

BEYOND THE PITCH: THE CASE OF THE EPL

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Abstract

Soccer has always been a very subjective game, something that requires careful watching in order to fully grasp the beauty of it. However, the beauty is not shallow, and goes deeper than what a viewer might see just from watching. Beyond the pitch is a qualitative analytical study, very numbers driven, to explain why there is such a gap in wages from players who appear to be at the same level, talent-wise. I look at a variety of factors including where players come from, where they play, statistics for the 2017-18 season for players separated by position, as well as create an index in order to rank them amongst each other. The results will show that, because of transfer fees, hype, and the fact that viewership of the English Premier League is at an all-time global high, the primary factor determining a player's wages is where the player transferred from, and if the player is an English native or comes from a very small team, the determining factor is performance. The implications are that there is an imbalance among the players, where some players are overlooked for large wages simply because their name isn't big enough and recognizable, even though they perform at the same level or better than their counterparts on the field.

Introduction

The project I am presenting is about whether pay is indicative of performance in the English Premier League. The focus of the discussion will mostly pertain to the top 6 clubs in the English Premier League (EPL), those being Manchester City, Manchester United, Chelsea, Arsenal, Liverpool, and Tottenham. The research method used to show what the marginal product of these players are on and off the field is mostly going to be by quantitative analysis of statistics of over 400 players throughout the league, along with a breakdown of the most pertinent stats by position, and then average them out to get what an “average” player produces per season. Afterwards, the wages of the players in that position will be averaged out to get what an “average” player gets paid at that position. Finally, our average player will be compared to the supposed “top” players, to see if their raw statistics match up about the same with their wages, or if there really is a wage gap in the EPL between players of the same caliber. What is expected to be found is that there is a disparity between the stats and wages of the most well-paid players compared to lesser paid ones, meaning that they will have similar overall statistics pertinent to their position, but the wage gap between them will still be noticeable. However, I also expect to be able to reason the difference in wage with qualities that make a player more valuable to his club, whether it be experience, leadership, international pedigree, etc. This research is important because it will shed light on a topic that causes controversy because of the lack of knowledge surrounding it. People often just look at the wage a player gets and think that someone can't possibly be worth that much, but my research can show what a player brings to the table to earn the wages the club gives him, whether it be from providing ticket sales because of his nationality, or because he directly contributes to more wins in a season. Both can be attributed to a higher wage than his peers, even

though they are completely unrelated factors, and one cannot be measured as easily as the other.

Background Information

Soccer, or football as it's known outside the United States, is far and away the most popular sport, watched by hundreds of millions, if not billions, of people worldwide. With the latest TV deals in 2015 involving Sky Sports and BT¹, more people than ever before are watching. The players that play at the highest level are under the most intense scrutiny of their every move, every single time they step on the field to play. Because soccer is watched by so many, it brings in immense amounts of revenue each year, the most of all being in the English Premier League, England's highest division of soccer. Often thought of to be the most watched and most competitive league on earth, the players here are especially scrutinized for their performance's week in and week out. Performance, the way the players are measured on the field, is usually gauged by their statistics. Each position has a different set of statistics that are pertinent to the position and can be used to accurately judge how big an impact the player is having. For attackers, shots on goal, shots, and goals are the most important stats, because they are the ones entrusted to score the most. For midfielders, passes, crosses, through balls, and assists are the most important stats, because they are the main distributors of the team. With defenders, tackles, blocks, clearances, and interceptions are what they are judged on, and with goalkeepers it is just saves, clean sheets, and goals conceded. This league features some of the best and most talented players in the sport, and because the capital

¹ Two of the largest TV sports providers worldwide

the league and clubs in it bring in is so extraordinary, the players at these clubs are paid extraordinary wages, the very top tier of players getting wages in the tens of millions of dollars. For example, two of the top players in the Premier League, Alexis Sanchez and Paul Pogba of Manchester United, both have contracts that are in excess of 350,000 pounds a week, while their teammates, Marcus Rashford and Jesse Lingard, make only 25,000 pounds a week, despite playing roughly the same amount and doing only slightly less well as their teammates, and yet are paid more than 10 times less. The pay is measured in weeks because the Premier League season spans from mid-August all the way through to early May, and the players are paid on a weekly basis because of that. When referring to wages this is just the salary that the player receives from the club, and does not include endorsements and sponsorships, nor the bonuses from winning competitions. Otherwise this would skew the numbers used in the analysis portion of the study, because endorsements and sponsorships can sometimes be more lucrative than the actual contract². The biggest clubs can afford these wages, but does these players' output on the field really demand a wage bill that goes well in excess of 100 million dollars for the biggest teams? I claim that performance on the field does not explain the wage difference among players in the premier league, the reason being that the top players have similar output to players below them, yet they get paid much more than those players. I think there are external factors that contribute to the wages of these players being so high, but the raw data of the stats themselves would not indicate as huge a disparity as the wage is.

² as is the case with Neymar, a player from the French league who earned 36.8 million pounds last year, and over 50 million pounds from endorsements

Economics of Soccer

There has been a polarizing discussion about the fairness of pay scales in recent years as the wages of players have grown and grown, and as a result there is data and literature that both supports and hinders the argument presented. Literature that supports the argument mostly pertains to why players get paid more even though the stats behind them might not explain it, which is the basis of my argument. One example is a study done in 2012 by McHale, which rated players on a scale, and this actually is the scale used in EA Sports' FIFA Soccer video games, the highest selling video game worldwide. They used quantitative analysis of player statistics to select a rating for players, keeping in mind such variables as not involving opinions and making it possible to compare players from different positions. They rate the players based on their production the previous year, as well as accounting for age and both technical, physical, and mental abilities on the pitch, using a scale from 1-99. They found that players from the leading teams had some of the highest ratings, but did not dominate the charts, and that there were surprises in lower teams that had players that matched the productivity of the biggest names. This directly supports the premise of my paper as undoubtedly the players from lower teams were not as highly paid as their counterparts in the top 6 clubs, but still had similar levels of output. For example, Gabriel Agbonlahor from Aston Villa, a relatively small club, who was virtually tied for score with Dimitar Berbatov, the star attacker for the biggest club in the league, Manchester United.

The example used in the beginning of this paper, about players being more valuable because they could do things like sell more tickets due to their nationality, is

based on the conclusions of Pedace (2008). The author questioned whether there was nationality discrimination in the English Premier League. The article utilized a “market test” approach to find whether there was discrimination among nationalities. This was done by assuming that teams compete for fans in order to increase profits and maximize utility. The revenues were created as a function of the team’s success, while the costs were the cost of the players’ talent. This was done because “in the absence of discrimination, a team’s success should be determined primarily by its talent pool, and therefore its wage expenditure.” It found that among fans of the game, 60% of fans thought that there were too many immigrants playing in the Premier League, a view that holds up even now, as a major criticism of the league is that they don’t have enough English-born talent in the top clubs, and have to rely on players from other countries in order to be good or competitive in the domestic league and in Europe. However, an interesting finding was that players from South America seemed to get preferential treatment in the labor market³ in the EPL. This seemed to come in response to owners noticing that attendance increased with a larger present of South American players in the team. This may be due to the fact that they attracted more immigrants living in England to the games, or because South American players are known for an exciting and often flashy style of play that is aesthetically pleasing. In any case, this article supports my claim because it shows that these players are not getting paid more because they are necessarily better, but because their style of play as well as the fans they draw help out the club financially. In the end it is a business like any other looking to maximize profits, which these players help to do.

³ wages

Some data can be found to prove my argument from other leagues which are similar to the Premier League in terms of talent and competitiveness, if not quite at the same level. Franck and Nuesch's (2010) study done in Germany's top league, the Bundesliga, which is still popular, but is not quite at the level of the Premier League. I believe the data translates over to the EPL and that the same results can be observed. The question they addressed was how the interaction type within in a team moderates the impact of talent disparity on team productivity, using analysis of interactions between players and the squad as a whole. They did this by analyzing players in the game and relating their talent to the team's likelihood of winning, while also examining the influence of talent disparity of the entire team in a season, with the team's position in the table at the end of the season the measure of long-term effectiveness. They found that, surprisingly, talent disparity was beneficial to the overall good and standing of the team. The way I analyzed it was that having a disparity of talent causes competition among teammates, because the lesser skilled players want to be better than their other teammates to get more playing time, and this raises the intensity and playing level of all the players in the team. The players on the team with high skill and presumably the highest wages are paid not only because of how good they are or how they perform, but because they bring up the level of those around them through inspiring with their talent and breeding competition. As mentioned, this was in the German League, but it is comparable enough to the English Premier League that I think a study done in the EPL would yield the same results.

The way a player behaves on the field can often be a cause for a higher paycheck, if not actually producing a lot of goals or assists, but by just generally harassing the

opposite team and making their lives miserable through aggressive play. Jewell (2008) asked what the demand for physically aggressive play was in the Premier League, using a league point maximizing framework, in which aggression level is an input in the formula for the demand for aggressive play. They then used fouls and misconduct as models of a team's optimum aggressiveness during the course of a game. The level of aggressive play is then assumed to be a response to "the opportunity cost associated with the reduction in the probability of a win or a tie resulting from aggressive play." The results of this study indicated that aggressive play is responsive to an opportunity cost to both home and away teams in a given match, but the responsiveness of the home team is shown to be much larger than the away team. Basically, what this means is that home teams have more of an incentive to play aggressively than away teams because they are more likely to get away with it⁴. Another point that the study made, which can be observed today as well, is that smaller or weaker teams will often employ aggressive tactics to compete with the bigger and more talented clubs, because the increased physicality of the game makes it less about skill and more about strength, which puts the teams on a more even playing field. This supports my argument because it seems to be the case that the talent gap between clubs may not be as great as one might think, if employing extra physicality and aggressiveness is all that is needed to make the teams compete more evenly. Fans today see the Premier League as the most competitive league in Europe because on any given day, any team can win, which is often the case in most seasons in England. With this being true, maybe the talent level of the top paid players in the league doesn't warrant

⁴ this is known as home field bias or advantage

such a wage, if lesser teams can get a similar output from their players and even win matches versus these much larger clubs for a fraction of the wages.

It is also possible to tell whether a team overpays their players by looking at their financial status, because as stated earlier, all these clubs are businesses at the end of the day. The first piece of literature, Barajas and Rodriguez's (2010) paper looks at the financial situation of different Spanish League football teams. Once again, the Spanish league is comparable to the Premier League in terms of talent and popularity, so observations made on it could be translated to the English league quite easily. They did this by first showing the lack of quality in the financial information of Spanish clubs based on their audit reports. In addition, they used econometric studies based on the model of Szymanski and Smith (1997) "in order to include the effects of the team's wage bill and the team's market size." They found that 1/3 of the clubs had debts more than their assets, and that some clubs have been inefficient because of the way they spent money on players. This means that these teams could be in debt because they spent money on players and paid them wages that did not reflect their talent or effect on the match, as well as not having other variables that could justify a high pay, and now they are struggling financially because of it. The second article that shows this is Kern, Schwarzmann, & Wiedenegger's (2012) study that looked at the efficiency of Premier League teams both on and off the pitch. They did this by developing a framework in order to cover the value creation process of the different clubs, by taking different points of data such as wage costs, market value, transfer activity, club success, and commercial output. They found that the only team to be absolutely efficient was Manchester United, and while some clubs performed well on the pitch, they struggled in other areas like match attendance or kit

sales. This shows that the clubs who do well but do not have any big players prove that they can do well in the league, however the big clubs that sell out matches may have high profile players for that reason and may pay them higher even if their output is not higher than players on lesser clubs.

Opposing Literature

There is literature that opposes the argument presented. Barros' (2006) study addressed the question of how close Premier League clubs are relative to their financial practices and the actual results they get on the field, using data envelopment analysis. The results were that, unsurprisingly, the teams with the highest amounts of revenue performed best in the league, the implications of that being that they dominate the league because their higher revenue allows them to get the best players and be able to adhere to their wage demands.

The next article is very similar to the first, comparing stock returns to results, done by Godinho and Cerqueira (2018). It is assumed to apply to the entirety of the Premier League as well. The results were the same as the other study, with a significant relation found between match results and stock performances, with the winningest teams having higher stock and therefore more overall value, giving the indication that they would be able to get more expensive, high profile players than clubs with not as much value.

The following paper that weakens my argument is Borooah and Mangan's 2011 study. It asked about competitiveness in the EPL and the importance of it, using a generalized entropy approach in order to measure inequality. They found that the EPL is

divided into 3 distinct groups, those being the top 5-6 teams, the middle of the pack⁵, and then the bottom 3-4. While there is disparity among the 3 groups, the teams within each group are competitive with each other. The top teams, however, do seem to be in a league of their own above the other two groups, and it's no coincidence that the top 5-6 teams are also the wealthiest of the clubs, bringing about the same point, that they are better because they are richer and can afford to get the best players, or so it seems.

Another study very similar to this one by Curran, Jennings & (2009) also found that over the course of 50 years, competitive balance has decreased steadily in the Premier League, meaning that the gap between teams has gotten larger, whether that be talent or money or tactics. I draw the same conclusion as the others, that there is a relationship between wealth of the club and how well they perform in the league.

It is clear that the same theme seems to be reoccurring that opposes my argument in all the literature presented. The final one is a graph done by Sporting Intelligence, showing the average annual player salary in the EPL for the 2017-18 season, and it comes as no surprise that the six best teams, the main focus of my paper, had the six highest total salaries in the league. Once again, the same conclusion is drawn, that the best teams have the most money so they can get the best players and continue to be the best. However, I think there is a little more to it than that.

The literature that supports my argument discusses a wide variety of reasons why players are compensated differently, including poor investing on the part of the club, i.e. overpaying for players, players bringing in more international fans, as well as purposely having talent disparity on a team, with a range of player wages, in order to increase

⁵ usually around 9 or so

competitiveness and productivity from the players. Literature against my argument were more about pointing out facts, that large teams win because they are rich enough to buy the best players, no matter the cost. All of the supplemental literature used in order to provide some insight into my study will be useful when drawing conclusions about the main bulk of the study, the data analysis of the players.

Transition into data analysis

All of these works against my argument focus on the team as a whole, and not the individual player performances. The qualitative analysis of all of the stats and salaries of players will show a different side to the story than the other papers have, and that is that output isn't so overly dramatic that some players deserve double the wage of other players solely based on stats. They may have other qualities that would make them more valuable to the club, but at face value, their play alone will be more similar to that of their peers. Yes, there will be outliers, of course the very top of the group will have the best output, but that still doesn't necessarily mean that they are getting paid the most, as I will explain in the data analysis section of my paper. All the sources I've used mostly lead one to draw conclusions as to what causes the studies to get the results they do, and the conclusions drawn from this will provide the final verdict on what truly drives player wages.

Data Analysis

For the analysis of data the method used was gathering statistics from over 400 players during the 2017-2018 season. The criteria for the data are as follows: The players were split into different categories based on position, namely, forward, midfielder, defender, or goalkeeper. Each player is listed by name along with their nationality and the club they played for in that season. They were counted as a part of the data set if they recorded a statistic that was deemed the most important for that position. So, to be recorded in the attacker category, a player must have had at least 1 goal during the past season. For midfielders, it was an assist, for defenders, a tackle, and for goalkeepers a clean sheet⁶. Of course, there were other stats that were reviewed and recorded within each of the 4 positional categories, but in order to even make it into the analysis a player had to record at least one of the major stats for his position. This was done in order to reduce some of the error that could occur if a player played a significant number of minutes, say at forward, without doing anything, as well as cutting down the number of players used in the study to only the most significant ones, the ones that are actually contributing in-game. Of course one drawback was that there are a couple cases in which a player, say a youth player⁷ gets a chance to make his first team debut and manages to score a goal, but then only plays twice more for the rest of the season. Those cases will be pointed out and explained, in order to clear up any confusion it causes. Each category has a list of players along with their pertinent stats for that position as well as their wage. Taking all of their stats into consideration, an index was created in order to quantify the players' statistical output over different statistics into one number, called the Player

⁶ win/tie the game without conceding a goal

⁷ youth players typically do not make nearly as much money as senior players because they are just joining the first team from the academy where they developed

Performance Index, or PPI. The index was created by weighting the different stats a player produced and placing them all into a formula to produce the index number. For instance, for a midfielder, assists are more important than tackles made, so therefore are weighted more heavily, and this is consistent with each category, which more depth will be provided to later. When each player receives their index number and is ranked among his peers one can see the “best” statistical player in each category. The PPI numbers were then placed into a graph on the Y axis, with the X axis being the players wage. If my theory holds true, then there should be very little to no correlation between the two. Any major outliers will be looked at and explained individually, with which will come the reason they are where there are, the reasoning behind it, and the implications from it. A regression between wage and index number was also done for each position and will also be examined. This index was created by me to try and accurately portray what a player does on the pitch without oversaturating it with information. There are many advanced statistics that can be used to show what players do, but it can be the case where there is too much information, so to counteract that I used only the most important stats for each player’s position. The message will still get across and the players’ value will still shine through the statistics because they are not overburdened with less than useful stats. There are some players that cannot be defined purely by statistics, and they will be talked about in individual case studies, or in analysis of the position and tactics that players of that position use, so their value will still be shown and be quantifiable amongst their peers. In addition to the PPI and graphs comparing it to wage, a regression was run to show the data in a different sense, without using the index. The player’s wage was used as the dependent variable, while the statistics used in creating the PPI, which varies by position,

were used as the independent variables. In addition, another category, labeled as whether the player came from a top 6 club in one of Europe's top 5 leagues⁸ was used as a dummy variable to show how much of an impact, if any, where the player came from had on their wage.

Forwards

To be a forward in soccer is to be a goal scorer. Yes, there are other things that one must be proficient at, such as creating space for others, good passing and vision, and creative runs and build up. However, above all else, forwards are judged based upon the amount of goals they score a season. For the purposes of my experiment, goals, shots, and times hitting the goalpost were used as significant data points. Forwards are the highest paid position, netting an average salary of 72,914 pounds a week. After all, in order to win games, you must score goals at some point. The top 3 scorers of the league for the 2017-18 season were Mohammed Salah, Harry Kane, and Sergio Agüero, who play for Liverpool, Tottenham, and Manchester City respectively. All 3 of those teams placed in the top 4 in the league, which is extremely good, and those three were also the top 3 in the PPI ranking. Below is the summary of the wages of all 82 attackers listed.

Table 1: Summary of Wages of Forwards

⁸ England, Spain, France, Italy, Germany

Mean	Range	Min	Max	Number of Observations
72914.17	208000	12000	22000	82

As one can see there is an extremely large range of wages for attackers, with the average being almost 73000 pounds per week, by far the highest of all 4 positions.

The regression was done by using the following formula:

Model 1: Regression of Forwards

$$\text{wage} = \alpha + \text{club of origin} + \text{goals} + \text{shots} + \text{woodwork} + \varepsilon,$$

in which wage is the dependent variable, that which is being explained. Alpha is the value of the wage when $x=0$, a constant, and the variables are used to determine how much of a change in wage is caused by a one unit increase of the variable. E is the error term, that is, the error in predicting the value of wage given the value of the variables. To explain what regression statistics are used, first there is the coefficient. It means that with a one unit increase in a game statistic, say goals, results in an increase of wage in the coefficient stated, in this case being almost 2800 pounds. Standard error means, in essence, that the coefficient given is plus or minus the standard error and is located in parenthesis underneath the coefficient. So for example, in the population of Premier League players observed, the gains in wage from one addition goal ranged from about 1600 to 4000 pounds per week increase. The P value shows whether the statistics given from the regression would occur in a larger population or observation; basically, if the results can be considered significant or not. For the case of attackers, only shots can be considered statistically significant, at the 95% confidence interval. The asterisk indicates what

confidence interval a value is significant at; one is for 90%, or a p value at .1, 95% is 2 asterisks, with a p value less than .05, and 99% is 3 asterisks, with a P value less than .01. As far as numbers are concerned the coefficients are what we are most interested in. An additional goal resulted in a 2800 pounds per week increase in wage, a shot gave a 68 pounds per week increase, and hitting the post actually resulted in a 1300 pounds per week decrease, which I believe is an error due to the amount of times a player hit the woodwork and how it is not necessarily related to how good a player is. This is backed up by the unusually large standard error for woodwork, 3500, which shows that it is definitely hit or miss, and varies by players, but is not usually correlated with skill. Most interesting is the fact that coming from a top 6 club in a top 5 league results in a 46,000 pound per week increase in wage, meaning that, for example, a player coming from Olympique de Marseille in France would make almost 50,000 pounds per week more than a player coming from Southampton, even though the 2 clubs are comparable in talent. This is a huge number, and to make sure it is not an isolated incident we will compare it to each position, to see if the club where a player transfers from really does have such a pronounced effect on their wage.

Table 2: Regression of Forwards

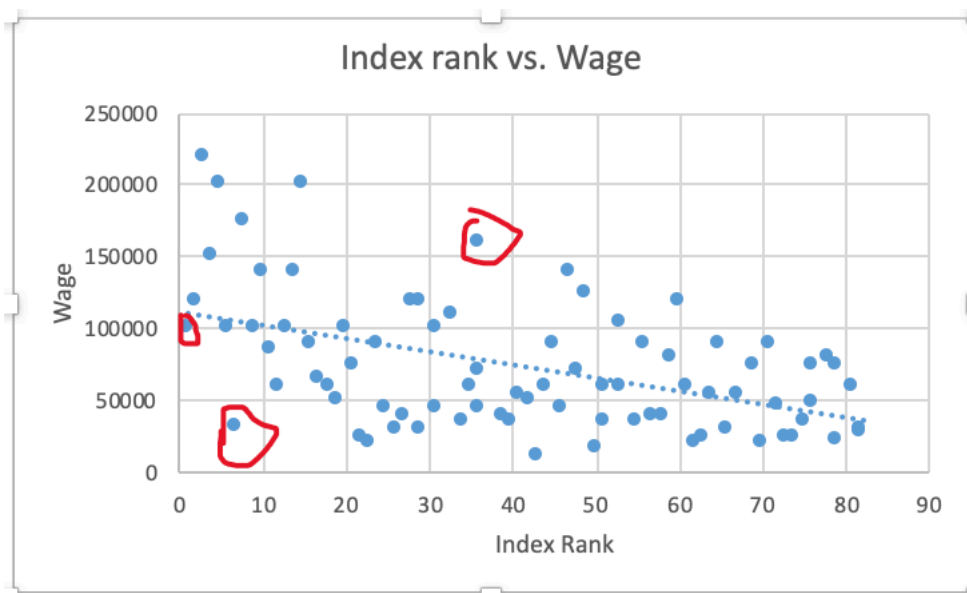
Statistic Used	Came from top 6 club, top 5 league	Goals	Assists	Woodwork
Coefficient	46986.06	2799.56**	68.50	-1352.13
	(6854.01)	(1246.40)	(252.52)	(3513.17)

In addition to the regression, a table was also created which compared player wages to their respective index rank among their peers. The index was created by adding weights to each statistical category and then adding it up. For attackers, the formula that I felt best summed up the value of each category are as follows:

$$5(\text{goals})+4(\text{shots})+3(\text{woodwork})=\text{index}$$

What is important is how the index number of the player ranks against his peers. Below are how rankings shaped out for forwards.

Figure 1: PPI vs. Wage of Forwards Graph



It appears to be fairly linear, which would indicate a relationship between wage and index rank. The 3 major outliers that we will be discussing are, moving from left to right, Richarlison, Harry Kane, and Wayne Rooney.

In the case of Richarlison, he transferred from Brazilian club Fluminense in the summer of 2017 before the upcoming season. The Brazilian league does not have very high wages and is not nearly as popular as the English league, so Watford, the team that

he transferred to, did not have to give him outrageous wages like they would have to a different player, as Richarlison is from a smaller league and is still young. In addition, he had yet to make a name for himself outside Brazil and therefore could not command the wages he might want. The reason why he is an outlier in our experiment is because although he only had a wage of 30,000 pounds a week, his index number ranked him 7th. This is because he took 95 shots, and even though he only scored 5 goals, the inference is that he could've scored a lot more. This brings about what could be looked at as an issue for the study, as shots don't necessarily translate to goals, as there are many other factors that contribute. However, for the sake of the study, we are assuming that more shots translates to a better player because they have the confidence to take those shots, as well as the fact that for almost all players, more shots will lead to more goals at some point, as all athletes in question are some of the best at what they do, and one to two outliers who take many shots with few goals in return is not a significant statistic. In the case of Richarlison, the theory of more shots equating to a better player turned out to be true, as Everton, a larger club than Watford in the Premier League, saw the potential in Richarlison and in the summer of 2018 bought him for 35 million pounds, he is now making 90,000 pounds a week and has already scored 10 goals this season, making more than good on Everton's initial investment.

Harry Kane, who has been touted by some as the golden boy of English football, is a forward from Tottenham, who in 2016 won the Golden Boot⁹ with 29 goals, and in the 2017-18 season was the runner up with 30. The reason he is considered an outlier is because he is number one on the PPI, as well as number 2 in total goals, but only makes

⁹ the most league goals in a season

100,000 pounds per week. This is because this is the same contract he signed when he first became a breakout talent for Tottenham, in 2015, but before he became a bonafide superstar of the league like he is now. However, this previous summer after the season he signed a 6-year deal with Tottenham which saw his wages doubled, so it appears he was only an outlier for a few seasons before he got paid the way his statistics suggested that he should be.

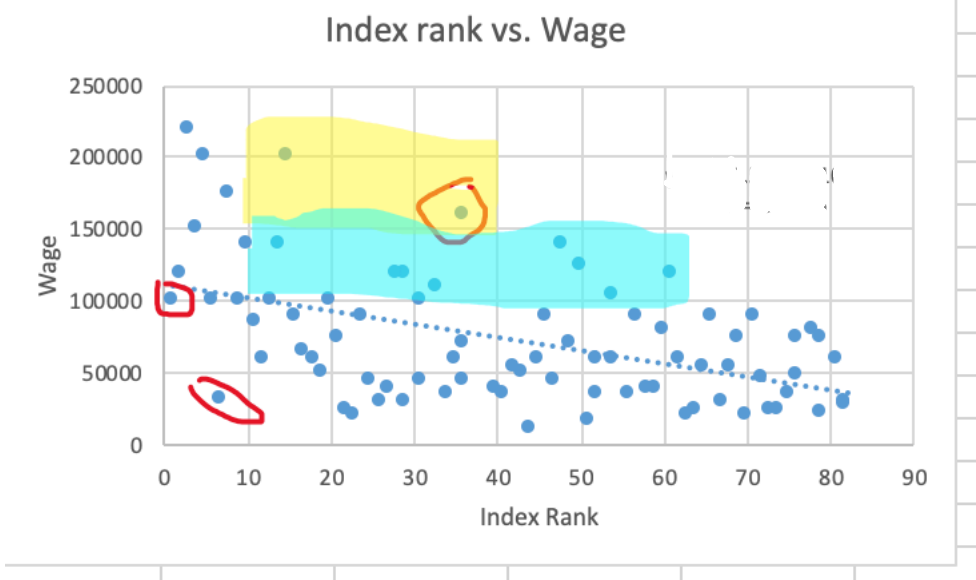
The last notable outlier belongs to one Wayne Rooney of Everton, once the highest paid player in the Premier League. He moved from Everton to Manchester United in 2004 when he was just 18 years old. At Manchester United, he would become a club legend, one of the greatest players ever to play in the premier league, with tenacious attacks and more than anything, heart and the willingness to push past his limits to be better. He won 16 trophies at Manchester United, both domestic and continental, and is the second highest premier league goal scorer of all time. All of these accolades translated to a mammoth wage, and at age 28 he signed a contract with United worth a figure around 360,000 pounds a week, making him the highest paid player in the league. Shortly after that however, his form began to fade, as time caught up with him¹⁰ and the fire which once burned so brightly in him to succeed began to fade. Manchester United are one of the biggest and best clubs in the world, and rather than letting a player that served them so well for so long rot on the bench as he was no longer good enough to start for them, they gave him a sending off and approved a transfer back to his boyhood club of Everton in the summer of 2017. Everton are not a small club, but they cannot afford to pay such large wages to an aging player who is quickly becoming a shadow of his former self and

¹⁰ The prime of an elite soccer player is usually only from 26-30, after that there is more often than not a steep decline in performance

came to an agreement for wages of 160,000 pounds a week, still much larger than many other players' salary, but small change for the once great Rooney. Even aging as quickly as he is, he still managed to score 10 goals in that season, well above the average at 6.8, but still, that wage cannot justify his output, and was given to him more as a sentiment for the great player he was.

Those I believe, are the largest outliers of the group, and in all 3 cases there was an explanation why the player's wages were so out of line with what they theoretically "should" have been getting.

Figure 2: PPI vs Wage Updated Graph



In the updated graph above it is shown that bar Richarlison, all the players in the top 10 have a wage above 100,000 pounds a week. In addition, there are only two players outside of the top 10 who make more than 150,000 pounds a week, and only 7 outside of the top 10 who make more than 100,000 pounds a week, out of a sample size of 83 players who scored at least 1 goal in the league in the 2017-18 season. These outliers are not statistically significant enough to cause concern for this part of the study, so it

appears that as far as attackers go, there is in fact a correlation between player wage and their output on the field. As far as the regression goes, a 1 pound per week increase would actually result in a $-.025\%$ decrease in index rank, which would indicate that they are actually slightly negatively correlated, however this is such a small number that for all intents and purposes it is negligible. Interestingly, 5 out of the top 30 players in terms of PPI were English, suggesting that the top forwards of the Premier league may not all be foreign as it is made out to be, however foreign players' wages are far superior to natural born English players', suggesting that there may be a correlation between wage and ethnicity, as being from a different country can grant your team more international recognition, as you now have fans supporting your club from different countries just because of one player you own. Clubs may look at this and provide incentives for these foreign players to stay because of the amount of revenue they bring in, such as an increased wage or more incentives.

Midfielders

Although being a forward player is definitely the most glamorous position in soccer, the heart of the team more often than not lies in the midfield. This less glamorous position also translates to a less glamorous salary, with the average midfielder making 63,000 pounds per week, almost 10,000 less than an attacker. However, it is an extremely important position and in many cases winning teams are characterized by their midfielders, who link up play from defense to attack. To play in the midfield is to be a jack of all trades of sorts, you must be able to provide accurate passes and assist the forwards

as well as chip in with goals of your own and provide cover for the defense in the form of tackling. The main statistics for midfielders that most often lead to a team's success are assists, goals, passes, and tackles.

The statistics for midfielder wages are fairly similar to attackers, except for the average being about 10000 pounds per week less than forwards. The range was larger though, as for the 110 midfielders listed, the wages were spread out over 287300 pounds.

Table 3: Summary of Wages of Midfielders

Mean	Range	Min	Max	Number of Observations
63440.8	287300	2700	290000	110

As far as the regression goes it is also very similar to attackers. The formula used for the midfield regression was once again with wage as the dependent variable, but now with the stats that are most important for midfielders.

Model 2: Regression of Midfielders Equation

$$\text{Wage} = \alpha + \text{team of origin} + \text{assists} + \text{passes} + \text{tackles} + \text{goals} + \epsilon$$

Being from a top 6 club in a top 5 league results in a 46,000-pound increase per week for the player, almost the same as for attackers. It seems that now it is a recurring trend that where a player comes from has a pronounced effect on their wage, which makes sense as a team is not going to pay a player if he hasn't proved himself at the highest level, no matter how prolific he is for his current team. The other statistics for midfielders show that assists result in a 2100-pound increase, passes a 30-pound increase, and for tackles and goals, a decrease of 377 and 239 pounds respectively. I

think this is because the players listed were in descending order of number of assists first, as well as the fact that there are so many different variations of midfielders. There was also a large standard error in goals, over 1500, which would lead one to believe that there were many players who did benefit from scoring as they should. Tackles, even accounting for standard deviation, was still negative, which I believe is because of the point made earlier about the different variations of midfielders and their different tasks. Obviously scoring goals and making tackles as a midfielder will not lower your value in the eyes of the club, quite the opposite actually, so for those stats I would look more to the index and the weights that are placed upon them, as well as where the player ends up on the index compared to his peers. Most importantly though, the place where the player came from had a more pronounced effect on his wage than anything else. It is interesting to note that tackles are the only significant statistic in the regression, at the 95% confidence interval, while assists fell just short of significance with a p value of .15.

Table 4: Regression of Midfielders

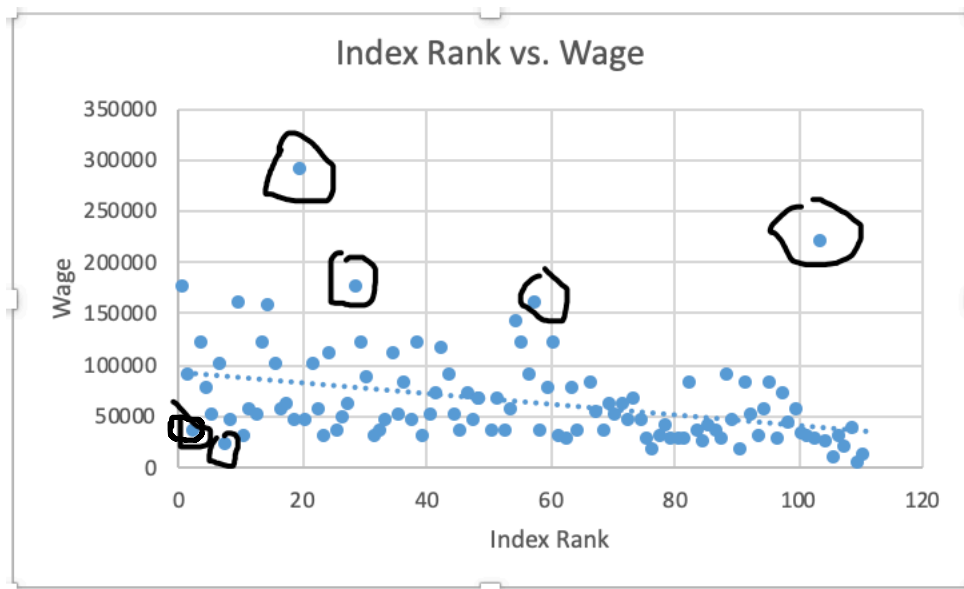
Statistic Used	Came from top 6 club, top 5 league	Assists	Passes	Tackles	Goals
Coefficient	46294.43	2100.95	30.48	-377**	-239.76
	(6787.52)	(1474.29)	(7.21)	(160)	(1505.77)

While not as linear as forwards in terms of correlation between wage and index rank, there is still a trend down in wage as you go down in rank. However, there are more

outliers for midfielders, possibly because it is more difficult to distinguish how good a midfielder is in terms of both statistics and by watching, as well as the different types of midfielders. It is such a versatile role that many players fall into one of many subcategories, which are quite numerous and include attacking, wide, box to box, holding, and defensive midfield. This partially contributes to why there are more outliers than earlier, but in the same manner the outliers will be examined and through that the reasons why the players fall where they may will be shown. The index equation used for midfielders was different than forwards, as with all 4 positions, and the actual PPI number the player got is only valuable in relation to his peers.

$$5(\text{assists})+.05(\text{passes})+1.5(\text{tackles})+4(\text{goals})=\text{index}$$

Figure 3: PPI vs. Wage of Midfielders Graph



From left to right, the 5 major outliers are as follows; Wilfried Ndidi, Abdoulaye Doucoure, Paul Pogba, Mesut Ozil, Juan Mata, and Yaya Toure.

Wilfried Ndidi begins as the first major outlier, coming in 3 in the index despite only making 30,000 pounds per week. In the summer of 2017 Ndidi transferred to Leicester

City to replace Ngolo Kante, a world class midfielder who had left the same summer for Chelsea after winning the league with Leicester¹¹ Ndidi came from the KRC Genk in the Belgium league, a small club which, along with other top clubs in Belgium, usually serves as a feeder of young, promising players to larger European clubs. This is why his wages are so low, because although showing promise in Belgium, he was untested in England and was by all accounts almost a no name player, with barely any international credibility. The reason he is so high on the index is because he blossomed into a masterful defensive midfielder, logging in the most tackles of anyone who made the midfielder list¹². His value has more than doubled since joining the Premier League and he is quickly becoming one of the most sought-after midfielders in Europe, thanks to his engine and tackling capabilities.

Next is Abdoulaye Doucoure, another defensive midfielder, but this time playing for Watford, a small team compared to some of the giants of the league. He transferred from Stade Rennais in France midway through the 2015-16 season, and much like Ndidi his relatively paltry wage of 20,000 pounds per week is due to this; being a young player from a small league that a Premier League team took a chance on because they saw the potential. He ranks 8th on the index because of his better than average tackling, as well as being extremely adept at passing, and scoring 7 goals. Primarily a defensive midfielder, the 7 goals can be seen as an outlier in and of itself and explains why he ended up so high on the index, taking away no credit from the man as a player. Despite this outlier, he too continues to trend upwards in value, which has tripled over the past 2

¹¹ Which still remains as the greatest sports triumph ever, as Leicester entered that season with 5000-1 odds of winning the league)

¹² For reference, his predecessor, Ngolo Kante, came in third in tackles and fourth overall, while making 4 times as much money thanks to his being premier league proven

seasons. If he keeps up this production, once he transfers away from Watford or signs a new contract, he will almost surely receive a massive payday.

Paul Pogba, one of the most exciting, polarizing, and highly paid players the league has ever seen, is next. While coming in at a decent 20th place, he has a mammoth wage of 290,000 pounds per week, one of the highest in the premier league. He began his career at Manchester United as a youth player, but after barely playing in the first team he moved to Juventus, regarded as the best club in Italy for the past 5-7 years, in 2012 for free, as United let his contract run out, and did not feel the need to resign him. There he became one of the most exciting central midfielders in Europe, for his passing range as well as goal scoring ability and gracefulness on the ball. He spent 4 years there and, in the summer of 2016, returned to United for 120 million pounds, breaking the record for the most expensive transfer ever. This was due to his talent as a player as well as the hype surrounding him; he was being courted by many other clubs, and United had to win the bidding war to secure his signature. His agent, Mino Raiola, is arguably the largest agent in Europe, managing such talents as Pogba, Romelu Lukaku, Marco Verratti, and Blaise Matuidi, all of whom are considered to be some of the world's very best players. His clout as an agent no doubt added to the massive cost for Pogba, which in turn drove up his wage. Despite all this hype, promise, and talent of the player, he ended up at a dismal 20th on the index. This is because of a force he couldn't have foreseen or controlled, the manager at Manchester United at the time, Jose Mourinho. Mourinho took over the United job that summer, and was one of the most successful managers in Europe at the time, having won the Premier League 3 times previously with Chelsea, as well as winning the Italian League twice with Inter Milan and the Spanish league once with Real

Madrid, in addition to 2 Champions League victories with FC Porto (Portugal) and Inter Milan¹³. The reason why Pogba failed to succeed while Mourinho was manager was because of somewhat of a culture clash; Mourinho was known to play a very defensive style of soccer, trying to score any way possible and then defend the league. While this tactic had worked at other clubs, for Pogba and United, it did not. Pogba is a player who needs the freedom to roam around the field and be creative in order to be at his very best. In Mourinho's system he had much more defensive responsibilities, and although he is by no means a bad defender, he is more of a creative, strong, box to box midfielder. He still finished 6th overall in assists with 10 and also had 6 goals, but he was seen by many as not fulfilling the enormous potential he had shown at Juventus. Halfway through the 2018-19 season Mourinho was fired, having failed to win the league, which was his main goal, and seeing the team nearing midtable at the turning point of the season. Ole Gunnar Solskjaer took over, a manager with a much more attacking-oriented style of play, and the Pogba that had shown flashes of brilliance the previous season now exploded for 11 goals and 9 assists with around 20 games yet to play and is now proving why he once held the title of most expensive player ever.

Mesut Ozil is another one of the highest paid players in the league at 175,000 pounds per week wage after transferring from Spanish giants Real Madrid in the summer of 2013 to Arsenal. He has been one of the highest paid players in the league for some time, which his pedigree of winning the champions league as a main contributor with Real Madrid can attest to, as well as winning the World Cup with Germany in 2014 with outstanding performances at the game's very highest stage. He is an attacking midfielder,

¹³ The Champions League is the highest honor that a club team can win and is held tournament style every season

known to have some of the best vision and passing ability in the modern era. He ends up 29th on the index, with fairly average statistics all around. As one of the best passers in Europe, he managed 8 assists in the 2017-2018 season, which is by no means bad but does not support what his wage would suggest he could do. This is due in part to his teammates, as Arsenal have failed to secure a world class forward from the time Ozil arrived until this season, in which they signed both Pierre-Emerick Aubameyang and Alexandre Lacazette for Borussia Dortmund of Germany and Olympique Lyonnais of France, both top clubs. This is one of the downfalls of being a playmaking midfielder, as one can have all the passing ability and talent in the world and still not provide the assists because of elements out of their control, which in Ozil's case seems to be the issue. He has barely played in 2019 thanks to a spat between him and new coach Unai Emery, so for now he is continuing to make an absurd amount of money while sitting on the bench and watching.

Next is Juan Mata, a Spanish midfielder currently playing for Manchester United. Mata transferred from Chelsea in January of the 2014 season, having fallen out under the manager at the time, Jose Mourinho. He is another attacking midfielder, who is known for his creativity and passing. He was always been a solid player, someone who you know will have decent performances week in and week out, and has built this reputation over many years, although his wage of 160,000 pounds per week is not consistent with an output in the 2017-18 season of 5 assists and 3 goals. Mata scored such a lucrative contract mostly because of his reputation, as well as coming from a very large club in Chelsea to a massive one in Manchester United, both of which are known to overpay for players. As can be shown from the data, a trend is emerging where players from medium

to large teams in competitive leagues are usually compensated much better than their counterparts from smaller leagues or teams, even if their output is not the same. This topic will be explained later in detail and is a main component of the regression analysis of the data set. This is the case with Mata, who now does not play nearly as much due to his age¹⁴ and the number of players ahead of him in the pecking order at United, such as Paul Pogba, Ander Herrera, Nemanja Matic, Jesse Lingard, Frederico Santos, etc.

Lastly of the major outliers on the midfielder list is none other than Yaya Toure, an aging veteran who will no doubt go down as one of the best central midfielders to play the game. During the 2017-2018 season he played for Manchester City, having transferred there from Barcelona (Spain) in the summer of 2010. While at Barcelona he developed a reputation as an outstanding midfielder who worked tirelessly to both defend and attack for his team after being developed by then-manager Pep Guardiola, becoming a key component of the Barcelona team that won the league every year he was in the team. However, he had a falling out with the manager, accusing him of racism and favoritism among players, partially causing him to leave for Manchester City. He enjoyed success there, though not nearly as much as in Barcelona, winning the league in 2014 (although it is the consensus that the Premier League is much harder to win than the Spanish League). He enjoyed some of his best playing years with the club and was a key contributing member until his old manager, Pep Guardiola, arrived as manager of Manchester City ahead of the 2016-17 season. Although Yaya was aging¹⁵ he was still a world class player. Unfortunately, he was slowly phased out of the squad, and in the following season played in only 10 premier league games, which is why his index number

¹⁴ 30

¹⁵ He was 32 at the time of Guardiola's arrival

is so low. He left the club that summer, an unfair end for such a talented player, becoming little more than a 220,000 pound a week spectator.

Defenders

To be a defender, especially in the Premier League with the quality of talent in it, is an extremely difficult job. Often, they are blamed for losses and do not have the glamorous job of scoring goals or dazzling spectators, instead their job is to be physical and grind through games. It is also difficult to rate how good a defender is, based on a number of reasons which will be discussed more in depth later.

Table 5: Summary of Wages of Defenders

Mean	Range	Min	Max	Number of Observations
47400	149000	1000	150000	171

The average wage for players in the defending position is much lower than the others at a paltry 47000 pounds per week, which pales in comparison to both midfielders and attackers. The range for wages was only 149000 among all 171 defenders that statistical data was compiled on, much less in comparison to other positions, which has to do with the responsibilities and less than glamorous job that defenders have.

The regression equation used in order to find out what effect addition tackles or clearances had for defenders was as follows:

Model 3: Regression of Defenders Equation

$$\text{Wage} = \alpha + \text{team of origin} + \text{tackles} + \text{clearances} + \varepsilon$$

Table 6: Regression of Defenders

Statistic Used	Came from top 6 club, top 5 league	Tackles	Interceptions
Coefficient	44760.74 (3986.72)	101.34 (104.92)	8.08 (31.08)

The regression showed yet another heavy relationship between team of origin and wage, with nearly a 45,000 pound per week increase, almost the same as attackers and midfielders. At this point it is safe to assume that above all else, the team you transfer from has the most profound effect on your wage. Tackles and clearances both had small increases in wage with the addition of one, with a 101 pound per week increase for tackles and an 8 pound per week increase for each clearance, both not significant in terms of p-value along with team of origin.

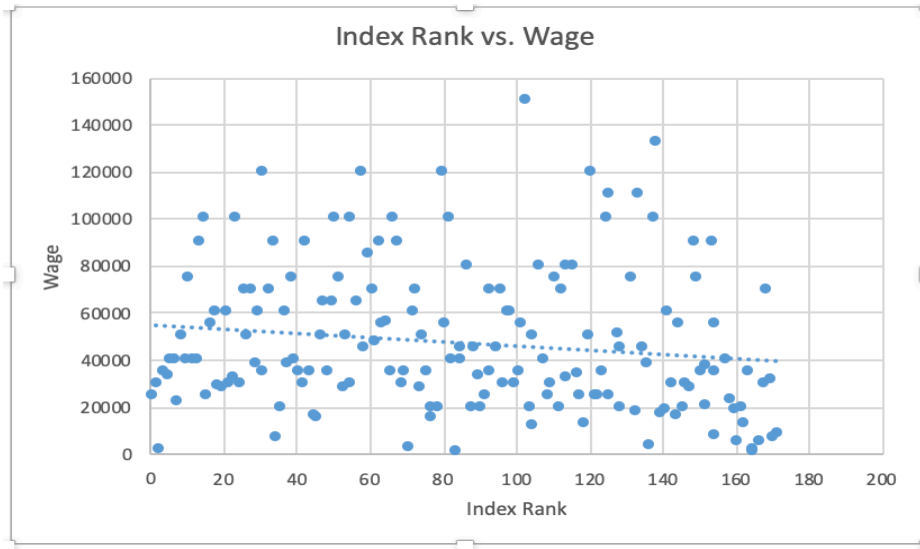
To explain what has been insinuated since the beginning of the defender subcategory, the quality of defenders is not as easy to judge as other positions just based on statistics. To begin, the team's style of play most often leaves the team's defenders either constantly absorbing pressure or not so much at all. If a team plays a very possession-based game, they hold onto the ball for long periods of time, and defenders are not asked to do nearly as much, which is the case with a majority of quality teams. If a team drops back deep to defend and tries to counter their opposition off of a turnover, the defenders are often asked a great deal in terms of responsibilities and make much

more clearances and tackles. In addition, low to mid table teams often have defenders with inflated stats because they are constantly being dominated in the game by better teams, so they might lose 3-0, but the defenders will have 6 clearances, possibility preventing a much more devastating loss, but it is not a true reflection of a defenders talent. This is not to say that a better team's defenders are not as good because they don't have the stats to back it up, quite often the contrary, but they are simply not asked to do as much as a bad team's defenders. For rating defenders, it is more of an eye test than anything else. To further explain, a defender's positioning while the other team is attacking is extremely important and could be the difference between the other team scoring or not, but they do not have to actually make a play on the ball in order to do this. A counter to this argument is that all players must have good positioning to some degree, but for defenders it matters much more, as they are the last line of confrontation for the opposing team's attackers, and there is no one else between them and the goalkeeper. The problem is that there is no positioning statistic, at least not in real life, so it can be difficult to rate them. The statistics chosen for defenders were tackles and clearances, since they are more centered around the player, although there is bias from the quality of the team that he is playing on. Due to all this, there is almost no correlation between player statistics and wage. There are many lowly paid players at both the top and bottom depending on the team they played for, as with the highly paid players. The index equation used for defenders was:

$$5(\text{tackles})+3(\text{clearances})=\text{index}$$

Where an attempt was made to get the most pertinent stats available to defenders. As one can see there is not as much data as with the other positions, which is due to what was discussed earlier about the problem with rating defenders.

Figure 4: PPI vs. Wage for Defenders Graph



Goalkeepers

Goalkeepers are probably the most straightforward members of the team; their job consists of blocking shots and distributing the ball to the other players. Now more than ever goalies are being asked to do more, such as being good with the ball at their feet and making quick and accurate passes when distributing, but above all the most important task a goalkeeper has is to block shots. A team can have all of the quality players in the world on it, but without a good goalie they can never be great and will be let down when it matters most. Although all the pressure is on goalkeepers to block shots, they aren't usually blamed for goals unless they make an obvious error, as there is extreme difficulty involved when facing shots from professionals. They have the most collinearity when it

comes to their wage vs. their index rank, with clean sheets¹⁶ and saves being their pertinent statistics the index accounts for. The argument could be made that a goalkeeper on a bad team would suffer the same fate as defenders, making them hard to rank, and this is true to a degree. However, the position is so important that one good goalkeeper can often keep a team in a game more than an average defense, and there are countless games that have been won because of a heroic effort from the keeper, making the position more about the player himself and less about the team than defenders. Even so, they make about 55,000 pounds per week on average, putting them in second to last, in front of defenders, which seems to make the position undervalued, and may be why there are so few truly world class goalkeepers. Below is the summary of wages for the 33 goalkeepers used which further shows that they are slightly undervalued, if not as much as defenders.

Table 7: Summary of Wages of Goalkeepers

Mean	Range	Min	Max	Number of observations
54833.33	188000	12000	200000	33

The regression for goalkeepers proves that coming from a top 6 club in a top 5 league results in around a 45000-50000 pound per week increase in wage, with goalkeepers making a little over 50000 pounds more. Clean sheets also add a significant increase in wage with each additional one, at 3663 pounds per week more, and saves add an 8-pound increase per week. The regression equation used for goalkeepers used

¹⁶ no goals being conceded during a game

the same dummy variable as the other 3, that being where the player transferred from, along with both saves and clean sheets.

Model 4: Regression of Goalkeeper Equation

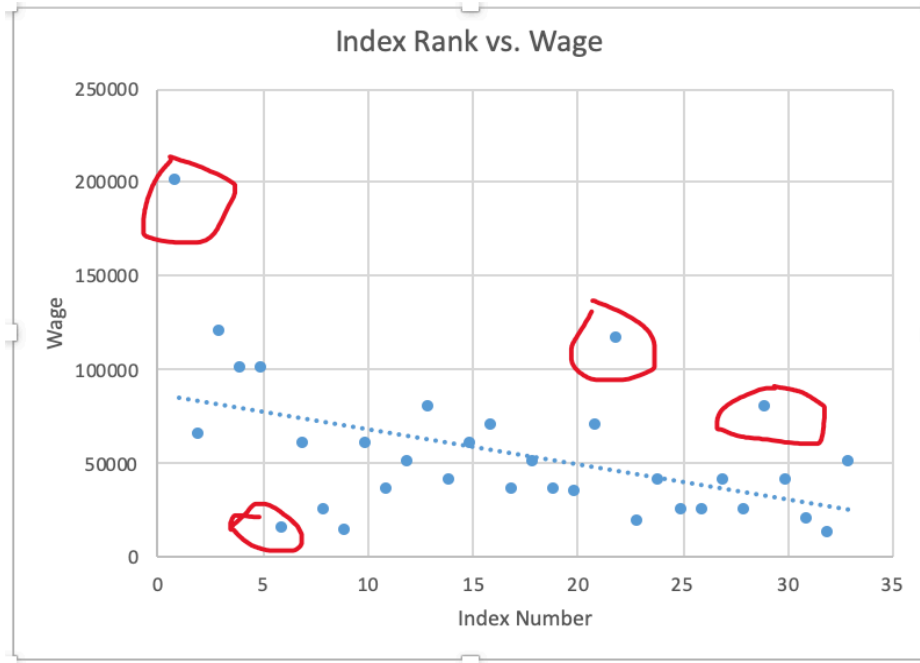
$$\text{Wage} = \alpha + \text{team of origin} + \text{clean sheets} + \text{saves} + \varepsilon$$

Table 8: Regression of Goalkeepers

Statistic Used	Came from top 6 club, top 5 league	Clean sheets	Saves
Coefficient	50278.48 (10060.17)	3663.96*** (1261.95)	8.27 (138.12)

The most important figure here is that coefficient of 50000, showing that previous club has a much larger effect on your wage than your on-field statistics, and proves correct in virtually every example and individual case study listed. Clean sheets were significant in this study at the 99% confidence interval, making them extremely significant, more so than any other data in the whole study. All 3 categories also had standard errors that were not astronomically large, which leads me to believe that the goalkeeper position may be the most accurate in terms of both the index use and regression, although the sample size is much smaller than other positions, which would account for such a large significance of clean sheets.

Figure 5: PPI vs. Wage for Goalkeepers Graph



The equation used to get the index number is as shown:

$$10(\text{clean sheets}) + \text{saves} = \text{index}$$

And paints a picture that is much more linear than the other 3 graphs. There is much more of a trend that would suggest that wage is linked to performance in this section than the others, but there is also a small sample size to take into account, as teams may have 3 or 4 forwards that all get regular playing time, but only usually 1 goalie that plays a majority of minutes for his team. From left to right, the 4 major outliers for goalkeepers are David De Gea of Manchester United, Nick Pope of Burnley, Joe Hart of West Ham, and Claudio Bravo of Manchester City.

To begin we have David De Gea of Manchester United, regarded by many as the current best goalkeeper in the world. He moved from Atletico Madrid in Spain to Manchester United in the summer of 2011, already showing promise of what a future star he would become. Developing at Manchester United over the years transformed him into an immovable object in goal, and as such, he ranks number one on clean sheets and very

highly on saves as well. This makes him far and away the best player listed, and with a reported wage of 200,000 pounds per week, he is also the best compensated, being well deserved in this case. He is still in the prime of his career at 28, and will no doubt get another massive pay increase when his current contract runs out, as he is the most valuable player at Manchester United besides Paul Pogba, and United will be desperate to hold onto this generational talent.

Next is Nick Pope of Burnley, a small club who usually hang around relegation or mid table. Despite being on what is considered a below average team, he ranked 5th on the index, with an impressive 11 clean sheets and 114 saves, while only making 15,000 pounds per week. The reason why he is paid so little is because in the previous year he transferred from Charlton Athletic, a lower-league English team with nowhere near the competitiveness or talent of the Premier League. Pope is an example of why goalkeepers are considered to be easier to rank and arguably more valuable than defenders, as he has been one of the few bright spots for Burnley and has easily been one of the main reasons the club have not been relegated to the Championship. He has no doubt surprised everyone with his talent at the top level and will sooner than later be scooped up by a larger club looking for a quality goalkeeper without breaking their budget.

Both of the last two goalkeepers on the outlier list played for Manchester City, which helps contribute to why their wages are so large. Joe Hart, who played the 2017/18 season for West Ham, had previously been at Manchester City for 5 years, and was their starting goalkeeper. When new manager Pep Guardiola took over in the summer of 2016, Hart was unable to adapt to Guardiola's style of play, which demanded that a goalkeeper be good with his feet and start attacks with quality distribution. He was replaced by none

other than Claudio Bravo from Barcelona, and he was considered to be an excellent replacement, as Barcelona were very successful with him in net. However, it turns out that he could not adapt to Guardiola's style either, and after a series of extremely poor games, found himself on the bench. While Hart went to West Ham in search of more playing time, and didn't end up with much more, according to his index ranking. Bravo chose to stay at Manchester City, where he still remains as a bench player, having been replaced by Ederson, a player from Benfica in Portugal, and who coincidentally is second on the list in terms of index rank. Both Hart and Bravo's inflated wages are because Manchester City have so much financial muscle, due to being owned by wealthy Saudi Arabian Oil moguls, and while neither is a bad goalkeeper per se, as they both started at the very highest level, neither had what Guardiola was looking for.

Conclusion

To sum up the data in the study, the largest determining factor of wage for players was where they transferred from, or in other words, how large their previous club was. This is only further supported by the data gathered in the regressions of each position, with the average player coming from a top 6 club in a top 5 league receiving 50,000 pounds per week more than his counterparts, regardless of their statistics. Even in cases where the statistics are similar, such as with Jamie Vardy, who scored 20 goals, and Raheem Sterling, who scored only 18. Sterling makes 50,000 pounds per week more than Vardy, which can be attributed to the fact that he came to Manchester City in a highly-publicized move from Liverpool, a top 6 team in the Premier League, while Vardy had previously

come from a Division 5 team, 4 divisions below the premier league, in a move that no one at the time made any note of. Examples like this can be found in different positions with a varying number of stats between the players, but the wage disparity seems to remain constant. In closing, it would be safe to say that players are not compensated solely based on their performance, but due to a combination of factors, such as where they came from, their ethnicity, and only partly due to performance. If you are scoring 15 goals a season a large club will definitely notice and be interested in you. However, this answer is not a representation for ALL of the data. While for a foreign player, the number one contributor to their wage will be where they transferred from, for homegrown or local players, the wage-determining factor will be statistics, since they already originated in the Premier League. While they definitely are not nearly as well compensated as their international counterparts, amongst themselves they are relatively fairly compensated, with performance being the primary driving factor.

Implications

The main question of this study was whether a player like Nick Pope deserves to make nearly 10 times less money than David De Gea, despite having similar statistics. Is the marginal value Pope's relative obscurity in world football worth it for a team like Manchester United instead of David De Gea's mammoth contract, but also proven greatness? For teams, especially those at the top, winning is the most important thing above all else, and if Manchester United believe that De Gea will win them more games than Pope, even by only a marginal amount, they will compensate him handsomely for it. To them that one game that they could hypothetically drop because of Pope in goal could

be the difference between winning the league, champions league, or league cup, and the rewards that come with it. Large teams tend to be incredibly risk averse and will not play a player until he has proven himself on the biggest stages of world football, more often than not. In addition, the divide between homegrown and international players has grown in terms of compensation, and more emphasis will need to be placed on what the player is doing on the field, as opposed to where they came from. Perhaps a system of compensation that would be fairer is one in which there is a smaller base pay that is nearly uniform throughout the ranks of players, offset by much larger bonuses and incentives for scoring goals, winning games, etc., to bring the gap closer together. Of course, problems can arise if the team in question is a serial loser, with players who are now quite obviously not as talented as their counterparts because of this pay system, leading to difficulty in bad teams staying competitive and attracting new talent, so for now the system, and the wage gap that goes with it, will remain in place.

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