The effect of transfer expenditure on a club's league position in the Premier League

William Walker

Word Count:

Abstract

This report investigates the effect of transfer expenditure on a club's league position in the Premier League. It is already known that greater financial capabilities have led to a surge in a club's success in the past such as Man City over the last two decades therefore this report implores the magnitude of the effect. Three cases were considered: an 11-season average (2014/15–2024/25), the 2015/16 season, and the 2024/25 season. Transfer expenditure and league finishes were recorded in Excel and imported into Python where the data was graphed, analysed, and statistically values were extracted. Pearson correlation coefficients were calculated, and hypothesis tests were conducted for each case. The results showed that the 11-season average had a very strong negative correlation supporting the hypothesis ($r = -0.7934$, $p = 0.0001$), implying transfer expenditure led to better league finishes in the Premier League; however, the 2015/16 season and 2024/25 season did not support the hypothesis ($r = –0.2305$, $p = 0.3283$ and $r = –0.0821$, $p = 0.7307$, respectively) indicating that short term success is influenced by other factors beyond transfer expenditure.

The effect of transfer expenditure on a club's league position in the Premier League

Introduction

One of the most debated questions in modern football is whether money truly buys success. While many would see it as an instinctive “yes’, the relationship between financial power and on-field achievement is far from straightforward. The Premier League is known for its lucrative transfers, world renowned superstars and its highly physical football but money also shapes the league and has a major impact on a club's performance; how important really is it? This report explores the relationship between transfer expenditure and a club’s league position in the Premier League, examining how strongly money correlates with success.

Over its many years the Premier League has seen some shocking twists and turns, and this served as the motivation for writing this report. The most notable example is Leicester City’s 2015/16 Premier League title win, where, on the back of a near relegation the previous season, they triumphed to become champions against all odds. During this period Leicester’s financial power was significantly lower than those of the Premier League’s major clubs; demonstrating that no matter a club’s financial situation anything is possible.

On the other end of the spectrum, a more recent example can be seen in the 2024/25 season - where despite substantial spending from Manchester United - a disappointing season followed ending in a 15^{th} place finish. In this case, great transfer expenditure could not translate to on field success, indicating that other factors within the club played a more influential role. Tottenham Hotspur also suffered a similar fate this season finishing 17^{th}.

Hypothesis

It is hypothesised that transfer expenditure will be inversely correlated with Premier League finishing ($r < 0$), with a greater spending expected to lead to a better league finish - represented by a lower numerical league position. However, due to the nature of the Premier League and its inherent unpredictable nature paired with the other factors which will influence a club’s league success, some deviations from the expected trend are anticipated. Consequently, while individual seasons may deviate from the expected trend, the overall pattern is expected to align more closely with the hypothesis when an average is taken across multiple seasons.

Methodology

Inclusion Criteria

Only clubs who participated in a minimum of five seasons are included in the 11-season average.

Materials/Apparatus Used

A code was written to produce all figures and values presented in this report (see Appendix A.)

Procedure

All transfer expenditure will be derived from ‘Transfermarkt’ as it is widely recognised as a reliable source for football transfer data, any undisclosed fee or loan deal will be excluded unless the loan deal ended with a permanent transfer.

All financial figures are expressed in Euros (EUR), and inflation will not be factored in across seasons.

This report uses a quantitative approach to assess the effect of transfer expenditure on a club's league performance.

Three different cases were conducted: an 11-year average from 2014/15 to 2024/25; the 2015/16 season; and the 2024/25.

An 11-season average was used to get the general trend and in order to negate outliers to some extent, the 2015/16 season was used as it provided a major upset where Leicester City won the Premier League title against all odds, and the 2024/25 was used as it is the most recent season.

“Transfermarkt” (Oct, 2025) was used to collect transfer data such as a club’s expenditure per season. The official “Premier League” (Oct, 2025) website was used to collect the final standings for the desired seasons.

Data analysis

Performance is measured solely through league position, a club’s financial situation or cup successes will not be factored into the analysis. All transfer expenditure will be derived from ‘Transfermarkt’ (Oct, 2025) as it is widely recognised as a reliable source for football transfer data, any undisclosed fee or loan deal will be excluded unless the loan deal ended with a permanent transfer. All financial figures are expressed in Euros (EUR), and inflation will not be factored in across seasons.

A Pearson’s correlation coefficient will be calculated, and a scatter graph will be produced in order to see the correlation between the two variables and easily spot outliers. In addition, a linear regression model was used to test how well transfer expenditure predicts league position. Outliers were then highlighted if the plot was more than 2 standard deviations away.

Results

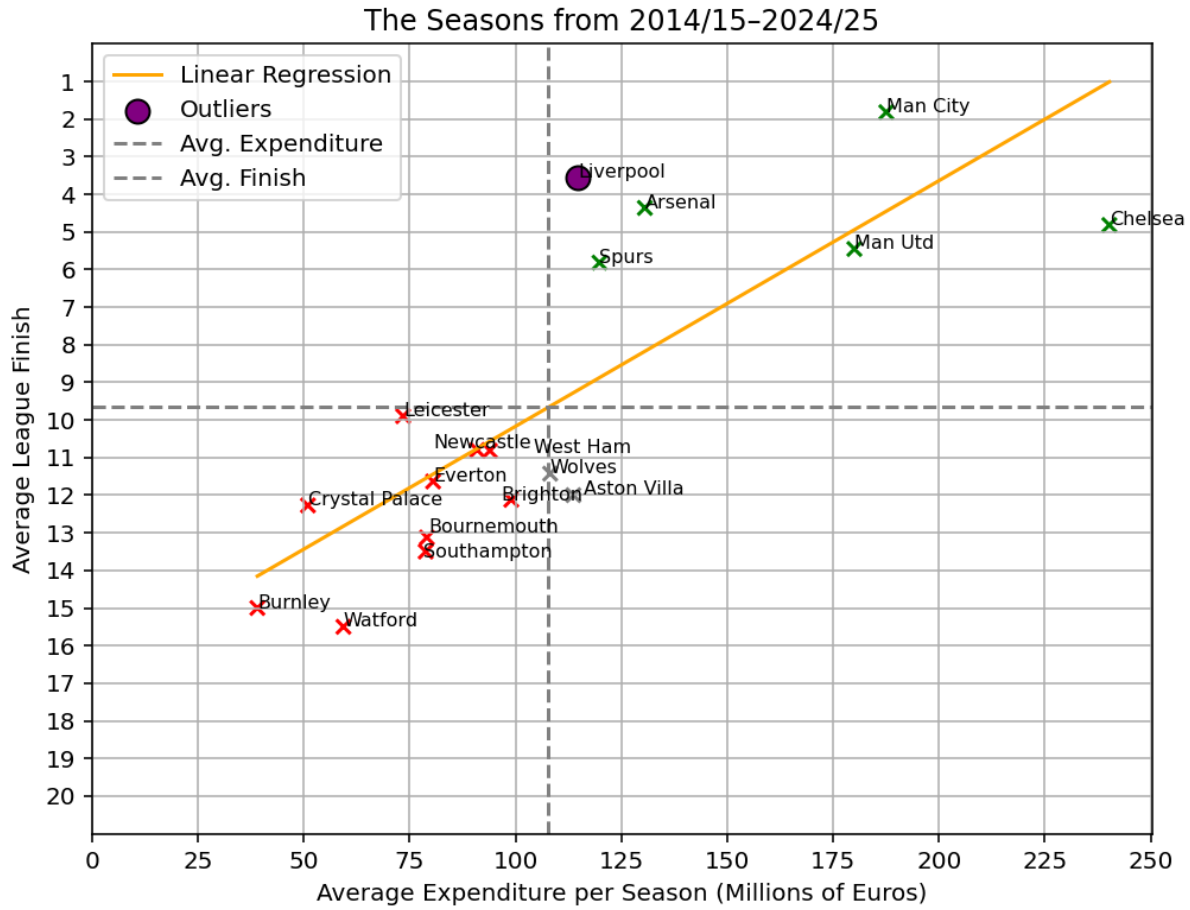
H_0 : $r = 0$ (no correlation)

H_1 : $r < 0$ (negative correlation)

Significance level: $\alpha = 0.05$

Figure 1.

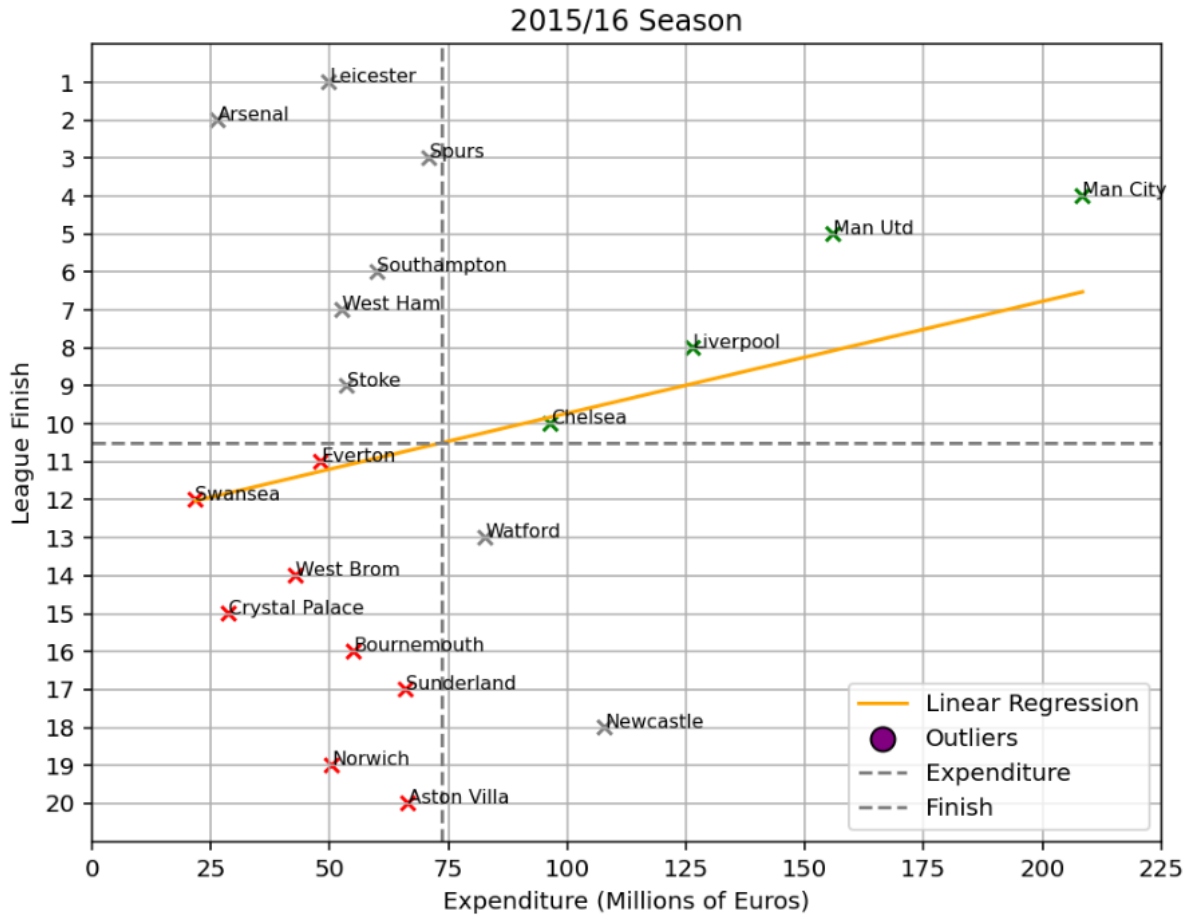
Scatterplot showing correlation and linear regression of 11-season average (2014/15 - 2024/25). (The y-axis is flipped in order to get the better finishes [lower numerical finishes] at the top of the graph, this means that a negative correlation means that as transfer expenditure increases, the league finish will get better/lower numerical number.)



In the 11-season average, there was a significantly strong negative correlation between average transfer expenditure and average league position at the 5% level, $r_1 = -0.7934$, $p_1 = 0.0001$, so the null hypothesis is rejected and we accept H_1.

Figure 2.

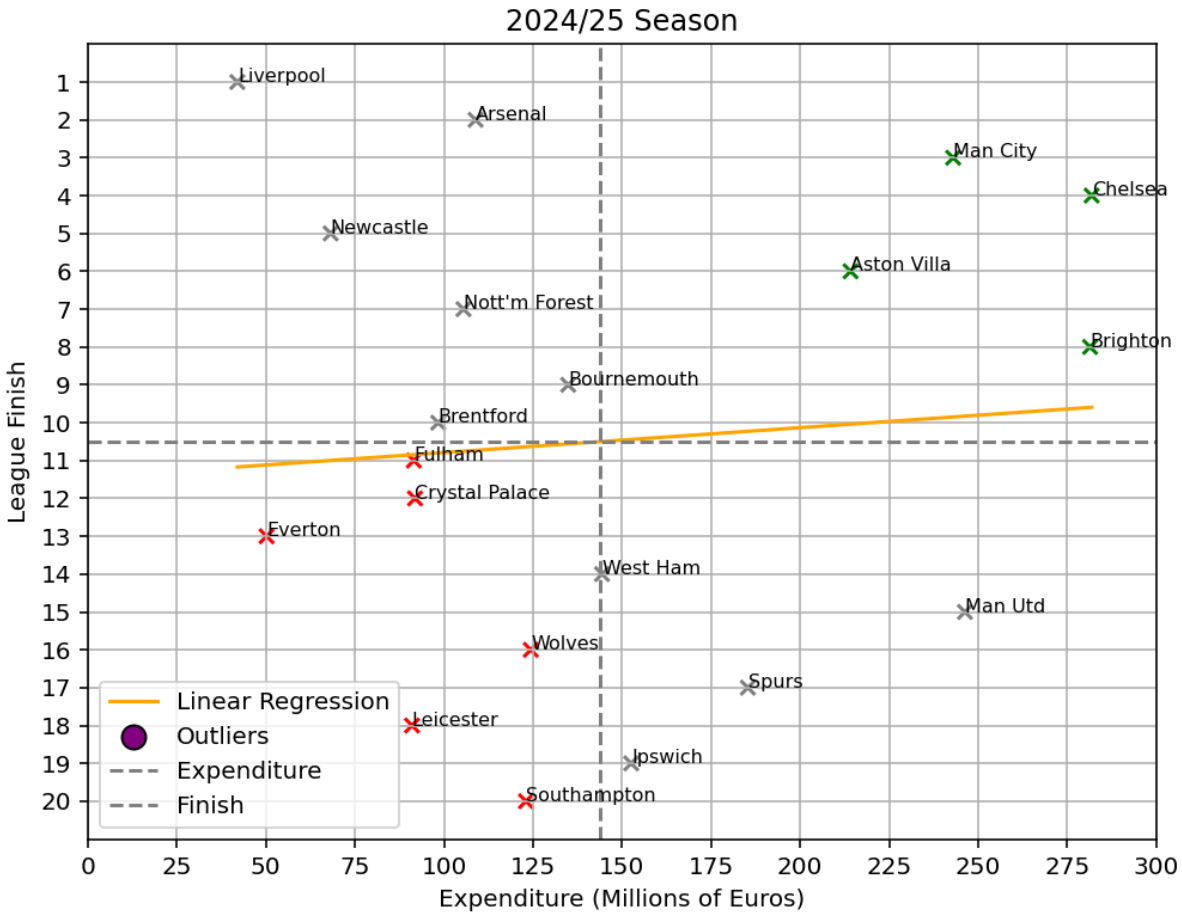
Scatterplot showing linear regression of 2015/16 Season (The y-axis is flipped in order to get the better finishes [lower numerical finishes] at the top of the graph, this means that a negative correlation means that as transfer expenditure increases, the league finish will get better/lower numerical number.).



In the 2015/16 season, there was no significant correlation between average transfer expenditure and average league position at the 5% level, $r_2 = -0.2305$, $p_2 = 0.3283$, so the null hypothesis is not rejected and we reject H_1.

Figure 3.

Scatterplot showing linear regression of the 2024/25 Season (The y-axis is flipped in order to get the better finishes [lower numerical finishes] at the top of the graph, this means that a negative correlation means that as transfer expenditure increases, the league finish will get better/lower numerical number.)



In the 2024/25 season, there was no significant correlation between average transfer expenditure and average league position at the 5% level, $r_3 = -0.0821$, $p_3 = 0.7307$, so the null hypothesis is not rejected and we reject H_1.

Discussion

The correlation coefficient of –0.7934 throughout the 11 seasons, indicates a strong negative correlation between ‘average transfer expenditure’ and ‘average league finish’. This shows that on average clubs who invest more in transfers tend to achieve better league finishes. The graph seems to confirm the hypothesis (see figure 1.), as we can see that the six biggest spenders are the six highest average finishers, with the clubs not in the top six clustered around the linear regression line. The standard deviation of 2.559 shows that there was some discrepancy as clubs 5.118 places (two standard deviations) from the linear regression classed as outliers**.** The scatter plot includes one outlier: Liverpool. Liverpool were above the average for both spending and average league finishes. However, despite being the second-highest average finisher, they are the sixth highest spender, showing they are overperforming their expected league finish based on average expenditure. Aston Villa seem to be the biggest underachievers, as they have the seventh-highest spending but have the 12th-highest average league finish, showing that they have not achieved the success expected from their level of spending. On the other end of the spectrum, there is Leicester City, with the seventh-highest average league finishes but the 12th-highest average expenditure. However, given context, it is known that their 2015/16 title win has skewed their average league finish.

Furthermore, there was no correlation between ‘average transfer expenditure’ and ‘average league finish’ which shoes taking a standalone season can hide correlations. This could be due to one standalone team, Leicester City, who won the title with the 15th highest transfer expenditure showing other factors outside of transfer expenditure guided them to the league title. Furthermore, Arsenal finished second despite having the 19th highest transfer expenditure further highlighting that teams do not have to depend on transfer expenditure in order to get success. On the other end of the spectrum, Newcastle had the forth highest transfer expenditure and despite this significant spending, still ended up finishing 18th place leading to relegation.

During the 2015/16 season, there was no outliers as there was a significant standard deviation of 5.757. The correlation coefficient of -0.2305 shows that there was a weak negative correlation, meaning that there was insufficient evidence to suggest that transfer expenditure had a meaningful effect on league finish during this season. This suggests that other factors played a more influential role on the club’s performance, such as quality of management, existing squad strength, and individual player performances. Although no outliers were detected this season, clubs such as Leicester and arsenal clearly overachieved, as both clubs had a below average transfer expenditure yet finished first and second respectively. Conversely, Newcastle finished in 18th place, resulting in relegation, despite spending 105 million euros - well above the league average.

Finally, during the 2024/25 season, there was a correlation coefficient of -0.0821 showing there was no correlation. This implies that transfer expenditure has little to no effect on league finish. As seen in the 2015/16 season, there were no outliers due to the large standard deviation of 5.896. Despite there being no outliers, two teams stood out for over performing and underperforming; Man Utd were the third biggest spenders during this season: however, despite this level of spending, they only managed a 14th place finish, way below what would be expected from such. Title winners Liverpool shockingly had the lowest transfer expenditure out of any teams. This suggest that transfer expenditure was not the

biggest factor at play this season and other factors had a bigger impact, especially in Liverpool’s case as their established squad was good enough to achieve a first-place finish.

Conclusion

This report set out to assess the relationship between a club's league position and a club’s transfer expenditure. The hypothesis predicted that a higher transfer expenditure would lead to better league finishes, hence we would have a negative correlation between the two as a lower numerical league finish is better. The 11-season average supported this claim as there was a strong negative correlation, confirming that a higher transfer expenditure plays a key role in a club’s ability to achieve favourable finishes. Furthermore, the 11-season average had a p-value of 0.0001 implying that there is correlation and transfer expenditure does have a significant effect on league finish. However, while looking at the two individual seasons, 2015/16 and 2024/25, there was no significant correlation with the two p-values of 0.3283 and 0.7307 respectively, showing that short term performance is shaped by many other factors beyond transfer expenditure.

Overall, transfer expenditure can shape a club’s journey over many years leading to success and trophies, however, this success is not guaranteed and many other factors have to be taken into account in order for a club to build success.

References

Transfermarkt (accessed October 2025) *Football transfers, rumours, market values and news*. https://transfermarkt.com/.

Premier League football news, fixtures, scores & results (accessed October 2025). https://www.premierleague.com/en/.

Appendix A