European football: Back to the 1950s

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Abstract

The point of departure in this paper is the diagnosis of Hoehn and Szymanski (1999) that the interlocking system of European football creates an unbalanced system. To secure competitive balance at both the European and the national level, they recommend to reform European football into a closed superleague American-style. In this paper I argue for a radically different route. Instead of giving up dominant traditions of European football, like promotion-relegation and the interlocking system, it is possible to maintain the defining characteristics of European football by returning to the state of affairs in the 1950s, before the commercialisation of football through the media started. This requires the free of charge distribution of football matches on TV, which can be justified by standard economic welfare analysis.

1. Introduction

In their forward looking article on the future of European football, Hoehn and Szymanski (1999) argue that the interlocking system is not stable in the sense that it creates unbalanced competitions at the national level. Until the mid 1990s, even for the most successful European football teams the financial stakes involved in European Cup competitions were still modest compared to the more regular flow of revenues from participating in the competition at the national level. Now that both the number of matches to be played and the revenues are increased in the Champions League, the revenue-generating function of the European interleague competition relative to the domestic competition gains in importance. As Hoehn and Szymanski make convincingly clear, this will have large repercussion on the competitive balance (CB for short) in the domestic leagues. Firstly they show that on average there is a very strong relationship between sportive success and wage expenditures on playing talent. Secondly, in a very schematic but explanatory satisfactory way, they show that the interlocking system of European football has a negative effect on the CB of the domestic leagues, because the talent ratio of two teams, one playing only domestically, the other European as well, declines due to the additional revenue base of the team playing also at the European level. In addition, the profit rates of both teams diverge, to the disadvantage of the domestic team. As a consequence, sooner or later the more successful football teams which regularly play in European Cup competitions, notably the financially attractive Champions League, will outgrow the domestic competitions and will form a stand-alone superleague, without promotion and relegation.

The mechanism behind this view on the future development of European football is that if the relative importance of the European competition increases, then “[t]he investment of the Euroleague teams in talent also grows. While this maintains competitive balance in the Euroleague, the smaller teams in national competition are left behind and domestic competition becomes more unbalanced.

The more competitive balance is valued (LG: at the European level), the faster the value of domestic competition is eroded" (*ibid*.: 223). The team playing both at a national and European level will have a much larger stream of revenues and as a consequence a much larger budget to attract talents than the team only performing nationally. Since the quality of talent can be readily observed and, after the Bosman arrest, domestic teams can only partly capture the monetary value of breeding extraordinary young talents, the teams with the largest budgets can attract the best talents. Indeed, now it is almost common practice that the best teams in Europe have for each position two outstanding players available. The financial stakes in especially the Champions League are so high and the competition so tough, that these teams cannot afford to enlist a second rate player because of an injury of one of its crucial players. Without sickbay, these top team are able to compose two teams of extremely high quality, whereas most of their domestic competitors can at best produce a team of modest quality in playing talent.

Although the outcomes of the formal analysis of Hoehn and Szymanski, based on a simple model of two teams with debatable assumptions (e.g. in the simulations, it is assumed that clubs are profit maximizers, whereas this assumption fits better the major American sports than European football), can be criticized as highly speculative, by and large it might very well be the case that they are right in their diagnosis.[1] Despite their efforts to show the positive welfare implications of the transformation of European football into an American format,[2] in my opinion their message is doubly bad news. Firstly, to go on in the way European football is organized now will lead to an across the board decline in CB at the national level. Secondly, the logical way out is to Americanize European football. According to their message, we simply cannot go on without jeopardizing the attractiveness of the domestic leagues, and we have to sacrifice the European style of managing the competition (an open league with promotion and delegation) in favour of an American style (a closed league, supplemented with artificial measures to maintain CB like a rookie draft and salary caps (*ibid*.: 229)).

To make my position clear, I fully subscribe the diagnosis of Hoehn and Szymanski, but do not share their recommendation to Americanize European football. My main concern in this paper is to show that there is an alternative, which has the hallmark that it is much more in line with maintaining longstanding dominant traditions of European football as it developed last century. In the next section I will present a measure of CB in four leading football countries in Europe which show that there is indeed a gradual decline, albeit slowly, in the CB in three out of four of these countries. In addition, it is shown that the top teams become increasingly superior to the other teams within the domestic leagues. With these confirmatory findings of the bad news of a declining overall CB and increasing superiority of the national champions as a background, in section 3 I will discuss the second part of the bad news for the future of European football. Only the Americanization of European football, characterized by a closed Superleague or a closed conference league system, is a stable market equilibrium (*ibid*.: 228-231). I will argue that there is an alternative, albeit a radical one. To explain this alternative, I discuss the TV demand and supply of football. Basically, the argument on which my case for the alternative rest, is twofold. Firstly, the TV market for football can best be described as a winner-take-all market. Secondly, the marginal cost of the most important good produced by football, TV images of football matches, is zero. If these two assertions hold water, both from a justice point of

[1] I presume that the same diagnosis applies to Latin America, with also an interlocking system and where football is also the most popular sport.

view and from a welfare point of view, a totally different route for the future of European football can be envisaged. Instead of a further commercialization of football, and commercialization can in a sense be interpreted as Americanization too, by allowing pay-per-view and other media devices to commerce football, I advocate for a free of charge distribution of football on TV. Essentially this means a return to football as it was up until the 1950s.[3] By choosing this alternative, there is no need whatsoever to restructure European football in an American way. So I will argue.

2. Measuring the competitive balance in European football

The CB is the most precious good of sports and the most important feature why fans like to watch sport contests. Without uncertainty of outcome, a sport contest degenerates into a walk-over win of the favourite team or athlete. The only point in attending such contests for fans is to see for how long the favourite team or athlete can maintain its superiority, while fans of the underdog will soon lose interest. In general one can say that greater outcome uncertainty reflects a higher degree of CB. However, the extreme of *perfect* or maximum CB where all teams are of equal strength is not considered as the optimum: that is, the *optimal* CB need not be a perfectly balanced competition, e.g. when clubs differ in their fan support, welfare maximisation requires that strongly supported teams have a higher chance to become champion (see e.g. Zimbalist 2002).[4] In the economic literature on sports, one can find different ways how to measure CB (for an overview, see Koning 2000). The most frequently used index is the standard deviation in match points (or the dispersion of win-loss percentages) of teams within a league at the end of the season. The more balanced a competition, the lower the standard deviation. Other well known indices, derived from conventional yardsticks to measure income inequality, are the concentration ratio, the Gini-index (see Utt and Fort 2002) and the Lorenz curve (see Quirk and Fort 1992: 260). In addition to these static indices, measuring CB *per season* across a time period, there are also dynamic indices measuring CB *across seasons*. A commonly used measure of the latter sort is the Hirfindahl-Hirschmann Index (HHI), expressing the concentration or shares of championships in a league over time. The HHI is calculated by the sum of squaring the shares of championships for each team in the considered time period. For instance, in the period 1992-2000, Manchester United won 7 out of 9 Premier League championships (only Blackburn Rovers in 1994/5 and Arsenal in 1997/8 interrupted the hegemony of Manchester United) and the HHI is equal to $(7/9)^2+2*(1/9)^2 = 0.63$.

Most studies which pay attention to the balance of the competition do that to relate it to the attractiveness of a competition and to the inequality in expenditures or revenues between clubs (see e.g. Szymanski 2001). The rationale behind the first relation is that a high CB-index indicates an exciting, attractive competition which will be reflected in a high attendance. A higher match

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[2] See especially Hoehn & Szymanski (1999: section 5.1).

[3] It would mean, in the terms described by Andreff (2000), a return from the contemporary Media-Corporations-Merchandising-Markets finance model toward the Spectators-Subsidies-Sponsors-Local model.

[4] "Economic theory tells us that the optimal level of balance in a sports league is a function of the distribution of fan preferences, fan population base, and fan income across host cities. Profit maximizing teams will accumulate units of talent until the marginal revenue per win is equalized across all teams. This implies that in leagues with a fixed supply of teams (and monopoly or duopoly team rights to a territory), the league will maximize revenues when teams from large, rich, and fan-intense cities win more often" (Zimbalist 2002: 111).

uncertainty, the essence of CB, should lead to greater fan interest (see e.g. Jennett 1984 for this relation in the Scottish football league). With respect to the relation between CB and inequality the idea is that increasing inequality in revenues between clubs will worsen the CB. Stephen Moss, a writer on the cultural history of sports, argues that the influx of television money in the last decade has had a detrimental influence on the CB and that, in the end, it will redraw the structure of English football:

> Television is only interested in elite sport and concentrates its money on the top teams; those teams become ever more powerful, almost unchallengeable… In every sport, what is happening as a result of TV's money and influence is that an elite of players and clubs is emerging, leaving in their wake a large number of other once proud but now barely viable clubs…. the Premiership is, in effect, three or four bands of clubs: the big three - Manchester United, Arsenal and Liverpool; another four or five strong metropolitan clubs which can, on a good day, compete with the (unholy?) trinity; and the rest, struggling to survive in the big league. A few Nationwide League clubs - Manchester City and Wolves of the current crop - may manage to compete in the Premiership, but for most it would be a financial and footballing impossibility. The remorseless logic driving football in the UK is that the big clubs will eventually split away from the domestic game. There is no longer any community of interest between Manchester United and, say, Macclesfield: Manchester's future lies on some global field in front of millions of television watchers; third-division Macclesfield are unlikely to generate much television interest or money. They are now, in effect, playing different games (*The Guardian*, March 22, 2002).

This statement duly describes in a non-technical way the gist of the article of Hoehn and Szymanski. As noted in the introduction, Hoehn and Szymanski (1999: 217) have shown that for the English Premier League during the period 1978-1996 there was a very strong relationship between the average wage expenditures of a team relative to the mean on the one hand and its average relative position within the league on the other ($R^2 = 0.92$). [5] This strong relationship suggests that football matches become increasingly a contest of X against Y million, with the chance of a win for X strongly dependent on the X/Y-ratio. If the relative quality of a team depends approximately on its financial budget relative to the mean, then greater financial inequality will sooner or later reduce the CB, because the difference in quality between the top teams and teams of lower rank becomes too high.[6]

However, there is no one-way relationship between commercialization and CB. In principle, commercialization and maintenance of the CB can go hand in hand. It might even be a commercial interest to have a balanced competition (as is clearly demonstrated in the league policies of governing bodies in the US). If the budgets of all clubs in the Premier League would rise by the same amount due to the influx of TV money, then commercialization might have a positive effect on the CB. Also, as long as the top clubs generate the lion share of their revenues in the domestic league, in absence of the prospect of a European superleague, it cannot be ruled out that sooner or later they will acknowledge that a too strong sportive and financial supremacy is not in their own interest, simply because a more exciting competition may raise the total revenues. Exemplary for this position is the vice-president of

[5] See especially Figure 1 in Hoehn & Szymanski (1999: 217). As a corollary, they also show that there is an almost equally strong relationship (R^2=0.88) between performance (measured in the average league position) and revenues of teams.

[6] Note that from Figure 1 by itself no firm conclusion can be derived between the relationship between wage expenditures and CB. Even a perfect relationship between wage expenditures on talent and average rank position does not necessarily lead to a decline in CB compared to a situation where this relationship is less than perfect. If for instance the entire budget of the team with the lowest average rank was transferred to the top team, then for

Bayern München, Karl-Heinz Rummenigge, who initially qualified the revenue sharing agreement in 1999 as „totale Gleichmacherei“ and „Sozialismus“, but in 2001 as an instrument of solidarity, that secures the balance of the competition (see Kruse and Quitzau 2002: fn. 5). If, on the other hand, commercialization leads to growing inequality between clubs, then in all likelihood the CB will go down. The notional endpoint of this process envisaged by Hoehn and Szymanski (1999) is a superleague of big European clubs, while the clubs of second rate will compete in second rate national competitions.

In examining these relationships, what has to be rejected (the H_0 hypotheses so to speak) is that in- or decreasing financial inequality does not lead to de- or increasing CB, and that in- or decreasing CB does not lead to in- or decreasing fan interest, respectively. The empirical evidence on this score is mixed. For the U.K., Szymanski (2001) has found that increasing inter-division financial inequality among participating teams in the FA cup between 1976 and 1998 has led to a decline in fan attendance. At the same time the increasing intra-division financial inequality among teams in the Premier League appeared unrelated to fan attendance and CB remained rather stable. Frick and Prinz (2002), analysing 12 European soccer leagues during the last quarter century, find that the survival probabilities of newcomers (promoted teams) are not higher in leagues with a high degree of revenue sharing compared to leagues where TV money from the sale of broadcasting rights is concentrated among the top teams. This is at odds with what they call the ‘redistribution hypothesis’: “to maintain competitive balance, teams with a weak drawing potential should be subsidised by the more wealthy clubs” (*ibid*.: 7). Redistribution from rich to poor teams is one of the main reasons to allow the collective sale of broadcasting rights of football matches, opposed to the alternative where each club offers the broadcasting rights of its home games separately to the highest bidder.[7]

Is it true that due to commercialization, say in the last two decades, the CB is declining? Some casual observations point in that direction. For instance, the richest club of the Premier League, Manchester United, was 7 times champion in the period 1992-2000, covering 9 seasons. Liverpool was 8 times champion in the period 1978-90, covering 12 seasons. Surely this is not enough to make plausible the claim that the recent commercialization of football has had a detrimental effect on the CB, even if it would be true that the sporty supremacy of Liverpool in the eighties and Manchester United in the nineties was closely connected to financial supremacy. As Szymanski (2001: 74) argues, “… it is not evident that there has been any significant increase in intra-divisional competitive balance either within or between seasons… While there is some slight evidence of increasing dominance in the Premier League over the last three years, there is no clear trend”.

Still, commercialisation may pose a threat to the CB of football. To test assertions of this sort it is very important that the CB can be measured adequately. For this purpose, the commonly used indices

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both teams their rank order would not change. The point is that the figure does not give any information whether or not the relative inequality of wage expenditures on talents is increasing during the period.

[7] The argument put forward is that revenue sharing of TV money is required to keep small-market teams competitive to large-market teams. Kruse and Quitzau (2002) argue convincingly that such a monopoly or cartel cannot be justified on these grounds: competitive sale in conjunction with an obligatory fund to support the weaker teams can do the same job, without the usual disadvantages connected to monopolies or cartels, such as higher prices and lower quantities (in this case the cumulative sum of ‘Bundesliga-Fernsehminuten’ consumed by all spectators).

as the standard deviation, the concentration ratio[8] (or the HHI-index) are very rough, to say the least. Groot and Groot (2003) have developed an index of CB, labelled as the surprise index,[9] which can not only be used to check whether there is a decline in the overall CB, but also whether the top teams become increasingly superior to the other teams.[10] Contrary to the standard deviation and the concentration ratio which only use the final league positions at the end of the season, this index uses all the information given in the summarizing cross tables per season. Moreover, since the index can be disaggregated to the level of individual teams, it can give a precise estimate of the degree of superiority of the top teams, which is of high relevance to test the prediction of Hoehn and Szymanski that the relative quality of Euroleague teams grows, while the other teams in the national competition are left behind, with the result of a more unbalanced domestic competition. I will use this index because it provides supplementary empirical evidence of the sort already given in Hoehn and Szymanski (1999).[11] The index simply divides the total number of surprise points realized in a complete league competition (as given by the cross table at the end of the season) by the total number of surprise points which would result in a counterfactual perfectly balanced competition. At the end of a season, when the rank order of teams is known, all the matches where a team of lower rank managed to win or draw against a higher ranked team are considered as surprising outcomes. The rule applied to calculate the total number of surprise points in these matches is to evaluate a surprising outcome with one point for a draw and two for a win, multiplied by the rank order difference between the teams. Denoting i and j ($i<j$) as the rank number of the teams in the final league table at the end of the season, a win of team j against i is thus evaluated at $(j-i)*2$, and a draw at $(j-i)*1$. According to this rule, one team beating another one place higher in the league table is far less surprising than when the team at the bottom of the list (with rank order N) beats the champion (with rank order 1). The former gives only two surprise points, the latter $(N-1)*2$ points.

The denominator of the index, call this M, is defined by the weighted sum of the surprising outcomes in a counterfactual perfectly balanced competition. One can think of such a perfect competition as one in which each team always wins its home matches.[12] Alternatively, a competition where all teams always play draws is also perfectly balanced. The maximum score of surprise points M in a perfectly balanced competition of N teams given by the following formula:

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[8] The concentration ratio C_j is defined as the actual number of match points, 2 for a win and 1 for a draw, collected by the top j teams divided by the maximum number of points they could have won.

[9] See Groot and Groot (2003) for a more extensive treatment of the surprise index, applied to French football, and its comparative advantage compared to more standard measures of CB.

[10] In the predominantly American economic literature on sports, CB indices are used to study the impact of alternative regulations of sports leagues – varying from revenue sharing, the rookie draft system, salary caps, free agency to the syndicate structure of American soccer – on CB. For instance, using the same yardstick, the National Football League NFL, by some critics in the US described as 'socialist' because of its high degree of gate revenue sharing (see Hoehn and Szymanski 1999: 214), shows a better score on CB than the basketball league NBA, with no gate revenue sharing at all in the 1980s. This type of research is labelled by Fort and Maxcy (2003: 155) as "the analysis of competitive balance (ACB) literature itself". The second strand of research, labelled as the "uncertainty of outcome hypothesis (UOH) literature", studies the relationship between the degree of CB on the one hand and fan interest and the financial health of the professional leagues on the other. The surprise index to be presented here, and the comparison with rival indices of CB, falls entirely in the first category of Fort and Maxcy.

[11] Besides the relation between average rank and wage expenditure, Hoehn and Szymanski (1999) also give information on the domination of top teams across seasons, e.g. their participation in European Cup competitions.

$$M = 2\sum_{i=1}^{N-1}(N-i)i = (N-1)\,N(N+1)/3$$

Intuitively, the expression for *M* can be understood as follows. When team *N* at the bottom of the list wins against the number 1, this results in 2*(*N*-1) points, and in a perfectly balanced competition this happens only once. There are two matches with each a contribution of 2*(*N*-2), to wit team *N* wins from team 2, and team *N*-1 wins from team 1. There are three matches with each a contribution of 2*(*N*-3), namely a win of team *N* against team 3, a win of team *N*-1 against team 2 and a win of team *N*-2 against team 1. And so on down the line. The summation leads to the expression at the RHS of Equation (2). The situation where all matches end in draws gives the same score for *M*: there are two matches with a rank order difference of *N*-1, there are 2 times 2 matches with a rank order difference of *N*-2, there are 2 times 3 matches with a rank order difference of *N*-3, etcetera, resulting in the same formula for *M*. Dividing the total number of realized surprise points in a particular season by *M* gives the value for the surprise index for that season, which can vary between 0 and 1. If it is 0, *a posteriori* no match had a surprising outcome, and the competition was completely unbalanced. If it is 1, all teams collected the same number of match points, e.g. because all won at least one match of the home and away matches against any other team.

Figures 1 A-D present the development and trend lines of the overall CB measured by the surprise index in four leading European football countries, Italy, France, the Netherlands and England for different time periods.[13] The French Championnat competition has on average the highest score, 68%. Over the entire period 1945-2002, there is only a slight decrease of 3.5%-points.[14] For the Serie A in Italy the index is on average 60% and the decrease over the entire period 1972-2002 is 8.5%-points. The Netherlands has an average score of 54% and a gradual decrease of 5.4%-points in the period 1956-2002. Finally, the Premier League in England has an overall CB of 65% and, contrary to the other three countries, it is gradually increasing (over the entire range by 4.2%-points). Summarizing, the French competition is the most balanced and the Dutch competition the least. In three countries there is a gradual decrease in CB, particularly in Italy, and in England a gradual increase.

Figure 1 A-D about here

This picture can be refined by concentrating on the top teams within these competitions by modifying the index in order to track the degree of superiority of the best team. If the champion is truly superior to all other teams in the league, it will grants these teams very few, if any, surprise points. If however the champion is not far superior, then it will happen often that surprise points are given away by the best team, namely every time when teams of lower rank win or draw against the champion. It can be shown that in a perfectly balanced competition (e.g. the champion loses one time against all other teams), the maximum number of points given away (*M'*) by the champion is equal to

[12] The rank order of teams is then determined by some other rule than the number of match points at the end of the season, e.g. the number of goals scored.

[13] The reason behind the different time periods is rather practical. Only for these years I have found on the internet complete matrices.

[14] The decline over the entire period can be calculated by multiplying the number of years with the coefficient of the trend line, given at the upper right hand corner in the figure. In this case the decline is 58*(-.0006) = -3.48%.

(N-1)(N-2), with N the number of teams in the league. By dividing the actual number of surprise points given away by the champion in a particular season by *M'*, we get an index for the degree of superiority of the best team (which again can vary between 0 and 1). Figures 2 A-D present the development and trend lines of the superiority index for the champions in the four countries considered. Here too we find a gradual decrease over time, especially in the Netherlands (more than -10%) and Italy (-3.7%), and to a lesser extent in France (-3.5% over a much longer period compared to the other countries), but a gradual increase in England (+5.7% over a time span of only 22 years). In all countries the value of the index of superiority of the best team is significantly below the value of the overall CB index. Despite the fact that the value of the overall CB is the lowest for the Netherlands, the degree of superiority of the best team is that high (revealed in an extremely low score on the index of superiority), that the largest gap between the two is also in the Netherlands.

Figure 2 A-D about here

Admittedly, except for England, the downward pressure on the CB as borne out by this statistical evidence is very modest, certainly if we take into account the rather long time periods considered. However, there are delaying factors as well as countervailing forces. Firstly, the commercial exploitation of the football media market just started yet and in most countries TV revenues are still heavily redistributed. It might be the case that we have to wait for ten years or more before the detrimental effects on the CB indicated by Hoehn and Szymanski can be discerned. Secondly, until the Bosman arrest, the transfer system was an inhibiting factor because it worked to the advantage of small clubs: in general the best players will always play in the best teams, but under the pre-Bosman transfer system the best teams had to pay high ransoms to contract talented players matured in weaker teams, leading to a redistribution from rich to poor teams. Thirdly, in line with the saying that there is no such thing as a money machine, in football it is very difficult to build a champion team just by contracting the best players from abroad. Football is one of the few sports, if not the only one, where a team of lower quality in all respects nevertheless can win due to a lucky goal, and also a sport where teams with a lower average quality of its players can win due to superior team spirit, a better team balance, a clever tactic or higher effort. All these factors hamper a sustained exercise of superiority by the best teams over a longer period. The recent huge influx of money from participating in European tournaments might lead to a further decline in overall CB and a marked increase in the superiority of the top teams in national competitions. However, barring more conclusive evidence, it is too early to say that the European football competitions are befalling an overall sharp decline in CB. If at all, this process, like the greenhouse effect, is developing very slow.

3. The market for broadcasting rights of football

As Andreff (2000: 259) makes clear, the elite of the European football clubs rapidly evolve into companies that draws to an increasing extent their revenues from media contracts: "Television has become, or is destined to be, the main source of professional sports finance". This section deals with two characteristics of the TV market for broadcasting rights of football: firstly that it is a winner-take-

all market (section 3.1) and secondly that the marginal cost of the product sold in this market is zero (3.2). These two characteristics have far reaching implications for the optimal policy to be pursued by the government (section 3.3). In addition I will give some arguments that following this policy will remove the major threat of a decline in CB in domestic leagues because of the interlocking system of European football.

3.1. The supply side

The supply side of the market for broadcasting rights of football matches has the characteristics of a winner-take all market. Firstly, in such a market, not the absolute quality, but the relative quality is what matters. Secondly, winner-take-all markets are characterized by high fixed costs and low or even negligible variable costs. Both these characteristics apply to football. The overriding importance of the relative quality, in combination with the high fixed and low variable costs, implies that the market of football on TV will tend to a natural monopoly, oligopoly or monopolistic competition, depending on whether consumer preferences centre around the best team, a few tops teams or many teams with each their own fan base.

The irrelevance of absolute quality in the market for broadcasting rights of football matches can best be illustrated by what happens if the fourth Division offers the broadcasting rights of all matches against a sharp price to a TV network. There will no interest (like a moderate singer will not get a contract from a recording company). The reason is that TV spectators do not want to watch, certainly if they know that on another channel a match is played between teams of higher relative quality: they are aware that the fourth Division is no big deal, but just the fourth Division. The short side of the market is therefore in the hands of the top teams in the Premier League.

The high fixed cost versus low variable costs reinforces that pattern in favour of the top teams, because of economics of scale. The fixed costs of say a Premier League team are mainly composed of the costs of the stadium and the staff and player salaries. Except for the hiring costs of some extra personnel for stadium amenities and television recording, these costs do not vary with the number of matches played during a season, nor with the number of spectators. As a consequence, the average cost curve will be above the marginal cost curve (which is approximately zero,[15] see section 3.2) along the entire range. Because the costs are mainly fixed in nature, the teams with the highest market shares (which will inevitably, because of the predominance of relative quality, be the best teams) can offer better price-quality ratios compared to rivals of lower quality, because the fixed costs can be spread out over a larger market. In principle, this is a self-reinforcing tendency, leading to a concentration of market output among a few top teams.

The importance of relative quality is further reinforced by easy reproduction by mass media technology.[16] To illustrate, consider Figure 3, where the *n* Premier League teams initially have no access to mass media. The vertical bars represent the number of paying stadium visitors during the season. If the drawing potential of teams depend on the relative positions (that is, their rank order) of teams *vis à vis* each other, then the top teams, situated on the left, will have a higher box office appeal and attract more visitors than teams at the bottom of the list, situated at the right. Next, assume that media coverage of football matches is introduced. In principle, all teams can now serve the whole

[15] See van der Burg (1996 and 1998) for a justification of the zero marginal cost.

market. However, as explained above, the matches of the top teams are the short side on the supply side of the market. Matches between teams of lower quality are hardly a substitute to matches in which the tops teams enter the pitch. In other words, output will be concentrated in the hands of a few top teams and the revenues that teams of lower quality can obtain is largely a derivative of the box office appeal of the top teams, namely depending on the number of times they play at home against the top teams. A good example is that the highest bid of two pay-per-view channels *Stream* and *Telepiu* at the start of the season 2002-03 for the matches of the weaker teams in the Serie A was only €4,5 million, against €60 million for the matches of top teams like Inter Milan or Juventus. The smaller teams insisted on a price of €10 million. Under the threat of not starting the competition, the top teams have for once agreed to a supplementary payment to the smaller teams.[17]

Figure 3 about here

This example illustrates that inevitably the top teams will gain the lion share of media contract revenues for TV coverage of football matches. In the most extreme case that consumers would only be interested in the best relative quality, then the number one team would be able to serve the whole market and would attract an audience of $n*A$ consumers, represented by the rectangular in the right hand panel of Figure 3. However, suppose that the best team, say Manchester United, Juventus or Bayern München, for one reason or the other (e.g. due to financial malpractices as happened to Olympique Marseille in the mid eighties, or an airplane crash as happened to Manchester United), would not be present anymore and number two would take its place. Because the former number one is not present anymore, the attractiveness of the competition is reduced somewhat, but only to a very small extent, because it is predominantly the relative, not the absolute quality of teams, that matters. Now team two would get the media contract and serve a market of n times $(n\text{-}1)*A/n$ consumers, which is equal to $(n\text{-}1)*A$. The decrease in output by the elimination of the best team from the competition is therefore at maximum equal to $n*A\text{-}(n\text{-}1)*A=A$, which represents the marginal contribution of the best team to the competition. Surprisingly, the marginal contribution of the best team in a setting with media coverage is equal to what the best team would obtain without any media coverage.

Admittedly, a host of complications inherent in the football industry are set aside in this exercise and many simplifying assumptions are made, but basically this is what happens when a non-media market transforms into a winner-take-all media market. One crucial assumption made is that football spectators have a strong preference to watch the matches of the team with the best relative quality, which implies that club spirit is rather weak. In the non-media era of football, this would certainly be a faulty assumption. However, the more football is covered by mass media, the more it becomes *dis-located*. A good example of this tendency is Ajax Amsterdam, traditionally a club with strong local roots and an excellent youth education, witnessing the great number of top players matured in the Ajax squad but now playing for top teams all over Europe. It has now only two players of Dutch origin in its first team, and even those are not born in Amsterdam or its direct neighbourhood. The more football is covered by mass media, the less obvious it is to be a supporter of

[16] For a mathematical treatment of Figure 1, also including the effect of a decline in price and an increase in the number of consumers, see Borghans and Groot (1998).

the team next door and the more likely to become a supporter of a top team. For example, in the deep south of the Netherlands, the number of fans of Ajax, located in the North, is higher than the number of fans of the local club Maastricht.

3.2. The demand side

Lets now turn to the demand side of the market. The downward sloping line D_f represents the demand curve for pay-per-view football on television. The optimal point for a monopolist is to choose the quantity N_P where the marginal revenue curve for pay-per-view consumers EN_P cuts the marginal cost curve MC on the horizontal axis, which corresponds to price P, where the price elasticity is minus unity. However, the pay-per-view channel can also obtain additional revenues by framing the football match with commercial advertisements. Suppose that the market value of these advertisements is proportional to the number of spectators.[18] The marginal revenue of commercial advertisement is therefore constant and represented by the horizontal line MR. The *total* marginal revenue $FN_{P'}$ is graphically represented by the horizontal summation of both marginal revenue curves EN_P and MR. The new optimum for the monopolist is now to set the price at P', resulting in a number of pay-per-view subscriptions of $N_{P'}$. The effect of commercial advertisement for the consumers of pay-per-view is that they are implicitly subsidized because the channel is prepared to charge a lower price, taking into account that additional consumers also raise the revenues from advertisement.

Figure 4 about here

Whether integral football matches broadcasted by pay-per-view is the most profitable strategy or not depends on the number of spectators that would result if football is broadcasted for free on a public channel. It can safely be assumed that the audience watching a football match will be significantly larger when it is broadcasted on a regular public channel like BBC, RAI or ZDF compared to when it is broadcasted on a special sports channel, even if the latter would be free of charge (attracting, at maximum, an audience of $N_{p=0}$). The reason is that a special sports channel only attracts consumers with a strong interest in sport, whereas a regular public channel also attracts other consumers, not only interested in sport. The primary source of revenues for the public channel is the revenues flowing from commercial advertisements just before, during the break and after the match. Assuming again that these revenues are proportional to the number of spectators, the total revenue equals the area ON_FDA, which is equal to $MR*N_F$. It will be more profitable for the football association or the top teams to sell the broadcasting rights to a public channel than to a pay-per-view channel only if the area ON_FDA is larger than the sum of $ON_{P'}CP'$ and $ON_{P'}BA$, where $ON_{P'}CP'$ is equal to $P'*N_{P'}$ and $ON_{P'}BA$ is equal to $MR*N_{P'}$, representing the revenues from pay–per-view subscriptions and advertisement on the pay-per-view channel respectively. The equation relevant for the choice between pay-per-view or public television is thus whether $MR*(N_F- N_{P'})$ is higher or lower than $P*N_{P'}$. If it is higher, then the additional revenues from commercial advertisements on the public

[17] See *The Guardian,* August 20 and September 10, 2002

[18] There might also be additional revenues from merchandizing, shirt sponsoring and the sale of stadium tickets. For simplicity, and not unrealistic for the first two categories, it is assumed that these revenues are also proportional to the number of television spectators.

channel with a large audience outweighs the revenues from subscription fees of the pay-per-view channel, and football free of charge on the public channel is more profitable.

Basically, this equation might explain why in some countries integral football matches are still broadcasted on one of the public channels, while in others they are exclusively on a pay-per-view channel. The crucial variables are N_F and P'. N_F tends to be negatively related with the number of public channels. The higher this number, the more the entire television audience is distributed over different channels and the lower the number N_F if it happens that a football match is on TV. The pay-per-view price P' is to a large extent determined by the demand elasticity for football: the more elastic, e.g. due to close substitutes (a Scottish football supporter might appreciate rugby or darts as well), the lower the price that can be charged by the pay-per-view channel.[19] Roughly, one might expect that in large countries with a strong football culture like Italy, Spain, England and Germany, where not only the number of nationwide public channels is high but also the demand for football relatively inelastic, it is more likely that integral football matches are broadcasted exclusively on pay-per-view channels than in small countries with a much more modest football history, like Sweden, Denmark, Finland, Norway or Switzerland.

3.3. Policy implications

From a welfare point, the consumer surplus when football can be watched free of charge is far higher than when the distribution is organized by a pay-per-view system (in Figure 4, the consumer surplus in the situation of free of charge is at least equal to the area $ON_{P=0}E$, compared to only P'CE in the situation of pay-per-view). However, even the free of charge solution with advertisement is second best from a welfare point of view. It is only superficially that consumers can watch football free of charge, because they pay the cost of advertisements of MR per consumer (which, in the end, is part of the price of the advertised products) as an implicit price. The first best solution has in common with this second best solution that price is equal to (in this case zero) marginal costs, but in addition football should be broadcasted without any advertisement at all: If there would be two identical channels, except that on one channel the match is larded with advertisement, while on the other all advertisement is banned, then a great majority of spectators would prefer the latter, if only because the entire break can be used to repeat the highlights of the first half and to comment extensively upon the tactics of the teams by experts (except of course if revenues of commercials are used to contract top experts who otherwise would not be prepared to give their comments).

A more convincing case for government intervention is hardly conceivable: both from the supply and from the demand side, there are market imperfections that justify intervention, not to mention the threat non-intervention might have on the most precious good of sport, a sufficiently high degree of competitive balance. Especially the fact that the socially optimal price is the one which is equal to marginal cost, which is approximately zero for football, has far reaching implications. As van der Burg (1998: 244) shows, a higher price than marginal cost can only be justified if production at the lower price would not be realised; if it would lead to an inferior product quality; and if it reduces innovation incentives. None of these provisos apply to the product football matches on TV, so a ban on TV-coding for the purpose of offering these matches on a pay-per-view basis would be perfectly in

line with what welfare theory prescribes. If one would take this step, then it follows logically that also the second step, no commercial exploitation of broadcasting rights of football on public channels, have to be taken, since from a welfare point of view this is second best compared to the first best solution of broadcasting football on public TV with only a compensation for recording costs to be made, as argued above.

The discussion in the sports literature however centres on whether the market imperfections are best dealt with by competitive sale or by collective sale with a revenue-sharing agreement. Due to the market power of the top teams, collective sale with a revenue-sharing agreement is more or less equivalent to a competitive sale in combination with an obligatory redistribution scheme (see Kruse and Quitzau 2002). For sure, it can be expected that the top teams, or the assembly of teams comprising the league, will strongly lobby for rules that optimally protect their commercial interests. If the government is set to the task to provide the institutional framework of the football market, it is clear that it should not try to maximizes the revenues for the top teams by allowing competitive sale, nor to maximize revenues for the football industry as a whole by allowing collective sale of broadcasting rights. If it would take as a guideline the public interest, then the zero price solution with or without advertisement, subject to the constraint that necessary costs to be made for TV recording are compensated (thus, non-negative or zero profits) comes out as best. This zero price can be effectuated by a ban on coding of TV recording. Every TV channel can then broadcast football matches free of charge, except for a small compensation to cover the costs of television recording. As a result, Premier league teams will not have access any more to money from the sale of broadcasting rights and non-negative profits can only be secured if player salaries and other costs are adjusted downward to such extent that it equals the still considerable amount of revenues from stadium receipts and the sale of club pafernalia. Note that in this constellation the revenues for the top teams are approximately in line with what they would get without any media coverage of football matches, as explained in the figure of section 3.1. Note also that in this constellation the winner-takes-all characteristic of the market has been removed, simply because the market value of broadcasting rights in a competitive sale of team matches is very much more unequal than the inequality in stadium and merchandizing revenues. Not only the teams of lower rank can subsist because of their loyal fans, the home matches against top teams, but also because there are physical limits to stadiums capacities. The financial inequality between teams will be kept in check. There is no danger that the competitive balance will be impaired because one team has a ten- or twentyfold higher budget than another team in the same league (or in a different country).

4. Conclusion

In this paper I have argue for a radical proposal. Firstly, if such a drastic measure of a ban on TV coding would be taken only in say the Bundesliga, the German clubs would quickly lose their competitive edge in the international club tournaments. However, if my argumentation is valid, it should be implemented at the European level, in which case it would also create an equal level playing field between large and small football countries. Football would remain as interesting, if not more

[19] This is also the major reason why highlights of football matches, which can be considered as a substitute to integral football matches, are broadcasted with a certain delay in order to secure the interests of the pay-per-view

interesting, as it is now. Only the player salaries would return to more earthly levels, although the best players will still become millionaires, as it should be for the very best in any profession. Secondly, it cannot be denied that the football industry produces a product which, unlike pure public goods, can be sold on an exclusive basis.[20] But similar to many public goods like defence or dike maintenance, marginal costs are zero. Besides football, there are more products with zero or low marginal cost, e.g. Microsoft software. There is however a crucial difference between Microsoft software and football on TV. This has to do with the three provisos mentioned in section 3.3 to allow prices exceeding marginal costs. Under marginal cost pricing, the production of Microsoft software would not be done - while football would go on as ever -, it would be of lower quality[21] - while the quality of football would be unaffected, if not improved - and the software companies would be far less innovative – because of the predominance of relative above absolute quality, innovation is of little importance in football.

In the end, the regulation of a sport market depends on how to weigh the competing interests of the public, of the sport itself (ideally represented by the sport association), and of professional players and owners of teams. This constellation of mutually competing interests might explain why we observe such a wide variety of regulations in the team sport media markets. Basketball in the U.S. is exempted from antitrust legislation under the condition that revenues are redistributed among teams in order to maintain the competitive balance, while other team sports in the U.S. are not exempted. Soccer in Germany and Italy fall under the same rules as other sectors of the economy. Soccer in the U.S. is organized as a syndicate, where the competition, the clubs included, at the highest level are in the hands of a single owner. Dutch soccer has at the moment a provisional dispensation from antitrust legislation. This variety in the regulatory framework of sports indicates that there is considerable leeway to organize these markets as the highest authorities, e.g. the European Commission, see fit. Also, the Bosman arrest of 1995 has shown that what was a longstanding practice can nevertheless be against the (European) law. What has to be kept in mind however is that the vantage point of the government in this clash of interests should be clear: in as far as in its power, it should protect the interest of the public in the regulation of the football media market, which is football on TV at the lowest possible price.[22]

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channel.

[20] This point was made by Koning (1996: 799) in reaction to van der Burg (1996).

[21] Probably the consumer would have to manage with very user-unfriendly Linux software.

[22] An alternative to the proposal for government intervention by a ban on coding of TV recording would be to delegate the responsibility to regulate the market for football to the football association. In the present constellation, with the high commercial interests at stake, the top teams will quickly seize the power and use this body for their own purposes. The best guarantee to ensure that the football association does not follow suit a policy to maximize revenues is to install an independent board of trustees with only the task to promote the intrinsic good of football as much as possible, breadthways and in depth. If the promotion of football requires huge amounts of money, the board has the authority to follow such a policy, e.g. by means of selling broadcasting rights to the highest bidder and using the money as it sees fit. Equally, if the promotion of football would require some redistribution from the top level to lower levels, e.g. to organize all kinds of youth tournaments, the board has the authority to do so.

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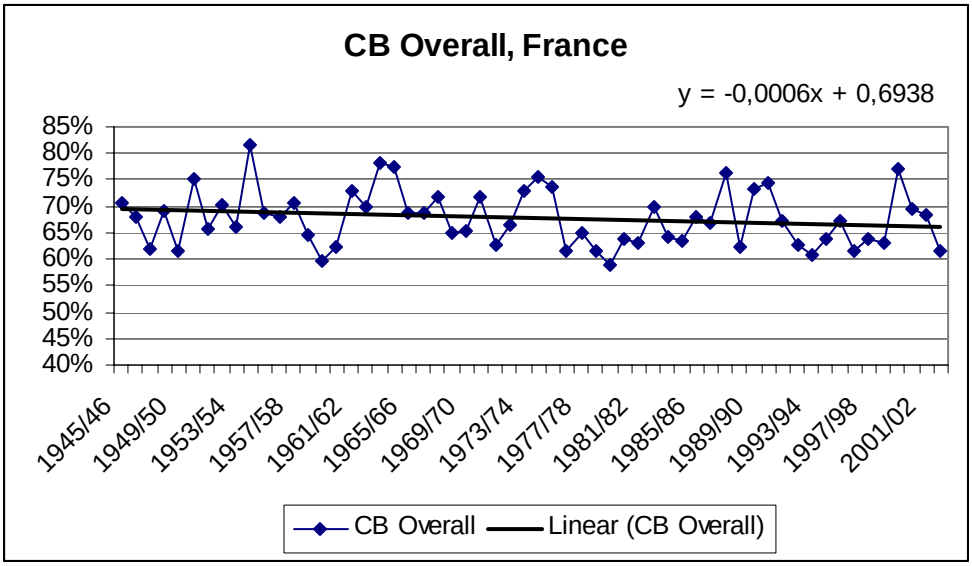
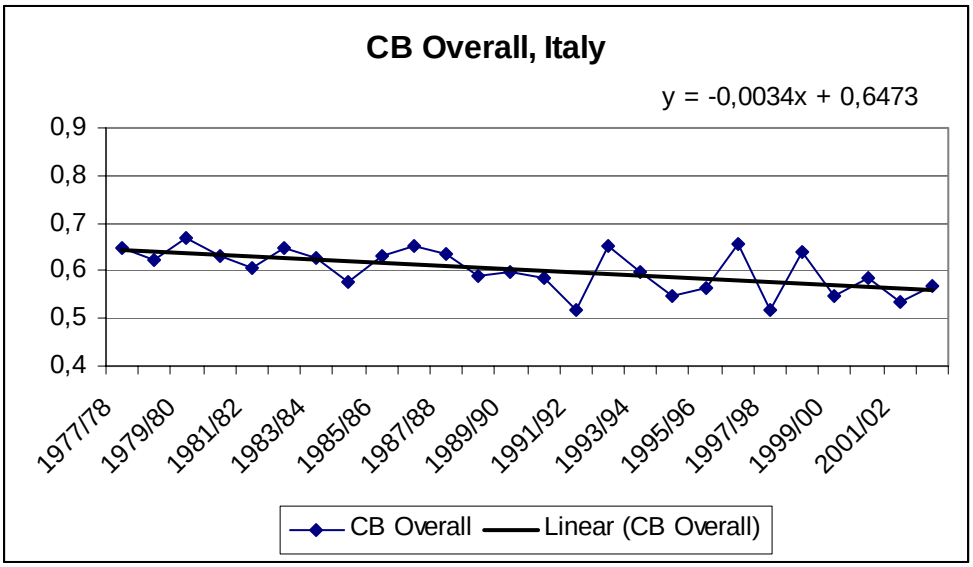
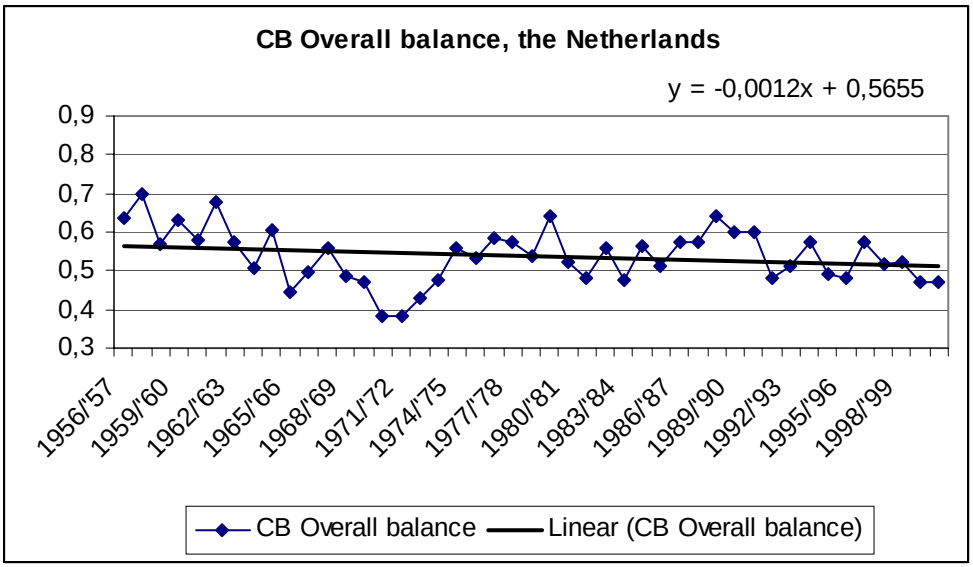
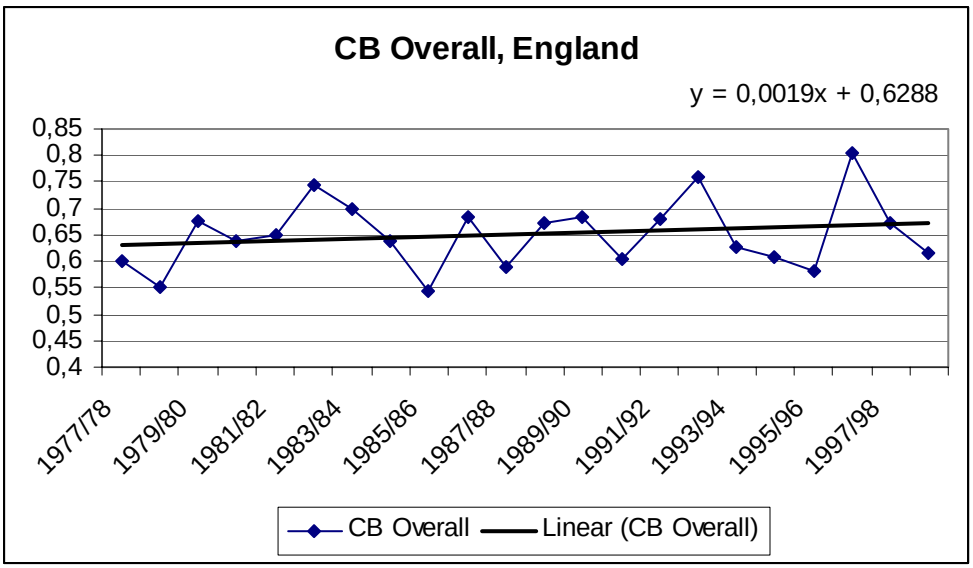
Figure 1 A-D


CB Overall, France
y = -0,0006x + 0,6938
85%
80%
75%
70%
65%
60%
55%
50%
45%
40%
1945/46
1949/50
1953/54
1957/58
1961/62
1965/66
1969/70
1973/74
1977/78
1981/82
1985/86
1989/90
1993/94
1997/98
2001/02
CB Overall
Linear (CB Overall)


CB Overall, Italy
y = -0,0034x + 0,6473
0,9
0,8
0,7
0,6
0,5
0,4
1977/78
1979/80
1981/82
1983/84
1985/86
1987/88
1989/90
1991/92
1993/94
1995/96
1997/98
1999/00
2001/02
CB Overall
Linear (CB Overall)


CB Overall balance, the Netherlands
y = -0,0012x + 0,5655
0,9
0,8
0,7
0,6
0,5
0,4
0,3
1956/'57
1959/'60
1962/'63
1965/'66
1968/'69
1971/'72
1974/'75
1977/'78
1980/'81
1983/'84
1986/'87
1989/'90
1992/'93
1995/'96
1998/'99
CB Overall balance
Linear (CB Overall balance)


CB Overall, England
y = 0,0019x + 0,6288
0,85
0,8
0,75
0,7
0,65
0,6
0,55
0,5
0,45
0,4
1977/78
1979/80
1981/82
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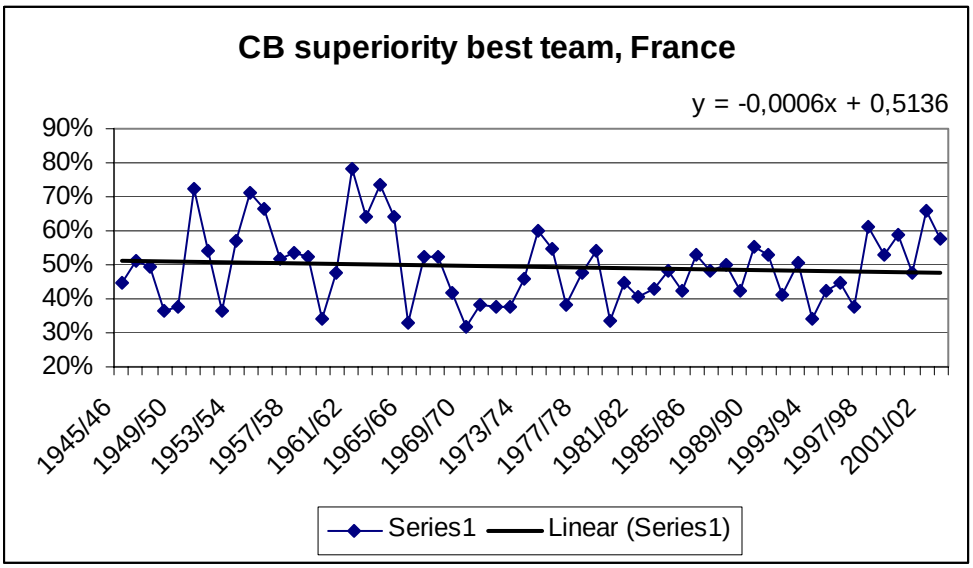
1987/88
1989/90
1991/92
1993/94
1995/96
1997/98
CB Overall
Linear (CB Overall)

Figure 2 A-D


CB superiority best team, France
y = -0,0006x + 0,5136
90%
80%
70%
60%
50%
40%
30%
20%
1945/46
1949/50
1953/54
1957/58
1961/62
1965/66
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1973/74
1977/78
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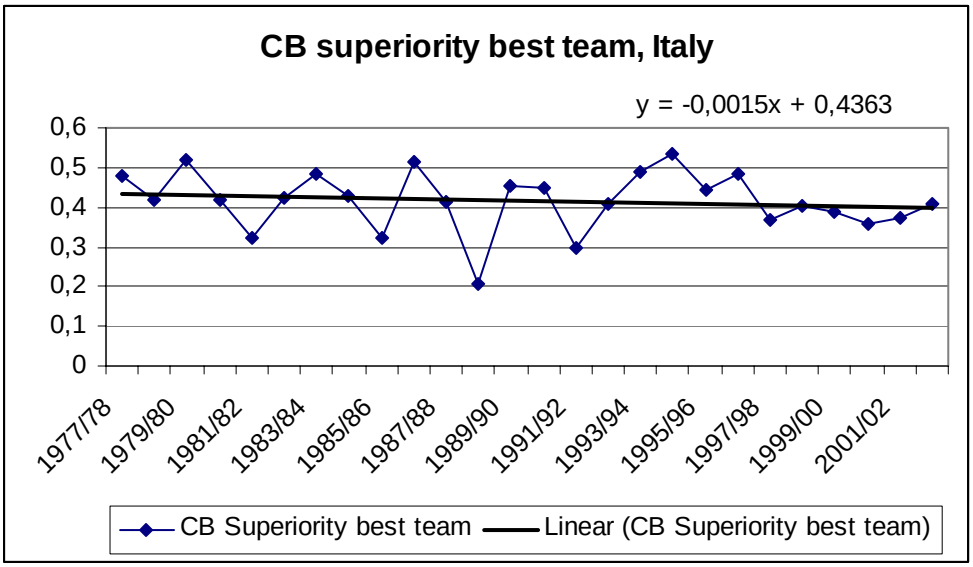
1985/86
1989/90
1993/94
1997/98
2001/02
Series1
Linear (Series1)


CB superiority best team, Italy
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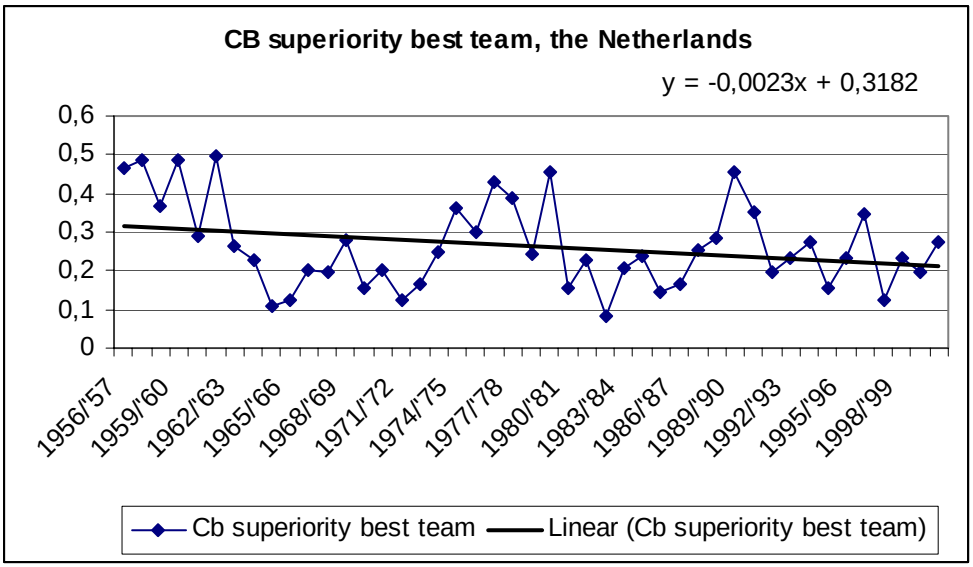
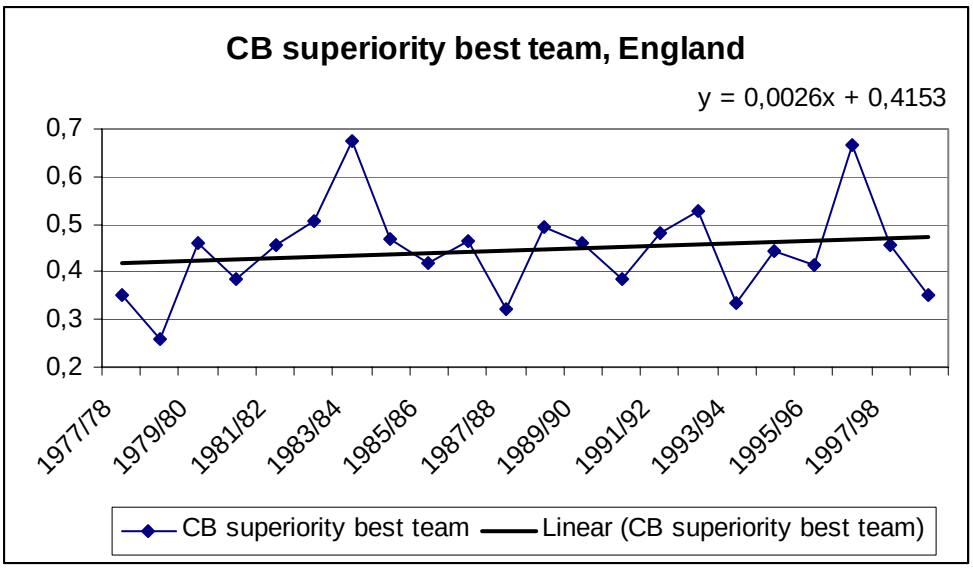
0,6
0,5
0,4
0,3
0,2
0,1
0
1977/78
1979/80
1981/82
1983/84
1985/86
1987/88
1989/90
1991/92
1993/94
1995/96
1997/98
1999/00
2001/02
CB Superiority best team
Linear (CB Superiority best team)


CB superiority best team, the Netherlands
y = -0,0023x + 0,3182
0,6
0,5
0,4
0,3
0,2
0,1
0
1956/'57
1959/'60
1962/'63
1965/'66
1968/'69
1971/'72
1974/'75
1977/'78
1980/'81
1983/'84
1986/'87
1989/'90
1992/'93
1995/'96
1998/'99
Cb superiority best team
Linear (Cb superiority best team)


CB superiority best team, England
y = 0,0026x + 0,4153
0,7
0,6
0,5
0,4
0,3
0,2
1977/78
1979/80
1981/82
1983/84
1985/86
1987/88
1989/90
1991/92
1993/94
1995/96
1997/98
CB superiority best team
Linear (CB superiority best team)

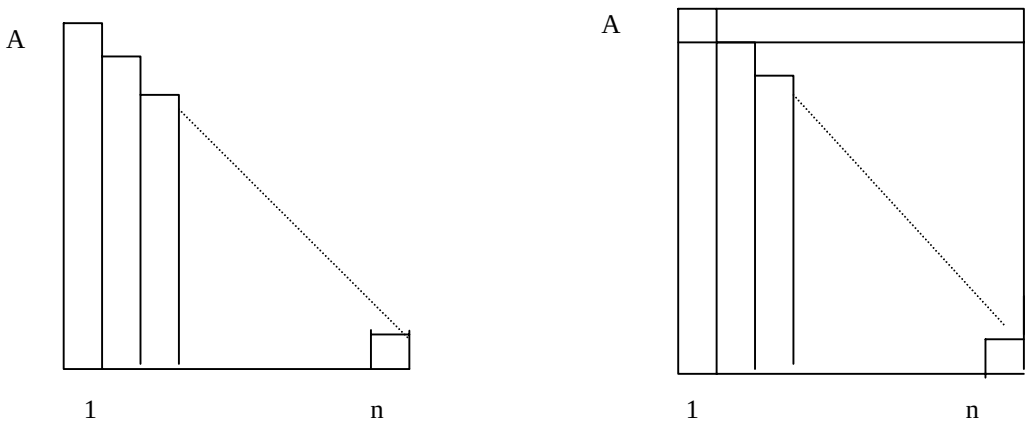


Figure 3. Stadium visitors by teams ranked according to relative strength.

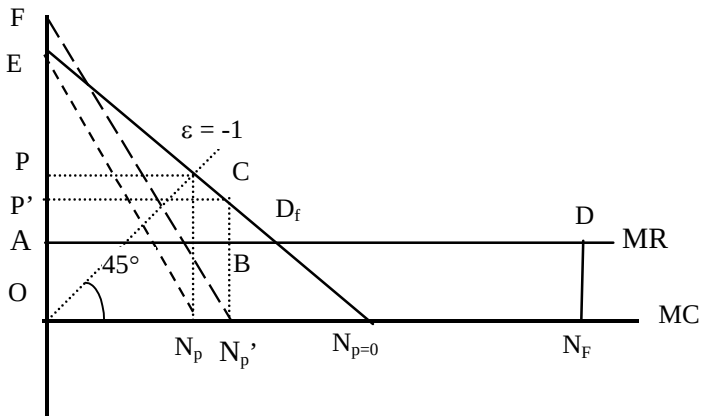


Figure 4. The demand side of the football market