

European football

The structure of leagues and revenue sharing

SUMMARY

Will European football keep leagues open, or adopt the American system of closed leagues? Would this reform be to the benefit of consumers? This paper develops a framework to analyse the consequences of the structure of competition – whether teams play in both national and international competitions or not – and the effects on performance of revenue sharing among teams within the same league. The authors argue in favour of the creation of a European Superleague and against teams playing both in the Superleague and in national leagues. They derive a number of policy conclusions and examine various regulatory issues in European football.

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The Americanization of European football

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1. INTRODUCTION

Le football est le seul facteur de mondialisation qui échappe à la tutelle américaine. Si le monde de l'image est dominé par Hollywood et celui de l'argent par Wall Street, la planète foot est très peu nord-américaine.¹ (Vallet, 1998)

European football as we know it may soon be a thing of the past. Six years after the completion of the Single Market programme, one of the major remaining segmentations of national markets in Europe is under threat. National championships organized under the auspices of national football associations and European cup competitions organized by UEFA, the federation of national football associations, are being challenged by private interests that seek to break up the old order. Over the summer of 1998 Media Partners, Milan, were actively courting the top European football clubs. They tried to persuade them of the attractions of a European Superleague and the viability of their proposals to set up a new league by the year 2000. In the event, a compromise was reached by the dozen clubs that had been openly toying with the idea of joining a Superleague outside the established structure (see *Financial Times*, 15 October 1998). As of the 1999/2000 season, the UEFA Champions League will be vastly expanded and offer more matches at the European level than ever. For the leading countries, the

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¹'Soccer is the only contributor to globalization that has escaped American hegemony. The world of cinema may be dominated by Hollywood and that of money by Wall Street, but soccer is scarcely North American.'

qualifying opportunities will be enhanced, allowing several clubs to participate, not just the domestic league champions and the runners-up, as at present.

The fundamental question is whether this compromise represents an equilibrium or whether tensions in the present system of open multiple league structures will continue to drive clubs towards a true European Superleague, possibly with a hermetic structure. European competition authorities have become increasingly interested in the commercial organization of sport, and of football in particular (Wachtmeister, 1998). The European Commission has queried the arrangements between governing bodies and external marketing organizations, broadcasters or sponsors several times over the last year. Formula One, sponsorship agreements of the Danish tennis federation, and the allocation of tickets to the 1998 Football World Cup are just three examples of cases where the Commission has launched major investigations or made high-profile interventions (Ratliff, 1998).

This paper develops a framework to analyse the role of European competition policy in sports. We start with the basic model of a hermetic league that represents essentially the structure of American sport leagues. We then consider the current European structure of multiple leagues, where the top clubs participate in both domestic and international competition. We can then assess how international competition affects the competitive balance between clubs at the domestic level. The comparison between US-style hermetic and European systems offers an insight into the advantages of controversial redistributive measures that are typical in team sports.

In American sports, each league governs its own competition but has no jurisdiction over rival leagues. From time to time, new leagues may be created to compete with existing leagues, but there is no mobility within American leagues – no promotion and demotion. In contrast, the essentially European character of football organization is its unitary structure within a hierarchy of governing bodies and leagues. Governing bodies license all forms of football and in addition administer their own competitions (e.g., the FA Cup or the UEFA Cup). Clubs compete simultaneously at many levels and are subject to rules of promotion and demotion that permit mobility within the hierarchy.

The American model may represent a natural equilibrium for European football. Most researchers have argued that leagues that are more balanced, in the sense that competition results in a more even distribution of winning records, will be more attractive to consumers (El-Hodiri and Quirk, 1971; Jennett, 1984; Peel and Thomas, 1988). We show how the interlocking nature of European competition has created an unbalanced system and that a stand-alone Superleague is likely to sustain a more balanced competition.

This paper addresses the following three policy issues. First, should the European Commission attempt to protect the existing fragmented structure of European football – with its traditions and its strict hierarchy of national leagues controlled by self-regulated governing bodies – when a transnational league system appears the most plausible market solution? Secondly, if a dominant European Superleague were to emerge, should UEFA control the governing body or would it be in the public interest to maintain a

separate organization entrusted with the commercial administration of the sport? Thirdly, what stance should the Commission take towards redistributive measures of the Superleague that may enhance the competitive balance between the participating teams, but may also act as a co-ordination mechanism for extracting monopoly rents?

The paper is structured as follows. The recent commercialization of and the main policy interventions in European football are reviewed in section 2. Section 3 compares the current structure with American sports leagues. Section 4 analyses competitive balance under American and European conditions to illustrate the fundamental policy issues. In section 5, we consider in detail the policy issues raised above.

2. RECENT TRENDS IN EUROPEAN FOOTBALL

2.1. Increased commercialization

UEFA, the European governing body of football, estimated that the 1996 Champions League, the premier club competition in Europe, attracted 3.5 billion viewers in Italy, France, Germany, the UK, Spain and the Netherlands, including an audience of 60 million for the final. Association football was invented in English public schools in the early nineteenth century and had spread around the world by the end of the century (see, e.g., Walvin, 1994). Football clubs have existed since the 1850s and most of the major European clubs are around 100 years old. As a legal entity, a club is usually an association of members who pay an annual subscription and are entitled to vote on policy at an annual general meeting (AGM). A club's day-to-day business is run by a club committee appointed at the AGM, whose members must accept financial liability in raising funds or borrowing for club activities. As football attracted spectators and footballers became paid professionals, the clubs evolved into businesses as well as sporting organizations. To facilitate the raising of capital and avoid the difficulties associated with unlimited liability, English clubs started to incorporate as limited liability companies in the late nineteenth century. By the 1920s, almost all the professional clubs in England had converted to limited liability status.²

In other parts of Europe, the legal structures have been more varied. Some clubs have been run as members' clubs, with ownership spread out among a large number of supporters and with limited financial powers. Typical of this have been the German clubs, which have maintained the traditional legal structure of a *Verein* (social private club). This is explicitly recognized in law as a non-profit-making entity and combines the football club with other sporting activities (Galli, 1998). Alternatively, clubs have been owned by industrial enterprises (e.g., PSV Eindhoven) or controlled by wealthy industrialists (e.g., AC Milan by Silvio Berlusconi). Other examples of such close relationships include Fiat and Juventus, Peugeot and Sochaux, Bayer and Bayer Leverkusen, and Volvo and Gothenburg. In Spain, the dire state of management and the

²All professional clubs in England are therefore subject to the commercial law and the statutes of the UK Companies Act.

excessive degree of indebtedness of Spanish clubs led to legislation in 1990 that reformed the legal nature of football clubs.³ Most clubs are still associations whose members are mostly fans (for example, Barcelona has 104 000 members).⁴ In France, clubs are able to choose from a variety of legal structures which include a 'corporation with a sporting objective', a 'mixed economy company' and an association (club) (see, e.g., Bourg and Gougnet, 1998). These differing legal structures effectively restrict the ability of owners and directors in terms of their objectives, and are often viewed as important restraints on the commercialization of the game.

It is only in the last decade or so that European football has become a commercially significant operation. For example, in 1986 the combined annual turnover of the 22 First Division clubs in England was £50 million. Since then football has enjoyed an economic boom that has turned it into a significant business. Increasingly, football has been 'gentrified' – transformed from an essentially working-class pastime sold at commodity prices into a middle-class entertainment. The quality of stadium accommodation has improved, clubs have developed their merchandising arms, and the value of broadcasting rights has increased dramatically. A rough indication of the economic magnitude of the clubs is given in Table 1. Revenues vary even among the top teams in each league. If the more lowly ranked clubs were included in this table, the disparities would become much more pronounced.

Clubs have increasingly looked to the financial markets to supply investment capital. In the mid-1990s, football clubs in the UK discovered the stock market as a source of finance and today there are 23 clubs listed on either the London Stock Exchange or the AIM (twenty in England and three in Scotland). In the summer of 1998, the Italian club Lazio Rome floated on the Milan Stock Exchange and Ajax of the Netherlands floated on the Amsterdam Stock Exchange. A number of other major European clubs, such as Juventus, AC Milan, Borussia Dortmund, Atlético Madrid and Marseille, are said to be seeking a listing or considering share issues. Flotation has in many cases involved a significant organizational restructuring. In 1997 the members of Borussia Dortmund voted to transform the mutually owned club into a shareholding company.⁵ In other countries, the transformation has required a change in the law. Italian clubs have been able to adopt limited liability status like their British counterparts following the enactment of a series of laws relating to the treatment of sporting enterprises (see Lazio Offering Circular, 1998).

Television has played a significant role in the commercialization of European football. In the 1960s, broadcasting rights for league matches generated a few million US dollars of income for the game. By the 1990s, the development of pay-TV, satellite, cable and pay-per-view increased the revenue generation into the hundreds of millions. In 1997 the

³ In Spain, football clubs can form SAD, a special case of the more usual Sociedad Anónima (SA).

⁴ 'Barca' is an interesting example because the club seems as much a political symbol of Catalan nationalism as a sporting entity.

⁵ This change will also require the assent of the league authorities, but this is expected to be granted.

Table 1. Football club finances

Club	Year	Total revenue (£m)	Wages/revenue (%)	Wage bill (£m)	Profit
England					
Manchester United	1997	87.9	26	22.6	27.6
Newcastle	1997	41.1	43	17.5	8.3
Liverpool	1997	39.2	38	15.0	7.6
Tottenham	1997	27.9	43	12.1	7.6
Arsenal	1997	27.2	56	15.3	-1.6
Chelsea	1997	23.7	63	14.9	-0.4
Aston Villa	1997	22.1	46	10.1	-3.9
Leeds	1997	21.8	57	12.3	-9.7
Everton	1997	18.9	58	10.9	-2.9
Germany					
Bayern München	n/a	57.0	23	13.1	5.2
Borussia Dortmund	n/a	44.7	31	13.8	0.2
Italy					
Juventus	1997	51.9	56	29.1	0.7
AC Milan	1997	46.3	74	34.3	-9.6
Inter Milan	1997	38.1	47	17.9	-7.6
Roma	1997	26.3	52	13.7	0.2
Parma	1997	27.9	55	15.3	-9.0
Lazio	1997	27.3	56	15.3	0.1
Fiorentina	1997	25.8	69	17.8	-3.7
France					
Paris Saint-Germain	1996	28.4	43	12.1	2.5
Bordeaux	1996	14.5	42	6.1	0.2
Spain					
Barcelona	1996	41.3	42	17.5	n/a

Sources: Deloitte & Touche (1998a,b); SID Sport Informationsdienst.

annual value of league TV contracts in the UK, France, Italy, Spain and Germany combined was in the region of \$1 billion (see Table 2). In 1996 FIFA sold the world commercial rights (excluding the USA) for the 2002 and 2006 World Cups to the Sporis/Kirch group for \$2.5 billion.

However, the significance of TV income should not be overstated. For example, Manchester United currently generates about 15% of its revenue from TV contracts, far less than from selling tickets to matches or from merchandising, catering and conferences.⁶ In the case of Bayern München, the top-rated German football club, merchandising is said to be worth 50% of its total revenues of DM165 million (see Sport Informationsdienst). The excitement surrounding TV contracts has as much to do with the remaining potential for enhancing this source of income as with their current value.

⁶A similar story emerges for the top Italian clubs (see Deloitte & Touche, 1998b).

Table 2. Annual revenues from domestic TV rights to domestic league games (£m)

	Free-to-air TV	Pay- TV/PPV	Total
England	18 ^a	168 ^b	186
Germany	52	27	79
France ^c	31	75	106
Spain ^c	–	130	130
Italy ^d	32	38	70

^a £73 million paid by the BBC over four years for Saturday evening highlights.

^b £670 million paid by BSkyB over four years for 60 live matches per season.

^c Source: Bourg and Gouguet (1998).

^d Source: Deloitte & Touche (1998b).

Perhaps even more fundamental to the long-term structure of European football has been the developing trend towards ownership of clubs by media companies. In Italy, Silvio Berlusconi added AC Milan to his media empire in 1986. In the mid-1990s, Canal Plus bought Paris Saint-Germain. In September 1998 the UK satellite broadcaster BSkyB made a bid of £625 million for Manchester United Football Club. Other UK broadcasters are considering similar investments for top clubs such as Newcastle and Arsenal. The media companies are likely to provide the strongest backing for a Superleague. Indeed, Berlusconi was attempting to create a Superleague in 1988. The proposals that emerged in the summer of 1998 were simply the latest in a long line of attempted breakaways.

The commercialization of football has gone hand in hand with an increased involvement of the law in the business of sport. In particular, the current labour market arrangements of clubs have been significantly affected by the Bosman judgment of the European court, while recent competition law cases in Germany, the Netherlands and the UK have challenged the legality of selling broadcasting rights collectively through the leagues.

2.2. Policy interventions

The trends described above raise major questions of public policy. In the near future, the new Champions League proposals agreed by UEFA in the autumn of 1998 will need to be cleared with the Competition Directorate of the European Commission, DG IV. So far, football has faced limited intervention from antitrust authorities largely because of the relative economic insignificance of sports. This has changed in the 1990s. A number of major cases dealing with the sale of broadcasting rights and the promotion of football have been investigated by national and European competition authorities (Temple Lang, 1997; Ratliff, 1998). In various official pronouncements, the Commission has made it clear that it now wants to treat sport like other businesses for the application of European competition law. Before this more recent development, the increased commercialization of sport and, in particular, the emergence of the professional athlete in individual (tennis) and team (football) sports led to a number of employment issues coming to the fore at the national level.

In the past, the governing bodies of football in Europe maintained a number of labour market restrictions. The effect of these restrictions was in general to hold down the wages paid to players and, so the clubs claimed, to redistribute income to weaker teams in the leagues. The main labour market restriction has been the payment of transfer fees. Most European countries operated a version of the 'retain and transfer' system. At the end of each season, a club would assign a player to the 'retained' list, which would make him unavailable for transfer to any other club; alternatively, they would place him on the 'transfer' list, setting a price that they would be prepared to accept in exchange for permitting the player to move to another club. If no club was willing to pay the fee, then the player could not move, even if the current club had no use for his services. This system, and its variants, was finally outlawed by the Bosman judgment of the European Court of Justice in 1995 (Court of Justice of the European Communities, Case C-415/93).

The Bosman case challenged two elements of the player transfer regime: first, the right of clubs to demand a transfer fee for players out of contract; and secondly, the right of UEFA to impose limits on the number of 'foreign' players appearing for a team in any competition. These restrictions were held in contravention of Article 48 of the Treaty of Rome, which guarantees freedom of movement of labour within the European Union. The ruling did not outlaw the payment of transfer fees for players within contract, which even before Bosman accounted for the majority of actual transfers. The Bosman ruling provides clubs with incentives to write longer-term contracts with players in order to protect any investment they may make in a player. Three-year contracts were the norm before Bosman. Contracts as long as five or even ten years are becoming increasingly common now. UEFA and the national associations have consulted with the Commission and a new system is being introduced that will entitle clubs to receive transfer fees for players under the age of 24 in recognition of a club's investment in a player's development. However, this ruling might still run foul of European competition law.

In the aftermath of the Bosman ruling, many clubs and football officials argued that the ruling would weaken the poorer clubs while strengthening the big city clubs.⁷ In the Bosman ruling, Advocate-General Lenz made it clear that football clubs may be entitled to enter into restrictive arrangements if they promote competitive balance. Thus agreements necessary 'to ensure by means of specific measures that a certain balance is preserved between the clubs' were lawful (Bosman, 734). However, the specific restrictions dealt with by the courts were deemed neither strictly necessary for competitive balance nor in proportion to that legitimate aim. This is a view that has been emphasized by the Commission. It is too early to detect any long-term shifts caused by the Bosman decision, but there has not as yet been a significant run of bankruptcies.

⁷ Mike Bateson, then chairman of Torquay United, a minor English club, expressed a common viewpoint: 'I am damned if I'm going to put my money into a youth system just to let the bigger clubs snaffle up the product. The fat cats may get fatter, but the scrawny ones down this end will die of starvation. A lot more players are going to be out of work.'

On the product market, the application of competition law, both national and European, has focused on the way football and other sports are marketed. In Germany, the Bundeskartellamt (German Cartel Office) successfully challenged the centralized sale of broadcasting rights of the domestic games in two UEFA competitions, the UEFA Cup and the Cup Winners' Cup. Its decision in 1994 to block an amendment of the rulebook of the German Football Association (DFB) which would have transferred rights away from clubs was taken on appeal to the Supreme Court, which upheld its initial decision in the court's ruling of December 1997 (BGH, Beschluss v. 11.12.97–KVR 7/96). In its decision, the German Supreme Court argued, among other things, that the German football clubs are entities that are subject to the provision of the antitrust legislation. Without the amended rule granting the DFB exclusive rights to the domestic games in the two UEFA competitions, the German clubs would continue to sell these rights on an individual club basis, as is the case in other European countries. The DFB, the court argues, adds nothing in terms of the organization of the game or the broadcast itself. The only purpose of the amended rule is to increase the revenues from a centralized sale. Thus, the court argued that the challenged rule restricted competition without any compensating benefits to the consumer or the sport itself.

In the Netherlands, Feyenoord attempted to negotiate its own TV contract following the collective sale of rights by the Dutch Football Association (KNVB) to a pay-TV channel called Sport 7. Feyenoord's case was upheld in court and the Dutch Minister for Economic Affairs wrote to KNVB stating that collective selling of rights was in breach of competition law. The competition authority has also challenged the collective sale of highlights, arguing that even these could be sold on a club-by-club basis. In the UK, the Office of Fair Trading has brought a case in the Restrictive Practices Courts challenging the collective sale of Premier League rights.

Both the Dutch and UK cases are analogous to the German case, but go further. Both the KNVB and the FA Premier League are arguably involved in the organization of their league championships and cannot be dismissed as not adding but simply appropriating value in the same way as DFB in the case of UEFA broadcasting rights. The extent of interdependence between clubs has led some US observers to argue that clubs cannot properly be thought of as economic competitors at all. The economic unit can be thought of as a league itself, and any restraints imposed by a league organization on member clubs are not vertical restraints, but simply internal organizational devices. Accordingly, there is no more relevance to the antitrust authorities in an agreement made between member clubs than there is in the internal allocation of responsibilities between subsidiaries of a large corporation. Examples of syndicated leagues, in which competition between teams is co-ordinated and financed centrally are not unknown in team sports and this method of organization bears some relation to the organization of individualistic sports such as tennis, golf and even Formula One, where centralized selling of broadcasting rights may be deemed acceptable. On the other hand, football clubs in Europe are genuinely independent entities, responsible for their own financial policies. Furthermore, in Europe, where teams are often located in close proximity to

each other and compete to attract both players and fans, the restrictions implicit in collective selling can go beyond the mere co-ordination required to produce an attractive product and can lead to cartelization and rent extraction. When clubs are viewed as producers of substitutable brand identities, rather than merely complementary producers of a competitive match, market restrictions require much closer scrutiny.

These challenges to the existing organization of the marketing of football in Europe are having an effect on the behaviour of clubs. The potential freedom of clubs to sell rights to their home games individually is partially responsible for the investor interest of media companies in football clubs. At the moment, the European Commission is holding back intervening in the affairs of the Premier League. However, with the reform of the Champions League, the competition watchdogs in Brussels will no doubt get involved in a major way. In the words of Commissioner Van Miert (1997):

Special features of the sporting world place restrictions on the production and organization of sporting events which would be inadmissible in other sectors of the economy...if the spectator is to enjoy an interesting and high-quality event, the outcome of the competition must be uncertain. For this reason there must be a balance of strength between the opponents...since the interests of the various clubs are intertwined, the market is intrinsically unstable whenever there is a financial imbalance between the clubs. This imbalance must therefore be corrected...I have always argued for solutions based on a solidarity fund between clubs (a percentage of earnings should be shared)...the league would then function as a body responsible for the redistribution of income...the question which still has to be solved in this connection is how far the establishment of such a fund would enable joint sales of broadcasting rights to qualify for exemption.

The implication here is that the Commission may be willing to look favourably on collective selling if it is a means for redistributing income and effectively promotes competitive balance.

3. AMERICA VERSUS EUROPE

There are two main differences between the structure and organization of sporting leagues in the USA and Europe. First, the US leagues are generally 'hermetic'. New teams are seldom admitted to a league, and there is no annual promotion and relegation between junior leagues and senior leagues. Expansion franchises are admitted on agreement between existing league members and the entry fee is divided among them. They are also closed, in the sense that member teams do not compete simultaneously in different competitions; nor, with occasional exceptions, do teams release players to compete for national team competitions (one exception being the 1996 Olympic basketball team). US leagues approximate quite closely a joint venture. In the extreme, some leagues, such as the current US soccer league, are syndicated: ownership is pooled and players can be allocated centrally to different teams to maintain competitive balance.

Clubs easily perceive their joint interests. They can expect to be competing together in more or less the same format from year to year. In Europe this sense of solidarity is undermined by the fact that the composition of each league division changes from year to year and that the set of competitors differs in different competitions. While the US system sounds far less competitive from the point of view of the clubs, more competition emerges at the level of the league. Since the Second World War, for example, there have been four attempts by new leagues to enter the American Football market. Three of these failed and one was absorbed by the NFL. Arguably, the threat of entry imposes some competitive pressure on the activities of the leagues. Entry is also made feasible by the much lower density of top clubs. Thus with only 30 Major League Baseball franchises for the whole country, many cities lack a major team. By contrast, in European football most major cities can boast at least one major team, and sometimes more than one.

Secondly, US league authorities have tried to maintain a competitive balance between the clubs through intervention in the labour market or redistribution of club revenues. The main intervention in the player market has been the 'rookie draft' system. When players finish college or high school and enter professional sports, the clubs within the league take turns to pick players, with the first pick being awarded to the team that finished last in the previous season's competition, the second pick to the second last team, and so on. Poorly performing teams can acquire the best young talent and therefore improve their standing in the following year. The system also limits the ability of players to market themselves, and a number of legal challenges have led to some amendments of the system. Player contracts are typically longer in US sports than in European football. For example, in baseball five- or six-year contracts are common, compared to a more typical three-year contract in Europe. Other restrictions imposed by US leagues include salary caps on the overall wage bill of clubs. These were introduced through a process of collective bargaining in the NBA in 1984 and the NFL in 1994.

The main vehicle for redistribution in US leagues has been the sharing of national broadcast revenues. The Sports Broadcasting Act of 1962 exempted collective selling of national broadcasting rights by the members of leagues from antitrust scrutiny,⁸ in direct recognition of the redistributive function of such revenues. Typically, these are shared equally among the clubs. Broadcast income is typically a much greater share of total income in the USA, averaging 32% of income in baseball, 34% in basketball and 63% in American Football (Sheehan, 1996). By contrast, for most European clubs, television income has been negligible up until the 1990s. In Europe, broadcasting agreements typically include a performance-related element and a fixed share. For example, the Premier League contract shares half of the contract value equally among the teams, 25% on the basis of league performance and 25% on the basis of the number of games televised.

⁸This is one of the main kinds of antitrust exemption granted to sports in the USA. The others are the baseball exemption granted by the Supreme Court in the 1920s, and the exemption for collective bargaining agreements between player unions and league authorities representing the clubs.

In Italy, income from free-to-air broadcasts is shared equally and pay-TV income (including pay-per-view) is distributed on the basis of performance. In Germany, clubs receive a fixed share plus a fixed amount for every home game and a lesser amount for every away game broadcast. In the USA, the club itself retains local broadcasting income.

Some US leagues also redistribute gate income. In the NFL, 40% of net gate receipts go to the visiting team, leading some US critics to describe the NFL as 'socialist'. In baseball, revenue sharing is less pronounced (20% to the visiting team in the American League, 10% to the visiting team in the National League), and in basketball there is no gate sharing. Gate sharing arrangements have been limited in European football. In England, an agreement used to set minimum admission prices, and on this basis awarded up to a 20% share of gate income to the visiting team, but this agreement was abolished in 1983. Since the creation of the Premier League in 1992, all gate receipts have been retained by the home team. In the FA and League Cups, the home and away clubs receive 45% each of the gate, while 10% is divided equally among all entrants of the competition (except in the semi-finals and the final of the FA Cup, where the clubs receive less and the FA receives a share). In Italy, there is no league gate sharing except for the top Italian clubs, which get a small percentage (less than 5%) of the ticket

Table 3. Differences in structure of US and European sports leagues

	US sports	Football in Europe
League system	Closed, no promotion or relegation Teams compete in single league competition	Open, annual promotion and relegation Teams may compete simultaneously in many competitions
League functions	Collective sale of TV rights Centralized marketing	Collective sale of TV rights
Competition between clubs	Limited substitution by consumers	Significant potential for substitution
Competition between leagues	Numerous cases of entry by rival leagues	All leagues contained within the established hierarchy
Player market	Rookie draft Salary caps (NFL, NBA) Collective bargaining	Active transfer market
Revenue sharing	Equal division of national broadcasting income Gate sharing (NFL 40%, baseball average 15%, NBA 0%)	Sharing of television income Little or no sharing of league gate revenues Some sharing of gate from cup competitions
Competition policy	Antitrust exemption for baseball Sports Broadcasting Act exempts national TV deals from antitrust	Centralized sale of TV rights under attack Selected interventions (ticket allocation FIFA)

revenues at away matches. In cup competitions, the same rule applies in Italy as elsewhere in Europe, with both teams sharing the net receipts. In Germany, 6% of league gate revenues is paid to the DFB and the rest is kept by the home team, while in cup competitions a 10% share goes to the DFB and the clubs split the remainder 50 : 50.

In Europe-wide competitions, teams have kept their gate receipts while paying a small share to UEFA (except in finals, where the authorities have taken a larger share and the remainder has been split between the teams). In the Cup Winners' Cup and UEFA Cup, UEFA has left it to the national associations to determine how broadcasting contracts should be negotiated.

Table 3 summarizes the main differences described in this section.

4. CONTESTS IN HERMETIC AND OPEN LEAGUES

The comparison between league structures in the USA and Europe suggests a fundamentally different approach to the organization of league competitions. These differences revolve around the mechanism through which competitive balance between clubs is promoted by the leagues and their stand-alone nature, in contrast to the open multi-league structure of European football.

4.1. Some fundamentals

Teams involved in league competitions effectively operate as collections of talent. A description of league structures is based on two fundamental hypotheses:

- For each team, increased wage expenditure leads to better performance on the pitch.
- For each team, improved performance on the pitch leads to increased revenues.

Each of these relationships is a consequence of the operation of markets. Teams consisting of better players generally perform better than their rivals. In the market for players, clubs must pay the going rate to attract stars. The talent and ability of individual players is by comparison with most labour markets readily apparent, and hence sellers can demand what they are worth and buyers can expect to achieve a given level of performance given what they spend. The outcome of league competition is not entirely predictable and chance plays a significant role in the outcome of competition. However, the dominant factor in explaining performance is wage expenditure. Improved performance on the pitch generates increased revenue because at the margin fans are attracted by success, and advertising, television and sponsorship income tends to be highly sensitive to success.

The validity of these hypotheses can be confirmed using accounting data from English football. Figure 1, taken from Szymanski and Kuypers (1999), illustrates the relationship between wage expenditure and league position for a sample of 39 clubs between 1978 and 1996. Figure 2 illustrates the relationship between league position and revenue. The financial data are taken from the published company accounts and wages refer to the

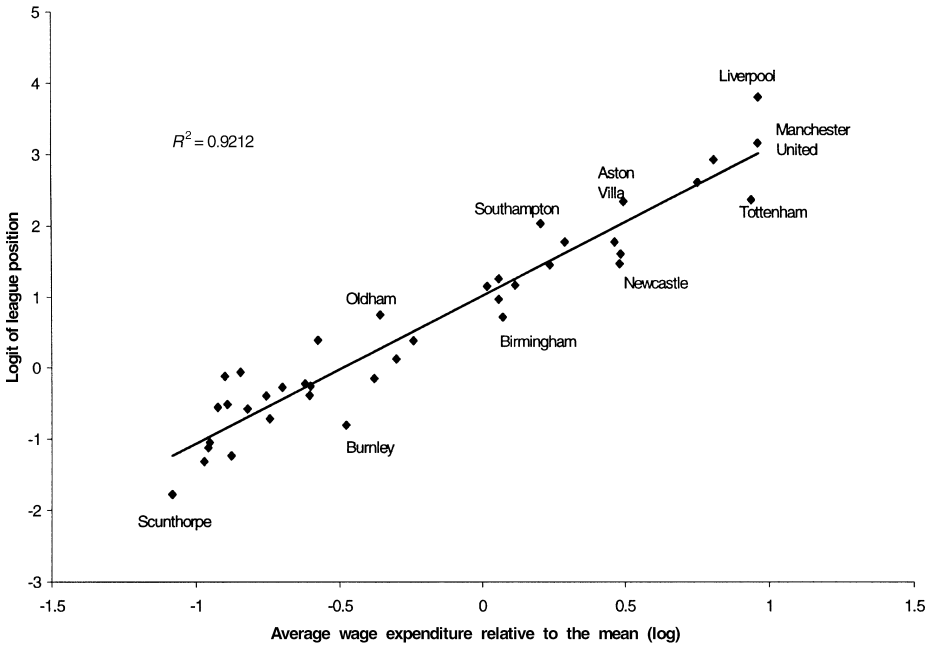


Figure 1. Wage expenditure and league position, 39 clubs, 1978–96

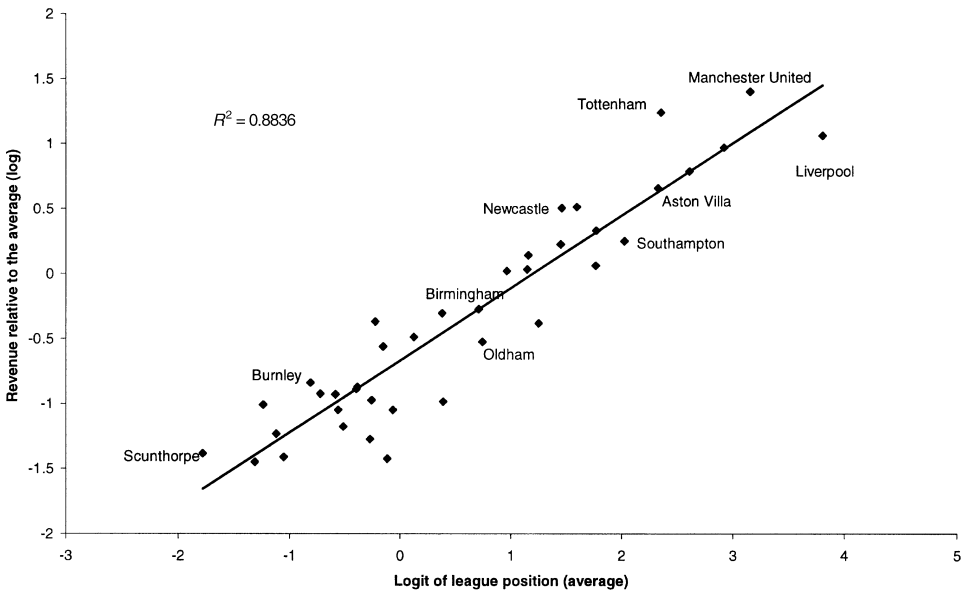


Figure 2. League position and revenue, 39 clubs, 1978–96

total wage bill of the club. For each club, performance was measured as an average of league position. Wage expenditure was measured as a ratio of wage spending in one year to the average of all other clubs in that year (what matters for league performance is not absolute expenditure on players, but spending relative to your rivals). For the graph, relative wage spending was averaged over all years in the sample. The same transformations were made to club revenue data. What is striking is the power of these relationships, illustrated by the R^2 of these simple regressions. Szymanski and Smith (1997) adopted a more sophisticated approach to the estimation of these relationships, but confirmed the relationships found here.

4.2. Contests in a hermetic league

We now analyse more formally some of the policy dilemmas, borrowing from the literature on contests and tournaments, similar to that used in the US team sports literature.⁹

We consider first a closed American-style league. For simplicity, suppose there are just two clubs that hire playing talent and compete against each other in matches. Success on the pitch depends on outspending your rival. On-the-pitch success is measured by win percentage (the percentage of matches won in a season) as is conventional in the US literature (see, e.g., El-Hodiri and Quirk, 1971; Fort and Quirk, 1995). We adopt a special case of a contest success function that has been introduced and axiomatized in other areas of economics to describe the win percentage w_{12} of team 1 when playing team 2, as a function of the relative quantity of playing talent (t) on each side:¹⁰

$$w_{12} = \frac{t_1}{t_1 + t_2} \quad (1)$$

We assume that team revenues depend on three factors: success on the field, drawing power and attractiveness of the league competition. Success is expressed in win per cent. Drawing power depends on a team's location, history, reputation and so on. Well-supported teams, such as Manchester United, Bayern München and Barcelona, have higher revenues than their domestic rivals given the same league position. An important factor for the attractiveness of the league may be how balanced competition is. More balance, measured by the success of the teams participating in the league, may enhance overall demand for matches (either in the form of attendance at games or in terms of broadcasting). To capture these three sources of revenues, we specify a revenue function,

⁹ Contests of different kinds have been widely modelled in the economics literature. Examples include rent seeking in the public sector (e.g., Tullock, 1980), rivalry in R & D (e.g., Loury, 1979), competition for market share (e.g., Monahan, 1987) and labour markets (e.g., Lazear and Rosen, 1981). A useful review of the mathematical properties of these models is provided by Nti (1997).

¹⁰ In line with Atkinson *et al.* (1988), we assume that a team's playing talent can be approximated by a perfectly divisible aggregation over the different specializations within the team.

which depends on the success of the team, its drawing power and the balance of competition.

$$R_1 = \mu_1[\phi w_{12} + (1 - \phi)w_{12}w_{21}] \quad (2)$$

In this function μ_i represents the drawing power of team i , and ϕ represents the balance in the revenue function between the demand for ‘own team winning’ and the demand for a competitive balance. When $\phi = 1$ revenues depend only on win percentage, while when $\phi = 0$ revenues depend only on the degree of competitive balance. We assume that there is a competitive market for talent, which can be bought at a constant marginal cost per unit. Profit π_1 of team 1 is therefore the difference between revenue R_1 and expenditure t_1 for talent.

As a benchmark, we assume that each club maximizes its own profits. This is the view that has generally been adopted in the US literature (e.g., Noll, 1985; Quirk and Fort 1992). In the European literature (e.g., Sloane, 1971) it has been conventional to assume that clubs are ‘utility maximizers’, where utility may incorporate factors such as success on the pitch, popularity of the club and profit considerations.

The equilibrium of simultaneous choice of expenditure for talent for $\phi = 1$ is well known from the contest literature. If both teams have the same drawing power, each wins with probability 1/2 and each spends 1/4 of the total revenue on talent expenditure. If the contest becomes less even – for example, because one team’s drawing power is higher than that of the other team – this team chooses higher expenditure, wins with a higher probability and has a higher payoff than the other team in the equilibrium. Intuitively, as the drawing power of team 1 relative to team 2 increases, its marginal revenue of talent increases for all levels of talent, so that team 1 invests more than team 2, achieving a higher win percentage and profit. Team 2 anticipates this increase in team 1’s investment and actually decreases its own investment. Thus when winning matters, the investments of teams in playing talent are strategic substitutes in the terminology of Bulow *et al.* (1985).

Suppose now that there is a demand for competitive balance: $\phi < 1$. Let team 1 have a greater drawing power than team 2. Revenues for each team are enhanced when the other team is more evenly matched. This introduces an element of strategic complementarity between the teams. In other words, each team has an incentive to match its opponent’s investment in talent, in order to generate the maximum feasible profit in the market. Furthermore, in the absence of any outside competitive pressure, each team will recognize its complementarity and seek to reduce its investment in talent. Simulations show that, as ϕ falls, both teams reduce their investment in talent, but the team with greater drawing power does so proportionately more, so that competitive balance improves.

We now consider the effect of revenue sharing. Suppose a percentage α of each club’s income is retained, with the remainder being shared out among its rivals. This might be thought of as a situation where the visiting team at each match receives a fixed share of the gate revenue. Team 1’s revenue becomes $\alpha R_1 + (1 - \alpha)R_2$, and analogously for team

2. While revenue sharing is generally justified by league authorities in terms of enhancing competitive balance, revenue sharing is also a mechanism for internalizing the effects of competition. Reduced competition may be desirable from the point of view of team-owners, but not desirable from the point of view of consumers. Suppose teams had equal drawing power ($\mu_1 = \mu_2$) so the league starts out in competitive balance. Revenue sharing will not alter competitive balance, but reduce investment in players. This reflects a wider point: any agreement to share out the prizes in a contest undermines the incentives for contestants to try and win. Fort and Quirk (1995) argue that

gate sharing has no effect on competitive balance in a league. Instead, an increase in α (more liberal gate sharing) has the effect of lowering player salaries ... looking into the effect of gate sharing on league-wide profits, the answer is unambiguous in the case where there is no local TV. Gate sharing has no effect on competitive balance, and hence no effect on league-wide revenues. Further, gate sharing leads to lower talent costs; league wide profits go up with more gate sharing.

In fact, gate sharing will affect competitive balance, but in general the effect will be adverse. Consider an unbalanced league where only own team winning matters. When there is no revenue sharing, each team competes to attract talent. When revenue is shared, both teams want to invest in such a way as to maximize total returns of both clubs. Since the bigger club has the greater marginal income from success, it makes sense to engineer a reduction in competitive balance. Even if competitive balance matters, if some extra value is attached to own team winning, sharing will always lead to a reduction in competitive balance. This is illustrated by the simulation results in Table 4.

The finding is in contrast to conventional explanations, but may depend on the particular sharing rule. To see the problem with gate sharing, consider its effect on the incentive to win matches. Under gate sharing, teams playing away from home want their opponents to win (so long as own team winning increases home team revenues). Gate sharing thus appears like a tax on winning. Redistribution mechanisms that tax clubs on a lump-sum basis will avoid these kinds of disincentive effect, and if lump-sum taxes are then redistributed on the basis of performance, they may tend to improve competitive balance by equalizing opportunities to generate revenues. It is possible that collectively negotiated broadcasting contracts could satisfy these requirements. However, if collective

Table 4. Win percentage, investment in talent and profits as the revenue sharing grows

α	w_{12}	t_1	t_2	π_1	π_2
1.0	0.551	0.17	0.14	0.43	0.21
0.9	0.556	0.13	0.11	0.44	0.26
0.8	0.563	0.10	0.08	0.45	0.32
0.7	0.572	0.07	0.05	0.46	0.37
0.6	0.584	0.03	0.02	0.47	0.42

Note: Assumptions: $\mu_1 = 1.5$, $\mu_2 = 1$, $c = 1$, $\phi = 0.5$.

selling is used as a mechanism for cartelizing the market, any benefits for competitive balance may be outweighed by the dead-weight loss from higher prices and restricted output.

Given the theoretical prediction that revenue sharing will adversely affect competitive balance and investment incentives, it is perhaps surprising that the NFL in the USA manages to maintain both a relatively balanced competition and a high level of playing investment. One explanation might have to do with the objectives of owners. If owners were interested in maximizing success on the pitch rather than profits, then all redistributed income would go into player investment and the disincentive effects of revenue sharing would disappear.

Another explanation for the competitiveness of US team sports such as the NFL might be the array of alternative restrictive devices, particularly in the player market, outlined in section 3. Those mechanisms resemble a system of handicapping, which is a frequently used method for inducing more effort in asymmetric contests. Handicapping, while potentially limiting the incentive to invest, does not create the same kinds of incentive to collude. One factor that has facilitated the creation of widely accepted handicapping systems is the unionization of team sports in the USA. Thus mechanisms such as salary caps have been negotiated through the unions, which have in return secured agreements on *minimum* as well as maximum wages. It is perhaps ironic that in Europe the significantly lower level of unionization and the relatively low influence of player unions have prevented the development of potentially beneficial handicapping systems.

4.3. Competitive balance and income redistribution in multiple open leagues

In European football, the top clubs usually compete simultaneously in one of the three UEFA competitions while also competing in the domestic league. UEFA competitions have always been a significant potential source of income. For example, appearance in the 1996/7 UEFA Champions League was worth around £4 million per club in broadcast revenues alone, compared to an average Premier League income of £17 million in that year. In the autumn of 1998, Media Partners, the promoters of the breakaway Superleague, were suggesting that the top European clubs could be paid

Table 5. The dominance of the top clubs

	Italy	Germany	Spain	England
Period	1988–96	1988–98 ^a	1988–97	1991–7
Number of places in top division	18	18	20	20
Number of clubs appearing in top division	35	35	38	31
Number of European competition places	56	64	55	32
Number of clubs in European competition	14	23	16	13
Share of top 7 clubs (%)	80	73	75	81
Share of top 3 clubs (%)	43	39	47	48

^a Excluding 1997.

£20 million per year for their broadcast rights. Appearances in European competitions are not evenly distributed among the clubs.

Table 5 shows the number of clubs that appeared in the top division in four countries over a ten-year period, and the proportion of European appearances of the biggest clubs (the data only run from 1991 for England, since in the previous five years English clubs were banned from European competition). In each case, the three biggest teams account for between 40 and 50% of all competition places won (the teams were AC Milan, Inter Milan, Juventus, Bayern München, Borussia Dortmund, Werder Bremen, Real Madrid, Barcelona, Atlético Madrid, Manchester United, Liverpool and Arsenal). The seven largest teams (roughly 20% of all top division participants in each country) accounted for roughly 80% of all European places. Taking into account that the bigger teams tend to survive more rounds in the competition, then their share of all European matches played is even greater.

For simplicity, let there be two national leagues each composed of two teams, and one team from each league also competes in an inter-league competition. This situation is represented schematically in Figure 3.

Revenue in the Euroleague (the inter-league competition) depends on own team winning and competitive balance in the same way as it did in the hermetic context. For simplicity, we suppose that teams have the same potential drawing power, but the relative value of the Euroleague can vary. Clearly the value of European competition relative to domestic competition has grown significantly in recent years. Even though the drawing power of clubs is equal, the existence of an elite international competition automatically creates domestic competitive imbalance. We label clubs 1 and 3 the teams that compete in both domestic league and inter-league competition, while clubs 2 and 4

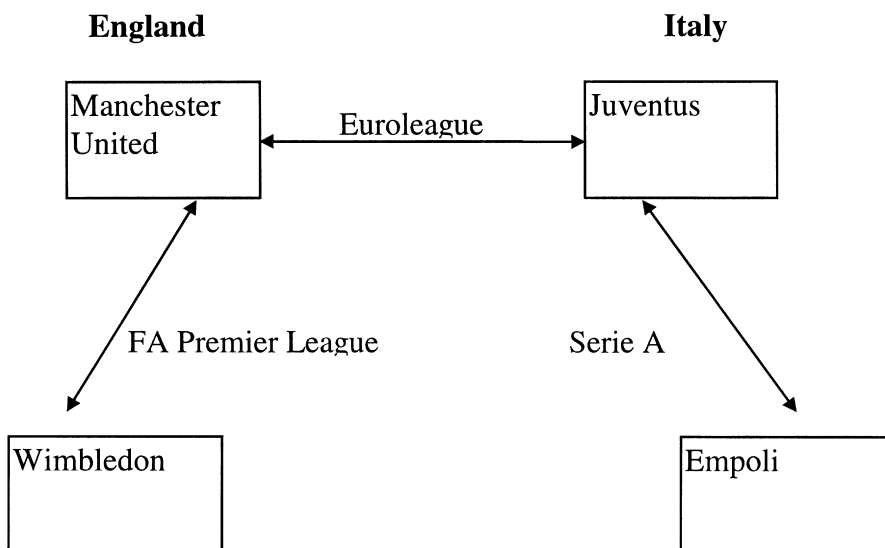


Figure 3. Schematic representation of European soccer leagues

compete in the domestic competition only. Thus clubs 2 and 4 have revenues as in equation (2) for playing clubs 1 and 3, respectively, whereas clubs 1 and 3 have revenues as in equation (2) from playing clubs 2 and 4, respectively, plus the additional revenue $\vartheta[w_{13} - (1 - \phi)(w_{13})^2]$ and $\vartheta[w_{13} - (1 - \phi)(w_{31})^2]$ of playing against each other. The parameter ϑ denotes the relative importance of the inter-league competition in terms of revenue generation. The main proposition of this paper – namely that a European Superleague will become like an American sports league, with its members not competing in other competitions – can be shown by considering the effect of the parameter ϑ . As ϑ grows, the 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, the faster the value of domestic competition is eroded. This is illustrated in Table 6.

Here the two countries are assumed to be symmetric. Hence, the outcome for team 3 is the same as for team 1, and the outcome for team 4 is the same as for team 2. As the value of the Euroleague increases, the investment of the competing teams grows. Given that team 2 (the purely domestic team) is always a strategic substitute for team 1 unless competitive balance is the only source of income ($\phi = 0$), then the increased investment of team 1 will lead to falling investment on the part of team 2. Thus competitive balance in the domestic league falls. As long as the two Euroleague teams have equal revenue-generating capacities, competition remains balanced. While total revenue in the domestic league falls, team 2 is more adversely affected than team 1. As a result, team 2’s profitability is driven towards zero. Assuming that clubs have some fixed costs (which are not modelled here), then purely domestic teams will incur financial losses. Furthermore, we have not modelled here the additional costs, both fixed and variable, of the Euroleague teams competing in their domestic leagues, but if these costs are substantial, they may cause participation in the domestic league to be unprofitable. From this we conclude that single-league competition for the top clubs is the most plausible equilibrium for European football.

Could revenue sharing help to preserve the participation of the top teams in the domestic leagues? Our discussion in the previous section suggests that this is unlikely. International competition is like having a larger revenue base. When domestic teams share revenues, they are likely to want to concentrate talent in the stronger club for the

Table 6. Win percentage, investment in talent and profits as the Euroleague grows

ϑ	w_{12}	t_1	t_2	π_1	π_2	R_{12}	R_{21}
1	0.60	0.22	0.144	0.58	0.17	0.42	0.32
2	0.68	0.32	0.148	0.88	0.12	0.45	0.27
3	0.75	0.42	0.141	1.17	0.08	0.47	0.22
4	0.81	0.53	0.125	1.45	0.05	0.48	0.17
5	0.86	0.64	0.102	1.72	0.03	0.49	0.13

Note: Assumptions: $\phi = 0.5$, $c = 1$.

Table 7. Win percentage, investment in talent and profits with increasing revenue sharing in a multiple league structure

α	w_{12}	t_1	t_2	π_1	π_2	$R_{12} + R_{21}$
1.0	0.60	0.22	0.14	0.58	0.17	0.739
0.9	0.61	0.19	0.12	0.60	0.20	0.737
0.8	0.63	0.17	0.10	0.61	0.23	0.734
0.7	0.64	0.14	0.08	0.63	0.26	0.730
0.6	0.66	0.11	0.06	0.64	0.29	0.725

Note: Assumptions: $\vartheta = 1$, $\phi = 0.5$, $c = 1$.

same reasons as in the hermetic context. This will, if anything, lead to a less balanced domestic competition. We illustrate this in Table 7 with simulations of a contest in which there is domestic revenue sharing (we assume that teams will not share Euroleague revenues with their domestic rivals).

Domestic revenue sharing works in the same way as it did in the hermetic league model where one team had more power, although the reason is slightly different. Revenue sharing reduces the incentive of each team to invest in talent, but the effect on the Euroleague team is mitigated by its incentive to preserve its revenues from that competition. This means that the purely national team reduces its investment by more than the team playing internationally as well, and hence competitive balance deteriorates in the domestic leagues. While this serves to reduce the revenues in the domestic league, profits increase because the lower investment effect dominates.¹¹

4.4. Extensions

Our analysis in this section suggests that the interlocking system of leagues that currently operates in Europe is untenable because of the increasing dominance of competition in a Euroleague. Members of a Euroleague invest more in playing talent than the remainder of clubs, causing domestic leagues to become increasingly unbalanced. The most natural solution for this problem is for the Euroleague members to cease playing in the national leagues, thus making those competitions more balanced. The forces driving this change may be even greater than our analysis suggests. First, if there are fixed costs associated with operating in a league, then as domestic competition becomes unbalanced, the smaller club will be driven into losses and will want to quit the domestic competition altogether. Secondly, there are additional costs, both variable and fixed, for the Euroleague teams involved in participating in two leagues simultaneously. Under the current plans, Euroleague clubs will be playing two matches a week. Most players will be unable to play in both fixtures, and hence teams will need larger squads. While in our

¹¹ It might be argued that this result is an artefact of the effect that there is no specific demand to watch high levels of talent in its own right. This effect might be added by making revenue a function of total talent as well. While this would tend to diminish the effects somewhat, it would not change our qualitative results unless the ‘own team winning’ effect disappeared altogether.

analysis revenues increase marginally for the Euroleague clubs as they dominate the domestic competition, we believe that this effect is likely to be more than offset by the cost of participating in two leagues.

In the new equilibrium, the relationship between a European Superleague and the domestic leagues would be analogous to that between the major and minor leagues in American baseball or that between the NFL and college football. This leads naturally to a set of policy questions, including the desirability of encouraging this transformation, the role of the football authorities, particularly UEFA, in promoting rival competitions, and the scope for redistribution mechanisms and 'solidarity' between the clubs.

5. CONCLUSIONS AND POLICY IMPLICATIONS

The proposals for a European Superleague presented by Mediaset in the summer of 1998 have served to focus minds. At once UEFA and the national associations have been forced to reconsider the existing structure of competition and make significant concessions to the top clubs in the form of a revamped Champions League, with many more matches being played between European clubs. In due course, the Competition Directorate of the Commission in Brussels will be asked to approve the new arrangements proposed by UEFA. This comes at a time when Brussels is in the process of formulating its general policy on sport. This will mean making a number of policy decisions with far-reaching consequences.

Some commentators have argued that the revamped Champions League is the culmination of developments and already represents a European Superleague. This argument seems fundamentally to miss the point. The attraction of a Superleague for the top clubs lies in their ability to increase income by playing significantly more games against their larger European rivals. The new Champions League achieves this, but the leading clubs will be required to participate simultaneously in an extended mid-week European competition while competing with equal vigour in the domestic league at weekends. This solution seems out of touch with reality. The oldest league rule in football is that teams should field their strongest team in league matches.¹² It would be physically impossible for the best eleven players in a squad to play a domestic season of around 34 matches combined with a similar number of mid-week matches over a 40-week season. In practice, players would have to be rested, and clubs would have to allocate priority to different competitions (as in fact they tend to do already). The domestic competition will come to be seen as the 'reserve' tournament for the top clubs, downgrading national leagues to the status of second-team competitions. A proper European Superleague will have to break this historic link with domestic league competitions and become truly pan-European in structure.

¹² This rule appeared in the original rules of the Football League in 1888 and according to Inglis (1988) is the only rule not to have been amended.

5.1. Welfare implications

Assessing the welfare implications of changes in the structure of football (and sports in general) is notoriously difficult. The appropriate measure of welfare is the sum of firm profits and consumer surplus, just like in any other industry. However, measuring both profits and consumer surplus is difficult. Few clubs report profits in their accounts. If clubs are not profit maximizers, then it is the 'utility' generated for the owners of the club that should be measured, and this is even more problematic. As far as consumers are concerned, it may be useful to differentiate committed fans from less committed 'armchair supporters'. This distinction is implicit in the revenue function of our contest analysis, where the committed fan might be thought of as caring only about his or her own team winning, while the armchair fan cares mainly about a well-balanced contest (although in practice there is probably a complete spectrum of preference). Committed fans are rather like long-term investors, or *noyaux durs*. They spend both time and money on supporting their club in the expectation of long-term sporting success. By contrast, the armchair fan wants to be entertained and considers only the immediate return on consuming a match. Each type of fan's welfare may be affected quite differently by club policies.

5.1.1. Towards a US-style Superleague. Moving from the current European system to a more American structure should be beneficial for clubs. The big clubs will be able to focus on the competition that generates the greatest proportion of their income. Smaller clubs in the top domestic league would lose by no longer competing against Superleague teams that may bring with them large groups of supporters, but this loss is likely to be offset by the improvement in competitive balance in the domestic competition. In the long term, it may be more profitable to be a leading club in a second-rank competition than a no-hoper in the top competition.

For consumers, the effect on the *noyaux durs* will be analogous to that on the clubs, since these supporters are, properly speaking, stakeholders in the club. Armchair fans gain unambiguously because there will be a greater supply of well-balanced contests. However, this happy story depends in part on the long-term relationship between the Superleague and the domestic leagues. In particular, will there be promotion and relegation, or will the Superleague become truly hermetic like the American leagues? Closure benefits the incumbents and represents a welfare loss for the outsiders, who lose the option that they might one day reach the Superleague.

In practice, this distinction may not be as stark as it first appears. Even if the league were closed, the Superleague would almost certainly permit the creation of expansion franchises. This would mean less frequent entry than occurs under the current system, and would restrict entry to those clubs large enough to benefit the entire league and provide balanced competition. The sale of expansion franchises is a mechanism by which the externality created by the quality of entrant teams is internalized. The shift to a franchise system would enhance the welfare of the

incumbent teams and maximize the attractiveness of the Superleague, while diminishing the welfare of the excluded outsiders. The other potential effect of 'closure' is to reduce incentives. This effect has been widely commented on in the press (incumbents will not try so hard because there is no threat of demotion), but seems fairly implausible when one considers the highly competitive nature of closed US leagues. One reason that this may not be a real problem is that, even if a league is closed, there will always be the threat of entry by rival leagues if competition in the Superleague is not effective.

5.1.2. Promotion and demotion. If promotion and demotion are preserved as of right, then the likely impact on the competitive balance of the Superleague will be adverse compared to a system where entry is restricted on the basis of available resources. It will always be the case, even in a league system based on a large number of matches, that relatively weak teams will occasionally be promoted. Such teams seldom fare well in a higher division and are usually demoted in the following season, having provided a relatively low standard of competition. However, even if it is true, it is not clear that this effect will reduce welfare. While consumers may value competitive balance, there is also the possibility that they enjoy unbalanced 'David and Goliath' contests that will occasionally produce surprise results.

Perhaps more worrying from a welfare point of view is the possibility that the very largest clubs may be demoted. The effect of such demotions is clearly adverse for the supporters, who in themselves are a significant fraction of consumers, but such demotions also tend to affect adversely interest in the competition as a whole. Moreover, once demoted, such clubs are usually promoted back up with ease in the following season, thus diminishing the uncertainty associated with the outcome of the junior championship. Despite the increased welfare associated with fans of lesser clubs being able to see their team compete against a major, this effect seems unlikely to offset the adverse effects.

It seems clear that the proposals of Media Partners for a hermetic Superleague were aimed specifically at preventing this outcome, rather than limiting the access of the smaller clubs. It might therefore appear that an ideal compromise would allow permanent membership for big clubs while preserving promotion and demotion for weaker clubs. Unfortunately, as well as the fundamental problem of defining the 'big' and the 'small', such a system would be widely viewed as unfair, and this would in our view significantly undermine the attractiveness of the competition. Level playing fields matter.

It seems, therefore, that there is a straight choice between promotions and demotions as opposed to some kind of a franchise system. A franchise system, so long as it provided clear rules for the access of clubs, would be a better system because it enables teams to internalize the effects of unbalanced competition. This would also be fairer than the current system, which discriminates against moderate-strength clubs in strong leagues in favour of weak clubs in even weaker leagues.

5.2. Policy issues

We believe that a European Superleague in soccer that resembles the Major League Baseball or the National Football League in the USA is the market equilibrium. However, the competition authorities or even the member states have significant powers to block such an outcome or to limit its viability. For example, if Brussels were to accept the collective broadcasting arrangements of the current system, while indicating that if the Superleague members tried to break away entirely they would not be permitted to enter into such arrangements, that would have the effect of supporting the current system. We do not believe this is in the best interests of the clubs or the consumers (committed or otherwise), mainly because of the likely increase in unbalanced competition as the Superleaguers increasingly dominate domestic competitions.

There are policy dilemmas in endorsing the shift towards a hermetic Superleague. The most prominent are issues concerning (1) access, (2) redistributive measures and (3) the scope for inter-league competition and the role of UEFA.

5.2.1. Access to the Superleague. While there might be some political benefits in a European Superleague, promoting the notion of a European identity, the impact on member states would vary widely. Core countries such as Italy, Spain, England and Germany would be very well represented in any Superleague competition, given the strength of their top clubs. Some major European footballing nations such as France (World Cup holders, after all) might be less well represented, given the relative weakness of their clubs and the tendency for their top players to play overseas. Some smaller nations might be well represented because of the disproportionate strength of their clubs (e.g., the Netherlands with Ajax, PSV and Feyenoord). Other smaller nations with strong footballing traditions (e.g., Norway) might tend to suffer little representation, again because their top players play overseas.

A Superleague will offer only restricted access to the weaker clubs, as has always been the case with the European competitions. In the traditional cup structure of European competitions, weaker clubs that were strong in weak leagues (e.g., top clubs from Iceland) gained access to European competition through the qualifying rounds. Such access might be justified on regional policy grounds, even if the system discriminated against second-rank clubs in strong leagues. The access of these weaker teams will decline in the absence of intervention (and we believe that such intervention would be unworkable and largely ineffective).

This suggests a regional policy dilemma. Even if a Superleague remained open to promotion and relegation, some nations or regions (e.g., Wales) might never be represented in a Superleague. In our view, this is not a problem that can be solved by enforced maintenance of the status quo. Since weaker clubs do not enjoy much success in the top European competitions as it is, there is little to be gained by preserving unbalanced competition. We believe that policy-makers should focus more on entry conditions and redistribution of income.

5.2.2. Redistribution. Our analysis suggests that the competition authorities should approach redistribution mechanisms in dominant sports leagues with a healthy degree of scepticism. Redistribution among the clubs is essentially a way of softening the effects of competition. Rather than promoting competitive balance, certain mechanisms may reduce the incentive to compete and worsen competitive balance. The trick is to design forms of redistribution that avoid or limit the adverse effects on competition. Alternative mechanisms for balancing competition are those that have been widely used in the USA such as the rookie draft and salary caps. If these mechanisms are not used simply to raise profitability, they will tend to increase the competitive balance of the league and can allow consumers to enjoy the same quality of competition at a lower cost. Any kind of restriction will create an incentive for avoidance and the effectiveness of any scheme will depend on the ability of authorities to enforce it. However, a closed Superleague may create a better chance to do this than the existing system. It is hard to imagine how a rookie draft system would operate in a system of open leagues with promotion and relegation, since the whole system is predicated on a recognized career progression from minor to major leagues. A closed Superleague would overcome this problem. Salary caps are also more likely to be implementable among a closed set of Superleague teams with more or less equal resources. Such a system could be consistent with EU laws on the freedom of movement of labour as well as the articles on competition as long as the system were perceived to provide a clear benefit to the players (as it does in the USA). A natural corollary of a European Superleague would be a European Players' Union that might negotiate on salary issues and other relevant issues such as health and safety.

There seems to be greater potential for redistribution among the leagues. This may happen anyway as the big clubs move to buy up the smaller clubs and use them as farm teams. A system such as this seems to have operated for some years in Spanish soccer without any obvious adverse effects on the quality of competition among the top clubs, and a similar observation can be made about competition in the USA. However, there is also a case for a system of redistribution from the senior leagues to the junior leagues. Again, such a system might be difficult to implement within the existing structure where the beneficiaries are potential future competitors of the top clubs, but might be more acceptable within a closed Superleague.

5.2.3. The scope for inter-league competition and the role of UEFA. The continuing role of UEFA is problematic. As the organizer of the Champions League, UEFA is likely to continue to be the promoter of the dominant European competition while acting as regulator of all competitions. As the Superleague evolves, it will increasingly face a conflict of interest between its promotion of its main product and the interests of the national leagues that it regulates.

One problem is the co-ordination of the fixture list for the expanded Champions League. Currently UEFA decides when fixtures in its own competitions are played and determines the permissible 'windows' for broadcasting matches within Europe. UEFA has an incentive to ensure that its own fixtures make use of the most attractive slots, and

as a result of expansion will remove some available slots for the national leagues. Through its regulation of broadcasting windows, it also restricts the ability of leagues and clubs to generate broadcasting income. While this restriction has traditionally been imposed with a view to promoting lower-level national competitions, there is also a potential conflict of interest with UEFA's promotion of its own league. Thus while it may be revenue maximizing to create a Superleague, if UEFA is perceived to be coordinating the commercial development of football through its power as the governing body, it is likely to face investigation for abuse of its dominant position.

UEFA can defend itself against such charges by demonstrating that its actions promote the sport as a whole rather than the interests of the elite clubs. But this becomes a difficult line to hold if the top clubs are hermetically sealed in a dominant league. UEFA might use a significant proportion of the income to fund the development of the game, but in this case the clubs might feel they could do better by going it alone and keeping all the money for themselves. So UEFA appears to be caught in a catch-22 situation: as a promoter, it is liable to find itself either subject to an antitrust suit or deserted by its teams. In this situation it may be that UEFA has to choose between its roles as regulator and promoter. It would appear that there is growing scope for UEFA to exercise its regulatory functions.

5.3. Prospects for a true Superleague

Our final comments concern the prospects for a Superleague. A long-term solution must be both commercially viable and DG IV compatible. Our analysis suggests that the revamped UEFA Champions League has several major flaws. So what do we think would be a viable structure for a true European Superleague?

The structure outlined in Table 8 is purely hypothetical in its composition of teams and regional organization. We are not central planners and do not claim to know what is best for the European public. Nevertheless, the desirable features that could represent an equilibrium structure for European football can be spelled out. Top clubs are attracted by the possibility of repeated encounters with the top clubs and stars from rival leagues. In this way, the top clubs can enhance the level of opposition and therefore enhance their own revenue-generating potential. Many of the top clubs would also like to abandon fixtures against much weaker clubs that tend to be found at the foot of the domestic leagues, since these matches generate less income while involving significant injury risks for top players. However, the problem for clubs wanting to create a Superleague is that, while they want more regular competition with top international rivals, they also want to preserve valuable domestic rivalries. For example, in Germany, Bayern München might want to play Juventus, Inter Milan, Barcelona, Real Madrid, Ajax, Arsenal and Manchester United more often, but they do not want to surrender regular fixtures against Kaiserslautern, Borussia Dortmund, Borussia Mönchengladbach, FC Köln, Bayer Leverkusen, Hamburg, Werder Bremen or Eintracht Frankfurt (and possibly others). The same argument would apply *mutatis mutandis* in every country. Thus

Table 8. Possible structure and organization of a European Football Conference

South West League 4 countries, 15 clubs			Northern League 7 countries, 15 clubs		
Paris Saint-Germain	Fra	8717	Ajax	Ned	7858
AS Monaco	Fra	5764	Feyenoord	Ned	6208
Girondins Bordeaux	Fra	4917	PSV Eindhoven	Ned	4833
FC Nantes	Fra	3875	Manchester United	Eng	6617
Olympique Marseille	Fra	1500	Aston Villa	Eng	4375
FC Barcelona	Esp	7381	Arsenal	Eng	4167
Real Madrid	Esp	5951	Liverpool	Eng	3875
Atlético Madrid	Esp	4000	Newcastle United	Eng	3500
Deportivo La Coruna	Esp	3833	Chelsea	Eng	3264
Real Zaragoza	Esp	3333	Rosenborg BK	Nor	5458
FC Porto	Por	6538	Brøndby IF	Den	5250
Benfica	Por	6458	Celtic	Sco	3250
Sporting CP Lisbon	Por	5667	Glasgow Rangers	Sco	2167
Club Brugge	Bel	4750	AIK Solna Stockholm	Swe	3167
Anderlecht	Bel	3858	MyPa-47	Fin	1000
Average UEFA ranking coeff.		5103	Average UEFA ranking coeff.		4333
Competitive imbalance		34%	Competitive imbalance		39%
Eastern League 14 countries, 15 clubs			Central League 3 countries, 15 clubs		
Spartak Moscow	Rus	7158	Juventus	Ita	8265
Lokomotive Moscow	Rus	3000	Lazio Roma	Ita	7193
Slavia Praha	Cze	5483	AC Parma	Ita	7139
Panathinaikos	Gre	5350	Inter Milan	Ita	6735
Galatasaray	Tur	3833	AC Milan	Ita	6303
Steaua Bucuresti	Rum	4833	Fiorentina	Ita	1375
Ferencvaros	Hun	4083	Napoli	Ita	1167
Dinamo Kiev	Ukr	3375	Borussia Dortmund	Ger	7716
Rapid Wien	Aut	3417	Bayern München	Ger	6825
Dinamo Tbilisi	Geo	3000	Bayer Leverkusen	Ger	4600
Croatia Zagreb	Cro	3000	Werder Bremen	Ger	3217
Slovan Bratislava	Svk	2750	1.FC Kaiserslautern	Ger	3000
Legia Warsaw	Pol	2250	Eintracht Frankfurt	Ger	2750
Dinamo Minsk	Bls	2500	Hamburger SV	Ger	1167
Lokomotiv Sofia	Bul	1000	Grasshopper Club	Sui	3167
Average UEFA ranking coeff.		3669	Average UEFA ranking coeff.		4708
Competitive imbalance		40%	Competitive imbalance		53%

a breakaway has to enrol a large number of clubs from the start in order to achieve critical mass.

To accommodate both national and international rivalries would require a league with at least 60 teams. This would not be feasible under a conventional football system where all play all twice, home and away. A hierarchical system would not be attractive either, given that one of the reasons for putting together a Superleague is to play more often with other top European teams, not avoid them. An alternative to this might be a

US conference system where teams are organized in sub-groups. Each season a club plays all the members of its own conference and in addition a limited number of teams from outside the conference, chosen on the basis of historic performance (to maintain a rough competitive balance). Such a system based around, say, four regional conferences of 15–20 teams might enable clubs to preserve domestic competition while enhancing international competition. If each conference contained 15 teams, then each team would play 28 matches against teams from its own league and in addition would play 6 teams from each of the other conferences (once only) over the course of the regular season, bringing the total number of games to 46. The selection of opponents would be based on past performance, so as to create a more balanced set of matches and to give the weaker teams a better chance in the championship. At the end of the regular season, a play-off system would involve, let's say, the top two teams in each league, with three rounds leading to the final and the status of European football champion.

We have constructed a hypothetical Superleague, primarily to illustrate the way in which a competition might operate. The conference members are listed in Table 8. The composition of a Superleague would be subject to negotiation, but we have adopted some simple rules of thumb. For the larger footballing nations, such as England, Germany, Italy, France and Spain, five, six or seven clubs have been selected firstly on the basis of their respective UEFA rankings. For another category of countries, two or three clubs have been selected. Smaller countries have one club to represent them. The decision as to how to group the teams has been made primarily on the basis of geography. In addition, countries have been grouped together where regional or historic rivalries are strong or the style of football is similar. A special league has been created to accommodate the countries of eastern Europe, with one team for each country except Russia. This is for two reasons. Income differentials between these clubs are less than with other European clubs. Second, the attractiveness of matches with eastern clubs is generally lower for the top European clubs, and including them as part of other leagues would undermine the league's attractiveness in the short term. In the longer term, however, eastern European clubs can be expected to benefit from inclusion in the European Superleague and be able to develop strong teams of their own.

Table 8 also lists the 1998 UEFA rankings for each team. This allows the calculation of two indicators: the average ranking points of the teams assembled in the league; and the inequality of teams in terms of their respective UEFA ranking points. In our example, the South-Western League scores highest in terms of average UEFA rankings, combining the top clubs from France, Spain, Portugal and Belgium. The Eastern League scores lowest in term of average rankings, but is quite evenly balanced.

Participation in domestic league competitions would not be permitted for teams playing in this European Superleague because a combined fixture list would be impossible to manage for even the largest teams and there would be a negative effect on competitive balance modelled above in section 4. This does not mean that Superleague clubs could not compete in domestic cup competitions, which are played in a different

format. Promotion opportunities and threats of relegation are other possible features that could be incorporated in a European Superleague, but perhaps only with difficulty.

Supporting measures to maintain the attractiveness of domestic competitions could be introduced along the lines of the rookie draft in the USA. For example, clubs participating in the European Superleague could agree among themselves a rule whereby no player under the age of twenty would be played in conference matches. This would give clubs involved in the domestic league competition *de facto* exclusivity for competitive matches involving emerging stars of the game. This may sound like a significant restriction on the free movement of players in the European Union and likely to fall foul of the Bosman ruling. But this is not necessarily the case. First, it is arguable that in the wider market for players, the hiring restraint of 60 clubs is not a major distortion. Secondly, the wider benefits to European football are potentially substantial. Domestic league competitions would be more attractive than without such a restriction. Intense interest would be focused on the performance of those players who will become eligible to play in the European Superleague, creating an additional spectator interest in domestic league games. And thirdly, there is the income redistribution effect between leagues benefiting clubs that have on their books a promising young player under long-term contract, from which they can release him at the age of twenty for an appropriate consideration.

Discussion

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This is a very interesting paper, very informative and thought provoking. Among other achievements, the paper is a step forward in understanding how departing from an American-style, closed league may change the implications of revenue sharing.

Let us take the following extension to the model, which like the authors incorporates the fact that increased wage expenditure leads to better performance on the pitch, and improved performance on the pitch leads to increased revenues, but allows for more teams and concentrates on demand¹³ as the relevant payoff variable. Modelling demand as opposed to the profit function of two teams is important because only then can one take into account the fact that a team can be a 'complement' or a 'substitute' for the league or the remaining teams as a group, in the sense that if it hires additional talent, it increases or decreases respectively the sum of the revenue of all the matches where the

¹³As the revenue function of the paper, this demand is not quite a demand function, since it does not include a price. Issues about pricing strategies will become relatively important because in the medium term they will have an impact on stadium attendance, which in turn will affect the willingness of TV stations to pay for broadcasting a match. So there is a full range of issues concerning pricing that may have important welfare consequences. Like Hoehn and Szymanski, I leave these potentially interesting issues aside.

team does not play. Demand should depend positively on the drawing power of clubs, on talent t_i , and on how important it is for either one team or both to win the match: for instance, because of the possibility of demotion if they do not win or the possibility of playing in a foreign competition if they do.

The role of a team's position in the league, or how likely the team is to win it, is less clear. Demand may increase with both teams' winning probabilities. Alternatively, if competitive balance is important, the absolute value of the difference in winning probabilities may matter. Finally, demand might increase with both winning probabilities if their difference is not too large, but when this difference exceeds a certain critical limit, demand goes up only when the chances of the weaker team go up.

Consider how an increase in the talent of team x affects the sum of the revenues of all the matches where x does not play. Let w_i be team i 's probability of winning the league. An increase in talent of team x diminishes the probability of any other team (say, y and z) winning the league. If demand for any match between z and y increases with both w_y and w_z then every team is necessarily a substitute for the league. However, as can be shown, an increase in t_x lowers more the winning probability of those teams with many chances to win. This has two implications. First, it suggests that as the talent of team x goes up, the remaining matches in the league become more balanced. To the extent that competitive balance is desirable, the total demand for games in which x does not play may increase with team x 's talent, which means that demand for talent as a result of revenue sharing would not decrease by as much, or might even increase. Second, this should be so for weak teams in a league including very good teams. As a team hires additional talent, it decreases the chances to win of the remaining teams, but particularly so for the team with the highest chances to win in *that set*: the leader of the league, unless this is the team hiring extra talent. Thus, weak teams reduce their demand for talent by less or even increase it, as a result of revenue sharing. Likewise, to the extent that competitive balance is highly desirable,¹⁴ a top team is a strong substitute for the league, and thus reduces by more its demand for talent as a result of revenue sharing. This is because its additional investment particularly reduces the chances of the second-best team winning and thus makes the league more unbalanced. Intuitively, the league becomes more balanced when the weak team increases its talent and less so if the team hiring additional talent is the top team. Thus, domestic revenue sharing of a closed league should result in a more balanced league. Sharing should have no impact on competitive balance when the league is balanced to start with.

Whether a team complements the league has consequences for evaluating the implications of measures when departing from a closed league. In a sense, the conceptual

¹⁴ An empirical study that investigates whether competitive balance is desirable should not be based only on whether the demand for a particular match increases when the two teams are equally likely to win the league. Demand for the matches of the league as a whole should be enhanced when the league is more balanced, and perhaps looking at individual matches underestimates how valuable competitive balance is. In particular, this suggests that when a traditionally small team increases its talent and thus its chances of success, all the matches of the league will have more viewers.

distinction between open and closed leagues is not as important: the impact of revenue sharing on the decision of one team to hire talent is similar whether the team is a top team playing in a foreign league or a 'complement' to the remaining teams in a domestic league. In both cases, revenue sharing induces the team to reduce its talent by less than other teams, and might even provide incentives to demand additional talent. On the other hand, to the extent that competitive balance is desirable, the teams that are more likely to be complements of the league are very weak teams: that is, at the other end of the spectrum from the teams that play in a foreign league. In this sense, participation in a foreign league acts as a countervailing tendency to the positive impact of revenue sharing on competitive balance. Whether this countervailing tendency is strong enough to reverse the impact of revenue sharing depends on how unbalanced the league is and how desirable competitive balance is. Hence, open leagues diminish the positive impact of revenue sharing on competitive balance, but it is unclear that they result in a more uneven domestic league if domestic competitive balance is very desirable and the original situation is highly unbalanced.

One of the main policy issues these days, as the authors argue, is whether the league itself or the individual clubs should negotiate the broadcasting rights. To capture the impact of TV income sharing, we should model the negotiations between TV stations and either the league or the clubs. Let us assume that there is only one TV channel and that many matches are to be played on a given day, but only one match at most will be broadcast. In this case, the maximum total surplus is the demand in the best match: that is, the match that has the highest demand. If the league and the TV station negotiate, the Nash bargaining solution is that each gets half of this surplus.

If, on the other hand, the TV channel can negotiate with the individual clubs, the channel can threaten to negotiate with the teams offering the second-best match, in which case the channel would get a larger share of the surplus. Indeed, even by negotiating with the teams playing the worst match, the TV channel would get half the surplus generated, and it could use this to negotiate with slightly better teams so as to get more surplus. And again, applying this logic recursively, the TV channel would get significantly more than half of the maximum surplus (particularly if we believe that competitive balance enhances demand and that the leagues are balanced). In brief, in negotiating TV rights, a more important issue than income sharing among teams may be dividing the pie between teams and the broadcasting stations.

The possibility that a cartel of teams might restrict TV broadcasting anti-competitively cannot be discussed without considering which type of contracts between the league and the channels are allowed. In particular, the league is subject to a dynamic problem of consistency: once one contract is signed, it has incentives to sign a new contract that satisfies the additional demand for TV viewing, and so on. Thus important aspects of possible restrictions on broadcasting include whether contracts with one channel can be conditioned on other contracts that the league might sign, the possibility of exclusive broadcasting rights, and whether or not TV channels should be able to resell those rights.

The paper does not treat the impact of buyout fees analytically, but points out that the received sports literature shows that it does not interfere with efficient allocation and hence has no impact on competitive balance. The Bosman case challenged the transfer system of players out of contract, but did not deem illegal the existence of buyout fees. So what is the rationale for these buyout fees? As the paper explains, it is claimed that buyout fees are a way for the players to pay back to their club the initial investment in developing young talent (which is not club specific). In this way, clubs pool the risk, since the probability that they get a return is larger. In a paper on switching cost in the labour market, Burguet *et al.* (1998) show that, even without investments, buyout fees should be a feature of labour contracts for ‘singular workers’: those for whom there is uncertainty about their quality *ex ante*, but for whom *ex post*, once they have started working, there is a lot of transparency (not only the incumbent firm, but also outside firms learn a lot about the workers’ performance). Soccer players are a good instance of this type of worker. The reason why buyout fees are a must when the market has so much information is that they maximize the payoff of the worker-incumbent firm: that is, they expropriate outsiders of all the rent from the efficient reallocation of the player. With *ex ante* competition among clubs to hire the player, he can appropriate all the surplus. In this case, ruling out buyout fees is detrimental to the player’s welfare, since such a regulation results in short-term contracts that yield positive expected profits to the firms. On the other hand, if one club has *ex ante* market power, buyout fees allow the club to extend its power over time and are detrimental for the player’s welfare.

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This enjoyable and thought-provoking paper provides a good illustration of the benefits of applying microeconomic analysis to a problem too often approached with slogans. As an armchair rather than a committed critic, I shall concentrate on asking: what is the good that football clubs supply and what differentiates the market in which they operate from markets for other goods? Football is like theatre in many ways. The players supposedly ‘competing’ are in fact collaborating to produce a show that satisfies the spectators who pay to see it.

One way of modelling the football industry might be to assume that the unit of competition is simply the league. The American-style hermetic league with its elaborate revenue-sharing arrangements and its expansion franchises fits this model best. It implies the scope for significant market power on the part of an individual league, constrained only by the threat of entry from rival leagues and the possibility of substitution to rival sports (or other leisure activities). So the anti-trust exemptions enjoyed by league sports in the USA appear unjustified, to say the least. However, two considerations suggest that economic competition between individual clubs may after all provide a better model, though to a greater extent in Europe than in the USA. First, ticket prices are still set by individual clubs, and other decisions such as investment in players are made non-cooperatively (though they are subject to co-operative constraints in the USA, such as the

rookie draft). Secondly, even if a particular match is a collaborative exercise between teams (which is to say that, for a given match, teams are suppliers of complementary rather than substitute products), different simultaneous matches are substitutes for each other, and teams also compete to attract loyal supporters who will follow them match after match. The process of competition is rather like that between airlines, which frequently collaborate to assure the different legs of a given journey, while competing against other suppliers of the same journey, and trying to ensnare frequent flyers into travelling with them again and again.

It would have been good to have in this paper a more explicit analysis of the kinds of market failure to which this form of competition could give rise, and what might be the reasons (if any) for public intervention in this sport. After all, individual clubs' decisions give rise to significant externalities, which may be important in the aggregate even if the clubs' market power as conventionally measured is surely negligible. Separate issues arise about the implications for broadcasting, which is a different market that the authors do not analyse here. As it stands, the paper confines itself to one explicit claim: namely, that a European superleague composed of clubs that also play in their domestic leagues does not represent a stable equilibrium for the industry. I happen to think this claim is plausible, but the authors' model does not establish it convincingly. The simulations in Table 6 show that anything which encourages relatively successful clubs to invest more in talent will harm the profitability of relatively unsuccessful clubs, possibly leading them to close down altogether. But we knew this already from the way in which firms' revenues were assumed to depend upon win percentages. For instance, even when competitive balance is the only thing that matters, the derivative of revenue equation (2) with respect to t_2 will be positive if and only if $t_2 < t_1$. So it is good for a strong team when a weak team invests, but not vice versa.

Is it good for the profitability of weak teams when strong teams play a larger proportion of their matches in a superleague? And can it be an equilibrium for strong teams to play only a proportion of their matches in a superleague, or will they wish to abandon their domestic leagues altogether? The analysis does not really answer these questions because it assumes (in a way that the text itself concedes to be implausible) that strong teams can play an unlimited number of matches in a superleague without forgoing revenue from domestic leagues.

Suppose that the profit function for superleague team 1 were equal to the average of the revenue R_N that this team earns if it plays only the national league and the revenue R_E that the team earns if it plays only the international league, with weights β and $(1 - \beta)$. Then it is easy to check that profits are increasing in the β only if $t_3 < t_2$ (that is, team 1 plays a team in the national league that has higher talent than the team it plays in the superleague – so the superleague is not really a superleague at all). This happens because increased profits from the superleague are offset by lost profits from the domestic league, and the former will exceed the latter only if the team's win percentage is higher in the superleague. In practice, of course, this formulation ignores the fact that superleagues are attractive because spectators want to watch talent as well as caring

about the outcome. If they do, then there may still be a benefit to a domestic club from its rivals' participation in a superleague, since this improves the display of talent performing at its ground (also if rivals play less often in the domestic league, this may improve domestic teams' win percentages overall). Either way, this argument underlines the need for a clearer model of the precise reasons why teams want to play in a superleague, and whether these would induce them to forgo participation in a domestic league altogether.

Although the precise model does not convince me, the paper provides an excellent introduction to these complex issues, and a fruitful point of departure for further work.

General discussion

Philippe Aghion criticized the fact that the paper takes the pool of talent as given. Talent in sports, however, is not exogenous because there are the important elements of selection and training. The problem here is that only part of the training is club specific and players may leave their team for another club. These spillovers of human capital have to be taken into account when designing the rules for a European league. To generate sufficiently high incentives for developing new talents, one could, for instance, think about limiting the mobility of players. Karl-Gustaf Löfgren argued that, if there is a potential market failure in developing new talents, the appropriate schemes for the distribution of talents, and for recruitment more generally, have to be included in the analysis. François Ortalo-Magné raised the question of whether teams should be allowed to get into talent-sharing agreements. This might be beneficial if it allows the farming of talent, which is an essential part of the US system. In basketball and football, the college system provides a good training period for young players. Baseball has the minor leagues for developing talents. Something comparable is needed in Europe if we want to implement a superleague successfully. Maybe the teams that are not admitted to the superleague can form such a basis for developing talents. The interesting question here is how to organize the minor league and its sharing of talents with the major league teams. Samuel Bentolila felt that a European superleague should be complemented by national or minor leagues for an additional reason: namely, to create competition between the different leagues.

Kai Konrad noted that 50 years ago people also did sports and it was similarly exciting for the spectators, although the athletes might have been slower than nowadays. The reason why they were slower is that they put less effort into sports. Sporting contests tend to dissipate the rents they generate by the effort that is spent on winning the contest. Overall, too much effort may be spent on training. From a welfare point of view, it is therefore far from obvious that fostering competition and maximizing effort is appropriate. This is a straightforward implication from the theory of contests. There are further results from this theory that could be applied here. First, revenue sharing

leads to less effort in the contest. And secondly, a handicap for the better team helps to increase the overall effort. If team A is stronger than team B, then the equilibrium outcome is that A is more likely to win, but that the equilibrium effort which both put into this contest is lower than if they were more equal. Hence, the trick is to handicap the more productive team. Many US sports take account of this effect by allowing the weaker participants the first choice in the rookie draft. David Begg added that horseracing provides a good illustration of the nature of demand in sports. Low-level horses take part in handicap races. The aim is to have a very close finish by handicapping. In the top horse races of the season, however, there is no handicap. Here people want to find out which is the absolutely best horse. There is an absolute standard and spectators pay to be part, for example, of the race for records. However, when there is no absolute standard, people want to see a close finish. This aspect is particularly important for football games.

Paul Klemperer argued that it would be desirable to include a more explicit discussion of measures of welfare. Competitive balance might be desirable provided it was not driven by lack of effort by players. Spending on talent might also be desirable, especially if it improved national success. Should Europe also care about the success of European teams at world level? Do the same arguments justify efforts to promote more competitions at world level?

Samuel Bentolila thought that, from a technical point of view, the ups and downs of teams in a league show some similarities with the social mobility of households in income distribution. One could think of applying the technique of Markov matrices to compare the competitiveness of professional sports in the USA and Europe. Philippe Aghion wanted to know what kind of team production function is appropriate here. For instance, the output could be better if there were fewer superstars because this would strengthen the team element. The issue of how production takes place in football will be important for the optimal design of leagues. Furthermore, when trying to implement a new superleague, the success of such a reform will depend on who is involved in the decision process. Is it just the teams, or should broadcasters, the national football organizations and others also be included?

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