms (here: football clubs) are inseparable.
- Every product is unique.

First, the match, which is a joint production between the football clubs, is the basic product. Though they are opponents they are still dependent on each other, because if one of them is not there there will not be any product at all. *The second*, because of this joint production, the clubs product function is inseparable. It is impossible to determine how much of the revenue each team is responsible for during a match or each club within a championship. The clubs fate is interrelated, they are interdependent; the success of each depends on the success of the whole. *For the third*, in a competition the result is decisive and unknown when the production process begins. Therefore, through the uncertainty and the progress of the match, every product is unique. This makes the prediction about the quality of the product random, which in economic terms is a weakness. For this product, it is a strength, because it creates expectations and excitement. The lifetime of the product is extremely short, it is consumed immediately, and it loses almost all its value after the production is ended. Therefore, there is a need for a certain degree of *market regulations*, because of the special characteristics of this industry. The industry needs a minimum level of uncertainty, which is a guarantee of product value. Hence, we have seen such regulations as revenue sharing and UEFA FFP as described earlier.

4.1.2 Segmentation of countries

When studying European football, we find different behaviour of the football leagues across borders. The study (KEA European Affairs, Center of Law and Economics of Sport, 2013) shows that countries can be divided into exporters and importers of football players. Among exporting countries we find for example Portugal, Sweden and the Netherlands. The clubs here support their economic sustainability through revenue from transfers. For importing countries, there are two different cases; countries that systematically damage their financial results with transfer, this is countries like England, Spain and Italy. While in Germany the activity, have little impact in their financial result. Here we need to take into account that

some countries work as a transfer hub for the top 5 leagues, such as Portugal (between Brazil and Europe) and France (between Africa and Europe). The segmentation of countries helps us understand why there a couple of leagues that always has the record transfer fees; such as La Liga in Spain and EPL in England.

4.1.3 Segmentation of the labour market

The study (KEA European Affairs, Center of Law and Economics of Sport, 2013) suggests that there is a strong segmentation of the labour market in European football. It suggests that the market is not of pure and perfect competition (see later in section 4.2).

Theories for segmentation of the labour market have divided the market in two segments: *The primary sector* focused on privileged jobs; high wages, stability, career prospects and good social protection. *The secondary sector* had the opposite characteristics; low wages, job insecurity, poor social cover and limited career prospects. Moreover, employees were condemned to put up with low mobility, compares to the primary sector (Marshall G. , 1998).

Used in sports, we have these two segments, with the same characteristics as described above:

- *The primary sector*: Star players enjoy high wages, additional benefits in terms of salary protection and fringe benefits, selected upward mobility to the most top performing clubs, rewarding positions and media exposure, long careers and contracts.
- *The secondary sector*: Players in the secondary market experience short-term contracts, enforced mobility, even unemployment and much lower pay.

Nevertheless, to be more in line with the reality, the study by KEA and CDES find three segments in the labour market. All with different structures and different market power between the different stakeholders. These are:

- The higher primary market
    - Here we find a limited number of players, these are the “superstars.” They face a limited number of potential clubs, and the market has monopolistic structure, where the players have the market power. The *stars* are not substitutable and are by definition rare, the adjustment is through price. Meaning that the level of wages and transfer fees only reflect a unique supply faced with the clubs wanting to acquire exceptional sporting talent. The only limit to the supply of stars is the financial ability of the interested clubs.

        - Here there is a very strong concentration of spending on wages and transfers fees for a few stars. According to KEA and CDES 10 % of the best-paid players are worth about 50 % of the total wage bill. Additionally there is a concentration of superstars in the hands of only a few agents.
- The lower primary market
    - Here we find a limited number of players facing a huge number of clubs. It is an oligopolistic structure. Here we find good, experienced players, who do not have the status of superstars, but still is an essential part of a team. There is a relative scarcity of supply against the demand by many clubs, here as well there adjustment between supply and demand is through price.
- The secondary market
    - In this market many players face a limited number of clubs, the market have an oligopsony structure. Here it is the clubs who have the market power of determining the fees and wages. Many suppliers (players) are faced with a limited number of clubs making their demand. In this market, the players are substitutable, contrary to the superstars. The adjustment between supply and demand is no longer price, but quantity. In contrast to the superstars who have higher prices, adjustment through quantity lowers wages and increases the substitutability of these plentiful players; unemployment, downgrading, length of career etc. We are here closer to a regular labour market.

The market in whole suffers of an important concentration, a limited number of clubs makes the most important parts of the transfers expenditures. These are the clubs with the largest incomes and/or support from economically powerful investors. We can find support for this in economic theory, when linking market structure and transfer fees we are able to observe how the actors behaves and the logic behind.

4.2 Market structures

To find some of the rationality behind the transfer fees in the different market structures as mentioned above we need to look at the labour market from a microeconomic perspective.

4.2.1 Properties of the competitive industry

Assuming each firm has identical technology, with increasing, constant and diminishing returns to labour and to scale. Every firm then faces the same average cost, each firm also

faces the same infinite elasticity of demand, which means in perfect competition, price equals to marginal revenue. Meaning profit maximization leads each firm to select the level of output where marginal cost[1] equals price. Therefore, number of goods sold reflects the incremental costs of producing the last unit of output (Estrin, Dietrich, & Laidler, 2012). In the football industry, clubs tends to buy and sell players in the effort to maximize their win ratio. Meaning, if the transfer market were working as a competitive industry, the talent would be traded for market value. Thus, the prices the clubs are willing to pay for increasing the chances to win the next match or title.

4.2.2 Perfect competition

This is the only market structure where we can find the relationship between quantity supplied and price, and quantity demanded and price. Thus, the goods are traded at market prices. Firms maximize profits at output levels where marginal revenue equals marginal cost. In competition, this implies an output level at which the firm's marginal cost equals market price (Estrin, Dietrich, & Laidler, 2012). If all clubs have the same cost curves and prices are given, the long-run industry supply curve will be horizontal. Demand factors will not influence the price at which price equals to average and marginal cost for the individual clubs, because there will always be a club willing to sell a player for the fee the buying club offers. Output will vary with the exit and entry of clubs as the market demands curve shifts, which can be affected by drastically change in access to money. For example when "sugar daddies" as described by Franck and Lang (2014), enters clubs like Chelsea, Man City and QPR, we have a change in market demand curves. This will affect the clubs attitude to risk.

4.2.3 Monopoly

Monopolists face the industry demand curve where the level of output is where the marginal revenue equals to marginal costs. Equilibrium output for the monopolist is determined where marginal revenue equals to marginal cost, the profitability at that level depends on the relationship between price and average cost. A monopolist's price always exceeds marginal cost. Monopolists can be thought of a restricting supply below the competitive level, in order to raise price (Estrin, Dietrich, & Laidler, 2012). We have seen for star players the transfer market can be described as monopolistic behaviour. Because of the huge scarcity of the talent of these players, their unique abilities and the impact these players can contribute. The player, the player's agent and the selling club have a huge advantage in terms of bargaining power.

[1] See note 14 in appendix for definitions

Meaning they can extract monopoly rents from the deal. In addition, there are only maybe 10 clubs in the world, who can afford these players. This gives us monopolistic competition.

4.2.4 Natural monopoly

Natural monopoly occurs when a firm are benefiting from continuously increasing returns to scale, when this increase scale up to the level of output that will satisfy the entire demand for the industry's output, one firm can produce the whole industry's output at a lower average cost that the other firms. This firm could therefore drive out any smaller firms that try to compete with it. One firm can satisfy market demand (Estrin, Dietrich, & Laidler, 2012). If we assume that these returns to scale also is a result of enormous income, it can explain why certain clubs have much higher bargaining power compared to others. Meaning the entry barrier to enter *The higher primary* market is too high for more than maybe 10 clubs in the world to be included.

4.2.5 Oligopoly and strategic interaction

The characteristics of oligopoly is described by a few suppliers which supplies the market, and the demand for the product depends significantly on the price and output decisions of its competitors. There is no equilibrium. Studies of oligopolistic markets are more difficult than competitive and monopolistic ones because firms interact with each other and consumers as well. The oligopolistic firm must always take into account the relationship between the price that it charges and the quantity that it can sell depends on the behaviour of its competitors, which will in turn depend on its own decisions. The fundaments for oligopoly markets are that they cannot take their own demand curves as given when making their decisions. They must make assumptions about the way their competitors will react on their own actions and about the effects of those reactions on their own sales. Hence, they cannot calculate their marginal revenue, and therefore determine their profit maximizing levels of output (Estrin, Dietrich, & Laidler, 2012). In this market, we find the players with talent just below the star players. These players are experienced and will make a big impact for the club they playing at, but their abilities are not unique. Therefore, we will find high prices for these players, but the price is negotiable. Additionally the clubs probably do a lot of benchmarking with other clubs and players for determining the prices for these players. In this market there will probably be more clubs bargaining for the same player, resulting in the price to increase.

4.2.6 Oligopsony

It is a version of Oligopoly, it is a market where there are only a few buyers for the product and service. This allows the buyers to exert a great deal of control, and can drive prices down

(Pindyck & Rubinfeld, 2013). Here we find the "average" player, these are the players looking for work, these markets looks more like a "normal" labour market. These players are either on the end their careers (their contract is about to run out), possesses an average level of talent or have a non-preferable personality, meaning it is the players (or the player's agent) that are looking for a club, not the other way around. These are less attractive players than in the two other segments, as a result they are traded for a lower price.

4.2.7 Summarized description of the four market structures in a football perspective

Perfect Competition	Monopoly	Oligopoly	Oligopsony
A large number of small clubs	A single club selling all output in a market	An industry dominated by a small number of clubs	Small number of large buyers controlling the buying-side of a market
Identical products sold by all clubs	A unique product (for example star players)	Clubs sell either identical or differentiated products	Most relevant for factor markets with a handful of clubs control the buying of a factor
Perfect resource mobility (freedom of entry into and exit out of the industry)	Restrictions on entry into and exit out of the industry	The industry has significant barriers to entry	Characterised by large supply but limited demand
Perfect knowledge of prices and technology	Specialized information about production techniques unavailable to other potential producers	The actors are depended on their own and their competitors decisions	

Table 1. Description of the four market structures in a football perspective.

4.3 Explaining transfers of players through economic theory

We can explain some of the transfer fees through sporting logic, but it is more difficult through economic logic. For example in terms of transfer values, why was Angel di Maria £ 28 million more expensive than Ander Herrera was? We could argue that the discrepancy between the mentioned players was grounded in statistical performance from last season, or characteristics of selling club. Still the difference between them equals the value of Marouane Fellaini (£ 28 million)! Given the paradox of sports, maybe the transfer system need to be designed with a structure described in chapter 4.1.3 with the purpose of:

- Transfers fees are a way of internal funding that has the merit of allowing the sports sector to retain some autonomy.
- Transfer fees also make it possible to distribute revenue between clubs, which could improve the distribution of sports talent between clubs as well as improve the flexibility faced with the financial difficulties of certain clubs. Giving us a more competitive market.

These are two valid arguments, but they do not explain the behaviour of the actors involved. In the following, we will explain why club's act the way they do through economic theory.

As seen earlier the valuation of talent can depend on the structure of the market where the talent is traded. Given different structures, the bargaining power of the different actors in the market varies. Here we need to take into account different aspects of theory from microeconomics for trying to explain why football clubs act the way they do, in an effort to find the rationality behind the transfer values.

4.3.1 Opportunity Cost

Opportunity cost can be used when there is scarcity in resources (for example money). That can be viewed as this: if resources are scarce, then by choosing to use a factor input in one activity, we are preventing from using it in any alternative activity. The opportunity cost of using the resource in the chosen way can then be evaluated by its value in its next best alternative (Estrin, Dietrich, & Laidler, 2012). This can help us explaining why clubs choose to spend over budget to capture a player. For example, the alternative might be relegation from the EPL, which will result in huge loss of income despite the parachute arrangement. Therefore, a club might choose to spend £ 24 million on a player rather than loosing £ 60 million in income because of the relegation.

4.3.2 Marginal Utility

The demand has a downward sloping curve because of diminishing marginal utility, which in terms of money is marginal willingness to pay. The first unit demanded will have the highest priority, the second unit will have a lower priority and therefore the marginal utility will be lower. The volume (here: quality/talent) asked by the buyer depends on the price, therefore, as long as the marginal utility is higher than the price, it is rational for the consumer to increase his consume. To quote Manchester United's manager Louis van Gaal (Marshall A. , 2015) "when we can buy a player who can improve my selection, the club shall buy. Money is not interesting."

Put the theory of marginal utility into a model and we get a two-person economy (exchange economy) where the two parts trade goods between them. The one-part offer football players the other part offer money. The relation between football players and money exchanged in the market needs to equal to the relation between the marginal utility for person A and the marginal utility for person B (Sandmo, 2006). Supporting Walras (1954), the value of what the one-part sells must be equal to the value what the other person sell, because the one-person sell is the other ones buy. The ratio between quanta being traded must be equal to the ratio between prices.

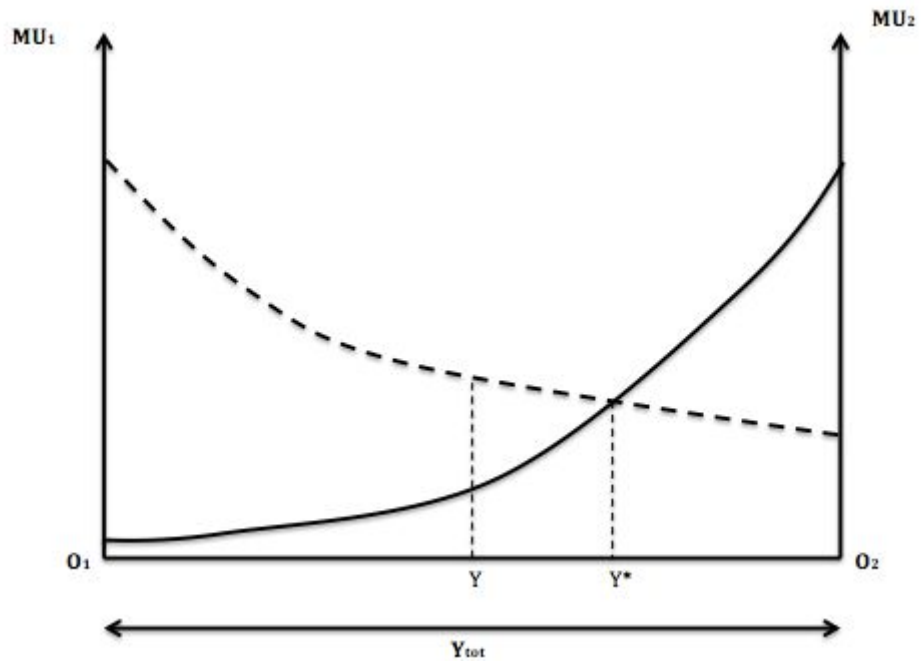

Figure 3. Marginal utility between two clubs.

Y= Total revenue in the economy

MU_i= Marginal utility, where i is club 1 and club 2.

Here we have two football clubs, the first club (dashed line) and the second club (solid line). In this case the first club have a higher MU than the second club and therefore the equilibrium (Y*) is further to the right than what is optimal for a balanced competitive market. Meaning they are more willing to pay for talent (abilities). Example of this is when large clubs buy all the talent from smaller clubs in their league, giving competitive unbalance. As Manchester United and Liverpool did when they bought Luke Shaw and Adam Lallana from Southampton.

In sum, it seems like the movement in the transfer market might look something like this:

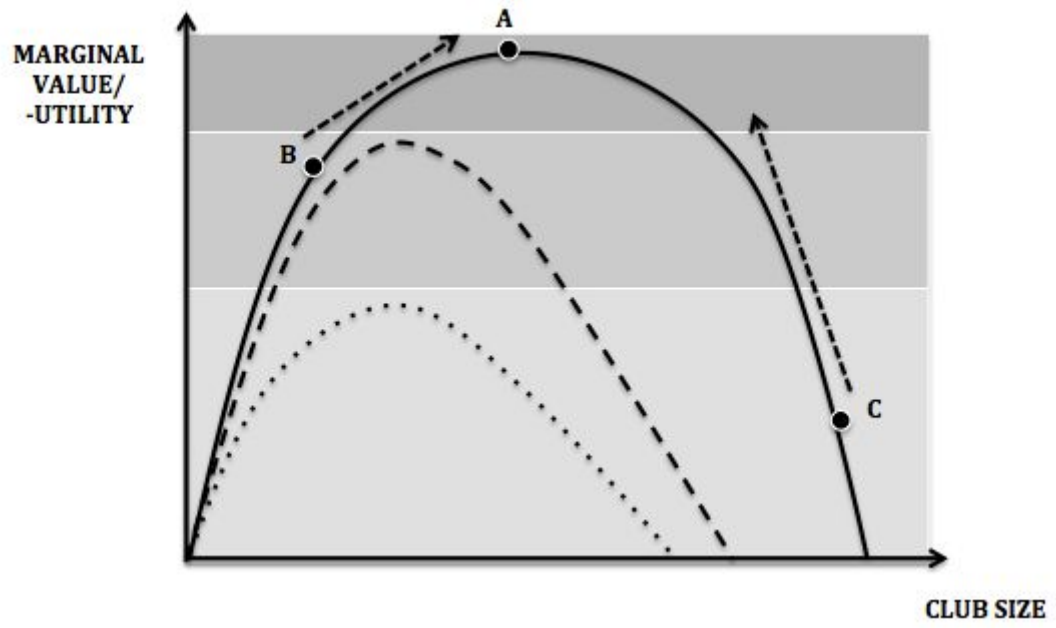

Figure 4. Player movement.

The three different curves (dotted, dashed and solid) represent three different players and the higher the curve is the better the player. The curves represent the marginal value (or the marginal utility) the player can contribute with. If the player is in point B he is better than the club he is currently playing for, and should move upwards to maximize his utility. This increases his value. On the other hand, if the player is on point C he is not talented enough for the club he is currently playing. This reduces his value. In point A, there is a perfect match between talent and the club size. In this way, we can imagine players move from club to club in trying to maximize their potential.

The different colours represent the different market structures defined by KEA and CDES (2013), where in the “dark grey” market we find a monopolistic behaviour. In the “grey” market, we find oligopoly behaviour. In the “light grey” market, we find oligopsony behaviour. Therefore, when the player is on a stationary point, there is equilibrium between the players' contribution and the clubs’ ambitions. Both actors perform at its best. It is on this point the player is at his most expensive and produces the highest marginal utility. For efficient movement of football players the labour market needs to function optimal, this can be achieved through trying to satisfy pareto optimal solutions

4.3.3 Pareto optimal solutions

A pareto optimal solutions exists when it is no longer possible to reallocate resources as to increase the economic welfare of one individual except at the expense of another (Estrin, Dietrich, & Laidler, 2012). Said with other words, none of them would come better out of it with another solution. Meaning in this context, both clubs agrees they have done a good deal. If they would negotiate again, they would have ended on the same result.

Indifference curves

When the consumer is indifferent, he is equally desirable between either good X or good Y. The consumer will trade one good for another along a curve, where he is satisfied no matter where he is on the curve, this curve is called the *indifference curve*. Along the curve the utility is constant. It is assumed to be convex towards the origin. Meaning he have they diminishing marginal rate of substitution between the goods. The *marginal rate of substitution* of X for Y is the ratio of the amount of X needed to compensate for a loss of Y (Estrin, Dietrich, & Laidler, 2012).

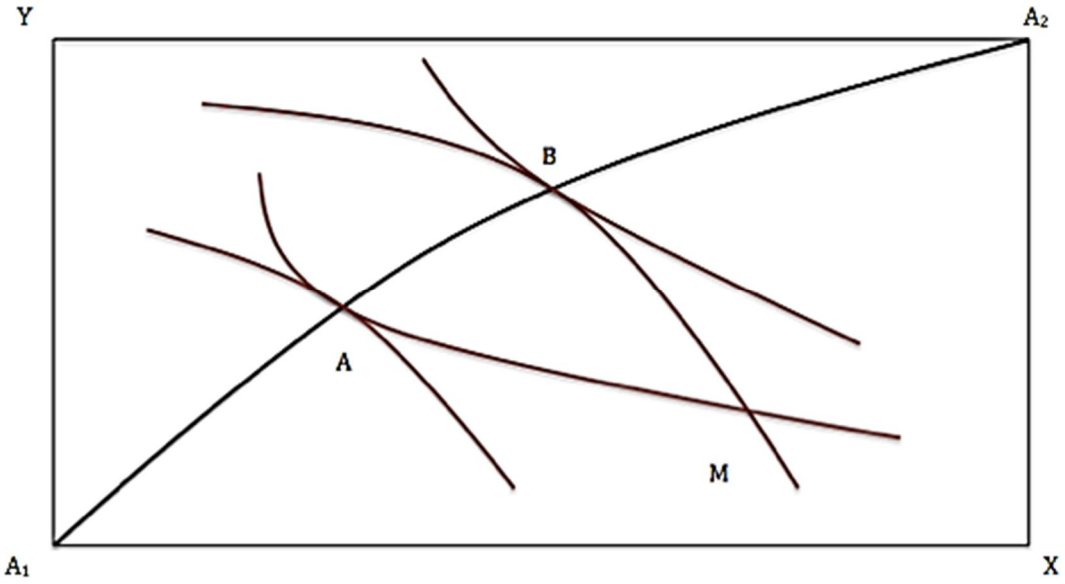

Figure 5. Pareto criterion and the contract curve (Estrin, Dietrich, & Laidler, 2012)

A_i = an actor in the market, here: a football club

X = money

Y = players

To find an optimal competitive equilibrium we can explain it through an exchange economy, where we have a contract curve (the line between A_1 and A_2) with many points satisfying the

pareto criterion (for example point A or B). Choosing a point not on this line (M) we get an allocation of goods inconsistent with competitive equilibrium, moving to a point on the contract line we can make at least one individual, or both, better off than in point M. Any point on the contract curve is a pareto optimal solution. For example when Manchester City bought Wilfried Bony from Swansea City in January 2015, we were in point M, where Manchester City had a lot of money and needed to strengthen their squad in the battle for the title. While Swansea had a good player, they would sell for the right amount of money. With that as a base, the two clubs moved towards the contract curve through bargaining and ended in point A, where the clubs indifferent curves tangent each other. Here both clubs where indifferent between either the player or the money offered and a transfer took place. The deal satisfied the pareto criterion, but it does not say that the player was sold for the "correct price" (market value).

A competitive equilibrium in a simple exchange economy would lie somewhere on the contract curve within the economy's core. According to the pareto criterion a competitive equilibrium is a desirable state of affairs (it is a pareto optimal solution). The condition for pareto optimality is that the economy should be on its contract curve, this implies that the economy's actors are at a maximum where the marginal rates of substitution between goods are equalised among different consumers (Estrin, Dietrich, & Laidler, 2012). If the market for talent in the EPL were rational, we would in theory, end up some place on the contract curve with transfer deals satisfying the pareto criterion and the market would be in competitive equilibrium. Resulting in all clubs being satisfied and the talent would be distributed under the restriction of the clubs budget and utility. Therefore, in theory the transfer of football players should be along the contract curve, to have a competitive industry.

4.3.4 Bargaining theory

Game theory can be used to formalise the outcome of a bargaining process. Using the Nash bargaining solution, we find that players (buying and selling club) cooperate to find the highest possible joint rewards, which they can divide between themselves according to their relative bargaining powers. The solution lies in the maximization of the product of the selling club and the buying club's utility above their respective threat points (where threat points are focal equilibrium) (Estrin, Dietrich, & Laidler, 2012). Given the assumptions described above, bargaining should result in a pareto optimal solution between the clubs.

4.4 Where is the rationality?

We have tried to explain why some clubs behave the way they do and why some players are traded for the transfer fee they are sold for. However, are the transfer fees rational? The transfer system can be justified, when characteristics of sports is recognised. As discussed in section 4.1.1 there need to be a certain level of uncertainty of outcome (competitive balance). This can be achieved through revenue sharing and regulation of talent to avoid the domination of big markets. Meaning trying to avoid domination of the richest clubs as discussed by Robinson and Simmons (2009) and Kesenne (2015).

The transfer fee[2] is the financial amount that a player is traded for when moving from one club to another. The problem is to decide on what are the determinants of these transfer fees? We must move away from the common idea that these fees are based arbitrary foundations, and it seems they are a product of the economics of culture and the economics sport. We can use the cost-based approach or the talent-based approach (KEA European Affairs, Center of Law and Economics of Sport, 2013).

The cost-based approach

This approach try to link the transfer fee to costs related to the use of the player. This can be calculated from the clubs' perspective in term of labour value. Alternatively, it can be valued from the player perspective; a utility value.

- From the clubs point of view, it is the employer who invested in football; he took the risk, and he have right to recover the total if his contribution in compensation for the loss of a player.
- An individual invest in human capital in order to optimiser the overall return on the asset (player). To do this, we can calculate the opportunity cost; the capitalised cost of the acquisition must be inferior to the converted sum of the expected income. In football, training is seen as the main source of increasing the stock of human capital. The player follows his training until the capitalised cost of his investment (time spent studying, school fees etc…) is equal to the capitalised income due to the training being complete.

This implies that the value can be found in the use of the player.

[2] See note 1 in appendix

The talent-based approach

Talent is a critical factor to determine the relative value of a player. This approach suggests that the value of the transfer fee lies in the value of the player himself and his proven abilities. Earlier studies have used this approach to determine whether the player himself and other factors is determinant for the transfer fees. We will use this approach when developing our model.

4.4.1 The problems of the difference between value and price

First of all, the value of the transfer fee in the market is defined concretely by the meeting of the willingness-to-pay of the buying club and consent-to-receive (willingness to receive) of the selling club. In a perfect competitive market, the price would mirror the value of the player. Because of externalities, the market might fail and the price will be far from his value. Factors affecting this difference is probably a mix of the following:

The buying club

The club forecast the expected receipts due to acquiring the player:

- Strengthening the team.
- Financial receipts linked with the player himself: merchandising, increasing spectator receipts, increasing TV-rights and sponsorship contracts.

The selling club

The club will consider certain factors when deciding on the consent-to-receive value, these includes:

- A cost based on the capitalised sum of the investment based on training, care and improvement of the player.
- Estimation of the net losses that the departure of the player risks costing it, both from the sport point of view and financial point of view.
- Replacement cost.

Negotiation between buying and selling club

Previous study by Dobson, Gerrard and Howe (2000) suggests that the actual value lie somewhere between the capitalized values of the player to the selling club and the buying club.

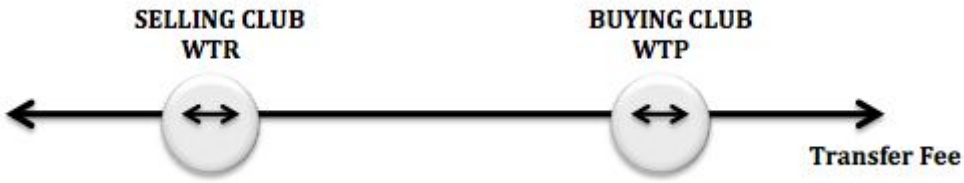

Figure 6. Negotiation process.

The value lies somewhere in between the selling club's *willingness to receive* (WTR) and the buying club's *willingness to pay* (WTP). The idea is that these two blocks moves to the left or right depending on different determinants. For example if a player have a short duration left of his contract, the buying clubs WTP will push the selling clubs' WTR to the left and the transfer fee will be lower, because of the opportunity cost. On the other hand, if the buying club is qualified for European cup competition. The selling clubs` WTR will push the buying clubs' WTP to the right, and the transfer fee will be higher. This is a typical example of game theory where the selling club know that the buying club need his player and they have easy access to money, for example when Liverpool bought Adam Lallana from Southampton in the summer of 2014 (£ 27,3 million).

In general the transfer market suffers from a lack of transparency in transactions, the study (KEA European Affairs, Center of Law and Economics of Sport, 2013) suggest that the current system is encouraging a competitive imbalance. The difference between value and price comes from three imperfect elements:

- A player's value is not just his value on the pitch, the player also have an economic value as, through his image, can be used to sell things. Meaning that both the selling and buying club may consider the non-sport value.
- The best players and their representatives have market power.
- Transfer fees have a speculative dimension, therefore there can be a certain number of doubtful transactions.

Studies have shown that not all players are treated in the same way, there is huge difference in the footballers labour market, refereeing to the three market segments we have described

above. Based on what we have described so far, we have tried to find variables that capturer the full aspects of the transfer market. In the following, we will try to identify key determinants for transfer fees.

5 Introduction to data

Our data for this thesis consists of 301 transfers (observations) to EPL. It is gathered from www.transfermark.co.uk and Sky Sports Football Yearbook. They are both reputable providers of football statistics. We crosschecked and supplemented our collected data with various external sources such as www.bbc.com, www.skysports.com, www.theguardian.com, www.uefa.org, www.premierleague.com and various official club sites. All transfer fees are gathered from Transfermarkt. The dataset consists of three seasons, in total six transfer windows from summer 2012 to winter 2015. Where the summer transfer window usually is defined as the end of the season until 31st of august and the winter transfer window is defined as 1st of January until 31st of January. If the last day of the transfer window ends on a holiday, the deadline will be moved to the following Monday (The Football Assosication Premier League Limited, 2014).

In the dataset, we have handpicked data for all transfers in this period. Our purpose is to capture player characteristics and experience, buying clubs bargaining position (financial position and sporting status), buying clubs need for specified player abilities and other interesting determinates. We operate with two datasets. One with goal points as a measure of performance and another where we use rating instead of goal points. The dataset with rating is smaller than the one with goal points due to lack of information. It consists of 220 observations. We do not have data for selling club characteristics. The task with collecting these data would be too comprehensive because of the huge diversity in selling club in our dataset. As well, we have omitted goalkeepers from our data set[3].

There are variables that probably would have been very relevant to examine. Unfortunately, they are of several reasons not available for us. These are data for player's injury record, wages and length of existing contract. This information is confidential between the player, club and the football association, and therefore deprived from the public. Especially the length

[3] See note 13 in appendix

of the existing contract creates trouble for us, when considering the Bosman ruling, where the player can leave on free transfer at the end of the contract.

In the existing literature it is discussed whether wages may or may not cause challenges for the analysis (Dobson & Gerrard, 1999). Because of the high number of agents working for the player and for encouraging the player to change team, he will probably obtain the same pay or get a higher wage in his new club. They conclude the missing data will probably not cause problems for their dataset. We support this assumption.

Summarized statistics of selected numeric variables in table 2 and for selected dummy variables in table 3.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Transfer fee	301	326,000	66,000,000	8,048,774	8,738,882
AGE	301	17	32	24	3
LEAG	301	0	55	32	11
GOALS	301	0	37	6	7
ASSISTS	301	0	26	4	4
GOALP	301	0.000	1.306	0.310	0.257
FULLCAPS	301	0	101	14	20
U21CAPS	301	0	32	5	7
SUMECLS	301	0	13	2	4
POPULARITY	301	3,970	18,400,000	510,480	1,623,010
AVGATT	301	13,722	75,530	34,487	14,244
STADCAP	301	18,000	75,635	37,125	13,514
TURNOVER	301	14,500,000	433,000,000	128,571,491	101,408,466
Valid N (listwise)	301				

Table 2. Summarized statistics for selected variables.

We have chosen to use mean because we are interested in looking at the mean observation in a probability distribution. The mean transfer fee is approximately £ 8 million with fees ranging from min £ 326 000 to a maximum of £ 66 million. Interestingly, our popularity variable spends from 3970 google hits to 18 400 000 with an average of 510 480. A variable for club characteristics is turnover. The lowest turnover was £ 14.5 million and highest was £ 433 million. The average club had a turnover of approximately £ 128 million.

We have the following mean transfers fees in the seasons involved in our thesis:

Season 2012/2013	Season 2013/2014	Season 2014/2015
£ 6 092 132	£ 8 365 681	£ 9 765 750

We observe there is an increase in mean transfer fees between the seasons of respectively 37.3 and 16.7 percent.

Administrational statistics				Positional statistics				Seasonal statistics				Continent statistics			
MANAGER				ATTACKERD				TRANSFERWINDOW				LOCAL			
		Frequency	Percent			Frequency	Percent			Frequency	Percent			Frequency	Percent
Valid	0	202	67.1	Valid	0	162	53.8	Valid	0	59	19.6	Valid	0	234	77.7
	1	99	32.9		1	139	46.2		1	242	80.4		1	67	22.3
	Total	301	100.0		Total	301	100.0		Total	301	100.0		Total	301	100.0
				DEFENDER				2012/13				EURD			
						Frequency	Percent			Frequency	Percent			Frequency	Percent
				Valid	0	212	70.4	Valid	0	195	64.8	Valid	0	83	27.6
					1	89	29.6		1	106	35.2		1	218	72.4
					Total	301	100.0		Total	301	100.0		Total	301	100.0
				MIDFIELDER				2013/14				SAD			
						Frequency	Percent			Frequency	Percent			Frequency	Percent
				Valid	0	228	75.7	Valid	0	210	69.8	Valid	0	269	89.4
					1	73	24.3		1	91	30.2		1	32	10.6
					Total	301	100.0		Total	301	100.0		Total	301	100.0
				FORWARD				2014/15				AFRD			
						Frequency	Percent			Frequency	Percent			Frequency	Percent
				Valid	0	162	53.8	Valid	0	197	65.4	Valid	0	265	88.0
					1	139	46.2		1	104	34.6		1	36	12.0
					Total	301	100.0		Total	301	100.0		Total	301	100.0
												ASIAD			
														Frequency	Percent
												Valid	0	296	98.3
													1	5	1.7
													Total	301	100.0
												NAD			
														Frequency	Percent
												Valid	0	292	97.0
													1	9	3.0
													Total	301	100.0
												OSED			
														Frequency	Percent
												Valid	0	300	99.7
													1	1	.3
													Total	301	100.0

Table 3. Summarized statistics for selected variables 2.

In our dataset, we have 139 players defined as attackers, it is 46.2 % of the total sample. We have 59 transfers in the January transfer window and 242 transfers in the summer window. Almost 80 % of all transfer deals are done in the summer. In our sample, we have 218 (72.4 %) players from Europe, which we use as a reference group (see table for the rest of the distribution).

6 Our econometric model of transfer fees

Our theoretical model suggests that the transfer fee should reflect (partially) the quality of the player. Formalizing our problem using a OLS model (Ordinary Least Square) for transfer fees looks like this:

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \ldots\ldots + \beta_k x_k + u$$

where:

β_0 is the intercept

β_1 is the parameter associated with x_1

β_2 is the parameter associated with x_2, and so on

x_i is our independent variables

u is the error term

6.1 Statistical tests

Our dependent variable is the natural logarithm of the transfer fees paid. This is to ensure that we have a close to normally distributed dependent variable as we see in the histogram below.

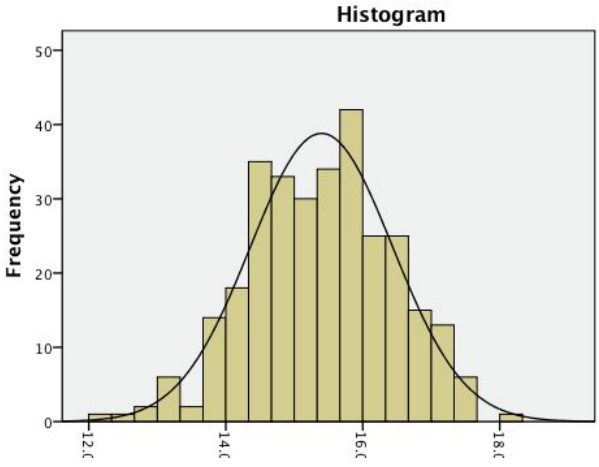

Figure 7. Testing for normality (LNFEE)

Normality – Shapiro-Wilk test

To make our distributions of β tractable, we need the unobserved error to be normally distributed in the population (Wooldridge, 2014). The errors u_t are independent of x and are independently and identically distributed as Normal $(0, \sigma^2)$. Our null-hypothesis of this test is

that the population is normally distributed. We cannot reject the null-hypothesis and our results shows that the dependent variable is from a normally distributed population[4].

Heteroscedasticity – Breusch-Pagan statistic

We want homoscedasticity in our model, meaning the expectation of *y* given *x* is linear, but the variance of *y* given *x* is constant (Wooldridge, 2014). If this is not the case, so Var(u|*x*) depends on *x,* the error term is said to be heteroscedastic. We use Breusch-Pagan statistic to test for heteroscedasticity. We cannot reject the null-hypothesis, which implies homoscedasticity.

Breusch-Pagan results:

χ^2 = 32.73 prob > χ^2 = 0.3821

Autocorrelation – Durbin-Watson statistic

Autocorrelation occurs when errors in the model is correlated across time (Wooldridge, 2014). We use Durbin-Watson statistic to test for autocorrelation. The D-W test results are between 0 and 4, where 0 is positive serial correlation and 4 is negative serial correlation. A result of 2 indicates no serial correlation.

Durbin-Watson = 1.20

We have to some extent serial correlation but it is not critical[5]. It is probably due to the transfer fees increases over time. This can be solved by adjusting for time. However, we want to observe the effect of the increase in revenues in EPL, and therefore choose to keep the independent variable undisturbed.

6.2 Independent variables

For the talent-based approach, we can use an econometric model to decide upon what are the key determinants behind the transfer fees of the football players. We have tried to distinguish between player characteristics, club characteristics and others.

6.2.1 Player characteristics

We try to capture career experience through number of previous games (LEAG). Since fitness is perishable, we use the number of games played last season to capture the latest registered form (fitness). It has been conflicting evidence in earlier studies as to whether total career or

[4] See note 16 in appendix for test statistics
[5] See correlation matrix in appendix for further details

previous season appearances and goal points matter for player transfer fees. We address this issue by testing for both, and choose to use previous season as this explain more of the total variance. For attacking abilities, we use goal ratio (GOALP). This is attacking contribution (goals and assists) divided by number of games last season. We expect the value of a player to increase as he gets older and more experienced (AGE). After a point, athletic ability will dwindle away, suggesting a quadric term of the variable. FULLCAPS and U21CAPS[6] are variables to explain the player's quality, because the best players get picked for the national team. The quadric term of FULLCAPS is rescaled by the factor 10^{-4}. TALENTU25 is a variable trying to capture whether clubs are willing to pay more for young talented players. Young talent is defined as players under 26 years with full caps. We want to capture the quality of the international games played by the players. Therefore, we have interacted number of international games and the points the respective national team have achieved on FIFAs ranking through the variable INTINTERNATIONAL. This variable is also rescaled by the factor 10^{-4}. We assume experience from European cup competition is a sign of quality, therefore SUMECLS is the number appearances by the player in UEFA Champions League and/or UEFA Europa League last season. RATING[7] is an average number of the player's performance last season, and it is calculated by www.whoscored.com.

We think a player have some immeasurable abilities, that still will play a big part when clubs negotiates between them. In an attempt to capture a players "x-factor" (externalities) and the players "crowd-pulling effect", we try to measure his POPULARITY[8]. Doing so we have Googled his name and previous club. To prevent outliers we choose to use the natural logarithm of popularity. We assume clubs wish to have their best players on long contracts, therefore CONTRACT is a dummy-variable if the player's contract is over 3.5 years or not[9]. With the assumption of attacking players being more valuable, we have made a variable with only attacking players: ATTACKERD. We assume the English clubs would prefer English players to play on their team, therefore LOCAL is variable capturing whether the player is English or not. The variables EURD, SAD, AFRD, ASIAD, NAD and OSED are dummy variables representing which continent the player comes from. RANKINGLEAG[10] is a variable trying to capture the quality of the player's games for previous club, we assume if

[6] See note 3 in appendix
[7] See note 4 in appendix
[8] See note 5 in appendix
[9] See note 15 in appendix
[10] See notes 7 and 8 in appendix

you come from a club among top5 in Europe it is a better sign of quality than if you for example arrive from the Portuguese League. Value 1 is equal to the best-rated league.

6.2.2 Club characteristics

We believe that there is two factors affecting club characteristics, the first is sporting performance, and the second is club size (in terms of financial performance). We use the following variables trying to catch these two measures. TBP[11] is a variable for incentive to invest, based on buying clubs' table position before the transfer window. We expect that clubs fighting for European cup competition and clubs fighting to avoid relegation are more likely to invest in new players. We therefore created the variable as the quadric term of the difference between current position and mid-table position. Goal difference (GD) is a measure of the clubs sporting performance. If the club appoints a new MANAGER before a transfer window, we would expect him to out his mark on the team with recruiting new players. AVGATT is a measure of average attendance for the buying club last season, and it represents the clubs financial position and to some extent sporting success. To prevent outliers we choose to use the natural logarithm of average attendance. We have also taken the natural logarithm of turnover. Participating in European cups[12] is a great source of income for clubs and an incentive to strengthen their squad. BUYCL and BUYEL is a measure of whether the buying club is participating in either Champions League or Europa League. The accurate impression of the buying clubs financial position is measured through TURNOVER[13].

6.2.3 Others

We would like to check whether transfers done in the winter window are more expensive than those done in the summer window are. The variable TRANSFERWINDOW[14] captures this. Media have wide coverage for deals done on deadline day of the transfer window. We created a variable DEADLINEDAY, which measure the impact the closing of the transfer window had on the transfer fees. It is natural to believe the that clubs fighting for the title will invest in the highest valued players, our CHAMPIONS-variable tries to capture whether the former champions in England are the main contributors to the highest transfer fees. In addition, we are trying to measure the effect of the new TV deal implemented in 2013/2014 season, hence the variable 2012/2013.

[11] See note 11 in appendix
[12] See note 6 in appendix
[13] See note 9 in appendix
[14] See note 2 in appendix

Based on previous studies and our research topic, our variables are the following (see appendix for definition of variables):

Variable	Expected effect on transfer fee	Previous studies with significant results and conclusions
Player Characteristics		
LEAG	Increase	Reilly and Witt (1995) Speight and Thomas (1997) Dobson and Gerrard (1999)
GOALS	Increase	Reilly and Witt (1995) Dobson, Gerrard and Howe (2000) Dobson and Gerrard (1999)
ASSISTS	Increase	n/a
GOALP	Increase	n/a
AGE	Increase	Reilly and Witt (1995) Speight and Thomas (1997) Dobson, Gerrard and Howe (2000) Dobson and Gerrard (1999) Carmichael, Forrest and Simmons (1999) Frick and Lehmann (2001) Eschweiler and Vieth (2004) Feess, Frick and Muehlheusser (2004)
AGESQ	Decrease	Carmichael and Thomas (1993) Speight and Thomas (1997) Dobson and Gerrard (1999) Carmichael, Forrest and Simmons (1999) Dobson, Gerrard and Howe (2000) Frick and Lehmann (2001) Eschweiler and Vieth (2004) Feess, Frick and Muehlheusser (2004)
FULLCAPS	Increase	Reilly and Witt (1995) Speight and Thomas (1997) Dobson and Gerrard (1999) Carmichael, Forrest and Simmons (1999) Frick and Lehmann (2001) Eschweiler and Vieth (2004) Feess, Frick and Muehlheusser (2004)
FULLCAPSSQ	Decrease	Frick and Lehmann (2001) Eschweiler and Vieth (2004)
U21CAPS	Increase	Dobson and Gerrard (1999) Carmichael, Forrest and Simmons (1999) Dobson and Gerrard (2000)
TALENTU25	Increase	n/a
INTINTERNATIONAL	Increase	Eschweiler and Vieth (2004)
SUMECLS	Increase	n/a
RATING	Increase	n/a

LNPOPULARITY	Increase	n/a
ATTACKERD	Increase	Reilly and Witt (1995) Feess, Frick and Muehlheusser (2004)
LOCAL	Increase	n/a
EURD	Increase	n/a
SAD	Increase	Frick and Lehmann (2001) Feess, Frick and Muehlheusser (2004)
AFRD	Decrease	n/a
ASIAD	Decrease	Frick and Lehmann (2001)
NAD	Decrease	Frick and Lehmann (2001)
OSED	Decrease	n/a
RANKINGLEAG	Increase	n/a
Club Characteristics		
CONTRACT	Increase	Buraimo, Frick, Hickfang and Simmons (2015)
TBP	Increase	n/a
GD	Increase	Carmichael and Thomas (1993) Speight and Thomas (1997) Dobson and Gerrard (1999)
MANAGER	Increase	n/a
AVGATT	Increase	Carmichael and Thomas (1993) Speight and Thomas (1997) Dobson, Gerrard and Howe (2000)
TURNOVER	Increase	Franck (2010)
BUYCL	Increase	Eschweiler and Vieth (2004) Feess, Frick and Muehlheusser (2004)
BUYEL	Increase	Eschweiler and Vieth (2004) Feess, Frick and Muehlheusser (2004)
Others		
TRANSFERWINDOW	Decrease	n/a
2012/13	Decrease	n/a
DEADLINEDAY	Increase	n/a
CHAMPIONS	Increase	n/a

Table 4. Variable overview with hypotheses and previous findings.

7 Results

Independent Variable	Model 1.1		Model 2.1		Model 3.1		Model 4.1	
	Unstandardized Coefficients		Unstandardized Coefficients		Unstandardized Coefficients		Unstandardized Coefficients	
	B	t	B	t	B	t	B	t
(Constant)	9.885	4.853	1.208	.491	1.750	.701	.548	.216
LEAG	.008	1.991 **	.006	1.691 *	.011	2.456 **	.011	2.582 ***
GOALP	.854	3.650 ***	.672	3.142 ***	.663	3.119 ***	.665	3.154 ***
AGE	.154	.915	.517	3.231 ***	.492	3.073 ***	.457	2.862 ***
AGESQ	-.004	-1.148	-.011	-3.242 ***	-.010	-3.104 ***	-.010	-2.896 ***
FULLCAPS	.006	.862	.014	2.015 **	.014	2.056 **	.016	2.351 ***
FULLCAPSSQ	-.191	-2.500 **	-.170	-2.467 **	-.164	-2.378 **	-.178	-2.591 ***
INTINTERNATIONAL	.008	1.730 **	-.001	-.270	-.001	-.214	-.001	-.304
U21CAPS	-.007	-.933	-.008	-1.229	-.009	-1.358 *	-.010	-1.514 *
TALENTU25	.376	3.510 ***	.365	3.754 ***	.365	3.752 ***	.388	3.992 ***
LNPOPULARITY	.296	6.757 ***	.204	4.938 ***	.185	4.420 ***	.177	4.263 ***
ATTACKERD	-.121	-1.100	-.089	-.893	-.101	-1.012	-.092	-.924
LOCAL	-.091	-.815	.076	.740	.066	.643	.068	.674
SAD	.260	1.727 *	.186	1.354 *	.177	1.287	.146	1.062
AFRD	-.113	-.737	-.083	-.588	-.077	-.555	-.124	-.889
ASIAD	-.217	-.634	-.262	-.839	-.150	-.477	-.203	-.648
NAD	-.389	-1.560 *	-.300	-1.341 *	-.257	-1.145	-.296	-1.329 *
OSED	-1.845	-2.655 ***	-1.907	-3.033 ***	-1.681	-2.657 ***	-1.556	-2.468 ***
SUMECLS	.054	4.043 ***	.045	3.713 ***	.042	3.435 ***	.038	3.122 ***
RANKINGLEAG	-.019	-4.423 ***	-.018	-4.375 ***	-.020	-4.881 ***	-.021	-5.027 ***
CONTRACT			.056	.653	.039	.452	.040	.475
TBP			.002	1.382 *	.002	1.032	.004	1.952 **
GD			.007	2.359 **	.008	2.550 ***	.005	1.669 *
LNAVGATT			.477	3.472 ***	.497	3.587 ***	.253	1.444 *
BUYCL			-.154	-.667	-.172	-.736	-.312	-1.298
BUYEL			.101	.892	.083	.720	.023	.197
CHAMPIONS			.284	1.441 *	.274	1.370 *	.269	1.353 *
MANAGER					.019	.243	-.034	-.416
TRANSFERWINDOW					-.230	-1.971 **	-.240	-2.073 **
2012/13					-.178	-2.224 **	-.153	-1.911 **
DEADLINEDAY					-.049	-.546	-.059	-.657
LNTURNOVER							.230	2.245 **
*** Indicates significance at the 1 % level, ** at the 5 % level, * at the 10 % level (one-tailed)								
R Square	0.575		0.668		0.678		0.684	
Adjusted R Square	0.546		0.637		0.643		0.648	
Std. Error of Estimates	0.682		0.610		0.605		0.601	

Independent Variable	Model 1.2		Model 2.2		Model 3.2		Model 4.2	
	Unstandardized Coefficients		Unstandardized Coefficients		Unstandardized Coefficients		Unstandardized Coefficients	
	B	t	B	t	B	t	B	t
(Constant)	5.434	2.109	.010	.003	.524	.159	-1.109	-.335
LEAG	.009	1.810 **	.009	1.943 **	.012	2.012 **	.012	2.085 **
RATING	.700	4.868 ***	.406	2.850 ***	.397	2.750 ***	.399	2.803 ***
AGE	.150	.740	.450	2.289 **	.438	2.178 **	.386	1.941 **
AGESQ	-.005	-1.111	-.010	-2.509 ***	-.010	-2.397 **	-.009	-2.175 **
FULLCAPS	.009	1.192	.013	1.811 **	.013	1.777 **	.016	2.188 **
FULLCAPSSQ	-.142	-1.772 **	-.114	-1.544 *	-.111	-1.482 *	-.128	-1.731 **
INTINTERNATIONAL	0.04	0.87	-0.03	-0.60	-0.03	-0.54	-0.03	-.702
U21CAPS	-.003	-.385	-.004	-.536	-.005	-.633	-.005	-.701
TALENTU25	.221	1.772 **	.237	2.035 **	.247	2.077 **	.279	2.368 ***
LNPOPULARITY	.310	5.922 ***	.206	4.057 ***	.196	3.727 ***	.191	3.678 ***
ATTACKERD	.086	.905	.058	.658	.047	.524	.061	.694
LOCAL	.004	.028	.100	.804	.086	.681	.081	.648
SAD	.339	1.832 **	.369	2.151 **	.346	1.971 **	.348	2.010 **
AFRD	.053	.309	.063	.393	.064	.396	-.007	-.040
ASIAD	-.156	-.364	-.319	-.797	-.277	-.682	-.405	-1.003
NAD	-.376	-1.053	-.201	-.611	-.165	-.494	-.211	-.639
SUMECLS	.031	2.127 **	.024	1.785 **	.024	1.688 *	.016	1.158
RANKINGLEAG	-.005	-.889	-.007	-1.315	-.009	-1.570 *	-.009	-1.477 *
CONTRACT			.087	.830	.077	.724	.053	.504
TBP			.002	1.011	.002	.828	.004	1.746 **
GD			.008	2.213 **	.009	2.374 **	.006	1.489 *
LNAVGATT			.444	2.668 ***	.437	2.590 ***	.104	.494
BUYCL			-.124	-.491	-.177	-.664	-.348	-1.289
BUYEL			-.087	-.635	-.115	-.798	-.188	-1.295
CHAMPIONS			.195	.921	.209	.952	.192	.886
MANAGER					-.002	-.020	-.075	-.761
TRANSFERWINDOW					-.131	-.875	-.151	-1.018
2012/13					-.065	-.652	-.039	-.390
DEADLINEDAY					-.082	-.767	-.087	-.832
LNTURNOVER							.317	2.587 ***
*** Indicates significance at the 1 % level, ** at the 5 % level, * at the 10 % level (one-tailed)								
R Square	0.576		0.659		0.662		0.674	
Adjusted R Square	0.538		0.615		0.610		0.622	
Std. Error of Estimates	0.667		0.609		0.612		0.603	

We use one-tailed tests to determine significant results. This is because we have clear hypotheses and existing literature backing our suggestions of linear effects (see table 2).

Model 1.1 player characteristics (R^2=0,575 and adjusted R^2=0,546)

In our first model, we were able to predict around 58 percentage of the total variance in the transfer fee. LEAG, GOALP, TALENTU25, SUMECLS, POPULARITY, INTINTERNATIONAL, RANKINGLEAG, SAD, NAD and OSED reflecting the player's current performance, "X-factor" and origin are all found to be significant. The variables tells us that when clubs are looking to strengthen their squads they are looking for young talented players with league appearances, international experience and ability to create goals. These players have earned a popular status due to their personality and abilities (read; externalities). It is noteworthy that the variable INTINTERNATIONAL is significant, which tells us that the level and number of appearances the player have, affect the transfer fee. The players' origin also seems to affect the transfer fee, and we found significant results for players from South-Amerika, they are more expensive than European players. Players from North America and Oseania are statistically less expensive than players from Europe. However, on these two we have very few observations. RANKINGLEAG gives us a negative result, which implies that the better the league the player is sold from the more expensive he is.

We assumed that AGE, FULLCAPS, ATTACKERD and LOCAL would affect the transfer fees, but we have not found significant results for these variables. U21CAPS is not significant. Surprisingly shows our results that attacking players not are significantly more expensive than midfielders and defenders. We also found no significant result for English (local) players to be more expensive than foreigners. This may have something to do with the high number of foreigners who have made their entry in the EPL the last decade.

Model 1.2 player characteristics and rating (R^2=0,576 and adjusted R^2=0,538)

In model 1.2, we use the same player characteristics as model 1.1, but we replace goal points with the variable RATING[15]. Which is a measurement of performance based on statistical data of a player's contribution during last season. LEAG, RATING, POPULARITY, TALENTU25, SUMECLS and SAD are all found to be significant. The model 1.2 is approximately as good as 1.1 with almost identical R^2. The variable RATING should capture more of a players' contribution regardless of position on the field in comparison to goal points. It does not seem to strengthen the model. When measuring a players' performance trough RATING it does not seems that the quality and number of games captured through the

[15] Adjustment in used variables. See note 12 in appendix for further information.

variable INTINTERNATIONAL play a significant part. Neither do RANKINGLEAG, but this can be explained by that only the best leagues had data for rating.

Model 2.1 with club characteristics (R^2=0,668 and adjusted R^2=0,637)

When adding variables for club characteristics to our model we get some alterations in our previous results from model 1.1. We still find GOALP, TALENTU25, RANKINGLEAG and POPULARITY to be significant. AGE changes to be significant and the players' transfer fee seems to peak at the age 23.5. With our expanded model 2.1, we now get significant results for FULLCAPS. FULLCAPS will affect the transfer fee until reached 41 appearances. GD, TBP and AVGATT is positive and significant. Reflecting buying club sporting performance, attendance and playing success.

We assumed buying clubs participation in European Cups (Champions league and Europa league) would affect the transfer fee. Our model shows that the variables BUYCL and BUYEL does not. The variables LEAG, SAD and CHAMPIONS are all significant on a 10 % level.

Model 2.2 with club characteristics and rating (R^2=0,659 and adjusted R^2=0,615)

When including rating as a variable in model 2.1 we find LEAG, AGE, FULLCAPS, TALENTU25, RATING, POPULARITY, SUMECLS, SAD, GD and AVGATT all to be significant. The players' transfer fee seems to peak at the age 22.5, and flat out after reaching 57 full caps. The model as a whole is now weaker than without RATING.

Model 3.1 testing for external factors (R^2=0,678 and adjusted R^2=0,643)

In model 3.1, we have tested for external factors. We found LEAG, GOALP, AGE, FULLCAPS, TALENTU25, SUMECLS, RANKINGLEAG and POPULARITY to be significant for player characteristics. We now observe that U21CAPS is negative and significant. From club characteristics, GD and AVGATT is significant. Interestingly the variable 2012/13 is negative and significant. This implies that the clubs spent less on transfer fees in 2012/13 than the two remaining seasons. The variable CHAMPIONS is significant on a 10 % level, which implies that the former winners of the league participating in the EPL are willing to spend more on transfer fees. It is eye catching that the variable TRANSFERWINDOW is negative and significant. This is in line with the received view that January transfer window generally is more expensive than summer transfer window. We found SAD no longer to be significant.

Model 3.2 testing for external factors and rating (R^2=0,662 and adjusted R^2=0,610)

In model 3.2, we add the variable RATING. Interestingly when adding RATING, player characteristics remains more or less the same. Except RANKINGLEAG is now significant on a 10 % level. For club characteristics, we found only GD and AVGATT to be positive correlated and significant.

Model 4.1 with financial performance (R^2=0,684 and adjusted R^2=0,648)

In model 4.1, we add the buying clubs financial status, in terms of turnover. It is our attempt to capture the complete aspect of transfer fees. For player characteristics, we now find significant results for LEAG, GOALP, AGE, FULLCAPS, TALENTU25, RANKINGLEAG, SUMECLS and POPULARITY. The players' transfer fee peaks when the player is 22.85 years, and full caps will increase the transfer fee until reaching 45 games. RANKINGLEAG is still negative and significant, meaning that the highest transfer fees are traded between the best leagues. U21CAPS is negative and significant on a 10 % level. The variable GD and AVGATT altered to be less significant. Interestingly TBP is now positive and significant. Which implies that clubs who faces relegation or is fighting for the title (and European cups) are willing to spend more money on transfer fees. TURNOVER is positive and significant, which implies the higher turnover (buying club) the higher transfer fees. The season 2012/13 is negative and significant, which implies that there were less spending on transfer fees in 2012/13 than in the two remaining years. The variable CHAMPIONS is still positive and significant on a 10 % level.

Model 4.2 with financial performance and rating (R^2=0,674 and adjusted R^2=0,622)

In model 4.2, we found significant results for LEAG, AGE, FULLCAPS, TALENTU25, RATING, SAD and POPULARITY concerning player characteristics. We also get RANKINGLEAG and GD on a 10 % significant level. The key determinant for club characteristics seems to be the buying clubs' turnover. We also find significant results for the variable TBP. Which implies that clubs with incentives to invest do invest.

8 Discussion and analysis

Through models 1-4, we have tried to capture what determines the transfer fee of players in the EPL. Through each model, we have added more and more variables that potentially can influence the transfer fees. We start by testing player characteristics, then we add club characteristics, further we add variables where there is a common opinion that these variables affect transfer fees. Lastly, we add the financial aspect for the buying club that complete our full model. Our full model (4.1) gives us a goodness-of-fit on 0,684.

Player characteristics

Through our model, we have found significant results for the players' previous performance as one of the key determinant behind the transfer fee. Here in terms of previous matches last season, this is in line with previous studies from Reilly and Witt (1995); Speight and Thomas (1997); Dobson and Gerrard (1999). The result is consistent through all of our models. This may seem obvious, because buying club is interested in knowing the players current quality. With many matches last season the player has several times proven his abilities. Clubs highly value a players' ability to create match decisive moments, this is measured through goal points. The more dangerous a player is in front the opposition's goal, the more valuable he is for the buying club. This is in line with previous studies such as Reilly and Witt (1995); Dobson and Gerrard (1999); Dobson, Gerrard and Howe (2000) who found goals scored previous season to be significant. A clubs' willingness to invest a lot of money in a player depends whether or not he has proven his abilities on top level, this is measured through full caps and matches played in European cups. Previous studies such as Reilly and Witt (1995); Speight and Thomas (1997); Dobson and Gerrard (1999); Carmichael, Forrest and Simmons (1999); Frick and Lehmann (2001); Eschweiler and Vieth (2004); Feess, Frick and Muehlheusser (2004) all find full caps to be a determinant of transfer fees. Interestingly we found European cup experience to be significant. This is grounded in that only the best player is picked to represent the national team and only the best clubs are qualified for the European cups. It is a good measure for the quality of the matches played by the player. Both measures give us positive correlations with the transfer fee, and will probably strengthen the selling clubs bargaining power (see figure 6). According to our results, clubs are willing to invest in talented players the club can form to fit with their objectives. This is players we find in point B in figure 4, on their way up to maximize their and the clubs potential. This is in line with what Buraimo, Frick, Hickfang and Simmons (2015) found, that the best performing clubs

attracts the best young talents, and therefore will spend money on transfer fees to get them. Our variable for measuring popularity is strongly positive correlated with transfer fee. This confirms our hypothesis that the players with the biggest "x-factor" are the ones who are bought for the highest fees. This x-factor is a combination of contribution both on and off the pitch, which potentially gives the clubs both sporting and commercial success. This supports KEA and CDES (2013) results that the market for "superstars" have a monopolistic structure where the player and selling club have the highest bargaining power. These variables (or in sport terms: abilities) will push the players' marginal contribution upward and increase the player, his agents and selling clubs' bargaining power. In an exchange economy, buying club will need to offer more money to find a pareto efficient solution for players with the abilities mentioned above.

We find results for that the better league the player is bought from the higher transfer fee the selling club will require. This has probably something to do with what we discussed above, that the player has previously performed on a high level in one of the top leagues in the world. This gives the buying club the ability to directly take advantages of the players' contribution, increasing the clubs marginal utility to win the following match or title. It can also be grounded in the results that Dobson, Gerrard and Howe (2000), that transfer fees are driven by the status of clubs involved in the transfer. In European context, the top 5 leagues will have the highest transfer fees.

Our results from model 1.1 and 2.1 suggest that players from South America are more expensive than players from Europe. This is the same results as Frick and Lehmann (2001); Feess, Frick and Muehlheusser (2004) have found in previous studies on German Bundesliga. We have two explanations for this: First, because many of these are bought from "hubs" where they have matured as players and are potentially at their best when arriving in England, hence the high transfer fee. Second, it can be explained by TPO[16] (third party ownership), which are common in South-Amerika. For example, over 90 % of the player's in first division in Brazil are involved in TPO (KPMG, 2013). EPL has for some years banned TPO, and now FIFA is about to ban TPO from European football in total (BBC Sports, 2015).

Surprisingly we could not find results for attacking players to be more expensive than defensive players. Reilly and Witt (1995); Feess, Frick and Muehlheusser (2004) both found results of attackers to be more expensive. We suspect a bias towards attacking players since

[16] See note 17 in appendix

the variable goal points was significant, and attacking players are better placed to achieve high score on this variable. We expected local players (English citizens), to be more expensive, but according to our results they are not. This is probably because of that the EPL have become a very international league with many foreigners, so when a club is looking for strengthening their team, it does not matter where the player is originally from. Additionally, many of the English players are traded in the *secondary market*. Previous studies from Dobson and Gerrard (1999); Carmichael, Forrest and Simmons (1999); Dobson and Gerrard (2000) have all found U21 caps to be a determinant for transfer fees. Our results suggest that U21 caps have a negative result on transfer fees. This can be explained through that youngest and most talented players are directly recruited to the senior squad (example Eden Hazard). Additionally, some countries do not have U21 teams (especially in Africa and South America).

Club Characteristics

Clubs that are involved in the battle to avoid relegation and clubs involved in winning the title (or qualifying for European cups) are more willing to invest in players. They are willing to take on risk (in terms of heavy investments in players) to achieve better sporting success as suggested by Frank and Lang (2014). As long as their table position say so, they have an incentive to invest in expensive players, this might have something to do with the opportunity cost. Where the situation for clubs involved in the battle to avoid relegation it is better to go out of budget than losing the revenues associated with playing in the EPL. The same applies to clubs fighting for qualification for European cups, it is worth the risk to go out of budget if it increases their opportunity to qualify for the European cups and to get access to the income associated with playing in Europe. Additionally the buying clubs' sporting success increases the transfers' fees, as seen through goal difference and attendance on the stadium. This is in line with previous studies by Carmichael and Thomas (1999); Speight and Thomas (1997); Dobson and Gerrard (1999); Dobson, Gerrard and Howe (2000). Being a current or former champion entails more pressure from owners and stakeholders, functioning as an incentive to stay in the top of the league, hence investments in the squad. Additionally the champions are usually the biggest clubs with the biggest budget, moving them further to right on the figure 4 and moving the WTR towards the right in figure 6. The behaviour can be explained through the price money from broadcasting deals, bonus from sponsors etc. It results in a shift in the demand curves in perfect competitive market for players, which results in higher transfer fees. Not surprisingly, the buying clubs' turnover is strongly positive correlated with transfer fees,

it seems as the more money the club have the more they can afford to spend on transfers. This is in line with what Sloan presented in -69 and 71, that clubs are utility maximizes. It can also be explained through Garcia-del-Barro and Szymanski (2009) results, that clubs are win maximizes rather than profit maximizes, so if they have access to money, they will use it. Leach and Szymanski (2015) suggested that the extra money the clubs earned through going public were spent on players. Franck (2010) concluded that spending power were the most important competitive advantage in European football. This tells us that to be able to compete in the major tournaments the clubs have to maximize their budgets to get the best players.

Buraimo, Frick, Hickfang and Simmons (2015) found results for that long contracts represented a quality player, hence a high transfer fee. We do not find the same result, but these may be because we have a very small dataset and in addition lack of data on some transfers.

Others

It is a received view that the transfer window in January is more expensive than in the summer. Our results supports this view, as the variable is negative correlated with transfer fees. We believe this have something to do with higher expected replacement cost in the middle of a season.

In the summer of 2013, the owners of the EPL signed a new record breaking TV-deal, meaning that the clubs got more money to spend. We wanted to test whether this had an effect on transfer fees, and our results suggest this. In the season 2012/13, the clubs spent less on high transfer fees than in the 2013/14 and 2014/15. It can be explained through a positive shift in demand curves in the existing competitive market for players, which resulted in higher transfer fees. As we saw in chapter 5, the mean transfer fee increased both years after 2012/13.

Interestingly we cannot find any results for deadline day being more expensive than other trading days in the transfer window. Maybe the attention on the day is more a media hype than something else? Or maybe many small transfers equalize the expensive transfers?

9 Implications and further research

Focusing on estimated transfer fees, we can get an idea of which club that get the most value for their investments. There is not enough empirical evidence for us to make this a part of our conclusions. Therefore, it is for illustrative purpose only. Underneath we find an overview over what clubs paid compared to our estimated value[17]. To solve the problem with mean values estimated from log transformed fees, we use the geometrical mean when calculating table 5. They are ranked from worst to best. As seen in Franck and Lang (2014) the clubs induces riskier investment strategy when "sugar daddies" get involved in the club. Hence, there are no surprises in seeing Manchester City, QPR and Cardiff are all overpaying. All with well-known "sugar daddies".

Club	Mean transfer fee	Mean estimated transfer fee	Difference
Southampton	6,608,930	4,442,999	-2,165,931
Queens Park Rangers	5,610,312	3,494,675	-2,115,636
Liverpool	10,149,080	8,340,245	-1,808,835
Manchester City	12,698,116	11,397,927	-1,300,189
Cardiff	3,700,551	2,638,475	-1,062,077
Hull City	4,104,268	3,453,689	-650,579
Wigan	2,144,194	1,570,675	-573,519
Arsenal	13,949,239	13,539,148	-410,090
Sunderland	4,596,590	4,188,000	-408,590
Everton	5,844,763	5,576,667	-268,095
West Bromwich Albion	3,591,595	3,560,925	-30,670
Fulham	2,421,744	2,600,936	179,192
Crystal Palace	2,288,873	2,561,785	272,912
Tottenham	7,808,644	8,214,285	405,642
Newcastle United	2,947,780	3,429,320	481,540
Norwich	2,767,226	3,267,484	500,257
Burnley FC	1,480,146	2,032,264	552,118
Aston Villa	2,561,049	3,132,391	571,342
Chelsea	9,415,550	10,030,351	614,801
Reading	1,206,235	1,833,282	627,047
Swansea	3,694,001	4,342,833	648,832
Leicester City	3,623,157	4,281,985	658,828
Stoke	2,353,653	3,024,824	671,171
West Ham United	4,257,633	5,007,587	749,954
Manchester United	17,208,256	18,796,850	1,588,594

Table 5. Transfer fee vs est. transfer fee (all three seasons).

[17] See note 18 in appendix

Our model gives us the opportunity to estimate transfer fees based on the variables included. Comparing actual transfer fees against our estimated, we can rank the 15 best and the 15 worst signings in the last three seasons of EPL. The top 15 signings are:

Name	To	From	Transfer fee	Estimated transfer fee	Difference
Alexis Sánchez	Arsenal	Barcelona	37,400,000	53,359,666	15,959,666
Christian Eriksen	Tottenham	Ajax	11,880,000	25,067,558	13,187,558
Shinji Kagawa	Manchester United	Dortmund	14,080,000	26,637,590	12,557,590
Lewis Holtby	Tottenham	Schalke	1,540,000	9,366,816	7,826,816
Diego da Silva Costa	Chelsea	Atletico Madrid	33,440,000	40,169,640	6,729,640
Bruno Zuculini	Manchester City	Racing Club	2,200,000	7,621,610	5,421,610
Christian Atsu	Chelsea	FC Porto	2,640,000	7,482,442	4,842,442
Olivier Giroud	Arsenal	Montpellier	10,560,000	15,295,074	4,735,074
Daniel Welbeck	Arsenal	Manchester United	17,600,000	22,317,926	4,717,926
Mario Barwuah Balotelli	Liverpool	AC Milan	17,600,000	21,978,078	4,378,078
Nacer Chadli	Tottenham	Twente	7,170,000	11,368,929	4,198,929
Robin van Persie	Manchester United	Arsenal	27,020,000	30,642,683	3,622,683
Bojan Krkić Pérez	Stoke	Barcelona	1,580,000	4,954,044	3,374,044
Patrick van Aanholt	Sunderland	Chelsea	1,760,000	4,802,474	3,042,474
André Schürrle	Chelsea	Bayer Leverkusen	19,360,000	21,826,657	2,466,657

Table 6. Top 15 signings

The worst 15 signings are:

Name	To	From	Transfer fee	Estimated transfer fee	Difference
Fernandinho	Manchester City	Shakhtar Donetsk	35,200,000	7,582,010	-27,617,990
Ander Herrera Agüera	Manchester United	Athletic Club	31,680,000	9,157,851	-22,522,149
Juan Mata	Manchester United	Chelsea	39,360,000	19,060,540	-20,299,460
Luke Shaw	Manchester United	Southampton	33,000,000	12,734,493	-20,265,507
Eliaquim Mangala	Manchester City	FC Porto	35,200,000	15,212,351	-19,987,649
Adam David Lallana	Liverpool	Southampton	27,280,000	8,821,898	-18,458,102
Roberto Soldado	Tottenham	Valencia	26,400,000	8,292,803	-18,107,197
Romelu Benjamin Lukaku	Everton	Chelsea	31,120,000	14,202,103	-16,917,897
Willian	Chelsea	Anzhi	31,240,000	14,603,545	-16,636,455
Eden Hazard	Chelsea	Lille	35,200,000	19,348,246	-15,851,754
Erik Lamela	Tottenham	AS Roma	26,400,000	11,008,511	-15,391,489
Wilfried Bony	Manchester City	Swansea City	28,420,000	13,904,660	-14,515,340
Nemanja Matic	Chelsea	Benfica	22,000,000	7,755,093	-14,244,907
Oscar	Chelsea	Internacional	22,000,000	8,616,422	-13,383,578
Dejan Lovren	Liverpool	Southampton	22,260,000	9,002,354	-13,257,646

Table 7. Worst 15 signings

It can be argued that some players in this ranking are treated ”unfair” because of their lack of experience, instead their transfer price can be supported by their potential. Here we are especially thinking of Eden Hazard and Luke Shaw.

This may indicate that star players have a bargaining power that disturb the competitive labour market for player transfers. Further research is required on this topic to make concluding remarks.

For further research our results gives an indication of the winter transfer window being more expensive that the summer transfer window. With the increase in access to data, further research should include length of existing contract if possible. We think that selling-club characteristics also will affect the transfer fees in terms of bargaining position. It will also been interesting to have a variable like rating on a larger dataset. Our suggestions for further research is to expand the dataset to conclude on these hypotheses.

10 Conclusion

Through our analysis, we have found player characteristics to be consistent, which implies that the talent-based view is a good approach to identify determinants when negotiating transfer fees. This tells us that the selling clubs biggest bargaining power is the quality of the player they are selling, and the status of the league they are competing in. In our attempt to take previous studies to the next step, we have measured players' "x-factor", potential talent, European success and buying clubs' turnover. Our results find these to be key determinants for transfer fees, which can give a foundation for a segmentation between the best players and the mediocre players. The evidence of this study strongly indicates that the determination of transfer fees is highly influenced by the buying clubs financial position. Among other seen through the increase in mean transfer fees after the TV deal introduced in the season 2013/2014.

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Deadline Day winter 2014

http://www.bbc.com/sport/0/25566566

Deadline Day summer 2013

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Turnover by club (2013/14):

Crystal Palace

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Hull City

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Burnley FC

http://www.burnleyfootballclub.com/club/Shareholders_Notice.aspx

Leicester City

http://www.lcfc.com/news/article/leicester-city-fc-financial-results-201314-2309976.aspx

QPR

http://www.scribd.com/doc/258474746/QPR-Holdings-limited-2014

http://www.financialfairplay.co.uk/latest-news/qpr-s-accounts-released-and-heading-for-%C2%A350m-fine

Turnover (2011/2012) – nPower Championship

http://swissramble.blogspot.no/2013/08/championship-finances-201112-numbers.html

Turnover (2012/2013) – nPower Championship

http://www.theguardian.com/football/2014/may/22/club-by-club-guide-championship-finances-2012-2013

Turnover 2012/13 – Premier League

http://www.theguardian.com/football/2013/apr/18/premier-league-finances-club-by-club

Turnover (2013/14) – Premier League

http://www.theguardian.com/football/2014/may/01/premier-league-accounts-club-by-club-david-conn

Length of contract:

Ben Foster

http://www.bbc.com/sport/0/football/28420268

Hugo Lloris

http://www.bbc.com/sport/0/football/19435575

Yoshida

http://www.bbc.com/sport/0/football/19426865

Ranking leagues

http://www.dailymail.co.uk/sport/football/article-2836244/Premier-League-emerges-best-world-following-Sportsmail-s-depth-study-global-football.html

FIFA Ranking (31.01.2015)

http://www.fifa.com/fifa-world-ranking/ranking-table/men/

Appendix

Definition of variables

Variable	Definition
LNFEE	Log of transfer fee
LEAG	Number of games played last season
GOALS	Number of goals scored last season
ASSISTS	Number of assists last season
GOALP	(No. of goals + No. of assist)/(number of games)
AGE	Age of the player
AGESQ	AGE^2
FULLCAPS	Number of games on the national team
FULLCAPSSQ	FULLCAPS^2
U21CAPS	Number of under-21 games for the national team
TALENTU25	Dummy-variable of whether the player has games for the national team and is under 26 years old. 0 = no games or over 26 years old
INTINTERNATIONAL	FIFAPOINTS interacted with FULLCAPS
FIFAPOINTS	The national team's points on the FIFA ranking
CLAPPLASTSEASON	Number of games played in the Champions League last season.
ELAPPLASTSEASON	Number of games played in the Europa League last season.
SUMECLS	CLAPPLASTSEASON+ ELAPPLASTSEASON
RATING	A players rating from last season
POPULARITY	Number of Google-hits
LNPOPULARITY	Log of popularity
CONTRACT	Dummy-variable of whether the player have a new contract length of over 3.5 years or not. 0 = under 3.5 years
ATTACKERD	Dummy-variable of whether the player is an attacker or not. 0 = not an attacker. Attacking players is defined by forwards, attacking midfielders and right/left wing.
LOCAL	Dummy-variable of whether the player is from England or not. 0 = not from England
EURD	Dummy-variable of whether the player is from Europe or not. 0 = not from Europe
SAD	Dummy-variable of whether the player is from South-America or not. 0 = not from South-America
AFRD	Dummy-variable of whether the player is from Africa or not. 0 = not from Africa
ASIAD	Dummy-variable of whether the player is from Asia or not. 0 = not from Asia
NAD	Dummy-variable of whether the player is from North-America or not. 0 = not from North-America
OSED	Dummy-variable of whether the player is from Oseania or not. 0 = not from Oseania

RANKINGLEAG	Ranking of which league the selling club is playing. Value 1 is equal to the best rated league.
TBP	Quadratic term of (current table poisiton-10)
GF	Number of goals scored by buying club before transfer window
GA	Number of goals conceded by buying club before transfer window
GD	Goal difference (GF-GA)
MANAGER	If the buying have appointed a new manager before the transfer window
AVGATT	Average attendance for buying club last season
LNAVGATT	The natural log of AVGATT
TURNOVER	The buying club's turnover from last season
LNTURNOVER	Log of TURNOVER
BUYCL	Dummy-variable of whether buying club is qualified for Champions League the coming season or not. 0 = not qualified
BUYEL	Dummy-variable of whether buying club is qualified for Europa League the coming season or not. 0 = not qualified
TRANSFERWINDOW	Dummy-variable of whether the player is bought in the summer transfer window or not. 0 = bought in the winter transfer window
2012/13 and 2013/14 and 2014/15	Dummy-variable of whether the player is bought in this season or not. 0 = not bought in season x
DEADLINEDAY	Dummy-variable of whether the player is bought on the last day of the transfer window. 0 = not bought on deadline day
CHAMPIONS	Dummy-variable of whether the player s bought by one of Manchester United, Chelsea, Manchester City or Arsenal

Table 8. Definition variables.

Correlation matrix with GOALP (table 9) included and with RATING (table 10):

Correlations

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
LEAG	Pearson Correlation	1	.283**	.152**	.148**	.201**	-.015	.088	.164**	.071	.026	.029	-.044	-.037	.042	.055	-.034	.313**	-.041	.088	-.002	.144**	-.051	.078	.100*	-.031	.513**	-.038	-.019	.085	.101
	Sig. (1-tailed)		.000	.004	.005	.000	.395	.064	.002	.110	.325	.310	.224	.261	.232	.173	.278	.000	.238	.063	.485	.006	.188	.089	.042	.297	.000	.256	.371	.071	.040
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
GOALP	Pearson Correlation	.283**	1	.110*	.299**	.313**	-.076	.155**	.254**	.650**	-.150**	-.110*	.029	.120*	.045	-.006	-.061	.074	.087	.062	-.010	.201**	.011	.149**	.162**	-.014	.119*	-.038	-.039	.153**	.160**
	Sig. (1-tailed)	.000		.029	.000	.000	.094	.003	.000	.000	.005	.028	.307	.019	.218	.457	.147	.100	.067	.143	.432	.000	.422	.005	.002	.407	.020	.254	.252	.004	.003
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
AGE	Pearson Correlation	.152**	.110*	1	.457**	.385**	.015	-.307**	.210**	.061	-.102*	-.151**	.023	.164**	.057	.030	-.091	.145*	-.294**	-.306**	.036	-.127*	-.048	-.213**	-.098*	-.150**	.093	-.039	.035	-.100*	-.176**
	Sig. (1-tailed)	.004	.029		.000	.000	.398	.000	.000	.146	.039	.004	.345	.002	.162	.300	.057	.006	.000	.000	.269	.014	.202	.000	.044	.005	.053	.251	.274	.042	.001
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
FULLCAPS	Pearson Correlation	.148*	.299**	.457**	1	.885**	-.096	.026	.332**	.119*	-.318**	-.303**	.074	.208**	.178**	.146*	-.042	.225**	-.081	-.140*	.055	.124*	-.009	.058	.099*	-.057	.145*	.052	.075	.121*	.049
	Sig. (1-tailed)	.005	.000	.000		.000	.048	.328	.000	.019	.000	.000	.101	.000	.001	.006	.234	.000	.081	.008	.171	.016	.440	.158	.043	.161	.006	.185	.098	.018	.199
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
INTINTERNATIONALRESCALED	Pearson Correlation	.201**	.313**	.385**	.885**	1	-.017	.048	.418**	.118*	-.278**	-.188**	.161**	.044	.048	.096*	-.037	.252**	.003	-.164**	.080	.233**	.010	.210**	.219**	-.045	.154**	.025	.046	.263**	.194**
	Sig. (1-tailed)	.000	.000	.000	.000		.385	.203	.000	.021	.000	.001	.003	.225	.203	.048	.259	.000	.481	.002	.084	.000	.432	.000	.000	.221	.004	.332	.214	.000	.000
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
U21CAPS	Pearson Correlation	-.015	-.076	.015	-.096*	-.017	1	.273**	.127**	-.115*	.031	.460**	-.257**	-.274**	-.097*	-.131*	-.043	.119*	.036	-.175**	-.085	.037	-.048	.079	-.010	.035	-.008	-.081	-.091	-.010	.075
	Sig. (1-tailed)	.395	.094	.398	.048	.385		.000	.014	.023	.296	.000	.000	.000	.047	.012	.229	.020	.264	.001	.070	.263	.204	.085	.435	.272	.444	.079	.058	.431	.097
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
TALENTU25	Pearson Correlation	.088	.155**	-.307**	.026	.048	.273**	1	.089	.079	-.202**	-.071	.052	.035	.046	.007	-.050	.188**	.173**	.053	-.064	.123*	.084	.184**	.046	.121*	.103*	-.085	-.069	.034	.156**
	Sig. (1-tailed)	.064	.003	.000	.328	.203	.000		.062	.085	.000	.111	.184	.273	.214	.453	.195	.001	.001	.179	.133	.016	.072	.001	.215	.018	.037	.069	.116	.276	.003
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
LNPOPULARITY	Pearson Correlation	.164**	.254**	.210**	.332**	.418**	.127*	.089	1	.190**	.066	.027	.159**	-.132*	-.026	-.089	.003	.312**	.221**	.349**	.027	.368**	-.028	.265**	.331**	-.047	.034	-.136*	.024	.342**	.338**
	Sig. (1-tailed)	.002	.000	.000	.000	.000	.014	.062		.000	.128	.322	.003	.011	.326	.063	.477	.000	.000	.000	.323	.000	.315	.000	.000	.209	.280	.009	.336	.000	.000
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
ATTACKERD	Pearson Correlation	.071	.650**	.061	.119*	.118*	-.115*	.079	.190**	1	-.047	-.040	.005	.110*	-.068	-.045	-.053	-.013	.054	-.059	-.022	.088	.061	.111*	.105*	-.039	.021	-.055	-.074	.064	.086
	Sig. (1-tailed)	.110	.000	.146	.019	.021	.023	.085	.000		.208	.246	.467	.028	.119	.217	.178	.410	.176	.152	.355	.065	.147	.027	.034	.248	.359	.170	.100	.136	.069
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
LOCAL	Pearson Correlation	.026	-.150**	-.102*	-.318**	-.278**	.031	-.202**	.066	-.047	1	.330**	-.185**	-.197**	-.070	-.094	-.031	-.162**	.024	-.037	.014	-.131*	-.086	-.167**	-.122*	-.037	-.078	-.027	-.005	-.131*	-.170**
	Sig. (1-tailed)	.325	.005	.039	.000	.000	.296	.000	.128	.208		.000	.001	.000	.114	.052	.297	.002	.337	.262	.402	.011	.069	.002	.017	.263	.089	.322	.467	.012	.002
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
EURD	Pearson Correlation	.029	-.110*	-.151**	-.303**	-.188**	.460**	-.071	.027	-.040	.330**	1	-.559**	-.597**	-.211**	-.285**	-.094	-.083	.109*	.013	-.086	.012	-.074	.054	-.025	.005	-.042	-.059	-.061	-.077	-.007
	Sig. (1-tailed)	.310	.028	.004	.000	.001	.000	.111	.322	.246	.000		.000	.000	.000	.000	.053	.076	.029	.413	.068	.416	.099	.177	.336	.467	.231	.155	.146	.091	.454
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
SAD	Pearson Correlation	-.044	.029	.023	.074	.161**	-.257**	.052	.159**	.005	-.185**	-.559**	1	-.127*	-.045	-.061	-.020	.134*	.103*	.004	.086	.155**	.103*	.138**	.163**	-.003	.035	-.119*	-.048	.228**	.189**
	Sig. (1-tailed)	.224	.307	.345	.101	.003	.000	.184	.003	.467	.001	.000		.014	.219	.148	.365	.010	.038	.476	.069	.003	.038	.008	.002	.479	.275	.020	.206	.000	.000
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
AFRD	Pearson Correlation	-.037	.120*	.164**	.208**	.044	-.274**	.035	-.132*	.110*	-.197**	-.597**	-.127*	1	-.048	-.065	-.021	-.013	-.163**	-.031	.048	-.123*	.025	-.158**	-.066	-.021	-.024	.050	.059	-.058	-.120*
	Sig. (1-tailed)	.261	.019	.002	.000	.225	.000	.273	.011	.028	.000	.000	.014		.204	.132	.357	.409	.002	.296	.205	.016	.331	.003	.125	.360	.337	.195	.155	.156	.019
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
ASIAD	Pearson Correlation	.042	.045	.057	.178**	.048	-.097*	.046	-.026	-.068	-.070	-.211**	-.045	-.048	1	-.023	-.008	.064	-.161**	-.001	-.003	-.006	-.036	-.040	-.004	-.057	.064	.176**	-.004	-.001	-.027
	Sig. (1-tailed)	.232	.218	.162	.001	.203	.047	.214	.326	.119	.114	.000	.219	.204		.347	.448	.133	.003	.492	.482	.458	.269	.245	.472	.164	.134	.001	.472	.494	.318
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
NAD	Pearson Correlation	.055	-.006	.030	.146**	.096*	-.131*	.007	-.089	-.045	-.094	-.285**	-.061	-.065	-.023	1	-.010	-.036	-.058	.064	-.012	-.077	.002	-.082	-.091	.030	.038	.116*	.099*	-.089	-.076
	Sig. (1-tailed)	.173	.457	.300	.006	.048	.012	.453	.063	.217	.052	.000	.148	.132	.347		.430	.269	.160	.471	.417	.092	.489	.078	.057	.302	.258	.023	.042	.063	.095
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
OSED	Pearson Correlation	-.034	-.061	-.091	-.042	-.037	-.043	-.050	.003	-.053	-.031	-.094	-.020	-.021	-.008	-.010	1	-.037	.047	.047	-.019	.008	-.040	.065	-.030	.133*	.029	.078	.111*	-.029	.001
	Sig. (1-tailed)	.278	.147	.057	.234	.259	.229	.195	.477	.178	.297	.053	.365	.357	.448	.430		.259	.210	.210	.370	.445	.242	.130	.302	.011	.311	.088	.027	.307	.490
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
SUMECLS	Pearson Correlation	.313**	.074	.145**	.225**	.252**	.119*	.188**	.312**	-.013	-.162**	-.083	.134*	-.013	.064	-.036	-.037	1	.079	.052	.011	.252**	.054	.149**	.186**	.034	.061	-.056	-.002	.155**	.265**
	Sig. (1-tailed)	.000	.100	.006	.000	.000	.020	.001	.000	.410	.002	.076	.010	.409	.133	.269	.259		.086	.184	.424	.000	.175	.005	.001	.276	.144	.166	.484	.003	.000
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
CONTRACT	Pearson Correlation	-.041	.087	-.294**	-.081	.003	.036	.173**	.221**	.054	.024	.109*	.103*	-.163**	-.161**	-.058	.047	.079	1	-.002	-.086	.263**	.016	.320**	.138**	.074	-.074	-.087	.055	.154**	.293**
	Sig. (1-tailed)	.238	.067	.000	.081	.481	.264	.001	.000	.176	.337	.029	.038	.002	.003	.160	.210	.086		.488	.068	.000	.388	.000	.008	.101	.100	.067	.172	.004	.000
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
RANKINGLEAG	Pearson Correlation	.088	.062	-.306**	-.140*	-.164**	-.175**	.053	-.349**	-.059	-.037	.013	.004	-.031	-.001	.004	.047	.052	-.002	1	.083	-.072	.038	-.014	-.078	-.032	-.114*	-.022	.001	-.059	-.065
	Sig. (1-tailed)	.063	.143	.000	.008	.002	.001	.179	.000	.152	.262	.413	.476	.296	.492	.471	.210	.184	.488		.076	.106	.256	.404	.090	.289	.024	.351	.494	.153	.130
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
TBP2	Pearson Correlation	-.002	-.010	.036	.055	.080	-.085	-.064	.027	-.022	.014	-.086	.086	.048	-.003	-.012	-.019	.011	-.086	.083	1	.244**	-.069	-.009	.411**	-.179**	-.188**	.034	-.013	.297**	-.086
	Sig. (1-tailed)	.485	.432	.269	.171	.084	.070	.133	.323	.355	.402	.068	.069	.205	.482	.417	.370	.424	.068	.076		.000	.115	.437	.000	.001	.001	.280	.411	.000	.067
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
GD	Pearson Correlation	.144**	.201**	-.127*	.124*	.233**	.037	.123*	.368**	.088	-.131*	.012	.155**	-.123*	-.006	-.077	.008	.252**	.263**	-.072	.244**	1	.031	.656**	.790**	.050	.088	.000	-.016	.699**	.763**
	Sig. (1-tailed)	.006	.000	.014	.016	.000	.263	.016	.000	.065	.011	.416	.003	.016	.458	.092	.445	.000	.000	.106	.000		.297	.000	.000	.192	.065	.497	.391	.000	.000
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
MANAGER	Pearson Correlation	-.051	.011	-.048	-.009	.010	-.048	.084	-.028	.061	-.086	-.074	.103*	.025	-.036	.002	-.040	.054	.016	.038	-.069	.031	1	.058	-.018	.004	-.011	.061	.034	.087	.171**
	Sig. (1-tailed)	.188	.422	.202	.440	.432	.204	.072	.315	.147	.069	.099	.038	.331	.269	.489	.242	.175	.388	.256	.115	.297		.157	.377	.472	.427	.145	.280	.066	.001
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
LNAVGAT	Pearson Correlation	.078	.149**	-.213**	.058	.210**	.079	.184**	.265**	.111*	-.167**	.054	.138**	-.158**	-.040	-.082	.065	.149**	.320**	-.014	-.009	.656**	.058	1	.567**	.120*	.009	.099*	-.037	.610**	.826**
	Sig. (1-tailed)	.089	.005	.000	.158	.000	.085	.001	.000	.027	.002	.177	.008	.003	.245	.078	.130	.005	.000	.404	.437	.000	.157		.000	.019	.438	.044	.262	.000	.000
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
BUYCL	Pearson Correlation	.100*	.162**	-.098*	.099*	.219**	-.010	.046	.331**	.105*	-.122*	-.025	.163**	-.066	-.004	-.091	-.030	.186**	.138**	-.078	.411**	.790**	-.018	.567**	1	-.226**	.011	.008	-.072	.869**	.652**
	Sig. (1-tailed)	.042	.002	.044	.043	.000	.435	.215	.000	.034	.017	.336	.002	.125	.472	.057	.302	.001	.008	.090	.000	.000	.377	.000		.000	.424	.446	.108	.000	.000
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
BUYEL	Pearson Correlation	-.031	-.014	-.150**	-.057	-.045	.035	.121*	-.047	-.039	-.037	.005	-.003	-.021	-.057	.030	.133*	.034	.074	-.032	-.179**	.050	.004	.120*	-.226**	1	-.059	.097*	-.049	-.220**	.138**
	Sig. (1-tailed)	.297	.407	.005	.161	.221	.272	.018	.209	.248	.263	.467	.479	.360	.164	.302	.011	.276	.101	.289	.001	.192	.472	.019	.000		.153	.047	.199	.000	.008
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
TRANSFERWINDOW	Pearson Correlation	.513**	.119*	.093	.145**	.154**	-.008	.103*	.034	.021	-.078	-.042	.035	-.024	.064	.038	.029	.061	-.074	-.114*	-.188**	.088	-.011	.009	.011	-.059	1	-.092	-.112*	-.001	.068
	Sig. (1-tailed)	.000	.020	.053	.006	.004	.444	.037	.280	.359	.089	.231	.275	.337	.134	.258	.311	.144	.100	.024	.001	.065	.427	.438	.424	.153		.057	.027	.494	.120
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
2012/13	Pearson Correlation	-.038	-.038	-.039	.052	.025	-.081	-.085	-.136*	-.055	-.027	-.059	-.119*	.050	.176**	.116*	.078	-.056	-.087	-.022	.034	.000	.061	.099*	.008	.097*	-.092	1	.078	.026	.000
	Sig. (1-tailed)	.256	.254	.251	.185	.332	.079	.069	.009	.170	.322	.155	.020	.195	.001	.023	.088	.166	.067	.351	.280	.497	.145	.044	.446	.047	.057		.095	.325	.497
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
DEADLINEDAY	Pearson Correlation	-.019	-.039	.035	.075	.046	-.091	-.069	.024	-.074	-.005	-.061	-.048	.059	-.004	.099*	.111*	-.002	.055	.001	-.013	-.016	.034	-.037	-.072	-.049	-.112*	.076	1	-.040	-.030
	Sig. (1-tailed)	.371	.252	.274	.098	.214	.058	.116	.336	.100	.467	.146	.206	.155	.472	.042	.027	.484	.172	.494	.411	.391	.280	.262	.108	.199	.027	.095		.246	.304
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
CHAMPIONS	Pearson Correlation	.085	.153**	-.100*	.121*	.263**	-.010	.034	.342**	.064	-.131*	-.077	.228**	-.058	-.001	-.089	-.029	.155**	.154**	-.059	.297**	.699**	.087	.610**	.869**	-.220**	-.001	.026	-.040	1	.659**
	Sig. (1-tailed)	.071	.004	.042	.018	.000	.431	.276	.000	.136	.012	.091	.000	.156	.494	.063	.307	.003	.004	.153	.000	.000	.066	.000	.000	.000	.494	.325	.246		.000
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
LNTURNOVER	Pearson Correlation	.101*	.160**	-.176**	.049	.194**	.075	.156**	.338**	.086	-.170**	-.007	.189**	-.120*	-.027	-.076	.001	.265**	.293**	-.065	-.086	.763**	.171**	.826**	.652**	.138**	.068	.000	-.030	.659**	1
	Sig. (1-tailed)	.040	.003	.001	.199	.000	.097	.003	.000	.069	.002	.454	.000	.019	.318	.095	.490	.000	.000	.130	.067	.000	.001	.000	.000	.008	.120	.497	.304	.000	
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301

**. Correlation is significant at the 0.01 level (1-tailed).

Table 9. Correlation matrix.

Correlations

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
LEAG	Pearson Correlation	1	.091	.156**	.239**	-.029	.101	.109	.421**	.194**	-.084	-.025	.085	-.065	.008	.053	.a	.364**	.034	.106	-.052	.293**	.001	.188**	.197**	-.005	.576**	-.077*	-.006	.185**	.268**
	Sig. (1-tailed)		.178	.021	.000	.669	.134	.107	.000	.004	.216	.712	.207	.338	.911	.437		.000	.613	.115	.438	.000	.988	.005	.003	.943	.000	.253	.931	.006	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
AGE	Pearson Correlation	.091	1	.437**	.346**	-.105	.048	-.512**	.125	.094	-.026	-.190**	.090	.147*	.076	-.012	.a	.002	-.318**	-.173**	.051	-.102	-.063	-.185**	-.058	-.156*	.033	.064	.069	-.048	-.149*
	Sig. (1-tailed)	.178		.000	.000	.120	.475	.000	.064	.162	.700	.005	.181	.029	.259	.859		.976	.000	.010	.447	.132	.354	.006	.393	.020	.630	.344	.308	.478	.027
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
FULLCAPS	Pearson Correlation	.156*	.437**	1	.876**	-.160*	.141*	-.087	.188**	.338**	-.291**	-.292**	.071	.222**	.170*	.092	.a	.153*	-.056	-.100	.092	.180**	-.031	.107	.157*	-.055	.130	.093	.106	.183**	.090
	Sig. (1-tailed)	.021	.000		.000	.017	.036	.198	.005	.000	.000	.000	.295	.001	.011	.174		.023	.411	.137	.175	.007	.648	.114	.020	.415	.053	.170	.117	.007	.183
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
INTINTER-NATIONAL	Pearson Correlation	.239**	.346**	.876**	1	-.070	.135*	-.038	.290**	.437**	-.251**	-.164*	.168*	.032	.043	.053	.a	.191**	.030	-.122	.117	.290**	-.012	.268**	.284**	-.042	.149*	.078	.060	.331**	.242**
	Sig. (1-tailed)	.000	.000	.000		.302	.046	.573	.000	.000	.000	.015	.013	.635	.529	.432		.004	.654	.070	.083	.000	.856	.000	.000	.534	.027	.249	.373	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
U21CAPS	Pearson Correlation	-.029	-.105	-.160*	-.070	1	-.137*	.269**	-.014	.069	.109	.486**	-.266**	-.322**	-.099	-.115	.a	.044	.042	-.089	-.085	.028	-.053	.086	-.042	.053	-.024	.017	-.076	-.030	.054
	Sig. (1-tailed)	.669	.120	.017	.302		.042	.000	.838	.309	.107	.000	.000	.000	.142	.089		.514	.536	.185	.206	.682	.430	.201	.532	.430	.724	.804	.262	.653	.424
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
ATTACKERD	Pearson Correlation	.101	.048	.141*	.135*	-.137*	1	.037	.054	.185**	-.042	-.071	-.022	.121	-.035	.004	.a	-.048	.067	-.022	-.032	.105	.051	.111	.114	-.035	.007	.011	-.061	.072	.094
	Sig. (1-tailed)	.134	.475	.036	.046	.042		.583	.428	.006	.538	.296	.750	.073	.601	.949		.481	.324	.747	.635	.119	.452	.101	.091	.604	.919	.870	.367	.288	.165
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
TALENTU25	Pearson Correlation	.109	-.512**	-.087	-.038	.269**	.037	1	.137*	.095	-.089	.045	-.025	-.008	-.025	-.052	.a	.191**	.310**	.172*	-.042	.163*	.075	.232**	.057	.153*	.098	-.087	-.059	.031	.180**
	Sig. (1-tailed)	.107	.000	.198	.573	.000	.583		.042	.161	.186	.504	.715	.907	.712	.445		.004	.000	.011	.532	.015	.267	.001	.402	.023	.145	.195	.386	.651	.007
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
RATING	Pearson Correlation	.421**	.125	.188**	.290**	-.014	.054	.137*	1	.291**	-.211**	-.085	.206**	-.102	.038	.054	.a	.158*	.211**	-.022	.085	.413**	.119	.357**	.295**	.139*	.148*	.036	-.020	.339**	.379**
	Sig. (1-tailed)	.000	.064	.005	.000	.838	.428	.042		.000	.002	.206	.002	.131	.572	.425		.019	.002	.746	.211	.000	.078	.000	.000	.039	.028	.590	.770	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
LNPOPULARITY	Pearson Correlation	.194**	.094	.338**	.437**	.069	.185**	.095	.291**	1	.104	.018	.199**	-.164*	-.003	-.075	.a	.244**	.242**	-.254**	.078	.423**	-.066	.346**	.388**	-.033	-.006	-.070	.017	.408**	.379**
	Sig. (1-tailed)	.004	.162	.000	.000	.309	.006	.161	.000		.122	.790	.003	.015	.969	.265		.000	.000	.000	.250	.000	.327	.000	.000	.629	.928	.297	.801	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
LOCAL	Pearson Correlation	-.084	-.026	-.291**	-.251**	.109	-.042	-.089	-.211**	.104	1	.283**	-.155*	-.187**	-.058	-.067	.a	-.147*	-.044	-.167*	-.042	-.116	-.093	-.167*	-.106	-.093	-.041	-.100	-.032	-.116	-.131
	Sig. (1-tailed)	.216	.700	.000	.000	.107	.538	.186	.002	.122		.000	.021	.005	.394	.323		.029	.517	.013	.532	.086	.167	.013	.115	.168	.542	.137	.636	.086	.052
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
EURD	Pearson Correlation	-.025	-.190**	-.292**	-.164*	.486**	-.071	.045	-.085	.018	.283**	1	-.548**	-.662**	-.204**	-.236**	.a	-.127	.109	.005	-.121	.021	-.052	.074	-.032	-.001	-.025	-.007	-.059	-.084	.004
	Sig. (1-tailed)	.712	.005	.000	.015	.000	.296	.504	.206	.790	.000		.000	.000	.002	.000		.060	.106	.946	.072	.755	.440	.273	.631	.986	.713	.913	.383	.211	.958
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
SAD	Pearson Correlation	.085	.090	.071	.168*	-.266**	-.022	-.025	.206**	.199**	-.155*	-.548**	1	-.120	-.037	-.043	.a	.215**	.095	-.003	.104	.107	.053	.124	.127	.032	-.001	-.139*	-.048	.183**	.135*
	Sig. (1-tailed)	.207	.181	.295	.013	.000	.750	.715	.002	.003	.021	.000		.075	.584	.527		.001	.157	.963	.123	.114	.431	.066	.060	.639	.992	.038	.475	.006	.045
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
AFRD	Pearson Correlation	-.065	.147*	.222**	.032	-.322**	.121	-.008	-.102	-.164*	-.187**	-.662**	-.120	1	-.045	-.052	.a	-.027	-.163*	.025	.052	-.116	.029	-.171*	-.047	-.058	-.014	.045	.068	-.032	-.112
	Sig. (1-tailed)	.338	.029	.001	.635	.000	.073	.907	.131	.015	.005	.000	.075		.509	.444		.691	.016	.711	.439	.084	.665	.011	.485	.395	.830	.508	.314	.639	.097
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
ASIAD	Pearson Correlation	.008	.076	.170*	.043	-.099	-.035	-.025	.038	-.003	-.058	-.204**	-.037	-.045	1	-.016	.a	.041	-.144*	-.064	.020	.034	-.081	.001	.029	-.052	.058	.178**	.035	.035	.028
	Sig. (1-tailed)	.911	.259	.011	.529	.142	.601	.712	.572	.969	.394	.002	.584	.509		.814		.547	.032	.344	.762	.617	.232	.984	.673	.444	.387	.008	.609	.609	.679
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
NAD	Pearson Correlation	.053	-.012	.092	.053	-.115	.004	-.052	.054	-.075	-.067	-.236**	-.043	-.052	-.016	1	.a	-.019	-.028	-.015	.021	-.037	.052	-.082	-.074	.124	.068	.058	.095	-.071	-.046
	Sig. (1-tailed)	.437	.859	.174	.432	.089	.949	.445	.425	.265	.323	.000	.527	.444	.814			.784	.676	.822	.755	.585	.442	.223	.271	.066	.316	.390	.158	.296	.494
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
OSED	Pearson Correlation	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a	.a
	Sig. (1-tailed)																														
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
SUMECLS	Pearson Correlation	.364**	.002	.153*	.191**	.044	-.048	.191**	.158*	.244**	-.147*	-.127	.215**	-.027	.041	-.019	.a	1	.106	.276**	.028	.269**	.081	.176**	.201**	.043	.062	-.024	-.017	.181**	.292**
	Sig. (1-tailed)	.000	.976	.023	.004	.514	.481	.004	.019	.000	.029	.060	.001	.691	.547	.784			.115	.000	.674	.000	.230	.009	.003	.524	.358	.724	.801	.007	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
CONTRACT	Pearson Correlation	.034	-.318**	-.056	.030	.042	.067	.310**	.211**	.242**	-.044	.109	.095	-.163*	-.144*	-.028	.a	.106	1	.032	-.102	.264**	.045	.388**	.138*	.109	-.081	-.067	.016	.152*	.357**
	Sig. (1-tailed)	.613	.000	.411	.654	.536	.324	.000	.002	.000	.517	.106	.157	.016	.032	.676		.115		.632	.130	.000	.506	.000	.040	.108	.228	.323	.811	.024	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
RANKINGLEAG	Pearson Correlation	.106	-.173*	-.100	-.122	-.089	-.022	.172*	-.022	-.254**	-.167*	.005	-.003	.025	-.064	-.015	.a	.276**	.032	1	.121	-.027	.070	-.005	-.030	-.092	-.125	-.173*	.015	-.027	-.045
	Sig. (1-tailed)	.115	.010	.137	.070	.185	.747	.011	.746	.000	.013	.946	.963	.711	.344	.822		.000	.632		.074	.690	.297	.937	.654	.172	.064	.010	.824	.685	.504
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
TBP2	Pearson Correlation	-.052	.051	.092	.117	-.085	-.032	-.042	.085	.078	-.042	-.121	.104	.052	.020	.021	.a	.028	-.102	.121	1	.272**	-.061	-.021	.417**	-.183**	-.207**	.013	.002	.284**	-.054
	Sig. (1-tailed)	.438	.447	.175	.083	.206	.635	.532	.211	.250	.532	.072	.123	.439	.762	.755		.674	.130	.074		.000	.364	.758	.000	.006	.002	.851	.981	.000	.425
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
GD	Pearson Correlation	.293**	-.102	.180**	.290**	.028	.105	.163*	.413**	.423**	-.116	.021	.107	-.116	.034	-.037	.a	.269**	.264**	-.027	.272**	1	.043	.651**	.788**	.055	.136*	.034	.018	.666**	.760**
	Sig. (1-tailed)	.000	.132	.007	.000	.682	.119	.015	.000	.000	.086	.755	.114	.084	.617	.585		.000	.000	.690	.000		.529	.000	.000	.416	.043	.612	.793	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
MANAGER	Pearson Correlation	.001	-.063	-.031	-.012	-.053	.051	.075	.119	-.066	-.093	-.052	.053	.029	-.081	.052	.a	.081	.045	.070	-.061	.043	1	.054	-.055	.064	-.070	.052	.021	.069	.150*
	Sig. (1-tailed)	.988	.354	.648	.856	.430	.452	.267	.078	.327	.167	.440	.431	.665	.232	.442		.230	.506	.297	.364	.529		.426	.417	.345	.304	.440	.753	.309	.025
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
LNAVGATT	Pearson Correlation	.188**	-.185**	.107	.268**	.086	.111	.232**	.357**	.346**	-.167*	.074	.124	-.171*	.001	-.082	.a	.176**	.388**	-.005	-.021	.651**	.054	1	.575**	.125	.028	.082	-.044	.612**	.836**
	Sig. (1-tailed)	.005	.006	.114	.000	.201	.101	.001	.000	.000	.013	.273	.066	.011	.984	.223		.009	.000	.937	.758	.000	.426		.000	.063	.677	.222	.513	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
BUYCL	Pearson Correlation	.197**	-.058	.157*	.284**	-.042	.114	.057	.295**	.388**	-.106	-.032	.127	-.047	.029	-.074	.a	.201**	.138*	-.030	.417**	.788**	-.055	.575**	1	-.242**	.031	.013	-.048	.844**	.660**
	Sig. (1-tailed)	.003	.393	.020	.000	.532	.091	.402	.000	.000	.115	.631	.060	.485	.673	.271		.003	.040	.654	.000	.000	.417	.000		.000	.646	.852	.474	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
BUYEL	Pearson Correlation	-.005	-.156*	-.055	-.042	.053	-.035	.153*	.139*	-.033	-.093	-.001	.032	-.058	-.052	.124	.a	.043	.109	-.092	-.183**	.055	.064	.125	-.242**	1	-.056	.162*	-.109	-.229**	.136*
	Sig. (1-tailed)	.943	.020	.415	.534	.430	.604	.023	.039	.629	.168	.986	.639	.395	.444	.066		.524	.108	.172	.006	.416	.345	.063	.000		.405	.016	.105	.001	.044
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
TRANSFER-WINDOW	Pearson Correlation	.576**	.033	.130	.149*	-.024	.007	.098	.148*	-.006	-.041	-.025	-.001	-.014	.058	.068	.a	.062	-.081	-.125	-.207**	.136*	-.070	.028	.031	-.056	1	-.066	-.045	.010	.109
	Sig. (1-tailed)	.000	.630	.053	.027	.724	.919	.145	.028	.928	.542	.713	.992	.830	.387	.316		.358	.228	.064	.002	.043	.304	.677	.646	.405		.332	.501	.884	.107
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
2012/13	Pearson Correlation	-.077	.064	.093	.078	.017	.011	-.087	.036	-.070	-.100	-.007	-.139*	.045	.178**	.058	.a	-.024	-.067	-.173**	.013	.034	.052	.082	.013	.162*	-.066	1	.042	.042	.046
	Sig. (1-tailed)	.253	.344	.170	.249	.804	.870	.195	.590	.297	.137	.913	.038	.508	.008	.390		.724	.323	.010	.851	.612	.440	.222	.852	.016	.332		.533	.533	.493
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
DEADLINEDAY	Pearson Correlation	-.006	.069	.106	.060	-.076	-.061	-.059	-.020	.017	-.032	-.059	-.048	.068	.035	.095	.a	-.017	.016	.015	.002	.018	.021	-.044	-.048	-.109	-.045	.042	1	.000	-.026
	Sig. (1-tailed)	.931	.308	.117	.373	.262	.367	.386	.770	.801	.636	.383	.475	.314	.609	.158		.801	.811	.824	.981	.793	.753	.513	.474	.105	.501	.533		.999	.700
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
CHAMPIONS	Pearson Correlation	.185**	-.048	.183**	.331**	-.030	.072	.031	.339**	.408**	-.116	-.084	.183**	-.032	.035	-.071	.a	.181**	.152*	-.027	.284**	.666**	.069	.612**	.844**	-.229**	.010	.042	.000	1	.657**
	Sig. (1-tailed)	.006	.478	.007	.000	.653	.288	.651	.000	.000	.086	.211	.006	.639	.609	.296		.007	.024	.685	.000	.000	.309	.000	.000	.001	.884	.533	.999		.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
LNTURNOVER	Pearson Correlation	.268**	-.149*	.090	.242**	.054	.094	.180**	.379**	.379**	-.131	.004	.135*	-.112	.028	-.046	.a	.292**	.357**	-.045	-.054	.760**	.150*	.836**	.660**	.136*	.109	.046	-.026	.657**	1
	Sig. (1-tailed)	.000	.027	.183	.000	.424	.165	.007	.000	.000	.052	.958	.045	.097	.679	.494		.000	.000	.504	.425	.000	.025	.000	.000	.044	.107	.493	.700	.000	
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221

*. Correlation is significant at the 0.05 level (1-tailed).
**. Correlation is significant at the 0.01 level (1-tailed).
c. Cannot be computed because at least one of the variables is constant.

Table 10. Correlation matrix with rating.

Description correlation matrix

	Correlation matrix		Correlation matrix w/rating
1	LEAG	1	LEAG
2	GOALP	2	AGE
3	AGE	3	FULLCAPS
4	FULLCAPS	4	INTINTERNATIONAL
5	INTINTERNATIONAL	5	U21CAPS
6	U21CAPS	6	ATTACKERD
7	TALENTU25	7	TALENTU25
8	LNPOPULARITY	8	RATING
9	ATTACKERD	9	LNPOPULARITY
10	LOCAL	10	LOCAL
11	EURD	11	EURD
12	SAD	12	SAD
13	AFRD	13	AFRD
14	ASIAD	14	ASIAD
15	NAD	15	NAD
16	OSED	16	OSED
17	SUMECLS	17	SUMECLS
18	CONTRACT	18	CONTRACT
19	RANKINGLEAG	19	RANKINGLEAG
20	TBP	20	TBP
21	GD	21	GD
22	MANAGER	22	MANAGER
23	LNAVGATT	23	LNAVGATT
24	BUYCL	24	BUYCL
25	BUYEL	25	BUYEL
26	TRANSFERWINDOW	26	TRANSFERWINDOW
27	2012/13	27	2012/13
28	DEADLINEDAY	28	DEADLINEDAY
29	CHAMPIONS	29	CHAMPIONS
30	LNTURNOVER	30	LNTURNOVER

Table 11. Description correlation matrix.

Notes - Assumptions

1) Defining transfer fees

Transfer – When a player move from one club to another and implies the transferring of a player's registration from one club to another. Therefore a transfer does not necessarily involve a financial transaction.

Transaction (transfer fee) – It takes place when a player moves to another club while he still is under contract with a club (meaning: financial compensation for early termination of contract).

Training compensation – fee to compensate clubs for the training of the player under 23.

2) Winter transfers

The players performance/statistics is measured half way through the season, thus at the time of transfer.

3) Under-age caps

Problems occurring with dual citizenship is solved through counting only games for the national team at senior level. For example under-aged caps for France and senior-caps for Senegal. Players with a dual citizenship are we counting caps on senior level, under-age caps for another nationality is not taken into account. Because our dataset will not measure the quality of these games. And we strive to be consistent in our dataset (i.e. equality between the players).

4) Rating (last season)

For players not registered with games last season, we have used games from European cup competition. These are leagues where there is one to three dominating clubs, therefore European cup competition is probably a better measure of the quality of the players history. For example FC Porto in the Portuguese league.

5) Popularity

In an attempt trying capture the players popularity/"x-factor"/externalities, thus the premium a club is willing to pay for a "star player," we try with number of Google hits. We search with the English way of typing for name, and we add the club the player arrived from. Doing so we eliminate the trouble with nick names and we address the correct person. For example "Luke Shaw Southampton." The search engine is www.google.co.uk, and the variable is constructed 11th of February 2015. We have taken into account players with a nickname or very common names that will probably give unlikely many hits. For example "*Fernando*" or "*Simon Moore*."

6) European cup competition

Here we differentiate between participation in the European cups group stages and not, meaning if the club participated in the group stage in Champions League or Europa League. For example, Hull (2014/15) do not get Europe status, because they were eliminated in the qualification rounds.

7) Ranking selling club

We follow a ranking presented by The Guardian, the teams that fall outside this ranking will be given the value 35 if they have competed in the Europa League. *Lavere England (Lavere*

E) is given the value 36, we assume that top division in Europa are at a higher level the Leageu One in England.

8) Ranking former club

Games are given the value at the level the club is competing or did compete. For example players arriving from Blackburn in the summer 2012 is registered with EPL games, even though Blackburn at the start of the campaign (2012/13) were playing in the Championship.

9) Estimation turnover (season 2014/15)

We are missing data for West Brom.

West Brom – Estimated to GBP 83m

Due to the increase of £ 13 million in TV revenues from the EPL compared to the former season. This is plausible because of low player logistics, good capacity utilization on the stadium and even commercial interests. Hence, we assume constant revenues compared with former years and assume the increase in turnover equals the increase in TV revenues.

2014/15
http://www.premierleague.com/en-gb/news/news/2014-15/summer-transfer-window-2014.html

2013/14
http://www.premierleague.com/en-gb/news/news/2013-14/jun/summer-transfers-2013-ins-and-outs.html

TV revenues (2013/14)
http://www.premierleague.com/en-gb/news/news/2013-14/may/premier-league-broadcasting-commercial-payments.html

10) Players excluded

Matthew Kennedy http://www.evertonfc.com/players/m/mk/matthew-kennedy

Jed Steer http://www.avfc.co.uk/page/NewsDetail/0,,10265~3220876,00.html

Cala http://www.bbc.com/sport/0/football/25998961

11) Estimation position on table for newly promoted teams

We will give them the value 17 (out of 20) because we assume that newly promoted team will fight to stay in the EPL and will therefore act as the team that is just above relegation.

12) Dataset

In model 1.2, 2.2, 3.2 and 4.2 the variable GOALP is excluded due to high correlation with RATING.

Correlations			
		GOALP	RATING
GOALP	*Pearson Correlation*	1	.451**
	Sig. (2-tailed)		.000
	N	221	221
RATING	*Pearson Correlation*	.451**	1
	Sig. (2-tailed)	.000	
	N	221	221

**. Correlation is significant at the 0.01 level (2-tailed).

Table 12. Correlation matrix between GOALP and RATING.

13) Goalkeepers

We choose to exclude goalkeepers from this study, because a low number of observations and not comparable performance measure.

14) Marginal revenue (MR) and Marginal cost (MC)

MR is the revenue of producing one more unit of a good (output). Perfectly competitive firms will continue to produce until marginal revenue equals to marginal costs. MC is the changes in total costs when producing one additional unit of a good (Estrin, Dietrich, & Laidler, 2012).

15) Contract length

Observations that was not available (n/a) is defined as under 3.5 years.

16) Test of normality:

Tests of Normality			
	Shapiro-Wilk		
	Statistic	df	Sig.
LNFEE	.994	301	.245

a. Lilliefors Significance Correction

Table 13. Test of normality dependent variable.

Test of Normality			
	Shapiro-Wilk		
	Statistic	df	Sig.
LEAG	.977	301	.000
GOALP	.914	301	.000
AGE	.985	301	.003
AGESQ	.975	301	.000
FULLCAPS	.748	301	.000
FULLCAPS	.455	301	.000
U21CAPS	.770	301	.000
TALENTU25	.628	301	.000
INTINTERNATIONAL	.668	301	.000
SUMECLS	.685	301	.000
LNPOPULARITY	.965	301	.000
CONTRACT	.620	301	.000
ATTACKERD	.634	301	.000
LOCAL	.513	301	.000
EURD	.559	301	.000
SAD	.354	301	.000
AFRD	.378	301	.000
ASIAD	.105	301	.000
NAD	.159	301	.000
OSED	.032	301	.000
RANKINGLEAG	.745	301	.000
TBP	.922	301	.000
GD	.856	301	.000
MANAGER	.592	301	.000
LNAVGATT	.974	301	.000
LNTURNOVER	.936	301	.000
BUYCL	.503	301	.000
BUYEL	.440	301	.000
TRANSFERWINDOW	.485	301	.000
2012/13	.604	301	.000
DEADLINEDAY	.503	301	.000
CHAMPIONS	.493	301	.000

a. Lilliefors Significance Correction

Table 14. Test for normality for independent variables.

17) Definition of TPO

TPO defined as the agreement of a club and a third party for the economic rights of a player (KPMG, 2013).

18) Discrepancy between lnfee and estimated lnfee

When estimating our values we find there is a discrepancy between mean values of LNFEE and Estimated LNFEE. To make our results useable in the table above we have adjusted with the discrepancy to equalize the difference. Therefore, 'Estimated LNFEE' is adjusted with 0.27. After troubleshooting to find the source of the discrepancy, we have concluded it is probably due to conversion of results from SPSS to Excel.

Transfer included in our dataset:

Name	Transfer fee	Transferwindow	Age	Buying club	Seling club
Ángel Fabián di María	GBP 66,000,000	Sommer 2014	26	MUFC	Real Madrid
Mesut Özil	GBP 44,000,000	Sommer 2013	24	Arsenal	Real Madrid
Juan Mata	GBP 39,360,000	Vinter 2014	25	MUFC	Chelsea
Alexis Sánchez	GBP 37,400,000	Sommer 2014	25	Arsenal	Barcelona
Eden Hazard	GBP 35,200,000	Sommer 2012	21	Chelsea	Lille
Eliaquim Mangala	GBP 35,200,000	Sommer 2014	23	MCFC	FC Porto
Fernandinho	GBP 35,200,000	Sommer 2013	28	MCFC	Shakhtar Donetsk
Diego da Silva Costa	GBP 33,440,000	Sommer 2014	25	Chelsea	Atletico Madrid
Luke Shaw	GBP 33,000,000	Sommer 2014	18	MUFC	Southampton
Ander Herrera Agüera	GBP 31,680,000	Sommer 2014	24	MUFC	Athletic Club
Willian	GBP 31,240,000	Sommer 2013	25	Chelsea	Anzhi
Romelu Benjamin Lukaku	GBP 31,120,000	Sommer 2014	21	Everton	Chelsea
Francesc Fàbregas	GBP 29,040,000	Sommer 2014	27	Chelsea	Barcelona
Marouane Fellaini	GBP 28,510,000	Sommer 2013	25	MUFC	Everton
Wilfried Bony	GBP 28,420,000	Vinter 2015	26	MCFC	Swansea City
Juan Cuadrado	GBP 27,280,000	Vinter 2015	26	Chelsea	Fiorentina
Adam David Lallana	GBP 27,280,000	Sommer 2014	26	Liverpool	Southampton
Robin van Persie	GBP 27,020,000	Sommer 2012	29	MUFC	Arsenal
Roberto Soldado	GBP 26,400,000	Sommer 2013	28	Tottenham	Valencia
Erik Lamela	GBP 26,400,000	Sommer 2013	21	Tottenham	AS Roma
Stevan Jovetic	GBP 22,880,000	Sommer 2013	23	MCFC	Fiorentina
Dejan Lovren	GBP 22,260,000	Sommer 2014	25	Liverpool	Southampton
Oscar	GBP 22,000,000	Sommer 2012	20	Chelsea	Internacional
Alvaro Negredo	GBP 22,000,000	Sommer 2013	27	MCFC	Sevilla
Nemanja Matic	GBP 22,000,000	Vinter 2014	25	Chelsea	Benfica
Lazar Markovic	GBP 22,000,000	Sommer 2014	20	Liverpool	Benfika
André Schürrle	GBP 19,360,000	Sommer 2013	22	Chelsea	Bayer Leverkusen
Calum Chambers	GBP 17,800,000	Sommer 2014	19	Arsenal	Southampton
Javi Garcia	GBP 17,780,000	Sommer 2012	25	MCFC	Benfica
Daniel Welbeck	GBP 17,600,000	Sommer 2014	23	Arsenal	MUFC
Mario Barwuah Balotelli	GBP 17,600,000	Sommer 2014	24	Liverpool	AC Milan
Marcos Rojo	GBP 17,600,000	Sommer 2014	24	MUFC	Sporting
Filipe Luís Kasmirski	GBP 17,600,000	Sommer 2014	28	Chelsea	Atletico Madrid
Jesus Navas	GBP 17,600,000	Sommer 2013	27	MCFC	Sevilla
Paulinho	GBP 17,360,000	Sommer 2013	24	Tottenham	Corinthians
Joe Allen	GBP 16,720,000	Sommer 2012	22	Liverpool	Swansea City
Santi Cazorla	GBP 16,720,000	Sommer 2012	27	Arsenal	Malaga CF
Mamadou Sakho	GBP 16,720,000	Sommer 2013	23	Liverpool	PSG
Moussa Dembèlè	GBP 16,720,000	Sommer 2012	25	Tottenham	Fulham
Alberto Moreno Pérez	GBP 15,840,000	Sommer 2014	22	Liverpool	Sevilla
Andy Carroll	GBP 15,400,000	Sommer 2013	24	West Ham	Liverpool
Daley Blind	GBP 15,400,000	Sommer 2014	24	MUFC	Ajax
Shinji Kagawa	GBP 14,080,000	Sommer 2012	23	MUFC	Dortmund
James McCarthy	GBP 13,460,000	Sommer 2013	22	Everton	Wigan

Steven Fletcher	GBP 13,380,000	Sommer 2012	25	Sunderland	Wolverhampton
Konstantions Mitroglou	GBP 13,380,000	Vinter 2014	25	Fulham	Olympiacos
Matja Nastasic	GBP 13,380,000	Sommer 2012	19	MCFC	Fiorentina
Gaston Ramirez	GBP 13,380,000	Sommer 2012	21	Southampton	Bologna
Pablo Osvaldo	GBP 13,290,000	Sommer 2013	27	Southampton	AS Roma
Daniel Sturridge	GBP 13,200,000	Vinter 2013	23	Liverpool	Chelsea
Gabriel Paulista	GBP 13,200,000	Vinter 2015	24	Arsenal	Villareal
Jack Rodwell	GBP 13,200,000	Sommer 2012	21	MCFC	Everton
Enner Remberto Valencia	GBP 13,200,000	Sommer 2014	24	West Ham	Pachuca
Mathieu Debuchy	GBP 13,200,000	Sommer 2014	28	Arsenal	Newcastle
Fernando	GBP 13,200,000	Sommer 2014	26	MCFC	FC Porto
Sadio Mané	GBP 13,200,000	Sommer 2014	22	Southampton	RB Salzburg
Christopher Samba	GBP 13,200,000	Vinter 2013	28	QPR	Anzhi
Shane Patrick Long	GBP 13,110,000	Sommer 2014	27	Southampton	Hull City
Kurt Zouma	GBP 12,850,000	Vinter 2014	19	Chelsea	Saint-Etienne
Victor Wanyama	GBP 12,760,000	Sommer 2013	22	Southampton	Celtic
Dusan Tadic	GBP 12,320,000	Sommer 2014	25	Southampton	FC Twente
Wilfried Bony	GBP 12,230,000	Sommer 2013	24	Swansea	Vitesse
Christian Eriksen	GBP 11,880,000	Sommer 2013	21	Tottenham	Ajax
Ryan Bertrand	GBP 11,740,000	Vinter 2015	25	Southampton	Chelsea
Fabio Borini	GBP 11,700,000	Sommer 2012	21	Liverpool	AS Roma
Mohamed Salah	GBP 11,680,000	Vinter 2014	21	Chelsea	Basel
Loic Remy	GBP 11,620,000	Sommer 2014	27	Chelsea	QPR
Gary Medel	GBP 11,440,000	Sommer 2013	26	Cardiff	Sevilla
Benjamin Davies	GBP 11,130,000	Sommer 2014	21	Tottenham	Swansea City
Divock Okoth Origi	GBP 11,110,000	Sommer 2014	19	Liverpool	Lille
Adam Johnson	GBP 11,090,000	Sommer 2012	25	Sunderland	MCFC
Sandro	GBP 11,090,000	Sommer 2014	25	QPR	Tottenham
Jack Rodwell	GBP 11,090,000	Sommer 2014	23	Sunderland	MCFC
Jan Vertonghen	GBP 11,000,000	Sommer 2012	25	Tottenham	Ajax
Lukas Podolski	GBP 10,560,000	Sommer 2012	27	Arsenal	FC Köln
Emre Can	GBP 10,560,000	Sommer 2014	20	Liverpool	Bayer Leverkusen
Olivier Giroud	GBP 10,560,000	Sommer 2012	25	Arsenal	Montpellier
Abel Hernández	GBP 10,560,000	Sommer 2014	24	Hull City	US Palermo
Wilfried Zaha	GBP 10,340,000	Vinter 2013	20	MUFC	Crystal Palace
Victor Moses	GBP 10,120,000	Sommer 2012	21	Chelsea	Wigan
Etienne Capoue	GBP 9,680,000	Sommer 2013	25	Tottenham	Toulouse
Steven Caulker	GBP 9,460,000	Sommer 2014	22	QPR	Cardiff
Loic Remy	GBP 9,240,000	Vinter 2013	26	QPR	Marseille
Leonardo Ulloa	GBP 8,910,000	Sommer 2014	27	Leicester City	Brighton
Gylfi Sigurdsson	GBP 8,890,000	Sommer 2014	24	Swansea	Tottenham
Coutinho	GBP 8,800,000	Vinter 2013	20	Liverpool	Inter
Federico Fernández	GBP 8,800,000	Sommer 2014	25	Swansea	SSC Napoli
Federico Julián Fazio	GBP 8,800,000	Sommer 2014	27	Tottenham	Sevilla
Leroy Fer	GBP 8,800,000	Sommer 2014	25	QPR	Norwich
Rémy Cabella	GBP 8,800,000	Sommer 2014	24	Newcastle	Montpellier
Dejan Lovren	GBP 8,800,000	Sommer 2013	23	Southampton	Lyon
Graziano Pellè	GBP 8,800,000	Sommer 2014	28	Southampton	Feyenoord

Nacho Monreal	GBP 8,800,000	Vinter 2013	26	Arsenal	Malaga CF
Ricky Van Wolfswinkel	GBP 8,800,000	Sommer 2013	24	Norwich	Sporting
Jozy Altidore	GBP 8,800,000	Sommer 2013	23	Sunderland	AZ Alkmaar
Brown Aide Ideye	GBP 8,800,000	Sommer 2014	25	West Brom	Dynamo Kyiv
Gylfi Sigurdsson	GBP 8,800,000	Sommer 2012	22	Tottenham	Hoffenheim
Matt Jarvis	GBP 8,360,000	Sommer 2012	26	West Ham	Wolverhampton
Vlad Chiriches	GBP 8,360,000	Sommer 2013	23	Tottenham	Steaua
Marco van Ginkel	GBP 8,270,000	Sommer 2013	20	Chelsea	Vitesse
Steven Caulker	GBP 8,050,000	Sommer 2013	21	Cardiff	Tottenham
Andrej Kramaric	GBP 7,920,000	Vinter 2015	23	Leicester City	HNK Rijeka
Iago Aspas	GBP 7,920,000	Sommer 2013	25	Liverpool	Celta de Vigo
James McArthur	GBP 7,740,000	Sommer 2014	26	Crystal Palace	Wigan
Cesàr Azpilicueta	GBP 7,740,000	Sommer 2012	22	Chelsea	Marseille
Christian Benteke	GBP 7,740,000	Sommer 2012	21	Aston Villa	KRC Genk
Andreas Cornelius	GBP 7,660,000	Sommer 2013	20	Cardiff	FC København
Siem de Jong	GBP 7,660,000	Sommer 2014	25	Newcastle	Ajax
Jay Rodriguez	GBP 7,610,000	Sommer 2012	22	Southampton	Burnley
Demba Ba	GBP 7,480,000	Vinter 2013	27	Chelsea	Newcastle
Shane Patrick Long	GBP 7,480,000	Vinter 2014	26	Hull City	West Brom
Vurnon Anita	GBP 7,480,000	Sommer 2012	23	Newcastle	Ajax
Tiago Ilori	GBP 7,260,000	Sommer 2013	20	Liverpool	Sporting
Nacer Chadli	GBP 7,170,000	Sommer 2013	23	Tottenham	Twente
Luis Alberto	GBP 7,040,000	Sommer 2013	20	Liverpool	Sevilla
Esteban Granero	GBP 7,040,000	Sommer 2012	25	QPR	Real Madrid
Marko Marin	GBP 7,040,000	Sommer 2012	23	Chelsea	Werder Bremen
Mapou Yanga-Mbiwa	GBP 7,040,000	Vinter 2013	23	Newcastle	Montpellier
Scott Sinclair	GBP 6,860,000	Sommer 2012	23	MCFC	Swansea City
Nikica Jelavic	GBP 6,860,000	Vinter 2014	28	Hull City	Everton
Kevin Mirallas	GBP 6,730,000	Sommer 2012	24	Everton	Olympiacos
Jordon Mutch	GBP 6,660,000	Sommer 2014	22	QPR	Cardiff
Clint Dempsey	GBP 6,600,000	Sommer 2012	29	Tottenham	Fulham
Robert Snodgrass	GBP 6,600,000	Sommer 2014	26	Hull City	Norwich
Nick Powell	GBP 6,600,000	Sommer 2012	18	MUFC	Crewe Alexandra
Emanuele Giaccherini	GBP 6,600,000	Sommer 2013	28	Sunderland	Juventus
Cheikhou Kouyaté	GBP 6,600,000	Sommer 2014	24	West Ham	RSC Anderlecht
Pablo Hernandez	GBP 6,160,000	Sommer 2012	27	Swansea	Valencia
Sung-Yong Ki	GBP 6,160,000	Sommer 2012	23	Swansea	Celtic
Jake Livermore	GBP 6,160,000	Sommer 2014	24	Hull City	Tottenham
Stephane Sessegnon	GBP 6,160,000	Sommer 2013	29	West Brom	Sunderland
Arouna Koné	GBP 6,160,000	Sommer 2013	29	Everton	Wigan
Florin Gardoş	GBP 5,980,000	Sommer 2014	25	Southampton	Steaua
Dele Alli	GBP 5,830,000	Vinter 2015	18	Tottenham	MK Dons
Kyle Naughton	GBP 5,810,000	Vinter 2015	26	Swansea	Tottenham
Libor Kozak	GBP 5,720,000	Sommer 2013	24	Aston Villa	Lazio
Emmanuel Adebayor	GBP 5,630,000	Sommer 2012	28	Tottenham	MCFC
Callum Mcmanaman	GBP 5,590,000	Vinter 2015	23	West Brom	Wigan
Jordan Mutch	GBP 5,580,000	Vinter 2015	23	Crystal Palace	QPR
Emmanuel Rivière	GBP 5,560,000	Sommer 2014	24	Newcastle	Monaco

Gary Hooper	GBP 5,540,000	Sommer 2013	25	Norwich	Celtic
Charlie Adam	GBP 5,460,000	Sommer 2012	26	Stoke	Liverpool
Mathieu Debuchy	GBP 5,460,000	Vinter 2013	27	Newcastle	Lille
Carlos Sánchez	GBP 5,280,000	Sommer 2014	28	Aston Villa	Elche FC
Stephane Mbia	GBP 5,280,000	Sommer 2012	26	QPR	Marseille
Daryl Janmaat	GBP 5,280,000	Sommer 2014	24	Newcastle	Feyenoord
Ivan Ramis	GBP 5,280,000	Sommer 2012	27	Wigan	Mallorca
Madibo Maiga	GBP 5,280,000	Sommer 2012	24	West Ham	Sochaux
Jonjo Shelvey	GBP 5,190,000	Sommer 2013	21	Swansea	Liverpool
Victor Anichebe	GBP 5,190,000	Sommer 2013	25	West Brom	Everton
Benjamin Stambouli	GBP 5,190,000	Sommer 2014	24	Tottenham	Montpellier
Danny Graham	GBP 5,100,000	Vinter 2013	27	Sunderland	Swansea City
Stewart Downing	GBP 5,100,000	Sommer 2013	29	West Ham	Liverpool
Tom Huddlestone	GBP 5,100,000	Sommer 2013	26	Hull City	Tottenham
Steven Pienaar	GBP 5,060,000	Sommer 2012	30	Everton	Tottenham
Richard Lee Lambert	GBP 4,840,000	Sommer 2014	32	Liverpool	Southampton
Leroy Fer	GBP 4,840,000	Sommer 2013	23	Norwich	Twente
Angelo Henriquez	GBP 4,840,000	Sommer 2012	18	MUFC	U de Chile
Wallace	GBP 4,750,000	Vinter 2013	18	Chelsea	Fluminense
Pape Souare	GBP 4,690,000	Vinter 2015	24	Crystal Palace	Lille
Dwight Gayle	GBP 4,660,000	Sommer 2013	22	Crystal Palace	Peterborough
Dimitar Berbatov	GBP 4,400,000	Sommer 2012	31	Fulham	MUFC
Martin Demichelis	GBP 4,400,000	Sommer 2013	32	MCFC	Atletico Madrid
Eric Dier	GBP 4,400,000	Sommer 2014	20	Tottenham	Sporting
Diafra Sakho	GBP 4,400,000	Sommer 2014	24	West Ham	FC Metz
Jefferson Montero	GBP 4,400,000	Sommer 2014	24	Swansea	Monarcas
Alexander Buttner	GBP 4,400,000	Sommer 2012	23	MUFC	Vitesse
Muhamed Bešić	GBP 4,220,000	Sommer 2014	21	Everton	Ferencváros
Aaron William Cresswell	GBP 4,180,000	Sommer 2014	24	West Ham	Ipswich
Jores Okore	GBP 4,140,000	Sommer 2013	20	Aston Villa	Nordsjælland
Alfred N'Diaye	GBP 4,140,000	Vinter 2013	22	Sunderland	Brusaspor
Scott Parker	GBP 3,960,000	Sommer 2013	32	Fulham	Tottenham
Bryan Oviedo	GBP 3,960,000	Sommer 2012	22	Everton	FC København
Michael Richard Dawson	GBP 3,870,000	Sommer 2014	30	Hull City	Tottenham
Mohamed Diamé	GBP 3,870,000	Sommer 2014	27	Hull City	West Ham United
Steven N'Zonzi	GBP 3,870,000	Sommer 2012	23	Stoke	Blackburn
Carles Gil	GBP 3,700,000	Vinter 2015	22	Aston Villa	Valencia
Jack Cork	GBP 3,520,000	Vinter 2015	25	Swansea	Southampton
Oussama Assaidi	GBP 3,520,000	Sommer 2012	24	Liverpool	Heerenveen
Emmanuel Mayuka	GBP 3,520,000	Sommer 2012	21	Southampton	Young Boys
Samba Diakitè	GBP 3,520,000	Sommer 2012	23	QPR	Nancy
Dame N'Doye	GBP 3,490,000	Vinter 2015	29	Hull City	FC Lokomotiv
Wilfried Zaha	GBP 3,370,000	Vinter 2015	22	Crystal Palace	MUFC
George Ian Boyd	GBP 3,340,000	Sommer 2014	28	Burnley FC	Hull City
Ron Vlaar	GBP 3,340,000	Sommer 2012	27	Aston Villa	Feyenoord
Ezekiel David Fryers	GBP 3,340,000	Sommer 2014	21	Crystal Palace	Tottenham
Arouna Koné	GBP 3,340,000	Sommer 2012	28	Wigan	Levante
Adrian Mariappa	GBP 3,340,000	Sommer 2012	25	Reading	Watford

Maicon	GBP 3,300,000	Sommer 2012	31	MCFC	Inter
Junior Hoilett	GBP 3,300,000	Sommer 2012	22	QPR	Blackburn
Matthew Lowton	GBP 3,300,000	Sommer 2012	23	Aston Villa	Sheffield United
Liam Bridcutt	GBP 3,220,000	Vinter 2014	24	Sunderland	Brighton
Ignacio Scocco	GBP 3,210,000	Vinter 2014	28	Sunderland	Internacional
Andrew Robertson	GBP 3,170,000	Sommer 2014	20	Hull City	Dundee United
Erik Pieters	GBP 3,170,000	Sommer 2013	24	Stoke	PSV Eindhoven
John Stones	GBP 3,080,000	Vinter 2013	18	Everton	Barnsley
Joe Ledly	GBP 3,080,000	Vinter 2014	27	Crystal Palace	Celtic
Vegard Forren	GBP 3,080,000	Vinter 2013	24	Southampton	Molde
Michael Kightly	GBP 3,080,000	Sommer 2012	26	Stoke	Wolverhampton
Adrian Mariappa	GBP 3,080,000	Sommer 2013	26	Crystal Palace	Reading
Ezekiel Fryers	GBP 3,080,000	Vinter 2013	20	Tottenham	Standard Liege
James Collins	GBP 2,820,000	Sommer 2012	28	West Ham	Aston Villa
Nathaniel Clyne	GBP 2,820,000	Sommer 2012	21	Southampton	Crystal Palace
Robert Snodgrass	GBP 2,820,000	Sommer 2012	24	Norwich	Leeds
Aleksandar Tonev	GBP 2,820,000	Sommer 2013	23	Aston Villa	Lech Poznan
Harry Maguire	GBP 2,780,000	Sommer 2014	21	Hull City	Sheffield United
Joe Bennett	GBP 2,770,000	Sommer 2012	22	Aston Villa	Middlesbrough
William Edward Buckley	GBP 2,740,000	Sommer 2014	24	Sunderland	Brighton
JI-Sung Park	GBP 2,730,000	Sommer 2012	31	QPR	MUFC
Lukas Jutkiewicz	GBP 2,730,000	Sommer 2014	25	Burnley FC	Middlesbrough
Christian Atsu	GBP 2,640,000	Sommer 2013	21	Chelsea	FC Porto
Sebastien Bassong	GBP 2,640,000	Sommer 2012	26	Norwich	Tottenham
Brek Shea	GBP 2,640,000	Vinter 2013	22	Stoke	Dallas
Krystian Bielik	GBP 2,640,000	Vinter 2015	17	Arsenal	Legia Warzawa
Mats Møller Dæhli	GBP 2,640,000	Vinter 2014	18	Cardiff	Molde
Chris Gunter	GBP 2,640,000	Sommer 2012	22	Reading	Nottingham Forr
Charalampos Mavrias	GBP 2,640,000	Sommer 2013	19	Sunderland	Panathinaikos
Peter Odemwingie	GBP 2,550,000	Sommer 2013	32	Cardiff	West Brom
Jordi Amat	GBP 2,550,000	Sommer 2013	21	Swansea	Espanyol
Martin Olsson	GBP 2,550,000	Sommer 2013	25	Norwich	Blackburn
Adlene Guedioura	GBP 2,550,000	Sommer 2013	27	Crystal Palace	Nottingham Forr
Marko Arnautovic	GBP 2,460,000	Sommer 2013	24	Stoke	Werder Bremen
Karim El Ahmadi	GBP 2,460,000	Sommer 2012	27	Aston Villa	Feyenoord
Maya Yoshida	GBP 2,460,000	Sommer 2012	24	Southampton	VVV-Venlo
Curtis Davies	GBP 2,330,000	Sommer 2013	28	Hull City	Birmingham
DeAndre Roselle Yedlin	GBP 2,290,000	Sommer 2014	21	Tottenham	Sounders FC
Michu	GBP 2,260,000	Sommer 2012	26	Swansea	Rayo Vallecano
Michael Keane	GBP 2,250,000	Vinter 2015	22	Burnley FC	MUFC
Ashley Westwood	GBP 2,200,000	Sommer 2012	22	Aston Villa	Crewe Alexandra
Danny Simpson	GBP 2,200,000	Sommer 2014	28	Leicester City	QPR
Kieran Richardson	GBP 2,200,000	Sommer 2012	27	Fulham	Sunderland
Moussa Sissoko	GBP 2,200,000	Vinter 2013	23	Newcastle	Toulouse
Alou Diarra	GBP 2,200,000	Sommer 2012	31	West Ham	Marseille
Chico	GBP 2,200,000	Sommer 2012	25	Swansea	Genoa
Mario Pašalić	GBP 2,200,000	Sommer 2014	19	Chelsea	Hajduk Split
Bruno Zuculini	GBP 2,200,000	Sommer 2014	21	MCFC	Racing Club

Ashkan Dejagah	GBP 2,200,000	Sommer 2012	26	Fulham	Wolfsburg
Aly Cissokho	GBP 2,200,000	Sommer 2014	26	Aston Villa	Valencia
Kevin Theophile-Catherine	GBP 2,200,000	Sommer 2013	23	Cardiff	Rennes
Magnus Wolff Eikrem	GBP 2,200,000	Vinter 2014	23	Cardiff	Heerenveen
Massadio Haidara	GBP 2,200,000	Vinter 2013	20	Newcastle	Nancy
Stipe Perica	GBP 2,160,000	Sommer 2013	18	Chelsea	NK Zadar
Cristian Gamboa	GBP 2,110,000	Sommer 2014	24	West Brom	Rosenborg BK
Yacouba Sylla	GBP 2,110,000	Vinter 2013	22	Aston Villa	Clermont
Jack Hunt	GBP 2,070,000	Sommer 2013	22	Crystal Palace	Huddersfield
Ahmed Elmohamady	GBP 2,020,000	Sommer 2013	25	Hull City	Sunderland
Nathan Redmond	GBP 2,020,000	Sommer 2013	19	Norwich	Birmingham
Matthew Jacob Grimes	GBP 1,970,000	Vinter 2015	19	Swansea	Exeter City
Jason Puncheon	GBP 1,940,000	Vinter 2014	27	Crystal Palace	Southamton
Geoff Cameron	GBP 1,890,000	Sommer 2012	27	Stoke	Houston
Barry Bannan	GBP 1,850,000	Sommer 2013	23	Crystal Palace	Aston Villa
Antonio Luna	GBP 1,760,000	Sommer 2013	22	Aston Villa	Sevilla
Martin Ronald Kelly	GBP 1,760,000	Sommer 2014	24	Crystal Palace	Liverpool
Jose Campaña	GBP 1,760,000	Sommer 2013	20	Crystal Palace	Sevilla
Patrick van Aanholt	GBP 1,760,000	Sommer 2014	23	Sunderland	Chelsea
Yoan Gouffran	GBP 1,760,000	Vinter 2013	26	Newcastle	Bordeaux
Aiden Mcgeady	GBP 1,760,000	Vinter 2014	27	Everton	Spartak Moscow
Ayoze Pérez Gutiérrez	GBP 1,760,000	Sommer 2014	20	Newcastle	CD Tenerife
Sebastián Marcelo Blanco	GBP 1,760,000	Sommer 2014	26	West Brom	Metalist
Michael Turner	GBP 1,670,000	Sommer 2012	28	Norwich	Sunderland
Cristian Cuevas	GBP 1,670,000	Sommer 2013	18	Chelsea	CD O'Higgins
Michael John Kightly	GBP 1,670,000	Sommer 2014	28	Burnley FC	Stoke City
Modou Barrow	GBP 1,660,000	Sommer 2014	21	Swansea	Østersunds FK
Scott Dann	GBP 1,610,000	Vinter 2014	26	Crystal Palace	Blackburn
Bojan Krkić Pérez	GBP 1,580,000	Sommer 2014	23	Stoke	Barcelona
Yannick Sagbo	GBP 1,580,000	Sommer 2013	25	Hull City	Evian
Lewis Holtby	GBP 1,540,000	Vinter 2013	22	Tottenham	Schalke
David Karlsson	GBP 1,540,000	Sommer 2013	19	Sunderland	Göteborg
John Brayford	GBP 1,530,000	Sommer 2013	25	Cardiff	Derby
Marvin Emnes	GBP 1,500,000	Sommer 2014	26	Swansea	Middlesbrough
Stephen Kelly	GBP 1,320,000	Vinter 2013	29	Reading	Fulham
Javier Garrido	GBP 1,320,000	Sommer 2013	28	Norwich	Lazio
Sébastien Pocognoli	GBP 1,320,000	Sommer 2014	26	West Brom	Hannover 96
Nicklas Helenius	GBP 1,320,000	Sommer 2013	22	Aston Villa	Aalborg BK
Aleksander Tettey	GBP 1,320,000	Sommer 2012	26	Norwich	Rennes
Sascha Riether	GBP 1,230,000	Sommer 2013	30	Fulham	FC Köln
Nick Blackman	GBP 1,230,000	Vinter 2013	23	Reading	Sheffield United
Stephen Hendrie	GBP 1,170,000	Vinter 2015	20	West Ham	Hamilton
Kyle Bartley	GBP 1,140,000	Sommer 2012	21	Swansea	Arsenal
Samed Yesil	GBP 1,140,000	Sommer 2012	18	Liverpool	Bayer Leverkusen
Thomas Morris Lawrence	GBP 1,110,000	Sommer 2014	20	Leicester City	MUFC
Jack Robinson	GBP 1,100,000	Sommer 2014	20	QPR	Liverpool
Gaël Bigirimana	GBP 1,100,000	Sommer 2012	18	Newcastle	Coventry
Marouane Chamakh	GBP 1,060,000	Sommer 2013	29	Crystal Palace	Arsenal

Fraizer Lee Campbell	GBP 1,000,000	Sommer 2014	26	Crystal Palace	Cardiff
Steven Davis	GBP 880,000	Sommer 2012	27	Southampton	Rangers
Morgan Amalfitano	GBP 880,000	Sommer 2014	29	West Ham	Marseille
Thorgan Hazard	GBP 880,000	Sommer 2012	19	Chelsea	Lens
Leandro Bacuna	GBP 880,000	Sommer 2013	21	Aston Villa	FC Groningen
Kevin Mbabu	GBP 880,000	Vinter 2013	17	Newcastle	Servette
Stephen Dobbie	GBP 871,000	Sommer 2013	30	Crystal Palace	Brighton
Jimmy Kebe	GBP 774,000	Sommer 2013	29	Crystal Palace	Reading
Daniel Carrico	GBP 660,000	Vinter 2013	24	Reading	Sporting
Fraser Fyvie	GBP 559,000	Sommer 2012	19	Wigan	Aberdeen
Stephen Ward	GBP 554,000	Sommer 2014	28	Burnley FC	Wolverhampton
Maurice Edu	GBP 554,000	Sommer 2012	26	Stoke	Rangers
Marvin Sordell	GBP 554,000	Sommer 2014	23	Burnley FC	Bolton
Jordan Bowery	GBP 554,000	Sommer 2012	21	Aston Villa	Chesterfield
Curtis Good	GBP 453,000	Sommer 2012	19	Newcastle	Melbourne
Elsad Zverotic	GBP 352,000	Sommer 2013	26	Fulham	Young Boys
Hope Akpan	GBP 326,000	Vinter 2013	21	Reading	Crawley
Cala	GBP 308,000	Vinter 2014	24	Cardiff	Sevilla
Matthew Kennedy	GBP 220,000	Sommer 2012	17	Everton	Kilmarnock