

Competitiveness in Football

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Rationale for League Behaviour and Practices

We now know that leagues are different economic entities when compared with conventional markets. A distinction should be made between economic competition and sporting competition.

Sporting competition should (aim to) create an attractive spectacle, which in turn creates consumer interest (in theory). Economic competition and sporting competition are/may not be mutually compatible.

Hence, practices such as revenue sharing, salary capping, collective bargaining, joint decision on supply, etc. are legitimate considerations in some leagues.

Therefore, establishing and maintaining sporting competitiveness is (argued to be) important.

The Two-Team League Model; The Competitive Balance Problem

Team A

Large market



Large revenues (gate & TV)

Attracts best talent

Dominates success

Reduced audiences

Team B

Small market



Small revenues (gate & TV)

Limited playing resources

Limited or no success

Reduced audiences

The Competitive Balance Problem?

In MLB in 2002

New York Yankees

Vs.

Oakland Athletics

In MLB in 2002

\$120,000,000

Vs.

\$40,000,000

In Premier League in 2019/20

Manchester City

Vs.

Sheffield United

In Premier League in 2019/20

£351,412,000

Vs.

£78,511,000

The Competitive Balance Problem

Ensuring teams have the required resources to be competitive

Policies that reallocate resources from **BIG** market team to SMALL market team

Seminal Contributions

Rottenberg (1956) The Baseball Players' Labour Market

It is “necessary to assure an equal distribution of playing talent among opposing teams; that a more or less equal distribution of talent is necessary if there is to be uncertainty of outcome; and that uncertainty of outcome is necessary if the consumer is to be willing to pay admission to the game”

Neale (1964)

used the analogy of heavyweight boxing in which the champion can maximize interest and consequently his profits by fighting the strongest contender (Louis-Schmelling Paradox)

Review of the Literature

Cox (2018) Journal of Sports Economics

Summary of the findings in the literature across different sports

Szymanski (2003) Journal of Economic Literature

“Findings are far from unambiguous”

Borland and Macdonald (2003) Oxford Review of Economic Policy

“Mixed result”

Dimensions of Competitiveness

Long-run

Distribution of championships over time. Over the course of many championships, one would expect a somewhat even distribution of honours.

Much of the research on this is *ex-post*; looking back at past information. This has its challenges and should be interpreted with some degree of care.

Rather than the number of titles (quite a blunt measure), the distributions of wins or points over time is much more informative.

Dimensions of Competitiveness

Seasonal

Within season competitive. This is about considering each match and judging how its outcome might influence the end of season standings. After all, this is what leagues are about.

By its very nature, this is a significant feature of sports leagues that fans are consuming but the literature has not satisfactorily dealt with this.

The main reason is that it's difficult to measure and capture numerically. This is where analytical can be useful.

Dimensions of Competitiveness

Short-run

Match uncertainty or uncertainty of outcome. This involves looking at a match in isolation and judging how competitive the match is or will be.

This often disregards other information such as the importance and relevance of the match for the championship

This dimension of competitiveness in football dominates the literature perhaps to the detriment of what is meant by competitiveness in football.

Reflecting

Reflecting on your interest in football, which dimensions of competitiveness (long run, season, match) mostly drives your interest?

Are there other markers of competitiveness that are important and not captured by the above?

Some Empirics

Measuring Long-Run Dimension

Distribution of championships over time. In many leagues, there is dominance of championship (high concentration) but this is too blunt as an instrument for measuring dominance.

Take the Scottish, Spanish, English football, and other European leagues. What impressions do we have of the long-run competitiveness?

How competitive are these Leagues? To summarise

- Scotland: it's just Rangers and Celtic

- Spain: just Barcelona and Real Madrid

- Germany: Bayern Munich

- Italy: Juventus, Milan and Inter

- England: Manchester City, Liverpool, Manchester United, Chelsea,

Measuring Long-Run Dimension

$$HHI = s_1^2 + s_2^2 + s_3^2 + \dots s_n^2$$

Concentration Indices

Herfindahl-Hirschman index – captures the size of firms relative to the industry

Measures inequality across all teams

More sophisticated than concentration index ratio but the intuition is similar

Proportion of championships (or points) by top n teams

e.g. Cl_4 : dominance of top 4 teams

Pros

Intuitive and easy to understand

Cons

Doesn't capture imbalance within the top n teams

Does not fully capture CB

Measure could indicate imbalance when there actually is balance

Illustration of $CI_4 = 50.4\%$, 1888-89 to 2019-20

Club	Titles	Proportion	Cumulative
MANCHESTER UNITED	20	16.53	16.53
LIVERPOOL	19	15.70	32.23
ARSENAL	13	10.74	42.98
EVERTON	9	7.44	50.41
ASTON VILLA	7	5.79	56.20
SUNDERLAND	6	4.96	61.16
MANCHESTER CITY	6	4.96	66.12
CHELSEA	6	4.96	71.07
SHEFFIELD WEDNESDAY	4-	3.31	74.38
NEWCASTLE UNITED	4	3.31	77.69
WOLVERHAMPTON WANDERERS	3	2.48	80.17
BLACKBURN ROVERS	3	2.48	82.64

If honour were share even, across winners only, that would be just over 2 titles per team. Fewer if all teams that played in the league were accounted for.

A Less Blunt Approach?

Table 8: Premier League clubs' finishing positions - 1992/93 to 2018/19

[illegible]

A Less Blunt Approach?

Pos	Club	Cumulative points	18/19	17/18	16/17	15/16	14/15	13/14	12/13	11/12	10/11	09/10	08/09	07/08	06/07	05/06	04/05	03/04	02/03	01/02	00/01	99/00	98/99	97/98	96/97	95/96	94/95	93/94	92/93
25	Crystal Palace	60	12	11	14	15	10	11	-	-	-	-	-	-	-	-	18	-	-	-	-	-	-	20	-	-	19	-	20
26	Coventry City	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	14	15	11	17	16	16	11	15
27	Norwich City	54	-	-	-	19	-	18	11	12	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	20	12	3
28	Wigan Athletic	51	-	-	-	-	-	-	18	15	16	16	11	14	17	10	-	-	-	-	-	-	-	-	-	-	-	-	-
29	Portsmouth	50	-	-	-	-	-	-	-	-	-	20	14	8	9	17	16	13	-	-	-	-	-	-	-	-	-	-	-
30	Queens Park Rangers	49	-	-	-	-	20	-	20	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	8	9	5
31	Birmingham City	48	-	-	-	-	-	-	-	-	18	9	-	19	-	18	12	10	13	-	-	-	-	-	-	-	-	-	-
32	Derby County	46	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-	-	19	17	16	8	9	12	-	-	-	-
33=	AFC Bournemouth	33	14	12	9	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33=	Nottingham Forest	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	20	9	3	-	22	
35	Watford	31	11	14	17	13	-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	20	-	-	-	-	-	-	-
36	Burnley	30	15	7	16	-	19	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	Ipswich Town	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	5	-	-	-	-	-	22	19	16
38	Wolverhampton Wanderers	26	7	-	-	-	-	-	-	20	17	15	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-
39	Reading	18	-	-	-	-	-	-	19	-	-	-	-	18	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	Hull City	17	-	-	18	-	18	16	-	-	-	19	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	Sheffield United	11	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	20	14
42	Brighton & Hove Albion	10	17	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	Huddersfield Town	6	20	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	Bradford City	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	17	-	-	-	-	-	-	-
45	Cardiff City	4	18	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	Oldham Athletic	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	19
47=	Barnsley	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	-	-	-	-	-	-
47=	Blackpool	2	-	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	Swindon Town	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-

Present in the Premier League for the 2019/20 season

Note: Points are allocated based on final league position in each season with 20 points allocated for first position, 19 points for second etc, down to one point for finishing 20th. Except for seasons 1992/93-1994/95 inclusive when the Premier League consisted of 22 clubs when the clubs finishing in positions 20th-22nd are allocated one point each.

For years outside the Premier League, English Football League finishing positions are not shown. The blue line across the table above divides the 'all time' top 20 from the 29 other clubs who have played in the Premier League.

Source: Premier League; Deloitte analysis.

Fluidity

Fluidity? This is the ability of teams to move up and down the league standings and is a measure of mobility and one used in a study by Flores, Forrest & Tena (2010).

Consider these two league tables

A Mundane (Hypothetical) Football League

Season ending	Position this season	Position last season	Team
2021	1	1	Newburgh Harrock United
2021	2	2	Shevington FC
2021	3	3	Eccleston & Heskin
2021	4	4	Trimpell & Bare Rangers
2021	5	5	Southport & Ainsdale Amateurs
2021	6	6	Sir Tom Finney FC
2021	7	7	Preston Wanderers
2021	8	8	Ribchester Rovers
2021	9	9	Walmer Bridge
2021	10	10	Anchorholme
2021	11	11	Marsh United
2021	12	12	Highgrove
2021	13	13	Bickerstaffe
2021	14	14	Appley Bridge
2021	15	15	Southport Trinity
2021	16	16	Broughton Amateurs

The Less Mundane (Hypothetical) Football League

Season ending	Position this season	Position last season	Team
2021	1	6	Marsh United
2021	2	1	Shevington FC
2021	3	10	Preston Wanderers
2021	4	7	Broughton Amateurs
2021	5	12	Ribchester Rovers
2021	6	13	Walmer Bridge
2021	7	3	Highgrove
2021	8	8	Trimpell & Bare Rangers
2021	9	4	Newburgh Harrock United
2021	10	9	Bickerstaffe
2021	11	14	Eccleston & Heskin
2021	12	16	Sir Tom Finney FC
2021	13	2	Appley Bridge
2021	14	11	Anchorholme
2021	15	5	Southport Trinity
2021	16	15	Southport & Ainsdale Amateurs

Fluidity

The formula used by Flores, Forrest & Tena (2010) is

$$\textit{Fluidity}_t = (2/N^2) (\sum |r_{i,t} - r_{i,t-1}|)$$

This measure can be used to calculate mobility in the league using a pair of seasons.

The lower the measure, the absence of fluidity: 0 indicating no fluidity or mobility and values close to 1 indicating maximum mobility

Seasonal Dimension

Measuring Seasonal Dimension - *ex post*

Using simple statistical measures can be insightful

- Range

- Variance

- Standard deviation

Standard deviation

- Dispersion from mean

- If standard deviation is low (high), then competitiveness is high (low)

Measuring Competitiveness: English Premier League

Season ending	Max.	Min.	Range	Mean	St. dev.
2021	86	23	63	53	17
2020	99	21	78	52	18
2019	98	16	82	53	20
2018	100	31	69	52	19
2017	93	24	69	53	20
2016	81	17	64	52	15
2015	87	30	57	52	16
2014	86	30	56	53	19
2013	89	25	64	51	13
2012	80	33	47	51	13
2011	80	33	47	51	13
2010	86	19	67	52	19
2009	90	32	58	51	18
2008	87	11	76	52	20

Competitiveness and Policy Implications

Supplying a competitive league is paramount and an important aspect of contest and league design; predicated on the assertion that fans value competitiveness

There are numerous dimensions to competitiveness. Which of these matter and to what degree? Each may have different impacts on different types of fans.

This should be factored into how league and sports administrators conduct their business.

Competitiveness and Policy Implications - The Athletic

How can we make Europe's big leagues more competitive?

Michael Cox Jan 26, 2022

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There are still four months remaining in most European domestic leagues, but the big titles are largely already decided.

It's a situation we've become accustomed to: the rich clubs wrapping up the league by the turn of the year, allowing them to concentrate on what really matters to them, the [Champions League](#). Winning the title, the fundamental point of holding a national league system, is barely a story, and tense run-ins are largely a thing of the past.

If you believe the betting exchanges, PSG are 95 per cent likely to win Ligue 1, Bayern Munich are 95 per cent likely to win the [Bundesliga](#), [Manchester City](#) are 88 per cent likely to win the [Premier League](#), Real Madrid are 87 per cent likely to win [La Liga](#) and Inter are about 77 per cent likely to win Serie A. The Italian top flight is the only title race that feels truly alive, and even then, if Inter win their game in hand, they'll move seven points clear of the chasing

Competitiveness and Policy Implications – New Champions League Format

New Uefa Champion League format shift from eight groups of 4 to a pseudo Swiss Model format - a single league of 36 teams for the 2024-25 season

This should (in theory at least) create better competition with a greater volume of meaningful matches. Also, more clashes between the bigger teams

Recognition that the level of competitiveness under the current format is limited.