



Research Paper

Analysis of the competitive balance in the main European national football championships

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ABSTRACT: This paper aims to analyze the competitive balance of the main national football championship in Europe. To carry out the study, various indexes based on statistical methods, dynamic measures and indirect criteria will be taken into consideration. Each league tries to implement levels of balance to favor the competitiveness of the championship, in order to make it more interesting. The leagues taken into consideration are the Italian league (Serie A), the English league (Premier League), the Spanish league (Liga), the German league (Bundesliga), for the seasons 2017/18, 2018/19, 2019/20, 2020/21, 2021/22, 2022/23, 2023/24. Finally, after having analyzed the balance indexes of the main national football championships in Europe, a judgment on them will be formulated.

KEYWORDS: Sport marketing, Competitive balance, Attractiveness of football.

JEL classification: L83, M31, Z21.

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I. INTRODUCTION

The concept of competitive balance is linked to a multiplicity of aspects, actors and meanings, which can be in mutual competition.

Competitive balance in sport is an index of the measure of the internal balance of a championship, on the one hand the leagues try to increase the internal balance of each championship in order to increase the interest of the fans, on the other hand they must ensure that those who invest also gain an advantage. An investor who does not see an economic return will hardly make the same investment again, it is a question of balancing opposing interests.

With this study we want to analyze the competitive balance of the main national football championships in Europe, that is to say the degree of balance of a competition, an essential element to determine the degree of attractiveness of a given sport, being directly related to the expectations of the public regarding the winners of a given event or competition. If the outcome of the event or sports competition is easily predictable, the demand from the public and therefore the attendance will be very low according to the principle of competitive balance. Competitive balance is therefore closely related to the expectations that spectators of a sporting event have regarding who will prevail in the event itself: in a context of perfect balance, spectators believe that all results are equally possible, and therefore there is complete uncertainty about the final result. The greater the balance of the competition, the greater the interest of the public, the greater the consequences from a media point of view and from the revenues that the teams can receive; it is therefore a fundamental explanatory variable for the demand for sport. The four main European football leagues will be taken into consideration, Serie A (Italian league), Premiere League (English league), Liga (Spanish league), Bundesliga (German league).

The study does not evaluate how competitive the leagues are with other leagues, but how competitive they are within them.

The goal is to establish how balanced a league is compared to the leagues taken into consideration.

II. LITERATURE REVIEW

The importance of the term competitive balance is linked to the hypothesis of uncertainty of the result, it was proposed by Rottemberg in 1956. The author argues that greater uncertainty of the outcome of a match or a championship increases interest in the game and the law. If uncertainty increases, the theory states, that by extension participation in the event also increases, with positive effects on demand from the public and

sponsors. The hypothesized relationship therefore implies that a minimum level of competitive equilibrium is necessary in a championship so that it can be financially sustainable over time.

Sloane (1971) arguing that achieving equilibrium in the market is not possible without external intervention by the franchises, as there is an interest in the fastest possible remuneration, thus unbalancing attention and managerial effort in the short term.

For Zimbalist (2003), the success of a championship is, to a certain extent, influenced by the degree of uncertainty of the results of its games and seasonal competitions, or, put differently, by the degree of balance between its teams.

Szymanski (2003), arguing that competitive balance is more important for those who follow the game on TV, since many viewers are more interested in the quality of play and the uncertainty of the result, than in the victory of a particular team. According to the author, therefore, the proposed thesis could become important as far as viewers and pay-TV are concerned, since the interest in the games, through the people at the stadium or those who watch them on television, is one of the main factors of financial income for the teams. In fact, many games, even if balanced, lose interest if they do not guarantee entertainment.

The importance of the various contributions and concepts just mentioned places the interest of researchers on several questions, such as the study of the distinct methodologies for measuring competitive balance taking into account the demand. However, empirical evidence on the effects of outcome uncertainty is mixed with spectator demand and must therefore be considered together.

III. METHODOLOGY AND RESULTS

A 7-year time frame is taken into consideration, the following national football championships were taken into consideration, Serie A (Italian championship), Premier League (English championship), Liga (Spanish championship), Bundesliga (German championship), for the seasons 2017/18, 2018/19, 2019/20, 2020/21, 2021/22, 2022/23, 2023/24 (for details on the rankings see Annex 1).

The following indexes were used to calculate the competitive balance:

- Standard Deviation (σ) based on the points and victories obtained by each team.
- Range of points-victories ($R_{P/V}$), the difference between the team that has totalized the highest number of points/victories and the team that has totalized the minimum number of points/victories is calculated.
- Gini concentration Index (G).
- Herfindahl – Hirschman Index (HHI).
- Number of Championships Won (C_V).
- Top Ranking_P (TR_P).
- State Transactions (TS).
- Revenue Sharing for television rights (RS_{TV}).

The Standard Deviation (σ), the Range of points/victories ($R_{P/V}$), the Gini concentration Index (G), the Herfindahl–Hirschman Index (HHI), the number of Championships won (C_V), the Top Ranking_P (TR_P), the State Transactions (TS), are all direct methods for the analysis of the competitive balance, while the Revenue Sharing for television rights (RS_{TV}) is an indirect method for the analysis of the competitive balance.

3.1 STANDARD DEVIATION

One of the indexes used is the standard deviation; the standard deviation is a statistical dispersion index, and is appropriate for team sports championships, being easily calculable and comparable to the average. The formulation on the points and victories obtained by each team is used, over the course of an entire season and is averaged with the seasons in the interval considered (7 years), the lower the standard deviation, the greater the balance of the championship in question.

To calculate the standard deviation for each season, considering that we are calculating the standard deviation on the entire population, the formula will be as follows:

$$\sigma = \sqrt{\frac{\sum_{i=1}^N (x_i - \bar{x})^2}{N}}$$

Where x_i represents the points/victories achieved by each individual team, and \bar{x} represents the average value of the distribution, while N represents the total number of teams in the championship considered.

After calculating the standard deviation for each season, we calculate the average; for the standard deviation for points we obtained the following values: for the Italian championship (Serie A), 18.53, while for the English championship (Premier League) 18.52, for the Spanish championship (Liga) 16.37, while for the German championship (Bundesliga) 15.24; while for the standard deviation for victories we obtained the

following values: for the Italian championship (Serie A), 6.53, while for the English championship (Premier League) 6.48, for the Spanish championship (Liga) 5.80, while for the German championship (Bundesliga) 5.43;

Based on this index, the German championship appears to be the most competitive, followed by the Spanish one, then the English one and finally the Italian one.

3.2 POINTS/WIN RANGE

Another method for measuring competitive balance is the Range of points and wins, which is the difference between the team that has scored the most points or wins and the team that has scored the least points or wins, for each season and then averaged over the desired time interval. If the Range of points or wins has a significant value, it means that the difference between the best team and the worst team is high, and consequently the imbalance will be greater, in other words, the higher the value, the lower the competitive balance.

After calculating the Range of points/victories for each season, we calculate the average; For the Range of points we obtained the following values: for the Italian championship (Serie A), 69.71, while for the English one (Premier League) 73, for the Spanish one (Liga) 62.57, while for the German one (Bundesliga) 59.86; while for the Range of victories we obtained the following values: for the Italian championship (Serie A), 24.29, while for the English one (Premier League) 24.43, for the Spanish one (Liga) 21.57, while for the German one (Bundesliga) 21.00.

Based on this index, the German championship appears to be the most competitive, followed by the Spanish one, then the Italian one and finally the English one.

Calculating the Standard Deviation and the Range for both points and wins can be useful to establish whether a championship has a higher or lower number of draws, in fact the fan, although he likes the uncertainty of the result, does not like matches that end in a draw unless there is a high number of goals.

3.3 GINI CONCENTRATION INDEX

The Gini concentration index is a widely used indicator in statistics, it gives us a value between 0 and 1, it is a measure of the inequality of a distribution, in our case it gives us a measure of the distribution of the percentages of victories in a season. The low values of the coefficient indicate a fairly homogeneous concentration, therefore a good balance, if each team wins and loses the same number of games the value of the Index will be equal to 0, and we will find ourselves in a situation of perfect balance.

Even in this case, after having calculated the index for each season, the average is then made.

The values obtained are the following: for the Italian championship 0.25, for the English championship 0.23, for the Spanish championship 0.22, for the German championship 0.22. Based on this index, the German championship and the Spanish championship appear to be the most balanced, followed by the English championship, and finally the Italian championship.

3.4 HERFINDAHL–HIRSCHMAN INDEX (HHI)

The Herfindahl–Hirschman Index (HHI), mainly used to measure the level of competition in a market. In our case, we apply it to measure the balance of football championships. The HHI consists of measuring the concentration or percentage of the objectives that we want to consider (championship victory, teams that have access to the Champions League, etc.) that have been achieved by a team over a certain period of time. The index is composed of the sum of the squares of the percentage of objectives achieved by each team in the period of time considered:

$$HHI = \frac{\sum_{i=1}^n Y_i^2}{m}$$

Y_i indicates the number of times team i has reached the target, n the number of teams that have reached the target and m the number of seasons taken into consideration, multiplied by the available places.

The lower the HHI, the greater the competitive balance between the leagues.

This index does not take into account whether the objective was reached on the last day, or whether this was achieved a long time before, that is, whether reaching the objective was more or less easy. In any case, it is useful for relating the various championships considered.

As for winning the championship, the value of m is 7, as 7 are the seasons taken into consideration, while n represents the number of teams that have won the title. The values obtained are the following values: Italian championship 0.31, English championship 0.76, Spanish championship 0.39, German championship 0.73. Based on this index, the Italian championship is the most competitive, with 4 teams that have won the title (Juventus 3 times, Inter 2 times, Milan and Napoli 1 time), followed by the Spanish championship, with three teams that have alternated in winning the title (Real Madrid 3 times, Barcelona 3 times and Atletico Madrid 1 time), then the German championship with two teams that have alternated in winning the title (Bayern Munich 6

times and Bayer Leverkusen 1 time), finally the English championship with two teams that have won the title (Manchester City 6 times, Liverpool 1 time).

As for the teams that have achieved participation in the Champions League (including preliminary stages), in this case the value of m is the number of seasons considered multiplied by the available places, for example for the Champions League $m = 28$, $m = 7 \times 4$; where 7 are the seasons considered and 4 the number of available places, for the Italian and German championships $m = 29$, (as the additional participation must be added, as the Italian championship in the 2023/24 season is assigned 5 places, and the additional position obtained through the victory of a German team in the Europa League in the 2021/22 season). For the teams participating in the Champions League we obtained the following values, for the Italian championship 0.16, for the English championship 0.17, for the Spanish championship 0.21, for the German championship 0.17. Based on this index the most balanced championship is the Italian one, followed by the English and German ones, and finally the Spanish one.

For the teams participating in the European cups $m = 49$, $m = 7 \times 7$; where 7 are the seasons considered and 7 the number of places available, for the Italian, English and German championships $m = 50$ (as the additional participation must be added, as the Italian championship in the 2023/24 season is assigned 8 places, the additional position of the German championship, obtained through the victory of a team in the Europa League in the 2017/18 season, the additional participation of the English championship obtained through the victory of the Europa Conference League in the 2022/23 season, of a national team). Based on this index we obtained the following values, for the Italian championship 0.12, for the English and Spanish championship 0.11, for the German championship 0.10. Based on this index the most balanced championship is the German one, followed by the Spanish and English championship, and finally the Italian one.

For the teams that were saved $m = 119$, $m = 7 \times 17$; where 7 are the seasons considered and 17 the available places, for the German championship $m = 111$ ($7 \times 16 - 1$). Based on this index for the teams that were saved we obtained the following values, for the Italian championship 0.050, for the English championship 0.051, for the Spanish championship 0.048, for the German championship 0.056. Based on this index, the most balanced championship is the Spanish one, followed by the Italian championship, then the English championship, and finally the German championship.

For participation in the top national championship $m = 140$, $m = 7 \times 20$; where 7 are the seasons considered and 20 are the places available for the Italian, English and Spanish championships, while for the German championship $m = 126$, $m = 7 \times 18$ (The German championship is made up of 18 teams). For the teams that participated in the top national championship we obtained the following values, for the Italian championship 0.041, for the English championship 0.041, for the Spanish championship 0.040, for the German championship 0.049. Based on this index the most balanced championship is the Spanish one, followed by the Italian and English championships, and finally the German championship.

3.5 NUMBER OF CHAMPIONSHIPS WON IN A GIVEN PERIOD OF TIME

This method is very simple and immediate in its calculation, it is about taking into consideration a certain number of championships, and counting how many of them have been won by each team. Naturally, the perfect balance would be in the case in which each team won the same number of championships, even if the European championships could be not very suitable for the calculation of this index, as they are considered "open" competitions due to promotions and relegations, it is still very useful to provide us with values on the competitive balance of the individual European championships.

Unlike the Herfindahl–Hirschman Index (HHI), it does not take into account how many times a team wins the title but only the ratio between the team that has won the most titles and the maximum number of titles that could be won.

From the calculations we obtained the following values, for the Italian championship 0.43, for the English championship 0.86, for the Spanish championship 0.43, for the German championship 0.86.

Based on this index, the most balanced leagues are the Italian and Spanish ones, followed by the English and German ones.

3.6 TOP RANKING

This method takes into account the number of teams that end a championship in a certain position P of the ranking (the value of P will be determined based on the objective that you want to take into consideration, e.g. winning the championship, participating in the Champions League, and will be dynamic, i.e. it will change based on the season and the championship being examined). A championship will be balanced when the turnover, i.e. the change of teams, is greater than in the previous period. This measurement method is simple to calculate and ideal for visualizing and perceiving the system of promotions and relegations of the teams that have access to the Champions League, to the other European cups; typical of European championships. It is also able to connect the different results over a certain period.

The higher the value of the Top Ranking, the greater the number of teams that will have alternated to reach the considered objective, therefore greater balance.

Top Ranking₁ for championship victories, with P=1, we calculated the index of the teams that won the championship in the seasons examined. From the calculations carried out we obtained the following values, for the Italian championship 0.57, for the English championship 0.29, for the Spanish championship 0.43, for the German championship 0.29. Based on this index, the most balanced championship is the Italian one, then the Spanish one, followed by the English and German ones.

Top Ranking₄ for the teams participating in the Champions League, we calculated the index of teams that for each championship have access to the Champions League (including any preliminary rounds). For the championships considered, the available positions are 28, 4 for each season considered, $28 = 4 \times 7$, with the exception of the Italian and German championships where the available positions were 29 (for the 2023/24 season Italy has the right to 5 teams, for the 2021/22 season there were 5 teams qualified in the Champions League for Germany, resulting from the victory of Eintracht Frankfurt in the Europa League). The different teams that have had access to the various stages of the Champions League were 8 for the Italian and English championships, 7 for the Spanish championship, 10 for the German championship. The value of the index is obtained from the ratio between the teams that have accessed the various stages of the Champions League and the available positions. For the Italian championship $TR_4 = \frac{8}{29} = 0.28$; for the English championship $TR_4 = \frac{8}{28} = 0.29$; for the Spanish championship $TR_4 = \frac{7}{28} = 0.25$; while for the German championship $TR_4 = \frac{10}{29} = 0.34$; Based on this index, the German championship appears to be the most balanced, followed by the English championship, then the Italian championship, and finally the Spanish championship.

Top Ranking₇, we calculated the index of teams that for each championship have access to the various European cups (including any preliminary rounds). For the championships considered, the available positions are, for the Italian, English and German championships P=50, P=7×7+1, 7 is the number of teams that generally have access to the European cups in the championships considered, 7 the number of seasons considered, 1 additional position, (the Italian championship in the 2023/24 season is assigned 8 places, the German championship in the 2017/18 season was assigned 8 places, the English championship in the 2022/23 season was assigned 8 places). The different teams that have had access to the various phases of the European cups were 10 for the Italian championship, 13 for the English championship, 14 for the Spanish and German championship. The value of the index is obtained from the ratio between the teams that have accessed the various stages of the European cups and the available positions. For the Italian championship $TR_7 = \frac{10}{50} = 0.20$; for the English championship $TR_7 = \frac{13}{50} = 0.26$; for the Spanish championship $TR_7 = \frac{14}{49} = 0.29$; while for the German championship $TR_7 = \frac{14}{50} = 0.28$. Based on this index, the Spanish championship appears to have greater internal competitiveness, followed by the German one, then the English one, and finally the Italian one.

Top Ranking₁₇, we calculated the index of teams that managed to save themselves for each championship. For the Italian, English and Spanish championships the available positions are 119, 17 teams are saved for each season considered, $119=17 \times 7$, for the German championship the available positions were 111 ($16 \times 7 - 1$), 16 teams were saved in the various seasons with the exception of the 2018/19 season which were 15. The different teams that were saved were 24 for the Italian and English championships, 26 for the Spanish championship, 21 for the German championship. The value of the index is obtained from the ratio between the teams that were saved and the available positions. For the Italian championship $TR_{17} = \frac{24}{119} = 0.20$; for the English championship $TR_{17} = \frac{24}{119} = 0.20$; for the Spanish championship $TR_{17} = \frac{26}{119} = 0.22$; while for the German championship $TR_{17} = \frac{21}{111} = 0.19$. Based on this index, the Spanish championship appears to be the most balanced, followed by the Italian and English championships, and finally the German championship.

Top Ranking₂₀, with P=20 we calculated the index of the teams that participated in each championship, for the German championship the value of P is 18. For the Italian, English and Spanish championships the available positions are 140, 20 for each season considered, $140=20 \times 7$, for the German championship the available positions were 126 ($126=18 \times 7$). The different teams that took part in the championship were respectively 28 for the Italian, English and Spanish championships, and 25 for the German one. The value of the index is obtained from the ratio between the teams that participated in the championship and the available positions. For the Italian championship $TR_{20} = \frac{28}{140} = 0.20$; for the English championship

$TR_{20} = \frac{28}{140} = 0.20$; for the Spanish championship $TR_{20} = \frac{28}{140} = 0.20$; while for the German championship $TR_{20} = \frac{25}{126} = 0.20$.

Based on this index, the four championships considered are equally competitive among themselves.

3.7 IMBALANCE INDEX

With this index we want to calculate the value of imbalance of each championship, naturally the championship that will have a lower value of disequilibrium will be more balanced. To calculate this index we assume a championship in perfect disequilibrium, where the first team will win all the matches played, the second team will win all the matches played except for the matches played with the team that precedes it (first in the ranking) and so on. The ranking that would be obtained for championships of 20 teams (Italian, English Spanish) is reported in table 1, while for the championship of 18 teams (German championship) it is reported in table 2.

Table 1 - 20-team standings

Posizione	V	Punti
1 ^a	38	114
2 ^a	36	108
3 ^a	34	102
4 ^a	32	96
5 ^a	30	90
6 ^a	28	84
7 ^a	26	78
8 ^a	24	72
9 ^a	22	66
10 ^a	20	60
11 ^a	18	54
12 ^a	16	48
13 ^a	14	42
14 ^a	12	36
15 ^a	10	30
16 ^a	8	24
17 ^a	6	18
18 ^a	4	12
19 ^a	2	6
20 ^a	0	0

Table 2 - 18-team standings

Posizione	V	Punti
1 ^a	34	102
2 ^a	32	96
3 ^a	30	90
4 ^a	28	84
5 ^a	26	78
6 ^a	24	72
7 ^a	22	66
8 ^a	20	60
9 ^a	18	54
10 ^a	16	48
11 ^a	14	42
12 ^a	12	36
13 ^a	10	30
14 ^a	8	24
15 ^a	6	18
16 ^a	4	12
17 ^a	2	6
18 ^a	0	0

The value obtained for the 20-team championships, for the standard deviation, calculated on points is 34.60; we can also define this value as the maximum value of the standard deviation obtainable for 20-team championships. The value obtained for the 18-team championships, for the standard deviation calculated on

points is 31.3; also in this case we can say that this value is the maximum value obtainable for the standard deviation for 18-team championships. Going to calculate the I_{DE} Disequilibrium Index calculated as the ratio between the average of the standard deviation of the championship considered (disequilibrium of the championship) and the maximum obtainable value of the standard deviation for that type of championship (total disequilibrium), we obtain the following values: for the Italian championship $I_{DE} = \frac{18.53}{34.60} = 0.54$; for the English championship $I_{DE} = \frac{18.52}{34.60} = 0.54$; for the Spanish championship $I_{DE} = \frac{16.37}{34.60} = 0.47$; while for the German championship $I_{DE} = \frac{15.24}{31.13} = 0.49$. Based on this index, the most competitive championship will be the Spanish one, then the German one, then the Italian one and the English one.

The value obtained for the 20-team championships, for the standard deviation, calculated on victories is 11.53; we can also define this value as the maximum value of the standard deviation obtainable for 20-team championships. The value obtained for the 18-team championships, for the standard deviation calculated on victories is 10.38; also in this case we can say that this value is the maximum value obtainable for the standard deviation for 18-team championships. Going to calculate the I_{DE} Disequilibrium index calculated as the ratio between the average of the standard deviation of the championship considered (disequilibrium of the championship) and the maximum obtainable value of the standard deviation for that type of championship (total disequilibrium), we obtain the following values: for the Italian championship $I_{DE} = \frac{6.53}{11.53} = 0.57$; for the English championship $I_{DE} = \frac{6.48}{11.53} = 0.56$; for the Spanish championship $I_{DE} = \frac{5.80}{11.53} = 0.48$; while for the German championship $I_{DE} = \frac{5.43}{10.38} = 0.51$. Based on this index, the most balanced championship is the Spanish one, followed by the German one, then the English one and the Italian one.

3.8 STATE TRANSACTIONS

By status transactions we mean if a team changes its position compared to the next championship, in our case if the team wins the championship again or not, basically we are going to calculate the number of times in which the teams alternate in winning the championship, naturally the higher the value with which the teams alternate in winning the championship, the greater the balance of the championship will be.

For the Italian championship, there were 4 state transactions out of 7 championships, so $TS = \frac{4}{7} = 0.57$.

Table 3 - Italian Championship

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Juventus	1	1	1	0	0	0	0
Inter	0	0	0	1	0	0	0
Milan	0	0	0	0	1	0	1
Napoli	0	0	0	0	0	1	0
Other teams	0	0	0	0	0	0	0

For the English championship, there were 2 out of 7 state transactions, so $TS = \frac{2}{7} = 0.29$.

Table 4 - English Championship

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Manchester C.	1	1	0	1	1	1	1
Liverpool	0	0	1	0	0	0	0
Other teams	0	0	0	0	0	0	0

For the Spanish championship, there were 5 state transactions out of 7 championships, so $TS = \frac{5}{7} = 0.71$.

Table 5 - Spanish Championship

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Barcellona	1	1	0	0	0	1	0
Real Madrid	0	0	1	0	1	0	1
Atletico Madrid	0	0	0	1	0	0	0
Other teams	0	0	0	0	0	0	0

For the German championship, the state transactions were 1 in 7 leagues, so $TS = \frac{1}{7} = 0.14$.

Table 6 - German Championship

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Bayern M.	1	1	1	1	1	1	0
Bayer L.	0	0	0	0	0	0	1
Other teams	0	0	0	0	0	0	0

Based on this index, the most balanced championship is the Spanish one, followed by the Italian one, then the English one, and finally the German one.

3.8 REVENUE SHARING FOR TELEVISION RIGHTS

The share due to each club for television rights are taken into consideration, for the Italian and English championships the 2023/2024 season, while for the Spanish and German championships the 2022/23 season.

For the shares due to the various clubs from the television rights, both the standard deviation and the difference in share between the club with the highest revenue and the club with the lowest revenue are calculated.

From the analysis of the data we obtained the following results: for the Italian championship a standard deviation equal to 20.6 and a range equal to 69.7 million euros, for the English championship a standard deviation equal to 23.1 and a range equal to 84.5 million euros, for the Spanish championship a standard deviation equal to 35.3 and a range equal to 116.7 million euros, for the German championship a standard deviation equal to 16.6 and a range equal to 57.5 million euros.

The Italian championship is the championship with the lowest standard deviation and the lowest difference in the shares due from television rights, followed by the German championship, then the English championship, and finally the Spanish championship.

IV. CONCLUSIONS

From the calculation of the various indexes we obtained that the Italian championship (Serie A), for 6 indexes obtains the best position, for 4 indexes the second position, for 4 indexes the third position, and for 6 indexes the fourth position. The English championship (Premier League), for 1 index obtains the first position, obtains the second position for 4 indexes, the third position for 11 indexes, and the fourth position for 4 indexes. The Spanish championship (Liga), obtains the first position for 8 indexes, the second position for 8 indexes, the third position for no index, the fourth position for 4 indexes. The German championship (Bundesliga), obtains the first position for 9 indexes, the second position for 5 indexes, the third position for 3 indexes, the fourth position for 3 indexes.

Calculating the average based on the positions obtained by each championship, we obtain an average of 2.5 for the Italian championship, 2.9 for the English one, while for the Spanish and German ones 2.

From the values of the obtained indexes we can affirm that the German and Spanish championships present a greater internal balance, followed by the Italian championship, while the English championship presents the least internal balance.

In line with the classic predictions of Competitive Balance, it is necessary to avoid unbalanced championships that would lead to a drop in demand, that is, a lower interest from fans.

ANNEX 1

GERMAN CHAMPIONSHIP STANDINGS

https://it.wikipedia.org/wiki/Fu%C3%9Fball-Bundesliga_2017-2018
https://it.wikipedia.org/wiki/Fu%C3%9Fball-Bundesliga_2018-2019
https://it.wikipedia.org/wiki/Fu%C3%9Fball-Bundesliga_2019-2020
https://it.wikipedia.org/wiki/Fu%C3%9Fball-Bundesliga_2020-2021
https://it.wikipedia.org/wiki/Fu%C3%9Fball-Bundesliga_2021-2022
https://it.wikipedia.org/wiki/Fu%C3%9Fball-Bundesliga_2022-2023
https://it.wikipedia.org/wiki/Fu%C3%9Fball-Bundesliga_2023-2024

ENGLISH CHAMPIONSHIP STANDINGS

https://it.wikipedia.org/wiki/Premier_League_2017-2018
https://it.wikipedia.org/wiki/Premier_League_2018-2019

https://it.wikipedia.org/wiki/Premier_League_2019-2020
https://it.wikipedia.org/wiki/Premier_League_2020-2021
https://it.wikipedia.org/wiki/Premier_League_2021-2022
https://it.wikipedia.org/wiki/Premier_League_2022-2023
https://it.wikipedia.org/wiki/Premier_League_2023-2024

SPANISH CHAMPIONSHIP STANDINGS

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[https://it.wikipedia.org/wiki/Primera_Divisi%C3%B3n_2018-2019_\(Spagna\)](https://it.wikipedia.org/wiki/Primera_Divisi%C3%B3n_2018-2019_(Spagna))
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