

Does Money Buy Trophies?

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Introduction:

This assignment will discuss the transfer history from 2000-2019, in Europe's major football leagues to see if there is a correlation between the success of football clubs and the amount of money invested. This assignment examines whether success and trophies are a result of many factors within a club or just as a result of how much money is invested.

Europe is recognized as the home of the most elite leagues and football teams in the world. But are the top leagues in Europe getting easier to predict? Over the last number of years European clubs are being acquired by billionaire investors who are willing to spend large amounts of money on the hunt for success (Burdekin and Franklin 2015).

This assignment will discuss how money may or may not influence success. The research will focus on football teams who have been purchased by multi billionaire owners and investors and how this may or may not influence their league position and European success. This assignment will endeavor to determine whether money is the only factor necessary for success or are there other determining factors? The aim of this research is to give the reader a greater understanding of the different factors that may lead to a football team achieving success at the highest level.

If a football club invests more money in transfers and wages, then it will have more success. The top clubs in Europe have a history of being wealthier than the other clubs in their respective leagues and therefore enjoy more success.

The data used in this assignment will be sourced from Kaggle.com. The dataset used is titled "Football Transfers 2000-2018". This dataset is compiled from 18 years of the top transfers from European clubs. Statistics from the BBC and Deloitte.com will also be used to keep this assignment relevant and up to date.

The Premier League is a prime example of how money influences success. Transfer spending has risen from £185 million in the 2003/2004 season to £905 million in the 2018/2019 season (Deloitte 2019). This considerable rise in transfer spending was contributed greatly by Manchester City football club, who was bought by Abu Dhabi group. This company is owned by Mansour bin Zayed Al Nahyan who has a personal wealth of 4.9 billion (Forbes 2019).

Manchester City had previously lingered in the middle to bottom half of the Premier League, finishing 14th in the 2006/2007 season. However, with a sudden large investment of money, Manchester City began to attract some of the best players and managers in Europe. They are now the second biggest spenders in Premier League history (Coral 2019). Since 2008, Manchester City have won 4 Premier League trophies, 2 F.A Cups and four league cups (BBC 2019).

Other teams in the Premier League that are not able to match the financial demands, often find themselves going into administration and freefalling down the leagues. In March 2010,

Portsmouth were docked 9 points for seeking bankruptcy protection, a result of overspending on players transfers and wages. This led to them being relegated from the Premier League that season (Independent 2010). The next three years brought two more relegations, Portsmouth are currently in League 1 and they are still suffering from financial difficulties.

Literature Review:

The study into the analysis of the determinants of what makes a football club successful is an ongoing study, which has thus provided me with several academic journal articles that inspire the project. Each journal article used a different empirical model that they believed would accurately describe and thus, be used to predict the success of a football club based on its finances. Consequently, each journal article provided different point of views that would help accurately convey the relationship between a club's success based on its transfer spending. Components from each of these journal articles were used in the empirical model developed in this project.

The first article looks at transfer spending in the Premier League (Burdekin & Smith 2015). Using data from the Deloitte Annual Review of Football Finance, the article looked at the reasons for the sharp increase of spending in English Football. The evidence suggests that the increase in TV revenue and introduction of wealthy owners has caused the sharp increase of spending in recent years. The top six teams have driven their transfer spending to the point where there is not a considerable gain in success compared to money invested. Clubs are willing to take losses in the short term in the hope of reaping the benefits in the long term.

Teodor Dima's paper looked at the measures that UEFA have put in place to ensure competitiveness and financial stability in European football. UEFA have introduced Financial Fair Play (FFP) rules to try and combat clubs spending enormous amount of money in order to get a competitive advantage. A break-even policy was introduced to ensure clubs don't spend more than they take in, in terms of revenue (Dima 2015).

Emery and Weed's article discussed the challenges that lower league clubs face. The revenue of lower league teams is much less of those in the Premier League. TV sponsorship and advertisements have a much higher revenue in the top division. For this reason, lower league teams struggle to make it to the topflight as there is a massive financial divide. Their attempts often put a financial strain on the club and can result in bankruptcy (Emery & Weed 2006).

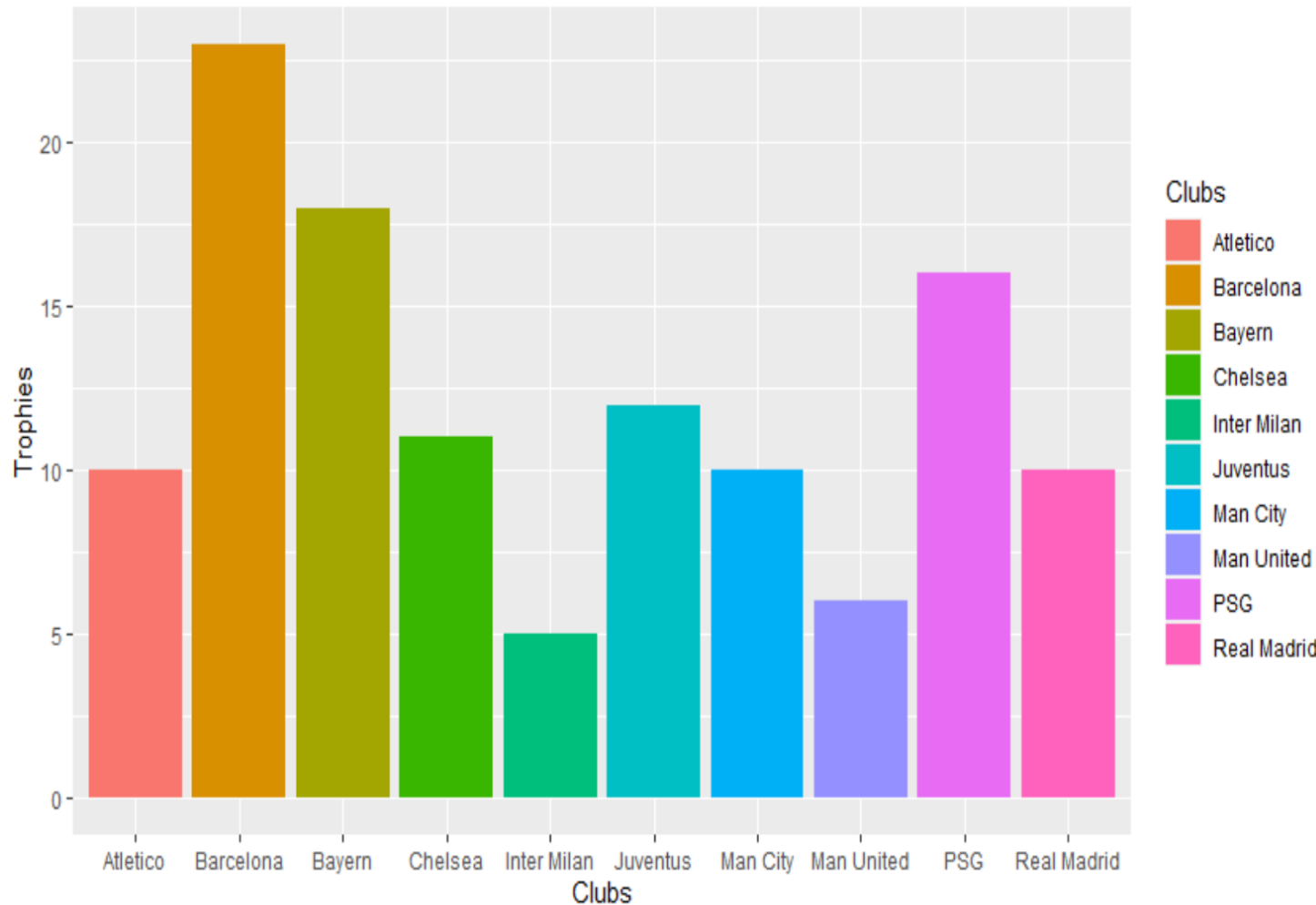
Egon Franck's journal looked at how the situation in European top-division football changed since the FFP regulation was introduced. Since the introduction of FFP regulations, there has been a positive financial impact on creating a more stable industry. FFP has failed to deal with polarization. The number of teams winning trophies is getting more concentrated year by year (Franck 2018).

Rob Hughes discussed what the best football clubs must do to stay in the title race. Top teams must invest large amounts of money to try and overturn the current most successful team. Polarization occurs when the team that is winning enjoys continued spell of success until the other teams find a way to compete. Money is often used to try and get the competitive advantage (Hughes 2011).

Data Description and summary statistics:

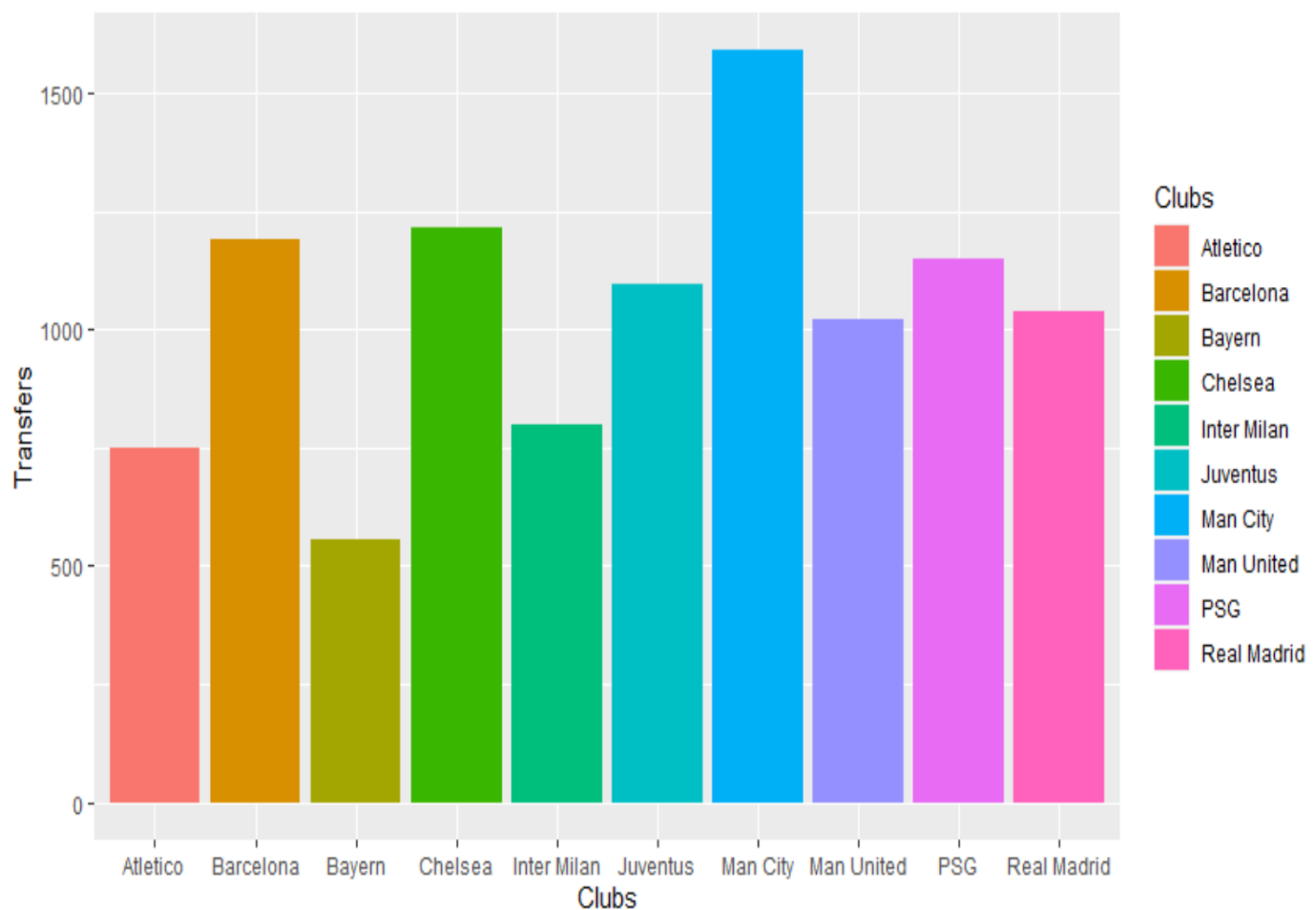
The empirical model being used to accurately evaluate whether money plays a factor in success, will include aspects that are relevant to the topic. I will set out to see if there is a correlation between transfer spending in UK sterling and success in form of Trophies. The assignment aims to discuss the relationship between polarization and serial winning in the major leagues in Europe, to see if there is a correlation with transfer spending. I plotted the top ten clubs in Europe in terms of trophies won. The most successful clubs in Europe have won a total of 117 major trophies out of a possible 150 in the last decade. 78% of trophies have been spread between the ten teams in that period.

Most Successful Clubs 2008-2019:



Due to polarization, which is caused by excessive transfer spending, the share of trophies between clubs is getting smaller as the years go on. The top teams have higher transfer budgets, that give them a competitive advantage over the other clubs. The more the top teams win, the greater the divide becomes at the top, as clubs reinvest their winnings in pursuit of more silverware. Between the years 1997-2004, 16 teams participated in the UEFA champions league semi-finals. Between the years of 2011-2018, this number has decreased to 11(Franck 2018). This is clear evidence that polarization occurs in European football. UEFA have introduced FFP regulations to try and combat polarization as it is strongly correlated with transfer spending. They believe that money will kill the competition in the sport and make it difficult for less financially stable teams to experience any sort of success.

Transfer spending by most successful teams 2008-2019:



Transfers on the y-axis represents the transfers spending in millions (GBP) between the years 2008-2019. When we look at the graph, we can see that the most successful teams in Europe have spent vast amounts of money in the last ten years to ensure that they stay successful. Manchester City have spent 1.59 billion, a considerable amount more than any other club in Europe

As Manchester City have enjoyed their meteoric rise to become one of Europe's elite, they have experienced a lot of scrutiny from UEFA over Financial Fair Play. Their most recent case with UEFA could see them banned from the Champions League for one season, for breaching spending controls (BBC 2020).

Chelsea and PSG have also been reprimanded by UEFA for breaking FFP rules, which saw Chelsea being banned from making any transfers for two transfer windows and PSG where fined 60 million in 2014 (Ostlere 2019). It is clear from the evidence above that there is a strong correlation between transfer spending and trophies.

UEFA have not only introduced an FFP policy, they have enforced it; this may lead to interesting future studies. In the coming years, analysts may be able to determine if the introduction of FFP regulations has created a more stable industry. One may also be able to evaluate the impact of polarization by examining if the number of teams winning trophies year by year is increasing or decreasing.

Empirical Model:

This part of the assignment will analyse the relationship between transfer spending and major trophies won in Europe's top five football leagues. The data is sourced from "Kaggle", where datasets are produced and uploaded by voluntary creators. The dataset titled "Football Transfers 2000-2018" is compiled of all the football transfers that happened in Europe in the last ten years.

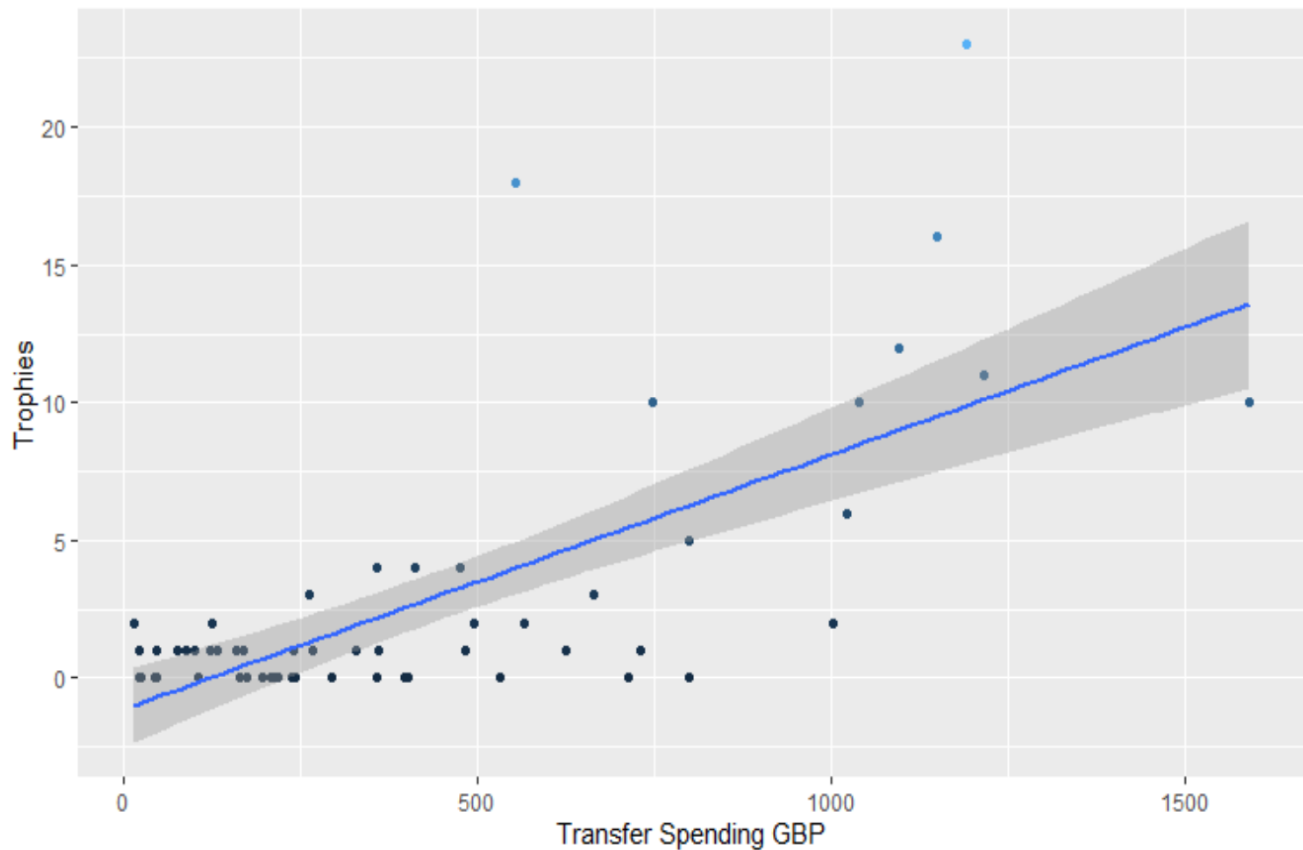
The dataset had several other variables out of the scope, so cleaning the data was a priority. Variables like transfers from teams that weren't in the top five leagues in Europe were removed. The transfer spending from every club had to be calculated from the transfers recorded in the database. I also added the major trophies won by each team in the last ten years, I sourced this information from UEFA and from the official sites of the five domestic leagues.

To examine trophies won as a function of transfer spending, a scatterplot and a regression model will be used. The graph will help to visualize the relationship and the regression model will provide statistics to support the visuals of the graph.

$$Trophies = \alpha + \beta(Transferspending) + \epsilon$$

This model says that when transfers spending goes up, number of trophies won increases by β .

Transfer Spending Function 2008-2019:



From the Transfer Spending Function above, you can see that the rise in trophies won in relation to transfer spending is not substantial unless the investment is over 500 million. Transfer spending does not correlate with trophies won until 500 million is invested. The teams that have had the majority of the success have spent more than 500 million. This indicates that major investment results in winning more trophies. Bayern Munich is an outlier in this function, as they have only spent £554m and have won 18 trophies. This can be attributed to polarization, as the team that wins keeps on winning. They attract the best players and pay more wages. Players have an incentive to go to a team like Bayern Munich as they are successful, and they can afford to pay more wages. This, in turn brings down their transfer spending, as they are likely to get a lot of free transfers when attracted players with higher wages.

Table 1: Empirical Findings and Regression Results

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	-1.116	0.6876	-1.623	0.11
Transfers	0.009239	0.001241	7.446	5.226e-10
Fitting linear model: Trophies ~ Transfers				
Observations	Residual Std. Error		R ²	Adjusted R ²
60	3.492		0.4887	0.4799

Table 2: Summary Statistic

Clubs:	Transfers:	Trophies
Length: 59	Min: 14.0	Min: 0.000
Class: character	1st Qu: 163.20	1st: 0.000
Mode: character	Median: 293.0	Median: 1.000
	Mean: 424.8	Mean: 2.797
	3rd Qu: 594.0	3rd Qu: 2.500
	Max: 1590.0	Max: 23.000

Table 1 states that $\beta = 0.009$, which means a 100 million increase in transfer spending leads to an 0.9 increase in trophies. The number of trophies won is not substantial unless 500 million or more is spent in terms of transfer spending. Therefore, the adjusted r^2 is only 0.4799. The intercept is -1.116, only one is highly significant as measure by the t and p value outputs.

Table 2 shows that there is a vast divide in wealth in Europe's top five leagues, the minimum amount spent by a team was only 14 million. This differs vastly to the maximum spend of 1.59 billion. It also shows that in the 1st quartile 163 million was spent but the trophies won for the first quartile is zero. The 3rd quartile transfer spending is 594 million and the trophies won is 2.5. This shows that the increase in spending from the 1st to the 3rd quartile, showed an increase of trophies won by 2.5. The mean spending is 424.8 million and the mean trophies one is 2.797. The figure for mean trophies won, is brought up by outliers such as Bayern Munich and Barcelona who have one 18 and 23 trophies, respectively.

Discussion:

The aim of this assignment was to determine if money buys trophies, in Europe's top five football leagues. This assignment looked at reasons why a club might experience success, is it solely down to money or is their other factors involved? The assignment studied the recent trend of billionaire owners acquiring clubs and injecting them with money and if the clubs experienced success after the acquisition. As the Premier League is the richest and most competitive league in Europe, I decided to concentrate on it more. Portsmouth and Manchester City were used as the case studies for this assignment. Portsmouth was chosen as it had financial difficulties in the past few years and Manchester City were chosen as they were bought by the multi billionaire Mansour bin Zayed Al Nahyan. This study examined how the changes in fortune (in terms of finances), affected the club's success, which therefore would help determine whether money is the main factor of success.

In this assignment, one endeavored to see what UEFA had to say about the financial state of clubs in Europe. I wanted to find out if they thought that it was a problem, that clubs are spending far more than they are taking in, in terms of revenue. This study attempted to find out if UEFA were taking any precautionary measures to address this problem.

Using the "Football Transfers 2000-2018" database, this study plotted a regression model, to determine if there was a correlation between trophies won and transfer spending. This study also plotted the most successful teams in Europe over the last ten years, to see what share of the trophies they won and did their success have anything to do with their transfer spending.

From conducting this assignment, it is clear, that money does buy trophies. From studying the recent trend of billionaires acquiring clubs in the top league in Europe, this investigation found that the clubs have experienced a lot more success. For example, Manchester City, who enjoyed a meteoric rise from a mid to low league premiership team to title contenders and winners.

Research gathered in this study also found that there are massive problems with finances in the major leagues in Europe. Smaller clubs spend money that they don't have in the hope of getting a competitive advantage, more often than not going into financial difficulties and then suffering

relegation from the topflight. Clubs that get relegated from the topflight find it difficult to return, as they lose a lot of revenue from TV sponsorship from the top leagues. Smaller clubs are also tied to expensive player contracts, which they cannot afford when no longer in the topflight. Portsmouth are a prime example of this, after getting relegated from the Premier League in 2010 due to financial difficulties, now find themselves in League 1 after not being able to recover from the financial situation.

UEFA's introduction of Financial Fair Play (FFP) regulations have been introduced to not only protect clubs from overspending and getting into financial difficulties, but to make Europe's top leagues more competitive. From plotting the top ten highest spenders in Europe over the last ten years, it was found they had won a combined 78% of trophies.

The problem of polarization is more relevant than ever as the top teams are spending massive amounts of money to get a competitive advantage. The top teams then reinvest their winnings, which widens the financial gap between the top teams and the smaller teams. It also results in the winning circle becoming smaller, the number of clubs competing in the latter stages of tournaments is getting smaller year by year. While FFP regulations are relatively new, UEFA have handed out fines and bans to many teams in order to combat polarization and to stop football clubs buying success.

Using the "Football Transfers 2000-2018" database, this study plotted a regression model and found out that there was a strong correlation between transfer spending and trophies won. The model showed that only a handful of teams won most trophies. It was clear from the model that a club had to spend at least 500 million over the past ten years to be in contention to win a trophy. From the evidence provided, money does buy trophies.

Limitations and Further Work:

The research found that there is a strong link between transfer spending and trophies won, however there are some limitations to this. The model doesn't account for teams like Leicester City, who won the Premier League with a small budget and shocked the footballing world in the process. This also can be evident as in cup competitions many smaller teams, have a good run of form and sometimes win a trophy, against the odds.

There are also limitations when it comes to factors that determine success. Many factors such as the manager, the academy and the form at the right time can result in success. Although there are many factors that determine success, they all revolve around money. To recruit a top manager, will require a high wage packet and to have a good academy, money needs to be invested into coaches and infrastructure.

With the new FFP regulations, it would be interesting to see how UEFA manage to tackle excessive spending. How they plan to deal with polarization and make European football more competitive. It would be interesting to recap on this assignment in ten years' time, to see if the circumstances have changed.

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