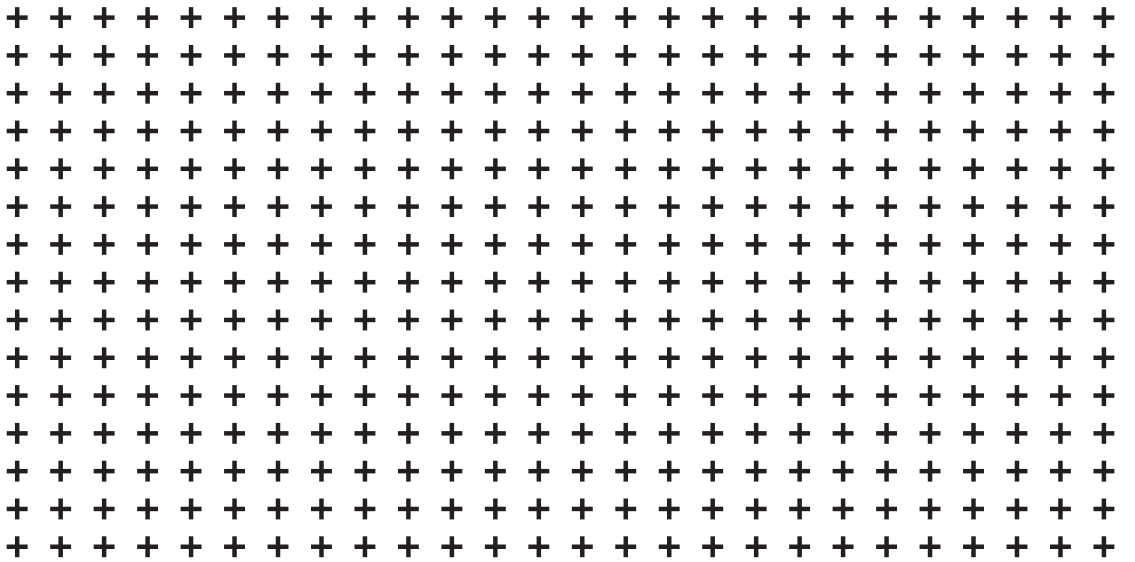

Reports of the Public-Private Sector Research Center 4

Football Economics. Proceedings of the Armand Carabén Workshop on Sports Economics

Edited by
Jordi Galí and Xavier Vives

IESE Business School
University of Navarra
Public-Private Sector Research Center

FCBARCELONA
més que un club

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Reports of the Public-Private
Sector Research Center

Football Economics.
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Workshop on Sports Economics

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Public-Private Sector Research Center – IESE Business School

The Public-Private Sector Research Center was established in 2001. Its mission is to strengthen cooperation between the private and public administration through research and education. The Center's main objectives are to promote high quality scientific research on the business sector and public administration and consolidate a group of international research excellence in the fields of regulation and competition, innovation, and regional economics and industrial policy. The sponsors of the Center are: Accenture, Ajuntament de Barcelona, Caixa Manresa, Cambra Oficial de Comerç, Indústria i Navegació de Barcelona, Departament d'Economia i Finances and Departament d'Innovació, Universitats i Empresa of the Catalan government, Diputació de Barcelona, Endesa, Fundació Agbar, FOBSIC, Garrigues, Institut Català de les Indústries Culturals, Mediapro, FGC, ATM and TMB.

CONTENTS

LIST OF FIGURES

Part 2

Part 3

Part 4

Appendix Part 4

LIST OF TABLES

Part 2

Part 3

Part 4

+

Introduction

Jordi Galí and Xavier Vives

This volume contains the proceedings of the *Armand Carabén Workshop on Football Economics,* which was held on the premises of IESE on November 24, 2009. The event, co-sponsored by FC Barcelona and the Public-Private Sector Research Center, was meant as a tribute to Armand Carabén, who was the managing director of FC Barcelona between 1970 and 1973, and who is widely regarded as the "father of modern Barça." The opening remarks by the President of FCB, Mr. Joan Laporta, and by Mr. Carabén's son, Armand Carabén Jr., which the reader will find after this prologue, are a clear testimony of the qualities of Armand Carabén as a professional and a human being.

The core of the present volume consists of three papers (together with their discussions) on three different areas of football economics. The first contribution, by Pepita Miquel-Florensa and Paul Seabright provides an overview of the main issues involved in the sale of football broadcasting rights. The second contribution, by Antonio Dávila, George Foster and Norm O'Reilly, examines alternative approaches to the organization of sports leagues and contrasts the main features of European football leagues with those of other popular U.S. sports. The third paper, written by Bernd Frick, analyzes the determinants of player remuneration as well as the link between this remuneration and player performance.

Finally, the volume also contains a summary of the comments made on the economic perspectives and challenges for elite football clubs in the roundtable that took place at the end of the workshop. The roundtable panelists included Francisco Roca, Michael Gerlinger, Simon Kuper and Joan Oliver.

We greatly appreciate the efforts of the authors, discussants, panelists and participants for their contribution to the workshop. We would like to thank the anonymous referees for their comments to the authors, and Flavia Roldán and Anna Solana for their contribution in editing the manuscript. We are especially thankful to Salvador Estapé, who played a key role in putting together the event, as well as this volume.

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1. Inaugural Session
Johan Cruyff, Armand Carabén Van Der Meer and Joan Laporta

1.1. Johann Cruyff

Good morning. My relationship with Armand was very intense. When I look back, I realize that it was very important for my future and for everything I did afterwards. He was the one who brought me from Ajax to Barcelona. At that time, in economics and in sports business, he was already a long way ahead of most people. First of all, he spoke many languages, which is important and shows how important it is to study. Second, he learned about what sports means to the public and he learned about what economics means to sport. We spoke about many different things, many personal things, such as knowledge of what sport means to people, what sport means to children in the world, because sport is universal. And after all those lectures, I went to play in the United States. I was in Madison Square Garden, one of the best organizers of sports. At that time, more than 30 years ago, they were far ahead in thinking what sport is, not just playing in the streets, but what it means for children when they watch it on television. The image of sportspeople is one of the biggest problems today. They should be educated better beforehand, because their images can be used by younger players as if they were looking in a mirror and seeing where they could be with the right preparation. And all of these important things have been part of my life both during and after the time I was coaching. When you coach a team at the highest level, especially a team like FC Barcelona, it is not only about telling them how to play, but also about how they should present themselves, how they should be. And if you look back now at all the players who were playing on the Dream Team, you can see that they were very formal, good people who knew their way almost everywhere and who were very good for society.

1.2. Armand Carabén Van Der Meer

When I was invited to give a little speech at this workshop as a member of Armand Carabén's family, I must say I was a bit concerned about the need to provide consent for the use of my father's image. We are not responsible for Armand Carabén's professional and intellectual legacy, and the fact that IESE and FC Barcelona had thought of naming a workshop like this one after my father shows how his memory does not pertain to the family sphere and memories. I want to thank the organizers of this workshop, as well as all the people who have attended and participated.

Since my father's death, the Armand Carabén spirit has been mentioned, especially by Joan Laporta, the president of FC Barcelona, and many people have often asked me what this spirit means or contains, and these are questions that I have never been able to answer. I do not know whether it was his eagerness and independence, his cosmopolitan curiosity, which were not incompatible with his great love for this country, his civil Catalanism or his intuitive, more than doctrinarian, liberalism. I recall my father as a very perceptive person who valued lucidity more than any conviction. He defended his principles and views in a very peculiar way, being both firm and ironic, with a bit of Mediterranean skepticism. This attitude always made his points of view seem attractive.

Regarding the subject we are dealing with today, football economics, a long time ago, the people who defended the idea that the Barça team had to be formed by more integrated people were attacked for being sentimentalists, feelings that my father said were the philosopher's stone of the football business, as it is the magic substance that transforms a simple form of Saturday entertainment into the economic global power that it is today. An example of this wise intuition is the frustration we witnessed when several teams were eliminated from the qualification competition for the 2010 FIFA World Cup.

I am sure my father would have applauded this initiative and it is of course not my responsibility to evaluate the success of this workshop, but what I can say is that my father would have liked the speakers to express themselves freely.

On behalf of Armand Carabén's family, I'd like to thank the organizers and the participants and I wish you all success.

1.3. Joan Laporta

Carabén family, ladies and gentlemen, thank you to IESE for organizing this workshop on football economics and for their kindness in dedicating it to Armand Carabén. I would also like to welcome all those who have come to take part in this workshop. Armand was the General Manager of Barça from 1970 to 1975. He modernized the club; he was a modern thinker. He put us at the forefront. You should take into account that 40 years ago he spoke German, English, French, Italian, Catalan and Spanish. And his wife is Dutch. He knew it was good to look abroad.

In the prologue to Armand Carabén's memoirs, published in 1994, Néstor Luján said that Armand knew how to live the past as if it were the present. Luján said, "in being modern, alive and classic at the same time, he always has the past present in the street without the make-up of nostalgia." The best tribute we could offer to Armand today is to avoid nostalgia. And we avoid it because we cannot ignore the fact that his knowledge is still valid today. Today, avoiding nostalgia means defending that his ways of doing things still matter. When we claim that his actions still matter, we are defending a lucid view of the present.

Many of you know that I believe FC Barcelona has a soul. I am convinced that, besides scoring goals, Barça conveys sentiment. It is impossible to imagine a FC Barcelona that is cold and distant. I believe that Barça is more than a club and that means we express our football identity, our way of understanding football. "More than a club" means that we express our Catalan culture through our club and, at the same time, we express our global vocation and solidarity, our identity. This is our identity; this is our meaning, "More than a club." But being a living institution, representative of all these identities, a club with a soul is fully compatible with knowing that elite football today cannot be dissociated from major demands in the way it is managed. Demands that have to be taken into account in all areas of the club. To become champions of Europe, it is not just about scoring more goals than everybody else; it is not just about signing good players. Neither would our faithfulness toward goals and spectacle be enough, nor having the best professionals in all areas of the club. I insist that not even all that would be enough. We need all that, of course, but it is not enough, because from my point of view, football requires good players, talented players, professional players, team spirit, leaders, identity and modern, professional and innovative management, as a very close friend of mine told me one day.

In Barça's case, in 2009, we won five titles, and there is still one more to win. We have more than 170,000 members in Catalonia and all around the world. We are a global Catalan club. The budget for the season was €405 million and we hope to close the year with a profit once again. Since 2003, we have accumulated a total operating budget of €144 million. With these numbers in our hands, it is clear that the club's vitality is linked to a large extent to management. Therefore, we are the soul and at the same time we throb with our people's concerns. That gives us another particularity: in this country, there are few things that are as public as the Barça management. When I say public, I mean there is no other management that is observed, followed and even controlled as much by society and public opinion. We are the soul, but at the same time our numbers are the figures for a huge business. Therefore, Football Club Barcelona can be analyzed from many different points of view: sporting, social, solidarity and also of course a business point of view. By bringing together two of these areas, Barça applauds and defends the values that explain the treble. And these instruments, such as creativity, a vanguard vocation, and, in short, our modern and enterprising spirit that defines these successes as well. These same values have to define business people, especially today when the shock of the crisis has weakened such a fundamental and intangible asset as our confidence. So that is precisely why we are here collaborating with you; that is why we approve it, and that is why we celebrate the fact that such a high level and prestigious institution as IESE has opened its doors to FC Barcelona and shown such interest in the business area of football.

Armand Carabén, after whom this workshop was named, was a fascinating person who had an extraordinary capacity for seduction. He was a liberal in a country where there were very few liberals, especially in the 1960s. The contact he had with Wilhelm Röpke, a left-leaning liberal and one of the most important spiritual fathers of the German social market economy, moved him closer to social democracy, but not entirely. Therefore, he was a humanist liberal with social sensitivities. Carabén was basically an intelligent, lively and alert person. He was a lawyer, a

qualified economist in Switzerland, a journalist and a Barça man. Creativity, intelligence and ethics in action, modernity, education: these are basic values that avoid nostalgia. Save the present and face the future with guarantees. Here, in FC Barcelona, Armand's testimony and the business world are all linked. It would not seem strange to you if I were to say that, with all the deceptions and nuances, with Carabén, Barça grew and became business-like. Armand incorporated management as a key element for competing well and winning.

When I said that we need leaders who can make the right decisions at the worst moments, we have to know the facts. In the summer of 1973, President Agustí Montal and Armand Carabén signed Johan Cruyff. And Barça took on a new dimension. The most transcendental decision in the modern history of Football Club Barcelona was to sign Cruyff, which placed Barça at the forefront, where it has stayed every since. That signing was modernity, tenacity and courage; it was intelligence. At the time it was not easy to get him to sign. I have recently spoken about how the country needs to model itself on Barça. In order to recover impulse and strength in such dark times, it is a way of placing Barça's recent success at the service of the collective morale. Of course Barça cannot replace the country, but it is a mirror of our society. I say this with humility. But in my opinion it is a good example for the recovery of enthusiasm and strength. In short, today as president of Football Club Barcelona, I recommend that we all model ourselves on the qualities of Armand Carabén. It would be good for the country, for business and for sportspeople to think big, to think about quality and exhibit generosity and open-mindedness. That explains why we are here today. Football, as I said, needs leaders to make the right decisions in the most difficult situations; leaders to motivate the team and professional, modern and innovative management. In order to have them, leaders have to be educated, and in that sense, Barça is grateful for the IESE initiative and is grateful for the efforts of Public-Private Sector Research Center in this area. Thank you very much.

2. The Economics of Trade in Football Broadcasting Rights*

Josepa Miquel-Florensa† Paul Seabright‡

2.1. Introduction

Live football matches are a kind – a very special kind – of theatre performance, and the economics of live football has a lot to do with the economics of the theatre. The economics of broadcast football is similarly a close cousin to the economics of the cinema.

In both the theatre and the cinema we have to be careful not to confuse the dramatic logic of the play with the real-life logic of the performance. The actor playing Hamlet does not really kill the actor playing Polonius; the actor playing Voldemort is not really trying to kill the actor playing Harry Potter. It is well known that movie sets and theatre dressing-rooms seethe with rivalries, enmities, love affairs and other passions, but they are not the same as the ones played on stage or on screen, even if they sometimes thrillingly overlap. Two actors playing deadly rivals are in fact, whether they like it or not, collaborators rather than rivals in the joint project of trying to sell a theatre performance or a movie to the paying public. This requires them at the very least to put a brake on their real-life passions. If the actor playing Voldemort had really killed the actor playing Harry Potter before the end of the first movie, the movie might never have come out and the rest of the series might never have been made, to his own great impoverishment.

In football it is just as important not to confuse the logic of sporting competition with the logic of economic competition. The players of club A may state their devout hope of wiping the players of club B off the face of the earth, but in fact each club depends on the other to provide a gripping match that will bring spectators through the turnstiles and glue viewers to their sets. If club A won every match it ever played, it would become boring and only a few hardcore fans would continue to come. To put it simply, an economically successful club needs worthy

* We are grateful to Jordi Galí and Xavier Vives for inviting us to write this paper, to the participants and organizers of the conference, and especially to our two discussants Luis Cabral and Stefan Szymanski and to an anonymous referee who provided very valuable and helpful comments. The usual disclaimer applies.

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opponents, even if worthy opponents sometimes diminish its sporting success. A club and its sporting opponents are not enemies but collaborators in providing a spectacle for the public, even if that spectacle requires them to pretend to be irreconcilable enemies.

Of course, football matches are not just like movies and theatre performances. Most importantly, almost everyone knows that Hamlet will die at the end of the play and that Harry Potter will survive; that much is essential to the conventions of classical tragedy and Hollywood science fiction respectively. Much of the suspense is about how that end is reached, with how much adrenaline and panache – which usually means teasing the spectator that the conventions will be breached until they are finally, comfortingly reafirmed. A football match is like a movie where you really don't know until it ends whether Harry Potter or Voldemort will win. The panache and adrenaline along the way matter too of course: in fact they provide much of the focus of post-match discussion and reminiscence, in the press and on TV as well as in countless homes, workplaces and bars. But they have an added edge because the outcome really is unknown to anyone (match-fixing aside). It's a brilliant invention and one that Hollywood will surely copy as soon as it can work out a suitable way to randomize the movie endings in any theatre showing. But football got there first, and football still does it better than Hollywood will ever do. One reason for that is that even if the statistics show that the successful clubs are those that spend the most money, every football fan knows in their heart that what makes a club win is a set of human qualities that no-one can quite predict. A Hollywood movie with randomized endings will never seem quite so anchored in individual human triumphs and defeats.

In fact, even in football, who wins and who loses is only part of what matters to the paying fans. It also matters with what style and skill they win and lose, and how much suspense and uncertainty they generate along the way. As with theatre and movies, these qualities all depend on the talent of those who are recruited. In this paper we shall consider some issues surrounding the sale and purchase of broadcasting rights, but we first need to set these in the context of what gives broadcasting rights their ultimate value, which is the talent recruited by clubs.

In recent years the growth of broadcasting has transformed the financial rewards to such talent, both to individual players and to the clubs for which they play. Not only have these substantially increased in the aggregate; they have also become a great deal more unequal. The most highly paid players now earn much larger multiples of the average income than was formerly the case, and the clubs with the highest revenues now dwarf the remaining clubs to a much greater extent. One consequence is a widening distribution of sporting outcomes: while it is rare for leagues to be dominated by a single club, it is becoming more common for a handful of top clubs to share out the sporting trophies year after year.

We begin by outlining what are the main public policy issues that arise from this development. One issue is whether football clubs should be entitled to negotiate collectively the terms of sale of their broadcasting rights. On the face of it this raises concerns about restrictions on competition; however, it has frequently been claimed that either sports in general or football in particular are "different" from other sectors of the economy, and that there are stronger arguments for allowing

collective negotiations than in other contexts. Is there something to this argument or is it merely special pleading?

It might be considered, appealing to the Coase theorem, that the allocation of broadcasting rights can hardly make much difference to overall outcomes, as clubs can negotiate their way to efficient outcomes regardless of the initial allocation of rights. This would be a mistake. Many of the choices that matter for overall outcomes are impossible to verify and could never be the subject of contractually enforceable negotiations. This applies most obviously to the effort choices of players on the field and the strategies of trainers and managers, but even such decisions as investments in talent are very difficult to make enforceable. Talent is something that all football fans think they recognize when they see it, and it can therefore be the object of systematic and strategic decision-making by clubs. But it is essentially unmeasurable in an objective way that could be used as a basis for legal contract enforcement. Each club's investment will therefore depend on its subjective perceptions of talent, perceptions that it has no incentive to share honestly with other clubs and every incentive to conceal. In this paper we therefore consider that restrictions on the set of contractible choices make a "Coase theorem" solution impractical, and are therefore interested in exploring the way in which different allocations of rights may make substantial differences to the overall outcomes that football fans care about.

A second issue is whether there should be redistributive measures to give poorer clubs a share of the revenue accruing to richer clubs, in order to ensure that the distribution of sporting outcomes does not become too unbalanced. It should be noted that this issue is independent of whether there should be collective negotiation (though the issues are often discussed as if they were the same). There could be a redistributive measure without collective negotiation. On the other hand it would be quite possible for there to be collective negotiation that left most of the benefits in the hands of the stronger clubs. It should also be noted that the overall impact of redistributive measures is not necessarily the impact that appears most obvious at first sight. For instance, revenue redistribution may appear to even up the resources that the clubs enjoy for investment in talent and thereby lead to more balanced and exciting outcomes; however, it also weakens the incentives of the poorer clubs to win, since they receive in effect rewards for not winning (this is particularly strong for such measures as the right of American football clubs (NFL) to choose among new players in inverse order of their performance in the previous season). Indeed, Szymanski and Kesenne (2004) show that under plausible conditions increased gate revenue sharing will deteriorate, not improve competitive balance and reduce the units of talent hired by each team for a given wage rate.

A third issue is whether the widening of rewards, to players or to clubs, is a public policy concern in its own right. We shall not explicitly discuss this except to note that the growth of broadcasting and more generally the low cost reproduction of creative content have greatly increased inequality in the distribution of rewards to the creators of such content, whether these are writers, musicians or footballers. The reasons for this appear to lie in the nature of what are called "superstar" phenomena, which were first analyzed in a classic paper by Sherwin Rosen nearly three decades ago (Rosen, 1981; see a more recent discussion by Seabright &

Weeds, 2007). If falling costs of reproduction lead a global audience to be able to partake of the creations of best-selling authors, top opera singers and sports stars with almost as much enjoyment as local audiences, then the most talented such individuals will earn very much more than their competitors who are nearly but not quite as talented ("talent" here refers simply to the ability to please an audience and implies no objective judgment about the quality of their creations). If there is a legitimate public policy concern raised by such phenomena (and we believe there is), it should be addressed by relatively general measures such as the provisions of the tax system, rather than by sector-specific measures which are unlikely to deal with the general problem and which may well have unforeseen and undesirable consequences. We shall therefore confine our detailed attention to the two first policy issues, namely those of collective negotiation and revenue redistribution.

To cast some light on these issues we sketch a very simple model of sporting competition that balances the demand of a club's spectators for the sporting success of a club with their interest in the style and skill of the play, and the suspense and uncertainty of the competition as a whole. We use this model to sketch some consequences for economic policies towards markets for competitive sports. In doing so we ignore a large number of important issues that matter for the management of football clubs in order to focus on one really important issue: how much they invest in footballing talent, and what this means for the overall balance of investment by clubs in the game as a whole. The omission is deliberate – once a star footballer is recruited by a club all sorts of crucial decisions have to be taken about how to manage him (for once we have no intention of using the gender-neutral "him or her"): how often to let him play, whether to rest him during less important matches, field him as a substitute at a crucial point in a crucial match, and so on. These are interesting (and some of them even feature in the contracts that are negotiated between the clubs and the players' agents), but they are only marginally relevant to the decision that concerns us, which is whether to buy the star in the first place. We shall examine what life would be like for a club's manager who could leave the details of how to manage a player to his future self and concentrate just on the buying decision.

In the simplified world we shall describe, talent matters for a club's economic success in three main ways. It matters, first of all, for its sporting success. But it also matters because it is the skill of its players which makes a game attractive to watch independently of the result, thereby contributing to the overall entertainment value that the club can offer its fans. And finally, talent matters because it contributes (in complex ways we shall describe) to the suspense surrounding the outcomes: too lopsided a distribution of talent among clubs is boring.

Other things make a difference as well to the attractiveness of a club for its spectators. There are practical features -the comfort of a club's stadium and so on. But there are also a whole series of intangible factors: a club's historical tradition, the class or ethnic composition of its fan base, other factors even less easy to describe, that make one club different from another in the extent to which it can expect to turn talent into paying customers, some customers being even considered as virtually unconditional supporters independently of fluctuations in a club's fortunes at least over short periods of time. What we shall show here is that differences in these factors will yield

different incentives for clubs to invest in talent, in some circumstances magnifying the initial differences between clubs and leading to strikingly asymmetric talent distributions. As an illustration, in the 2008/2009 season the Spanish club Osasuna spent €24 million on player salaries, while Barcelona spent €198.4 million[1].

Access to broadcasting demand increases substantially the revenue that clubs can hope to attract. For F.C. Barcelona, they represented 39.5% of revenues (excluding competition revenues) for the 2008/09 season, and 43.15% for the smaller club Osasuna. In 2006, they represented 41.6% of Liverpool's revenues. For international competitions broadcasting is an even more important source of revenue. In 2007/2008, broadcasting revenues represented 69.3% of UEFA aggregate revenues (76.2% of the UEFA Champions League contract revenues), and 61% of the FIFA event related revenues. This phenomenon has been increasing over time: broadcasting contributed 36% of total revenues for the Euro 1996 tournament, but this had risen to 59.2% for Euro2008.

Indeed, the growth of broadcasting revenues is the main element that has contributed to transforming football into a truly global industry. National barriers have been falling both on the output and the input side: audiences are increasingly becoming global as broadcasting allows Chinese Barça fans and Manchester United fans to indulge their passion, and the labor market for footballing talent has become global as African and Latin American players occupy the European leagues, and players move easily and often between clubs in the European leagues.

One of the important questions therefore is what difference broadcasting opportunities create for the fortunes of clubs, for their investment in talent, and what difference they make to the quality and the suspense of football competitions.

2.2. A Model of Competition between Football Clubs

As Neale (1964) describes, one of the peculiarities of professional sports is that the sporting teams/firms produce a mixture of products from their separate decision processes. In other words, the outcome of the interactions on the football market depends not only on each club's decisions but also on all the other club's decisions in several aspects. The product produced is unique, and there is need of collaboration between the "competitors" to produce it. This implies, as we suggested above, some need for sporting balance... "Oh Lord, make us good... but not that good".

1 Sources: Osasuna: Asamblea de Socios Compromisarios, Pamplona 25sept2009. F.C. Barcelona cuentas anuales 08/09. These numbers correspond to sport wages without amortizations.

The set of goods produced by clubs is heterogeneous and complementary: this makes it a particular challenge to think about how the output of the clubs translates into consumers' welfare.

We consider issues in a competition between just two clubs, which play just one competition in one season. In reality, of course, clubs play against a large number of competitors (Kesenne, 2008, investigates the optimal size of a sporting league), as well as in several competitions both at national and at continental level, with different timings and resolution of the uncertainty. The competition might take various forms, from a league to a knockout tournament, raising issues which a two-club model cannot resolve. Nevertheless, even the simplified two-club structure tells us something about the extent to which talent investments can lead to different outcomes in terms of sporting success, even if by its nature it cannot tell us how this might translate into the outcomes for a larger number of clubs.

2.2.1. Investing in Talent

Each club i, at the beginning of the season, chooses a level of talent t_i in which to invest. t_i is also the cost of that investment, so we can think of a unit of t_i as meaning "the amount of talent that can be bought for one million euros". This talent affects two aspects of the club: its expected sporting success S_i and the expected entertainment level of its matches E_i. It also affects an important aspect of the whole competition, namely the amount of suspense or uncertainty attached to the competition, which we shall denote by U. This has an important influence on the behavior of fans, including keeping many watching a competition even if their attachment to the particular club may be limited or non-existent. We now consider in more detail these three effects of investment in talent, before going on to consider how they affect the club's ability to generate revenue[2].

2.2.2. Sporting Success

The club's sporting success S_i is an increasing function of the club's own skill level, but also a decreasing function of the skill levels of its competitor (note that we could write "competitors" if there were more than two clubs, and indeed this feature of the two-club model would remain true in a more general model). We write the function in a general form in equation (1):

$$S_i = S(t_i, t_j) \tag{1}$$

2 See for example Rottengerg (1956) for a discussion of the relation between demand for the league and the distribution of talent on the US Baseball league. El-Hodiri and Quirk (1971) analyze the structure of a profesional league with respect to antitrust concerns with special interest on talent adquisition and revenue sharing.

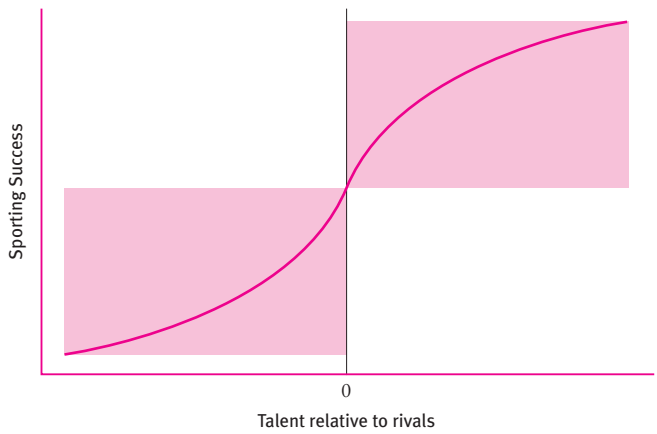
Palomino and Sakovics (2004) study the interaction between the club's prefered broadcasting rights allocation and the structure of the market for talent.

The function will be increasing in t_i and decreasing in t_j. We do not, of course, assume that a club's level of success is certain given its investments. On the contrary, there is a lot of luck involved as well, but even in the presence of luck there is an average level of success that the club can expect, in a normal season, given its own talent investments and those of its rivals. This expected level of success is the basis on which it has to take its investment decisions.

The function S_i will not be concave, at least not on its entire domain. This is because of an important characteristic of contests, which is that the biggest returns to extra investment come when two opponents are fairly evenly matched. If one is much stronger than the other, there is less point in either of them making additional investments.

To capture this idea more precisely we develop in the appendix a model using a logistic function, which is an S-shaped curve as represented in Figure 1.

Figure 1. A Logistic Function



The logistic function makes the returns to talent depend on some measure of the club's talent relative to that of its rival. If these returns do indeed follow the S-shape, it is easy to see why a club might choose to invest on the concave part of the curve, where talent relative to its rivals is positive and the returns to extra talent are diminishing. However, if the cost of talent were constant (as we assume in our model) the club would never invest on the convex part of the curve, where the returns to talent are increasing, because at any point where the returns to talent exactly equaled the cost, a little extra investment in talent raises the returns to talent which would now exceed the cost. The club would either invest up to the point where the returns became concave again or, if these returns were not enough to compensate the total investment cost, it would invest nothing at all. But if both clubs invest where returns became concave again, this means that both of them have a positive relative talent – but how can both clubs have positive talent relative to each other?

There are two solutions to this. One is to note that the point we have defined as zero relative talent is in fact the point where the returns to talent are maximized. In a more complex model, this need not be where a club's talent is exactly equal to that of its rival. It may be – and often is – true that extra talent is most productive precisely when a club has somewhat less talent than its rival; this is an example of the underdog effect. We do not pursue this possibility further here.

Secondly, if the club does not care just about sporting success, the convex part of the logistic function may not correspond to a convex part of the total returns to talent. Then a club may invest on the convex part of the sporting success function because other elements of its total returns may be concave enough to make the total returns concave at that point.

One feature of contests is that they can "tip", and the convexity of the logistic function can help us to understand why. Under some circumstances, where the contest is "close", the players can continue competing keenly and investing much effort and resources in the struggle, but a small change in the parameters (or even in the luck of the contestants) can lead to one contestant substantially reducing its investment in talent because it rivals seems so far ahead that it is no longer worth investing a lot of resources in the fight. It may "switch" from investing in the concave part of the sporting success function to a point far enough down the convex part of the curve for it no longer to be strongly convex, so that the total returns function becomes concave again[3].

2.2.3 Entertainment

In addition to bringing sporting success a club benefits from being able to entertain its supporters and spectators. We suppose that each club's expected entertainment value is an increasing function of its own talent and also of the talent of its rival; the more talented the players in the stadium the more likely it is that match will contain enjoyable and memorable maneuvres and moments. We write this as an entertainment function that makes each club's entertainment value increasing in the talent of both clubs, its own and that of its opponent:

$$E_i = E(t_i, t_j) \text{ with } \frac{\partial E_i}{\partial t_i}, \frac{\partial E_i}{\partial t_j} > 0 \qquad (2)$$

The assumption that both talents increase the entertainment value need not imply that supporters get direct utility from the rival's talent. It only implies that the quality of the game, the enjoyment at seeing two organized teams on the field, is increasing in the aggregate talent on the field. F. C.

3 The market for talent has a particular timing: players need to be registered before the competition starts, and the market reopens for a short period of time in the middle of the season (for the winter market). Hence, talent choices are simultaneous choices made before the season starts, and can be adjusted after few months.

Barcelona supporters are unlikely to have been directly pleased at the news that Real Madrid had hired C. Ronaldo, but the result of this hiring is likely to have made the El Clásico match an even more important and exciting event.

2.2.4 Uncertainty

We must not forget that football is a game and hence there will be winners and losers; the unpredictability of the winner is what brings football fans to their couches or stadium seats. In addition to the qualities of the clubs there are also features of their interaction that give a quality to the competition as a whole, and notably its suspense or entertainment value. This works asymmetrically for the stronger and weaker clubs: when a strong club invests even more in talent this reduces the suspense because it is now even more likely to win than it was before. However, when a weak club invests this is good for suspense because there is now a higher probability that it will beat one of the favorites.

The literature has widely discussed the importance of 'competitive balance' on stadium attendance and TV audiences. For example, Alavy et al. (2006) study the effect of outcome uncertainty on TV audiences, and Szymanski (2006) studies the optimal competitive balance and shows that planners would prefer less rather than more competitive balance.

There are a number of different ways to model this precisely. In the model in the Appendix we assume that the uncertainty value of the whole competition is given by the (negative) square of the difference in talent between clubs.

However, there are a number of reasons to think that this is too simplistic a way to model the dependence of uncertainty on talent. First, uncertainty (and its value to spectators) depends not just on the amount of doubt about the outcome of a sporting contest but also on how and when that uncertainty is resolved. To illustrate, Figures 2a and 2b[4] show, for the two most recent seasons in the Spanish League, the evolution through the season of the ranking of four major clubs. The Figures illustrate that, for these two seasons, the eventual winner was already leading the league from quite early in the season. These seasons were fairly typical: although sometimes the outcome is in doubt until last game in the season, it is usually known with some advance. Tournaments (knock-out competitions) are very different since the outcome is genuinely in doubt until very late in the season. This suggests that not only the nature of talent investments but also the structure of the competition matter a great deal for the suspense generated.

Indeed, suspense is a very complex phenomenon. It depends not just on the uncertainty about the result of a game but also on how that uncertainty is resolved within a game (a goalless draw being very different from a score draw, for instance), as well as the role that the game

4 Source: Liga de Futbol Profesional Website.

plays in an overall competition. The latter will depend in turn on the structure of the competition and the way rewards are allocated along the way. As Garicano and Palacios-Huerta (2006) show, changing the allocation of points in a competition (and specifically, increasing the number of points per match won) has important effects on the teams' strategies. Chan, Courty and Li (2009) show that if suspense increases faster in contestants' efforts when games are close, rank order allocations dominate those that reward teams linearly according to the difference in scores. Our model does not consider these important issues (though to some extent our logistic success function captures phenomena similar to those of Chan et al.). This is partly to keep the analysis simple enough for some underlying intuitions to emerge (no model can try to capture every important aspect of the problem at the risk of becoming unintelligible). It is also because we are interested most of all in questions about investment in talent, which are decisions that are taken prior to the choices within a season that are the focus of these two papers.

Secondly, there may be a great deal of uncertainty about the identity of the winner of a competition even if the set of realistic potential winners is small. To illustrate, Figure 3 shows the rankings over ten years of the winners of the Spanish League. Only four clubs won the league during this period. This suggests that there may be a lot of suspense about which club will win in any year even if the number of potential winners is not large. This type of suspense is not well captured by our formulation in terms of the difference in talent once we take seriously the fact that there are not two clubs but a large number of them. This should be borne in mind in interpreting our results in what follows.

Figure 2(a). Season 2007/2008

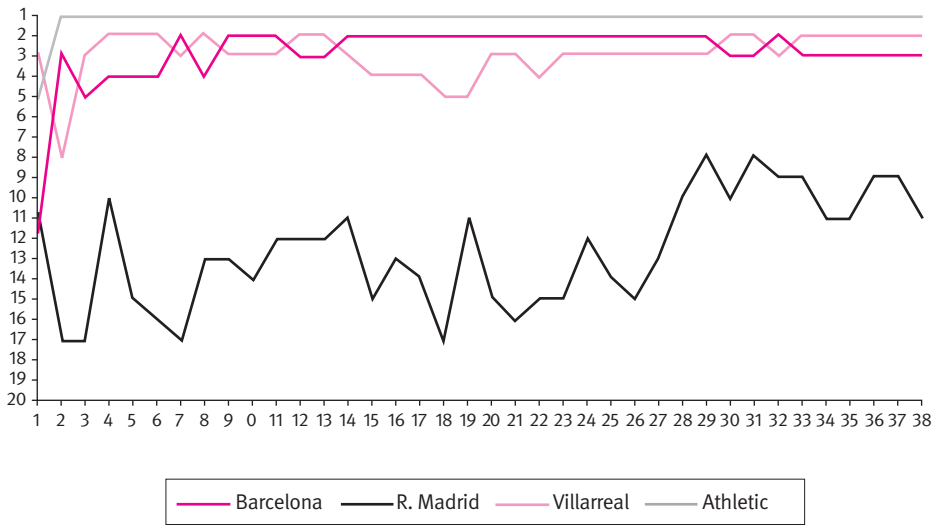


Figure 2(b). Season 2008/2009

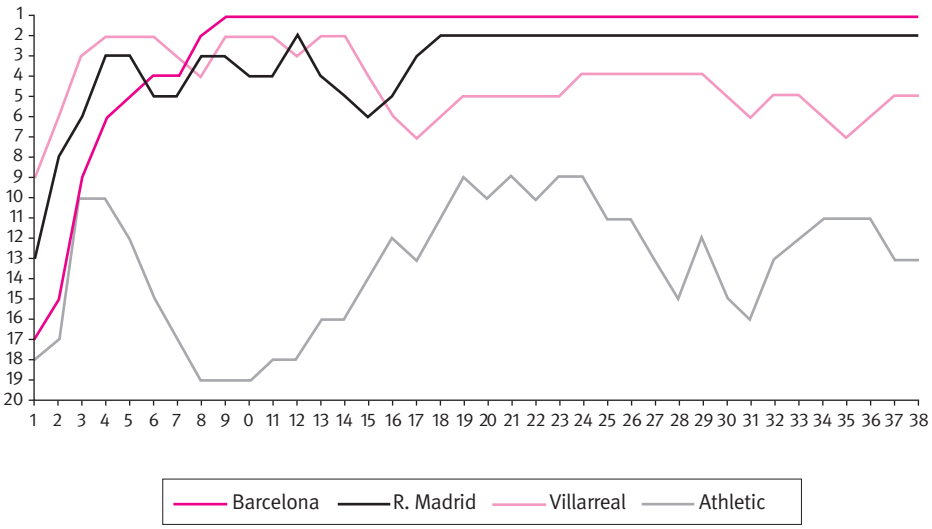
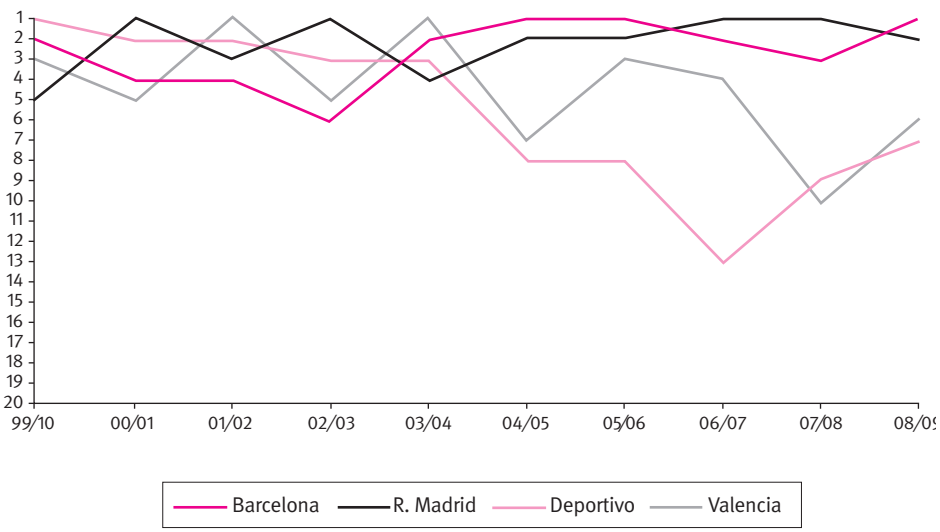


Figure 3. Top positions



2.2.5 The revenue and profits earned by the clubs

How are clubs rewarded for successful investments in talent? Our model assumes there are three main ways this happens: by enabling the clubs to draw spectators to their matches, by increasing the demand for their broadcasting rights, and by enabling them to make more money from advertising and merchandising. A fourth source of revenue is prize money from competitions, though this is small compared to the other three sources.

Table 2[5] provides a breakdown of revenues by source for a number of European clubs.

Table 2. Breakdown of revenues by source for a number of European clubs

Team	Season	Revenue competitions	Revenue memberships and subscriptions	Revenue broadcasting	Revenue advertizing
Osasuna	2008/2009 (revenue: 36.921)	2.9%	16.45%	43.15%	17.17%
F.C. Barcelona	2008/2009 (revenues: 384.8)	11.43%	4.6% (memb) 8.3% (subs)	39.5%	29.1%
Liverpool	2006 (revenue: L119.5)	22.47%	21.1%	24.8% (Premier League)	14.98% (sponsorship) 13.65% (merchandise)
Arsenal	2008 (revenue: L222.970)		42.41% (gate and other match day revenues)	30.65%	5.8% (retail income) 14.01% (commercial)

There are important spillover effects between these different revenue sources. Most obviously, broadcasting of a club's matches does not just bring in revenue in its own right. It also acts as advertising for the club's live matches at the stadium (though it could also act as a substitute for live attendance for some potential spectators). And it creates demand for the club's various merchandising activities. This means that strategies for commercialising broadcasting rights have to take these spillovers into account. For instance, a club might be willing to accept lower broadcasting revenues for a match that was broadcast free to air than for the same match

5 Sources: Osasuna: Asamblea de Socios Compromisarios, Pamplona 25sept2009. F.C. Barcelona cuentas anuales 08/09. The Liverpool Football Club & Athletic Grounds Plc 2006 Annual Report & Accounts. Arsenal Holdings plc Accounts 2008.

broadcast on pay-TV, since the free-to-air broadcast would generate a bigger advertising benefit. Typically, though, the revenues offered by pay-TV are higher than those offered by free-to-air broadcasters, for reasons we discuss in section 3. More generally, a club may be willing to accept lower than the maximum broadcast revenue because this will increase the demand for its merchandising and also for the seats at its ground. This might, for example, be particularly true of broadcasts of international matches.

We first consider the choice made by a club that can negotiate its broadcasting revenue individually. We shall consider later what the choice would be when the revenue is pooled.

The club's profits can be written as a function:

$$\begin{aligned} \Pi_i &= \alpha_i p_i D_i\left(p_i, S_i, E_i, U, Q_i, B_i\right) + \beta_i q_i B_i\left(q_i, S_i, E_i, U\right) \\ &\quad + \gamma_i m_i M_i\left(m_i, D_i, B_i\right) + W_i(S_i) - t_i - Q_i \end{aligned} \tag{3}$$

where D is the demand for attendance at the ground for matches, B is the demand for broadcast viewing, M is the demand for merchandise items and W is the prize money available in the competition. The variables t_i and Q_i are investments, the former in talent and the second in the physical infrastructure of the club (the grounds, the facilities at the stadium and so on) that increase the club's attractiveness to supporters[6].

The coefficients α_i, β_i and γ_i denote club-specific factors affecting each of the demands (like an inheritance of "loyal supporters", the "urban footprint" of a club's supporter base, and so on). These capture whatever makes clubs differ in the amount of demand they can expect at a given price and for given levels of success, entertainment and the uncertainty regarding the competition as a whole.

It seems reasonable to think that both $D(.)$ and $B(.)$ are increasing in S_i, E_i and U_i[7]. That is, greater sporting success, greater entertainment value and greater uncertainty will always increase the demand for ground attendance and for broadcast viewing. The fact that the greatest levels of suspense are generated by competitions in which no one club has too high a probability of winning is captured by the fact that when the investments in talent are too asymmetric the uncertainty surrounding the competition becomes very low.

We write prices p_i and q_i as the per-spectator price for attendance and for broadcast viewing respectively, and m_i as the per item price for merchandise. These should be considered

6 Kesenne (2009) studies the effect of pooling and sharing of boradcasting rights for the assumptions of clubs being win or profit maximizers.

7 Alavi et Al. (2006) show with English football data that although uncertainly matters, viewers are attracted by the progression of the match. Buraino and Simmons (2007) show how television viewers prefer close contests while stadium attendants prefer home wins.

"average" prices; of course there may be big differences between ticket prices for different matches, and of course not all items of merchandise retail for the same price. Similarly there will be differences in the way the prices for the different services are set: a club may choose a ticket price for a particular match and observe how many spectators buy tickets at that match, whereas its price per spectator for a package of broadcasting rights will typically be negotiated with the broadcaster taking explicitly into account the expected size of the audience.

The variables p_i, q_i and m_i are not always under the control of the club; they are often subject to various kinds of regulation, particularly for important matches. Nevertheless, the clubs have an important influence over their general level, and it seems safe to assume that they will exercise that influence so as to maximize the club's overall revenue as far as it lies in their power to do so.

As we show in the appendix, it is not straightforward to characterize precisely the outcomes of competitions with the features we have described. This is because there can be multiple outcomes, either reasonably symmetric ones in which both are "in with a chance", or asymmetric ones in which the competition is dominated by one club.

However, we can show that, compared to fully symmetric outcomes, the club with the higher values of α, β and γ also has higher investment in talent, and therefore even higher revenues than would be guessed from the initial asymmetry.

This also implies that the more asymmetric the natural endowments of the clubs, the more asymmetric will be the sporting outcomes and the lower the levels of suspense in the competition. Furthermore, clubs do not have the individual incentives to invest in talent in an efficient way. No club has an incentive to create suspense and uncertainty in the competition as a whole. This is the rationale behind revenue-sharing arrangements, as we describe below. However, as we have already indicated, it does not follow that any particular revenue-sharing arrangement will necessarily improve matters. On the contrary, as the Appendix shows, the externalities that one club's decisions creates are inherently ambiguous, there are both positive and negative externalities from investments in talent. This suggests that proposals for intervention based on the idea that only one kind of externalities is significant are unlikely to be realistic.

We now turn to a number of institutional features that are likely to affect the functions $D(.)$ and $B(.)$.

2.3 Institutional arrangements and their effects on competition outcomes

2.3.1 The nature of broadcasting competition: pay-TV versus free-to-air

Broadcasting goods are not like classic private goods; it costs a lot to put on a high-quality football match, but nothing to make the broadcast available to one additional viewer. Charging for broadcasts at their marginal cost would not be economically feasible in a world of predominantly private production. This implies in turn that deriving broadcast revenue from its activities will require a club to sell broadcasting rights at above their marginal cost, and therefore important questions arise about how to do this.

Broadcasting is what is sometimes known as a "two-sided market" – broadcasters need to cater to the demand not only of viewers but also of advertisers. Furthermore, the terms under which they can sell slots to advertisers depend on their success in attracting viewers, and their ability to invest in programmes that will attract viewers will depend on their success in attracting advertisers. Since the advent of technologies that enable easier exclusion of viewers who do not wish to pay for a service, pay-television is technically possible, even easy. The choice between free-to-air broadcasting (funded either entirely by advertising or by public service contributions) and pay-television is therefore a choice of business model for delivery of broadcast content[8], rather than an intrinsic difference in the nature of the content itself. Indeed, econometric studies have indicated that there is significant substitution between free-to-air and pay-television services (Jullien, Magnac, Seabright 2009).

Nevertheless, football broadcasting has played an important role in the development of the pay-television model. The ability of a broadcaster to monetize its audience through advertising is limited by the fact that viewers cannot be obliged to watch advertisements. The "eyeball value" of an individual spectator is therefore limited. When this eyeball value is close to the viewer's own willingness to pay to watch, advertising is a good way to fund the service. When, however, the spectator has a very much higher willingness to pay than his or her eyeball value, advertising may be an ineffective way to do so; asking the viewer to pay directly may yield substantially more revenue even though the audience for the service may be substantially lower.

Indeed, the success of a number of major European broadcasting firms (such as Canal+ and BSkyB) has owed a great deal to them using the pay-TV model to monetize the high willingness to pay of viewers for certain kinds of "premium" content (notably football and recently-released Hollywood movies). This kind of content is less substitutable for the content typically available on free-to-air television (Jullien, Magnac, Seabright 2009). One of the main reasons for its being less substitutable is that its value to the viewer depends on its "immediacy" (its value decays very

8 Regulations in Europe and in each country may constraint this choice for 'national interest' games, as for example the Spanish "Ley del deporte".

rapidly over time), which prevents pre-recorded content from competing with current broadcasts. Another (related) reason is the presence of network effects: much of the pleasure to viewers comes from discussing what they have seen with friends and colleagues, which depends on them seeing the content at around the same time.

A final important feature of broadcasting content, especially for sporting matches, is that different broadcasts may have highly complementary demand. For instance, viewers may be willing to pay much more to watch a certain match if it is part of a tournament they have been following and expect to continue following, than if it is just a one-off performance. Successful sports broadcasters know how important it is to their business model to create a degree of "loyalty" to the competition (which is not the same as loyalty to an individual club). This implies in turn that the broadcast value of a single match (or even all the matches of a single club) depends on what happens to the other clubs; there are strong externalities between clubs. This can mean that some groups or associations of clubs are able to make substantially more revenue through collective sale of rights than is possible for individual negotiation. We discuss an example of this in section 2.3.5 below.

2.3.2 Competition structures and characteristics

The demand for both attendance and broadcast viewing has peculiar characteristics. It is time sensitive, and it will depend on the situation of the teams at the moment of the match and on the past evolution of the competition. In this sense, we need to distinguish three different competition structures:

1. National leagues: Played by the clubs and organized by the National Football Federations (La Liga BBVA, Bundesliga, Premier League...).

2. International competitions played by clubs organized by regional Football Associations (UEFA Champions League, Copa Libertadores...).

3. International competitions played by the National teams (FIFA World Cup, UEFA Euro Cup...).

The potential audiences for each of these competitions differ in many respects: popular support varies from Sport Clubs to National Selections, timing of the games differs across competitions, and the structure of each competition determines the amount of support at the different stages. While National leagues are played (mainly) on weekends, and uncertainty for all teams is almost unresolved until the last session, the UEFA Champions League is always played midweek (on the 2009-2010 season the final was on a weekend for the first time) and audiences depend on the teams reaching the successive rounds. FIFA Cups are played in the summer when some of the National leagues are in recess, and the value of the broadcasting rights for each region strongly depends on the teams reaching the successive rounds.

2.3.3 Allocation mechanisms for broadcasting rights

The mechanisms used for the allocation of broadcasting rights differ greatly over time and between countries. From single broadcaster-single seller situations, like Spain before 1988, to the current auctioning of rights by the clubs to several broadcasters, and from National Federations bargaining the rights with multiple broadcasters as in France, to Federations creating their own channel to broadcast the games as in Chile, the spectrum of cases is very diverse. These different allocation mechanisms are sensitive to the nature of competition regulation in the country concerned (and in the European Union whenever appropriate), and to the coverage of cable TV. Furthermore, European countries put additional regulations on the list of events of major importance that need to be offered free to all consumers, in accordance with the EU directive on TV broadcasting activities.

Four types of structure need to be considered:

1. Collective bargaining by the Federation that organizes the competition and posterior distribution of these revenues to the clubs. Examples: UK Premier League, France, Italy (after 2010).

2. Independent bargaining over broadcasting rights by individual clubs. Examples: Spain, Italy (until 2010).

3. A mixed system, where packages are established with some games reserved for bargaining by the federation, and other that may be sold unilaterally by individual clubs. For example, for some of the UEFA Champions League rights.

4. Broadcasting of the games by the federation itself. Example: Chile.

In all these structures, the clubs have the goal of maximizing revenues from broadcasting rights. But on the first case, when there is collective bargaining of broadcasting rights by the organizer of the competition the question arises of how the revenue should be distributed among the members of the Federation.

For National Leagues, distribution of the collectively sold TV revenues is determined by a formula agreed in advance. In the UK, the formula is as follows:

1) 25% of domestic revenues are allocated according to the number of TV appearances each club makes during the domestic football season;

2) 25% of revenues are allocated according to where the club finished in the league at the end of the season;

3) The remaining 50% of revenues are distributed equally among all clubs.

International revenues, also negotiated by the Premier League, are distributed equally rather than according to appearances and final league position. Each club receives the same amount (which came to £9.6m for 2007/2008).

In France, LFP negotiates the broadcasting rights and 75% of revenues are shared equally among the clubs while the remaining 25% is split according to last season's national ranking.

In Italy, organizational changes have come about as a result of perceived polarization in the league. With effect from the season 2010/2011, Italy will have a system where clubs negotiate their own broadcasting rights, in an effort to compensate the unbalance of the upper Serie A. Under the new system, TV rights will be negotiated collectively by the League. The resulting revenues will be divided as follows: 40% of the total will be shared equally among to the clubs, 30% will be assigned according to success in the League, and 30% will be divided according to numbers of spectators/supporters base.

Reaching a formula for the distribution of the National League revenues has not been an easy task in many countries, especially in situations where the league is polarized with a small number of clubs occupying the top positions. For example, Chile constitutes a unique case in the world where the Asociación Nacional de Fútbol Profesional created its own TV channel, Canal de Futbol, for the transmission of the matches of the league (80% of the channel is owned by the ANFP, 20% by Gestión de Televisión). The CDF would sell the rights to the open air TV and get the advertising and fees from the paid channels. It was created in 2003, and in the first years there was equal sharing of benefits (revenues minus payment of the debt) among the 32 teams. But given the success and the expectations of increased revenues, there is pressure from the bigger clubs to reform this distribution rule. The current agreement shares equally 50% of the returns, with the other 50% distributed according to performance, hence increasing the total share going to the three big teams (Universidad de Chile, Universidad Católica and Colo-Colo).

Another case where there has been much conflict over the distribution of revenues among clubs is Argentina. The National league had an exclusive contract with TyC (Torneos y Competencias) that was broken unilaterally by the League with the support of the clubs. A new Government program "Fútbol para todos" started in September 2009, getting all the TV rights and agreeing to transmit all matches free. The program implies a US$600-million a year transfer from the government to the football league. In the previous contract, sharing of resources was according to the level of the club. With the new agreement, the clubs have greater power over the Asociacion de Futbol Argentino (AFA), and an agreement on the sharing of resources has still not been reached.

In the case of UEFA and FIFA, the clubs/national federations participating in the competition receive transfers that are a function their performance in the competitions. Moreover, a share of revenues is distributed in 'solidarity' to clubs/national teams not participating in the competition, and to the Clubs lending players to the competition.

Table 3 summarizes the main characteristics of the different systems of allocation:

Table 3. Allocation mechanisms for broadcasting rights: an international comparison

Allocation mechanism	Countries	Sharing rule
Collective bargaining	Premier League (UK), France, Italy (after 2010)	France: 75% of revenues are shared equally among the clubs, remaining 25% is split according to last season's national ranking. UK: 25% based on number of TV appearances each club makes during the domestic football season, 25% 'merit award' based on the club's finishing position and 50% of revenues form a 'Basic Award' shared equally among all clubs.
Independent bargaining by each Club	Spain, Italy before 2010	
Mixed system	UEFA Champions League/ FIFA	Clubs participating in the competition receive transfers that are function their performance in the competitions. Plus a share of revenues is distributed in 'solidarity' to national federations/clubs not participating in the competition.

2.3.4 The Spanish Situation

Football broadcasting has a long tradition in Spain, dating from 1954 and the first experimental transmission of a R. Madrid-Racing de Santander match. In 1956 the regular transmission of games by TVE, the unique (public) channel, began. Until 1988, the Liga de Fútbol Profesional (LFP) negotiated broadcasting rights as a monopoly with the unique TV channel. When in 1988 the Law of Private Televisions was approved, allowing for the creation of additional (private) TV channels, there was pressure by the clubs to increase broadcasting revenues. The response of the LFP was, in 1989, to allocate the rights through an open auction for a 7-year period (1990-1997). The auction was won by Dorna, which sold the rights to FORTA-Canal+ enabling the latter to broadcast one game to its viewers every Sunday.

The intention of new TV channels to obtain rights from the clubs generated a fierce debate in the LFP, ending in 1995 with a change in statutes to allow clubs to negotiate individually their rights with the TV companies. In August 1996 the clubs, the RFEF (Real Federación Española de Fútbol), the private television channels, Canal+ and Antena3 reached an agreement on the distribution of the screenings for the 1998-2003 period. But the introduction of PPV pay-per-view by Canal Satélite Digital and Vía Digital (from Canal+ and Antena3 groups respectively) led to a fierce debate and eventually to the passage of 1997 *Ley Reguladora de Emisiones y retransmisiones de competiciones y acontecimientos deportivos*.

The Ley del deporte of 1997 has the objective to 'guarantee the right to communicate and receive sports information'. It mandates the provisions of the images for news programs, and guarantees

that events of general interest are broadcast for free to the whole national territory as long as there is an operator willing to do so. The Ley del Deporte respects the rights of the autonomous regions in their general interest events and guarantees all sport events of general interest to be broadcast in the official language of the autonomous region.

There are two major broadcast operators at the moment, Audiovisual Sports and Mediapro:

(1) Audiovisual Sports is owned 80% by Sogecable and 20% by TVC, Televisió de Catalunya. AVS previously had a monopoly through Canal+/Digital+, using a PPV decoder easily available nowadays.

(2) Mediapro: born with a new private channel (La Sexta) in 2006. In 2009 it created a new channel, GolTV, through TDT.

In 2006, AVS sold to Mediapro the right to show one match per week through La Sexta. The contract stipulated that Mediapro would buy 25% of AVS by the end of 2006 and the agreement that Mediapro would not negotiate with the clubs. By 2007 Mediapro had the rights of 40% 1st. division teams for the 2009-2013 period. The case is still in the tribunals.

At the end of 2008, the LFP surveyed the clubs to see if the 'football war' of the previous year could be avoided by a collective bargaining by the league instead of by the clubs. So far the only point of agreement among the clubs is the need to relax the constraint of the 1996 law that mandates a free screening every weekend.

2.3.5 The effect of bundling broadcasting rights on auction revenues: The TPS/Canal+ Case

One of the peculiarities of rights to broadcast footbal matches is the presence of strong complementarities between different rights: because viewers like to see the progression of a competition, they will be willing to pay much more for matches in a logical sequence (such as the successive stages of a tournament) than simply the sum of their willingness to pay for the individual matches by themselves. This is something that affects not only the optimal configuration of broadcasting arrangements but also has a major effect on the revenues that can be raised by the clubs. A case from France illustrates this very clearly.

In 2002 the French Football League organized a first-price sealed-bid auction for the transmission rights for matches in the First Division. There were two main participants in the auction: the broadcasters TPS (a subsidiary of the private broadcaster TF1) and Canal+ (a subsidiary of Vivendi Universal). Three main lots were up for auction, and bidders could specify whether they wanted the lots exclusively or non-exclusively, the value of the latter being significantly lower. The lots were:

- The live broadcast to all subscribers of the first-choice match in each week and the third-choice match in each week;

- The live broadcast to all subscribers of the second-choice match in each week and the weekly magazine, consisting of a round-up of all the highlights of the previous week; and

- All matches broadcast on a pay-per-view basis.

In the event TPS submitted bids of €260m, €238m and €113m for the three lots, with an additional €9m if the second and third lots were on an exclusive basis. Canal+ submitted bids of €150m, €20m and €20m, plus a large bonus of €290m if it could obtain all three lots exclusively (all sums represented annual payments). Canal+ was awarded the contract, but TPS complained that this bid was effectively exclusionary and would drive it out of the pay-TV market altogether. The case was referred to the French Competition Council and after arbitration the parties agreed to annul the auction.

An important feature of the case was that Canal+ had previously enjoyed the rights to the first-choice live broadcast and to the magazine (which it had pioneered). It argued that these two components were strongly complementary, since many football fans derived much greater pleasure from following the league systematically than from watching isolated matches. It further argued that this complementarity (rather than any exclusionary intent) was what justified the large bonus bid for all three lots together.

An interesting question arises if it is true that such complementarities exist (which there is no reason to doubt). For in that case, if the League had divided the lots differently, with the first-choice match and the magazine allocated to the same lot, and the second-and third-choice matches together in a different lot, Canal+ could have bid for the former and TPS for the latter. But the prices would almost certainly have been much lower, since the bidders would have had different target lots and would not have been strongly competing against each other. The result of the auction can be seen as the direct consequence of the League's decision to divide up the rights among lots in such a way as to set the bidders competing fiercely against each other. There is no reason to think that the League was unaware of the consequences of its method of dividing the lots, innocent as it may have looked at the time. The example suggests that collective bargaining by Leagues will have effects on the total revenues raised that will be very strongly determined by the nature of the rules adopted for the bargaining mechanism.

2.3.6 Effects on consumers

Our discussion so far has focussed on questions of efficiency for the group of clubs considered as a whole. We have left out of consideration until now the club's spectators, those who attend matches at its grounds and those who watch its broadcasts.

If clubs that are in sporting competition with each other were also straightforward competitors in an economic sense, coordination of their activities would amount to a cartel and there would be very little if anything to be said in its favor. However, as we have emphasized, sporting competitors are in an important sense collaborators, because they cooperate in the activity of

presenting exciting sporting competitions to the public. Does this mean they are not also competitors?

In fact sporting clubs in the same competition are both collaborators and competitors in the economic sense. They are certainly economic competitors to some degree: there is some substitutability between different clubs' overall "product". Kuper and Szymanski (2009) assemble an impressive array of evidence to show that supporters are not all "fanatics" who stick to their clubs through thick and thin. Such supporters undoubtedly exist, but others are sensitive to the clubs' overall sporting performance as well as to other dimensions of the club's package, including the price of tickets. To the extent that there is substitution between the clubs' package of services, then collaborative selling of broadcasting rights will tend to raise their price and lower the value to consumers.

However, to the extent that there are positive externalities between clubs, as well as complementarities in the creation of the overall value of a sporting competition, there are gains to consumers from collaboration in the selling of broadcasting rights[9]. We saw examples of some of these gains in the Canal+-TPS case, where the packaging of television programmes (through, for instance, the creation of a "magazine" by Canal+ and its broadcasting by the same channel that shows the first-choice weekly match) can create genuine value for viewers. It can also provide additional opportunities for the seller to extract a bigger share of whatever surplus is created, as the Canal+-TPS example also showed. Could this second phenomenon (a bigger share of the surplus going to sellers) offset the first (higher surplus overall) so that consumers could be worse off through collective sale of broadcasting rights?

There are reasons to think that the costs of collective negotiation may be lower to consumers than its detractors fear, but also to think that the benefits may be lower than its advocates claim. To take the costs first, to a first approximation, the terms on which broadcasting rights are sold will affect the overall share of surplus for clubs and for broadcasters, but will not affect the marginal cost to broadcasters (which will still be zero). This means that the overall price that consumers pay to broadcasters will be determined by the elasticity of demand for broadcast subscriptions (or pay-per-view), independently of the total fixed sum that the broadcasters have themselves paid for the broadcasting rights. Thus, it seems reasonable to suppose that, even if collective negotiation significantly raises revenues to clubs, it is not viewers but broadcasters who will bear most of that burden. The same does not, of course, apply to the terms on which clubs sell directly to spectators (the ticket and subscription prices to the grounds). All of the usual competition objections would apply to any collective negotiation of ticket and subscription prices but they do not apply with quite the same force to broadcasting rights.

9 Consumers can also be hurt by revenue sharing. Szymanski and Kesenne (2004) show that increased gate revenue sharing will deteriorate competitive balance and reduce the units of talent hired by each team for a given wage rate.

It might therefore be thought that there is a case for allowing clubs to collaborate to sell broadcasts collectively, since this might affect the total value that created through allowing for beneficial exploitation of complementarities from different types of content. However, this reasoning is flawed; even if combining different matches in exciting combinations is an important source of value-creation, it does not follow that it has to be the clubs themselves who create value in this way. Indeed, broadcasters such as BSkyB and Canal+ have been responsible for a substantial part of the "packaging" of sporting content that has created important value added for viewers in recent years. This implies that the further benefits to be gained from exempting clubs from the normal presumption against collective price-setting are at best modest.

Overall, therefore, there are grounds for considering that clubs should not be allowed by competition policy to determine ticket and subscription prices collectively (because this would hurt consumers). The threats to competition from their determining collectively the terms on which broadcasting rights are sold to broadcasters are likely to be smaller, but so are the benefits; the case for a systematic exemption from the strictures of competition policy is perhaps best described as not proven. Whether doing so is in the interest of the clubs themselves will, of course, depend on how the revenues from the collective transaction are shared.

2.4 Discussion and policy implications

The main conclusion of our modeling of the choice of talent by clubs and its effect on profits and especially on broadcasting revenues is that the decisions of any one club create important externalities for the other clubs in the same competition. These externalities arise through four main channels:

- The talent of each club adds to the entertainment value of matches played against it by its opponents, and therefore to the revenue that the opponents can obtain. This is a positive externality.

- The talent of each club increases its own expected sporting success but reduces the sporting success of its opponents. This is a negative externality.

- The talent of each club adds to the uncertainty of the competition if it is a relatively weak club, but reduces the uncertainty of the competition if it is a relatively strong club. This is sometimes a positive, sometimes a negative externality[10].

- The broadcast value of the matches played by one club is greater if these are viewed as part of a "package" of attractive matches of other clubs in the same competition. Therefore each

10 See Garcia del Barrio and Szymanski (2009) for an analysis of profit maximization versus win maximization by football clubs.

club exerts a positive externality on others if the appropriate "bundling" of matches takes place, either by the league or by the broadcaster.

The fact that these externalities are sometimes positive and sometimes negative means that, in the absence of coordination between clubs in a competition, the overall levels of investment in talent by football clubs may be either higher or lower than the efficient level. In principle, coordination could improve the overall revenues obtained by clubs, as well as giving each club efficient incentives for investment in talent, but only if this coordination were carried out on the right terms. For instance, equal sharing of revenues among clubs would almost certainly be inefficient because it could fail to take account of the highly unequal contribution clubs can make to the aggregate revenues of the competition. Some clubs have a much higher marginal productivity than others of spending on talent, as is reflected by the highly unequal spending they actually undertake when there is individual negotiation of rights. Though not all of these differences in spending between clubs are efficient, some of them represent genuine differences in opportunities and these should be reflected in any revenue sharing rule under collective negotiation. Reflecting differences in opportunities of different clubs may also be important for ensuring that all of them have an interest in participating in a collective system.

Overall, therefore, coordination of broadcasting could improve aggregate revenues for the clubs by internalizing some of the externalities that the clubs fail to take into account in their individual decisions -including notably everything that makes the competition as a whole more attractive to viewers independently of the attractiveness of any one club's matches. However, some of these externalities can be internalized as effectively by broadcasters as by the clubs themselves. There are also the interests of the spectators to be considered. We have suggested that the cost to their interests of the collective sale of broadcasting rights may not be as large as pessimists suggest, since the fees charged for rights mainly impact on lump-sum transfers between clubs and broadcasters and do not affect the marginal cost of broadcasts. However, we have also suggested that the benefits of collective sale may also be modest, as most of these can probably be realized by broadcasters rather than by clubs.

At all events, the argument that the costs to spectators of collective sale of rights may be small does not apply to the ticket prices and subscription fees charged by clubs, where competition law should (as it normally does) prohibit collective agreements between clubs.

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2.5 Appendix: The logistic success function

We stressed in section 2 that sporting success typically occurs through contests, and contests have the feature that the highest rewards to investing in talent typically come when the contestants are reasonably evenly matched (when they are unevenly matched, investment by either party makes comparatively little difference to the outcome).

One functional form that captures this nicely is the logistic function:

$$S_i = \frac{1}{(1 + e^{-r_i})}$$

where r_i is a measure of the club's "relative talent" – its talent compared to the talent of the other club.

The simplest measure of relative talent to consider is equal to the club's own talent minus that of the other:

$$r_i = t_i - t_j$$

One advantage of this measure is that we can interpret S_i as just the probability of success. In particular it can easily be verified that $S_i + S_j = 1$. Using this measure, the derivative of S_i with respect to t_i is given by

$$\frac{\partial S_i}{\partial t_i} = S_i\,(1 - S_i)$$

This derivative has a maximum at $S_i = \frac{1}{2}$, which is attained when $r_i = 0$. This implies that the function attains concavity only for non-negative values of r_i, which means that if sporting success were the only argument of the firm's objective function and the cost of increasing talent were strictly linear, the only interior solutions for both clubs would have $t_i = t_j$. However, the fact that there are other arguments of the objective function means that the there may be interior solutions with asymmetric choices of talent.

We assume that the uncertainty value of the whole competition is given by the negative variance of talent between clubs:

$$U = -\left(t_i - t_j\right)^2$$

As an example, in Spain's Liga (2008/2009) the highest budget was Real Madrid with €343 million and the lowest Sporting de Gijón with a €12 million budget[11].

The derivative of this with respect to the talent of club *i* is simply

$$\frac{\partial U}{\partial t_i} = -2t_i + 2t_j$$

2.5.1 Case 1: Talent choice under unilateral bargaining of broadcasting rights.

We now consider the decision what investment to make in talent. The profit function is

$$\begin{aligned}\Pi_i &= \alpha_i p_i D_i\left(p_i, S_i, E_i, U, Q_i, B_i\right) + \beta_i q_i B_i\left(q_i, S_i, E_i, U\right) \\ &\quad +\gamma_i m_i M_i\left(m_i, D_i, B_i\right) + W_i(S_i) - t_i - Q_i\end{aligned}$$

Taking the derivative of the profit function with respect to t_i:

$$\begin{aligned}\frac{\partial \Pi_i}{\partial t_i} &= \alpha_i p_i \left[\frac{\partial D_i}{\partial S_i}\frac{\partial S_i}{\partial t_i} + \frac{\partial D_i}{\partial E_i}\frac{\partial E_i}{\partial t_i} + \frac{\partial D_i}{\partial U}\frac{\partial U}{\partial t_i}\right] \\ &\quad +\beta_i q_i \left[\frac{\partial B_i}{\partial S_i}\frac{\partial S_i}{\partial t_i} + \frac{\partial B_i}{\partial E_i}\frac{\partial E_i}{\partial t_i} + \frac{\partial B_i}{\partial U}\frac{\partial U}{\partial t_i}\right]\left(1 + \alpha_i p_i \frac{\partial D_i}{\partial B_i} + \gamma_i m_i \frac{\partial M_i}{\partial B_i}\right) \\ &\quad +\gamma_i m_i \left[\frac{\partial M_i}{\partial S_i}\frac{\partial S_i}{\partial t_i} + \frac{\partial M_i}{\partial E_i}\frac{\partial E_i}{\partial t_i} + \frac{\partial M_i}{\partial U}\frac{\partial U}{\partial t_i}\right] \\ &\quad +\frac{\partial W_i}{\partial S_i}\frac{\partial S_i}{\partial t_i} - 1\end{aligned}$$

Substituting and setting equal to zero yields

11 Source: Dávila, O'Reilly and Foster (2009)

$$
\begin{aligned}
1 \quad = \quad & S_i\left(1-S_i\right)\left[\alpha_i p_i \frac{\partial D_i}{\partial S_i}+\beta_i q_i \frac{\partial B_i}{\partial S_i}\left(1+\alpha_i p_i \frac{\partial D_i}{\partial B_i}+\gamma_i m_i \frac{\partial M_i}{\partial B_i}\right)+\gamma_i m_i \frac{\partial M_i}{\partial S_i}+\frac{\partial W_i}{\partial S_i}\right] \\
& +\frac{\partial E_i}{\partial t_i}\left[\alpha_i p_i \frac{\partial D_i}{\partial E_i}+\beta_i q_i \frac{\partial B_i}{\partial E_i}\left(1+\alpha_i p_i \frac{\partial D_i}{\partial B_i}+\gamma_i m_i \frac{\partial M_i}{\partial B_i}\right)+\gamma_i m_i \frac{\partial M_i}{\partial E_i}\right] \\
& +\left(-2t_i+2t_j\right)\left[\alpha_i p_i \frac{\partial D_i}{\partial U}+\beta_i q_i \frac{\partial B_i}{\partial U}\left(1+\alpha_i p_i \frac{\partial D_i}{\partial B_i}+\gamma_i m_i \frac{\partial M_i}{\partial B_i}\right)+\gamma_i m_i \frac{\partial M_i}{\partial U}\right]
\end{aligned}
$$

This indicates that the extent of investment in talent will be increasing in a_i, α_i, β_i and γ_i, as well as that the amount of suspense resulting from investments in talent ($U(.)$) will be inefficient because each club appropriates only 1/2 of the total benefit to the competition as a whole.

2.5.2 Case 2: Talent choice that maximizes aggregate (pooled) profits.

Aggregate profits are given by:

$$
\Pi_A=\sum_i \Pi_i=
$$

$$
\sum_i[\alpha_i p_i D_i\left(p_i, S_i, E_i, U, Q_i, B_i\right)+\beta_i q_i B_i\left(q_i, S_i, E_i, U\right)
$$

$$
+\gamma_i m_i M_i\left(m_i, D_i, B_i\right)+W_i(S_i)-t_i-Q_i]
$$

and the first order condition with respect to club *i*'s talent is given by:

$$
\frac{\partial \Pi_A}{\partial t_i}=\frac{\partial \Pi_i}{\partial t_i}+\sum_j \frac{\partial \Pi_j}{\partial t_j}=
$$

$$
=\frac{\partial \Pi_i}{\partial t_i}+\sum_j \alpha_j p_j\left[\frac{\partial D_j}{\partial S_j} \frac{\partial S_j}{\partial t_i}+\frac{\partial D_j}{\partial E_j} \frac{\partial E_j}{\partial t_i}+\frac{\partial D_j}{\partial U} \frac{\partial U}{\partial t_i}\right]
$$

$$
+\sum_j \beta_j q_j\left[\frac{\partial B_j}{\partial S_j} \frac{\partial S_j}{\partial t_i}+\frac{\partial B_j}{\partial E_j} \frac{\partial E_j}{\partial t_i}+\frac{\partial B_j}{\partial U} \frac{\partial U}{\partial t_i}\right]\left(1+\alpha_j p_j \frac{\partial D_j}{\partial B_j}+\gamma_j m_j \frac{\partial M_j}{\partial B_j}\right)
$$

$$
+\sum_j \gamma_j m_j\left[\frac{\partial M_j}{\partial S_j} \frac{\partial S_j}{\partial t_i}+\frac{\partial M_j}{\partial E_j} \frac{\partial E_j}{\partial t_i}+\frac{\partial M_j}{\partial U} \frac{\partial U}{\partial t_i}\right]+\frac{\partial W_j}{\partial S_j} \frac{\partial S_j}{\partial t_i}=0
$$

and from the definitions of the success, entertainment and uncertainty functions we know that

$$
\frac{\partial S_j}{\partial t_i} \quad < \quad 0
$$

$$\begin{aligned} \frac{\partial E_j}{\partial t_i} &> 0 \\ \frac{\partial U}{\partial t_i} &> 0 \text{ for } t_i < T \\ \frac{\partial U}{\partial t_i} &< 0 \text{ for } t_i > T \end{aligned}$$

We consider three cases:

(i) For $t_i > t_j$, $\frac{\partial \Pi_i}{\partial t_i} < 0$ and hence $t_i^A < t_i$. A club with high values of α_i, β_i and γ_i chooses levels of talent higher than the ones that maximize the aggregate profits. The effect would come mainly from the uncertainty part: the club does not internalize that its overinvestment is negatively affecting the other club.

(ii) For $t_i = t_j$, the biggest part of the effect comes from the probability of success, since it is the point where returns of investment on the probability of success are greater. In this case, $t_i^A = t_i$.

(iii) For $t_i < t_j$, $\frac{\partial \Pi_i}{\partial t_i} > 0$ and hence $t_i^A > t_i$. A club with low values of α_i, β_i and γ_i chooses levels of talent lower than the ones that maximize the aggregate profits. The effect comes again from uncertainty: these club does not internalize that its low level of talent decreases the competition uncertainty and hence both members' profits.

2.5.3 Case 3: Club's talent choice under pooled bargaining of broadcasting rights.

Under pooled bargaining of broadcasting rights there is need to define a sharing rule of these revenues. Let λ_i be the share of broadcasting revenues to club i under the approved sharing rule.

Then, each club maximizes

$$\begin{aligned} \Pi_i^P = \; & \alpha_i p_i D_i\left(p_i, S_i, E_i, U, Q_i, B_i\right) + \lambda_i \sum_j \beta_j q_j B_j\left(q_j, S_j, E_j, U\right) \\ & + \gamma_i m_i M_i\left(m_i, D_i, B_i\right) + W_i(S_i) - t_i - Q_i \end{aligned}$$

With respect to unilateral bargaining of the broadcasting rights, now each club internalizes a part λ_i of the effect of his choice into the other club's broadcasting revenue, at the cost of giving up a share $(1 - \lambda_i)$ of his own revenues.

Comparing the First Order Conditions for the pooled versus the unilateral bargaining situation, we find that:

$$\frac{d\Pi_i}{dt_i} - \frac{d\Pi_i^P}{dt_i} =$$
$$(1-\lambda_i)\left[\frac{\partial B_i}{\partial S_i}\frac{\partial S_i}{\partial t_i} + \frac{\partial B_i}{\partial E_i}\frac{\partial E_i}{\partial t_i} + \frac{\partial B_i}{\partial U}\frac{\partial U}{\partial t_i}\right] - \lambda_i\left[\frac{\partial B_j}{\partial S_j}\frac{\partial S_j}{\partial t_i} + \frac{\partial B_j}{\partial E_j}\frac{\partial E_j}{\partial t_i} + \frac{\partial B_j}{\partial U}\frac{\partial U}{\partial t_i}\right]$$

and the sign will depend on the sign of the externality in relation with the loss of self-generated broadcasting returns.

2.6 Discussion by Luis Cabral (IESE) and Stefan Szymanski (City University London)

Luis Cabral

The idea put forward in this paper – that football, like many other industries, has elements of both competition and cooperation – is very important. We can find these characteristics in other sectors, such as information technology (IT). For instance, Microsoft needs Intel: they are competitors in many aspects but Microsoft would not be the company it is without Intel and vice versa. Sony, which designed the successful video game console PlayStation, is another good example: the Japanese corporation needs Electronic Arts, a video game manufacturer, even though they are competitors in the video game market. In fact, Sony's PlayStation would not be as profitable if Electronic Arts did not exist.

Sports competitions are one of the primary examples of this dichotomy between competitors and complementors, and proof that teams compete with each other but also need each other. This is a very important point, one that has crucial implications, particularly for antitrust concerns and strategy.

The paper also emphasizes the analogy between football and other forms of entertainment such as theater (the example chosen in the paper). Actually, it's more than just an analogy: in many cases, football players can fake injuries as well as the most skillful actor. In any event, there is no question that football is a form of entertainment; it is an industry that provides a service that has a certain value. For this reason, football can learn from other entertainment industries and vice versa.

One aspect in which the paper makes this parallelism is the issue of the demand for this form of entertainment. What influences people's willingness to watch and pay for football? The answer is, first of all, talent: we like to watch good games and not lousy games. A second reason is uncertainty of outcome, a factor that has been emphasized by many authors, including the present paper's.

There is a third reason that is not emphasized in the paper but is quite significant. It is also very important in order to understand the issues of revenue creation and revenue sharing. This third reason presents a fundamental difference with respect to theater. I am referring to the huge fan demand for winning teams. This is very important when we talk about revenue, balancing leagues, making them more equitable and so forth. The empirical evidence is that there is more willingness to pay for a game when the local team is expected to win with a probability of about 75%, at least in American football. So 50% is not the ideal level of uncertainty; there is also a demand for winning, which has to be taken into account.

Another interesting parallel is with respect to Formula One (F1). In F1 competition, people talk about the crisis between the constructors and the FIA (Fédération Internationale de l'Automobile). But there is another important source of conflict in F1: the one given by the gap between large teams and small teams. Small teams would like organizers to enforce budget caps; Ferrari and other similarly large teams say: "forget about it."

This brings me to another point: there is frequently some confusion when we talk about collective negotiation of broadcasting rights. Collective negotiation does not necessarily mean revenue sharing. They are two separate things. Considering the example of La Liga in Spain, it is perfectly fine to have collective bargaining without having the sort of revenue sharing you have in England, Italy or the Middle East. My belief is that it is easier to get collective bargaining than revenue sharing. So, I think it should be possible and profitable for Spanish teams to switch to collective bargaining. In fact, the paper estimates the effects of collective negotiation, and they are quite significant. Moreover, collective bargaining is not simply an issue of increasing the slice of the pie captured by the teams; there might also be a huge improvement in efficiency from collective bargaining, which again should be separated from revenue sharing, which is essentially a very different phenomenon.

Finally, continuing with the issue of the size of the pie and the split of the pie, there is the issue of the relative power of clubs and players. Seabright and Miquel-Florensa mention the issue of the economics of superstars. This is actually a more general phenomenon. For instance, in the music industry, the percentage of total revenue captured by the top 20 musicians has increased steadily over the years and is now well above 10%. In the movie industry, we also see incredible increases in pay at the top of the distribution. Humphrey Bogart, a leading actor in the 1940s and 1950s, was paid US$300,000 for his role in *Sabrina*, which was probably the movie he was paid the most for. In today's money that would correspond to about US$2 million. Compare that to Harrison Ford in the fourth Indiana Jones movie or any of Tom Cruise's recent films, where the leading actors were paid north of US$50 million.

In other words, there seems to be a big shift in value between "firms" (which could be record labels, music studios or football clubs) and players. I'm not saying this is a good thing or a bad thing – it's a fact. For this reason, an interesting additional question for discussion is to what extent changes in the organization of football will change this balance of power.

Stefan Szymanski

I am not new to the subject; I have been studying this topic for about 20 years. And it is a great pleasure now to see that serious economists are getting on board and starting to study this area. I think that is an important step forward. Paul Seabright raised an important question, which is what economists have to offer in this area. I myself am asked very often why I am an economist writing about sport.

The answer is that economics is a subject that contributes to the analysis of policy making. And you can do the *Freakonomics* thing if you like, where you just talk about football because it is fun and there are some nice, interesting economic insights. But at the bottom of it, I think serious economic analysis is justified because there are economic policy decisions to be made about football. And the issue of collective selling has been one of the most important policy issues with respect to football in recent years. Now it affects a variety of sports across the world.

To put this in a broader context, when we talk about the issue of collective selling, Paul Seabright goes straight to the point: why should we allow a group of potential economic competitors to collaborate with each other on the sale of their rights? The reason is they may not be just economic competitors; there may be something special about the relationship between these clubs. A fundamental insight into the economics of sport is that this product is unique in the sense that there is no other industry where you require the collaboration of your competitor in order to make the product. It is as if Ford required General Motors to enter their factories to make cars. This does not happen. It is completely unique. The question, from an economic policy perspective, is whether this uniqueness justifies the extensions that particular leagues and clubs have tried to claim over the years, not just in football but in many sports. That is really the subject of sports economics.

The paper by Seabright and Florensa makes some very important observations but, as a discussant, I want to raise some questions. The literature in this area goes back quite a long way. In fact the first paper on the situation of sports economics goes back to 1956, when Simon Rottenberg, an economist at the University of Massachusetts Amherst who is generally considered to be the pioneer of sports economics, looked at the baseball market in the United States and asked about the effect of the distribution of talent on the economic outcomes of the league. This is a very important paper. A paper that is well worth reading. This work analyzed the claim of the baseball clubs that they needed to control the distribution of players in the league, that they actually had to allocate talent between the clubs. Because if you did not have control of allocation, the competitive outcome would be inefficient or even destroy the league, because it would create an imbalance among the teams. In essence, the rich clubs would buy all the talent. The small clubs would get none. And nobody would be interested in the league at all and it would die. That was a position the clubs had used to justify restraints on the mobility of players within the market since 1879.

What Rottenberg wrote was actually that economic competition will be sufficient to ensure an optimum distribution, regardless of the ownership of the rights. In fact in economic terms, it is a precursor of the famous Coase theorem, which states that the ownership of rights should

affect the distribution of talent. There is another worthy paper that addresses this issue and also the question regarding balance between the teams, in which Walter C. Neale wrote the famous phrase regarding the New York Yankees: "O Lord, make us good, but not that good." If you are too good the interest in the league is destroyed. This question has been a main topic of sports analysis. From the economic point of view, the key issue is to what extent the teams have to be allowed to collaborate to enlarge the size of the pie.

As for collective selling, it is worth mentioning some technical points about the model. According to the model, the demand of the football fans depends on factors including success, prices, entertainment, uncertainty of outcome, stadium quality, etc. But the key element in the paper is the issue of success. I think success really means winning games. There is a fixed amount of wins available in the league. There is a fixed number of places, positions in the league, and teams are competing over this fixed number of positions. And the important point here is that there are limited opportunities for gains from trade between the teams, in terms of wins and success, because of the nature of the zero sum game. This is quite an important point, as, technically, the way the paper describes success has nothing to do with a zero sum game.

If we assume that talent is equal between for both teams and each has one unit of talent, then the total amount of success, according to the model presented in the paper, would be 1.46 for these assumptions. If I just increase the talent of one team, then that team is more successful. That makes sense. The other team, the team that has kept the same amount of talent, is less successful. That makes sense, too. But the issue I have is that the total amount of success in the league has actually gone up. And that is not a good model of success, because it is not a zero sum game anymore. On the contrary, there are models called contest success functions, which are zero sum. The most famous one is the Tullock probability function, which has all the properties needed for the model put forward in the paper. It even takes into account differences. In short, I do not agree with the way success is defined.

I would like also to go back to the relationship between uncertainty and competitive balance to bring up the concept of "competitive balance defense," which goes back to the American Leagues in 1979. In fact, Americans are far ahead of Europe regarding the analysis of sports economics. In the late 1980s, when I started writing about this subject, there were dozens of papers in the United States about sports economics but just six had been written in Europe, mostly in the United Kingdom. There is a very simple reason for this. There has been more money in American sport, for much longer, than there has been in European sport. And that is the reason why American antitrust analysis has developed much faster. The first major American antitrust case in sports is related to baseball and goes back to 1913. The Federal Baseball Case resulted in an antitrust exemption for the baseball major league. Now that there is more money in the game, the European analysis has started to develop. Going back to the concept of "competitive balance defense," it should be noted that there is inequality if you have unequal resources, and this leads to unequal competition. Then clan interest will decline. This is the uncertainty of outcome hypothesis. Therefore specific redistribution — redistributive mechanisms — will improve and produce greater uncertainty of outcome.

There are two problems here. The first is that there is really very little empirical evidence to support the second part of the aforementioned proposition, the second part of the balance defense. Needless to say, in Spain, you can have an extremely unequal competition with lots of people interested and with a huge amount of demand. It would be different in England and in the United States. For example, the variation of salaries in the NFL in the United States is almost nothing. And yet, they can still have uneven seasons and they claim they have more competitive balance.

The second problem is that you have to be very careful about redistributive mechanisms. Seabright and Florensa underline this point in their paper: many redistributive mechanisms may actually damage competitive balance. If you take money from the rich and give it to the poor, the poor start to be interested in the rich being more successful. So, there are a lot of ways redistribution could actually make things worse. Leagues are constantly telling us we need to have a more competitive balance but we must be very careful with this kind of proposition. The labor market is absolutely essential here. All of these redistribution mechanisms may really have to do with labor-market negotiations. Revenue sharing, any form of revenue sharing, is likely to reduce competition for talent. And that is what really matters to the league. In Europe today, there are calls for salary caps in order to control the costs of the clubs. That may be good for the clubs but is it good for the sport? There is no clear answer to that. In the United States, we see an enormous array of competitive restraints that have been created and these are the most profitable leagues in the world. So, everyone has to ask themselves what are the effects of these measures on the labor market? What are the effects on profitability?

As for broadcasting in the European Union, it is worth noting that the way it works is the result of a historical accident, arising from the development of monopoly broadcasters, state broadcasters owned by national governments. The BBC, copied by everyone in Europe, is the main example. This leads to significant monopolistic power and is one of the reasons why pay-per-view TV was encouraged by the European Union as a form of competition. Pay-per-view broadcasters want exclusive rights because they have invested huge sums in order to establish their networks, so they have to recover their initial costs. This is why they are demanding exclusive rights. But the other point to bear in mind is that free-to-air TV in Europe cannot respond competitively because they have restraints on their advertising minutes per hour. That is the real big problem for free-to-air broadcasting in Europe. The reason why broadcast rights in the United States have not migrated to the whole sale to pay-for-TV in the way they have in Europe is because there are upwards of 20 advertising minutes per hour.

To conclude, I would like to make a final remark about collective selling. Cartels restrict output. In the English Premier League, they have collective selling; they play 380 games in a season but a user living in England can only watch 138 games. If there were individual selling, all of those games would be recorded. All of the clubs would want to sell their games. But as they have an agreement to restrain competition, the consumer gets less output. This is an issue to worry about. Collective selling could be very pro-competitive by devoting all of the broadcasting money to one big prize, so that everybody would then have exactly the same incentive. There would be no

more big teams or small teams, everybody would be in one big fight. Whether that would lead to bankruptcies is an interesting question. So, as a conclusion about this, my concern about the paper is this: are the clubs, are the leagues that advocate collective selling really interested in a better service to consumers or is it just about profitability?

3. Professional Sport Leagues: Contrasting Views on How to Structure the Business of Sports

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3.1 Introduction

The business structure of professional sports has experienced large changes over the last decade. For instance, (i) the average estimated value of a National Football League (NFL) franchise has grown from US$288 million in 1999 to over US$1 billion in 2009 (Forbes, 2009), (ii) the National Hockey League (NHL) saw a season-long strike in 2004-2005 that cost it a full season and redefined many aspects of the way the league is run, (iii) since Carson Yeung's purchase of Birmingham in October 2009, 50% of EPL's (English Premier League) 20 clubs are now foreign owned (CNN WorldBlog, 2009), and (iv) large-scale professional leagues are emerging in new markets such as the Kontinental Hockey League (KHL) in Russia and the Indian Premier (cricket) League (IPL) who both began play in 2008. Professional sport is going through a period of enhanced business structure and criteria in its management. This growth and professional management that have characterized the evolution of professional sports is extending to all the industry, through business training, research, and management. As evidence, according to the North American Society for Sport Management (NASSM, 2009), there are now over 275 sport management programs in the United States, another 13 in Canada, and another 40 in Europe and around the world. In terms of literature, there are now more than a dozen academic journals devoted to the field, hundreds of trade journals focused on sports with high readership, and vast global resources in media, sponsorship, and ticket sales. The exact size of the industry is uncertain but estimates suggest that sport contributes between 2% and 3.5% of GDP globally, with previous studies (McKinsey, 2004) reporting that sport has become an "international entertainment industry with global revenues of more than US$38 billion in television rights and ticketing alone" (p. 1). Specific to the United States, Humphreys and Ruseski (2008) have estimated that the economic scope of the sports industry ranges – depending on the metric and assumption chosen – from US$44 to US$73 billion in 2005. Globally, market research group NPD (2009), estimates that the worldwide sales of sports equipment, apparel, and footwear were US$284 billion in 2008.

Yet the differences across leagues and geographies are still significant. In fact, each league – whether in Europe, North America, Australia or Asia – typically has its own unique structural

elements, financial details and management policies. However, there are similarities geographically which allow us to group leagues based on their location, particularly when looking at North American versus European large professional sport. While North American leagues are often closed leagues based on a franchising model, European leagues use open structures with promotion, relegation, and enrollment into European-level tournaments depending on the final standing in the national league[12]. North American teams compete for one championship annually (e.g., Super Bowl, Stanley Cup, etc.) while European super-clubs (e.g., Manchester United, FC Barcelona, etc.) can potentially compete for as many as seven different championships each year, including the Premier League and the Champions League. These are but two examples, yet they provide evidence of the variations that exist. These variations and distinctions and a discussion of their potential implications are the purpose of this paper.

The paper compares the 'rules of the business game' across multiple dimensions of four North American leagues and four European leagues. In doing so, it articulates their differences and similarities and analyzes the resulting implications on the strategies and economic performance of these leagues. The leagues considered are:

- North America
  - National Football League (American football)
  - National Hockey League (ice hockey)
  - National Basketball Association (basketball)
  - Major League Baseball (baseball)

- Europe
  - English Premier League (football-England)
  - La Liga (football - Spain)
  - Ligue 1 (football - France)
  - Bundesliga (football - Germany)

The North American and European leagues are chosen based on their overall size as the largest leagues on their respective continents in terms of their revenues and reach[13]. While this paper focuses on these leagues, it is important to recognize that there are hundreds of other professional sport leagues in all regions of the world. Many regions outside of Europe and North America have very successful leagues such as the Nihon YakyβRenmei (baseball) in Japan, the Australian Football League (AFL), the National Rugby League (rugby league) in Australia, and the Indian Premier League (cricket) in India.

12 Yet some European leagues have started to move towards closed leagues such as the basketball Euroleague decision to guarantee the presence of certain flagship teams in the league regardless of their national performance.
13 Lega Calcio in Italy is one of the top four leagues in Europe. Its structure is similar to the other European soccer leagues included for which data was available more readily.

The selection of the 18 dimensions on which the leagues are compared is based on what are believed to be most relevant factors in shaping the business landscape of professional sport leagues as supported by the literature and the experiences of the authors. The selected professional leagues are characterized by: (i) the professional status of the athletes in the league, (ii) their high profile in the media, (iii) the business ecosystem around each which includes national and/or international marketing and broadcasting partners, and (iv) their business-oriented management mentality[14]. In carrying out our work specific to professional sports, it is important to recognize that such an environment does differ from the other two traditional sports markets: Olympic sport and grassroots sport (see O'Reilly & Seguin, 2009 for a specific nation example of how this landscape breaks down).

3.2 Background: Related Literature

Academic research on professional sport is a relatively new focus in the sport management literature, which itself is a relatively new academic field itself. The top academic journal in the field – the Journal of Sport Management – is only in its 23rd volume, while the majority of the field's recognized peer-reviewed journals are less than 10 years old, many having been launched in the past 5 years. Within this body of literature, professional sport focused papers are less common than those focused on collegiate (NCAA) sport, grassroots sport and Olympic sport. Increasing attention is also being paid to professional sport in economics (Andreff and Szymanski, 2006). Some economists have carried out some work that uses sports as a research setting while others focus squarely on the industry. This effort has furthered the field considerably. Examples of this work includes Ferguson et al. (1991) who looked a profit maximization in team sport, Jones (1969) who outlined the economics of the NHL; Noll (1974) who explored the role of governments in the sport business, including an assessment of the public funding of new professional sport facilities; and El-Hodiri and Quirk (1971) who developed an economic model of professional sport, where they examined whether these structures justified the anti-trust legislation to which some professional sport leagues in the United States are privy to. At the same time, Sloane (1971) articulated the football club as a utility maximiser. A few years later, the demand for minor league baseball was the research topic of Siegfried and Eisenberg (1980). There are also smatterings of publications in various other places, including management, psychology, and sociology journals, over the past 40 years.

Recently, authors (e.g. Baade, 2008) have explored the role of professional sport in the economic development of cities, regions and countries. There are a variety of research outputs related to North American professional sport that have relevance to this work. A few are

14 Most of the organizations in these leagues have a for-profit status, comprised of teams or events that are for-profit. However, there are some exceptions in the European market with teams such as FC Barcelona or Real Madrid that are not-for-profit sports organizations (associations). However, we noted that even if they are not-for-profit, these organizations are run with a business mentality.

summarized briefly here. First, using data covering a period of more than 30 years, Cousens and Slack (2005) tracked each of the four major North American professional sport leagues noting the increasingly similar nature of their institutional arrangements (e.g., salary caps, revenue sharing), outlining key points in their history where major structural or philosophical changes took place. Other researchers have also explored the differences that remain between professional sport leagues, such as Rascher and Rascher's work (2004) on the NFL which observed that the NFL's revenue sharing plan (with a club-to-club range of approximately 40% to 60% of gross revenue) is much higher than the other three North America leagues and is its main differentiating factor. Similarly, Stark (2002) researched Major League Baseball (MLB) and noted that it has the fewest institutional arrangements of the four North American leagues. Some researchers take a marketing based lens, such as Mason (1999) who developed a conceptual view of the sport product and Gladden and Funk (2002)'s work on brand associations in sport and through sport. Additional research articles exist in sport finance, social issues in sport, gender in sport, fan affinity, economic impact, and more (Andreff and Szymanski, 2006).

One particular area of research in professional sport has been the area of competitive balance, which often refers to teams in a league being closely matched to provide for exciting performance outcomes in each game (the UOH or uncertainty of outcome hypothesis) (Humphreys, 2002) while – more recently – others have suggested alternative measures such as the Hope construct (O'Reilly et al., 2008). Noting the importance of this concept, Levin et al. (2000) noted that, "perhaps the most fundamental issue in the sports literature is the extent to which competitive balance among the teams is affected by institutional arrangements" (p.393). Notably, the literature on competitive balance assumes that the goal of the professional sport team is to promote or maximize fan welfare based on the notion that fans prefer games with uncertain outcomes which, in turn, stimulates fan interest (Zimbalist, 2002). Additionally, Sanderson and Siegfried (2003) suggest that some fans may be willing to pay more to see a winner, whereas other fans may be more loyal to their team (win or lose). Consequently, the marginal revenue for acquiring talent may be greater for some teams than for others, leading to a lack of competitive balance if owners are assumed to be profit maximizing. In practice, professional sport leagues take vastly different approaches to competitive balance vis-à-vis economic viability of the league and its franchisee, where the mechanisms they put in place vary from those to enhance competitive balance (e.g., NFL sharing media revenues equally amongst all teams) or to reward the top teams (e.g. English Premier League (EPL) rewarding top teams in its allocation of television rights dollars) (see Table 1). In this regard, the EPL's television rights are allocated 50% to all teams, 25% to high performing teams (on-the-field) and 25% to teams most frequently on television.

Fort and Quick (1995; 2004) discuss the objectives of owners from a finance point of view and the resulting impacts on outcomes such as competitive balance, incentives, and cross-subsidization. This is often called 'owner's intent'. Others have taken a more practical approach to viewing the professional sport club, with one pair of authors modeling – based on a wide range of variables – the antecedents to franchise profitability in the National Hockey League (Nadeau & O'Reilly,

2006) and the ability to generate revenue in all 4 major North American professional sport leagues (O'Reilly & Nadeau, 2006). In a related study, Rosen and Sanderson (2001) took a human resources paradigm to understanding labor markets in professional sport, and the athlete as an asset.

3.2.1 Professional Sport

Globally, professional sport has traditionally been most prominent in North America and Europe, with the United States and the major countries of Europe being home to the highest profile leagues, clubs and players. However, this is changing and examples of professional sport flourishing and being innovative are found all across the world. Recent examples include the rapid rise, despite having to play their 2nd season in another country, of the Indian Premier League (IPL) (cricket) and a new basketball league in China (the CBA – Chinese Basketball Association). There are also the 'globalization' efforts of the major sports into the other major markets, such as the National Football League (NFL) playing regular season games in the United Kingdom.

Professional team sport is typically organized by leagues, whose Board of Directors are comprised of a representative of each team in the league. Leagues are typically based in one country, although there are examples of leagues that have teams in multiple countries (such as the MLB, NBA and NHL including both US and Canadian teams). League sizes typically range from as low as 8 to 10 teams (such as the IPL or the Canadian Football League (CFL)) to as high as 32 in the NFL or even 92 if you consider the Premier League and the Football League (all linked by relegation) in England. In reality, if we consider all the leagues supervised by national football federations in Europe and the fact that technically all the teams in these leagues can make it to the top national league, European leagues include hundreds of teams.

Based on these various considerations, this paper takes a first step in seeking to better understand – through comparison and contrast – the business structure of professional leagues. This will involve an informed comparison along a variety of dimensions for each of the individual leagues, as well as by their groupings of North American, European, and Global leagues. Note that the primary comparison of this paper is between the North American and European professional sport leagues, with information on the Global leagues provided for context and further learning[15].

15 At times, financial data in professional sport is available to the general public or researchers. If provided to the researcher by an organization, the researcher is typically required to sign disclosure and, as such, cannot publicly share the data. However, sometimes data is available, typically for the following reasons: (1) The organization is public, such as the Green Bay Packers of the NFL, (2) The organization is required to disclose financial statements at either the club or association level. This is typically the case for European leagues, (3) A legal event happens which requires the public disclosure of the financials of the parties involved, or (4) Third party organizations use secondary data and their own proprietary metrics to estimate the key financial variables of professional sport (i.e., team valuations, profit, revenue, player salaries). This is typical when ownership is private and financials are not disclosed (the case in most North American clubs). An examples is Forbes in North America. In the case of the 4th reason (third party estimates), it is very important to understand that these numbers are not 100% accurate. Researchers (see Nadeau & O'Reilly, 2006), however, have used valid reports (e.g., Levitt Report or Popper Report in the NHL and the Blue Ribbon Report in MLB) to assess the accuracy of Forbes data finding that, although the data is not exact, the trends and relative differences amongst clubs are useful for analysis.

3.3 Method

A sample of professional sport leagues was selected for study based on their size, scope and business focus. Although there are many professional sport leagues operating globally, this sample of leagues was selected because it provides an interesting setting to examine structural differences and their performance implications. Further, the size and interest levels in these leagues means there is typically more information about their structure publicly available.

These leagues do not necessarily represent the largest international professional sports organizations (or leagues, for that matter), yet each is based on the fundamental principle of athletes competing in a multi-event format for a team or club within their league. Other professional sports leagues of comparable size and scope that are not considered within the study include, for example, (i) NASCAR (National Association for Stock Car Auto Racing) with estimated revenues of US$3 billion (including a US$473 million annually TV deal), the sport include 38 races within North America some of which attract more than 250,000 fans to the track and drivers race against each other for the prestige of each event and the overall championship (Nextel Cup), (ii) Formula One with estimated revenues of US$3.9 billion (Deloitte, 2009) from 18 Grand Prix races around the world, in addition to the individual championship, it includes a team championship based on the results of the two drivers that make up each team, and (iii) the PGA (Professional Golf Association), whose three tours (PGA, LPGA, Senior's Tour) had revenue of US$971.9 million in 2007, which included US$367.7 million in television revenues (Sport Business Journal, 2008). Other sports such as rugby and cricket are also significant businesses in markets around the world.

The 18 institutional arrangements, dimensions or factors listed were selected based on our belief that they are, as a group, representative of key structural differences across leagues and most relevant to analyze the potential performance implications within leagues. It is important to note that the list is not exhaustive and we do not claim that these factors are the only ones that matter nor do we suggest that they are the only ones that should be examined. They reflect our beliefs based on previous literature as well as our interactions with managers in the sports industry. Yet, it provides an initial extensive comparison of the leagues on factors where some information is readily available and that broadly cover the reality that faces professional sport league business.

The factors identified are broken down by themes (sport structure, business factors, player factors, and league factors) in order to be presented in a coherent manner as summarized below:

Structure of competition, ownership and governance factors

(1) Structure of Competition – how the game is organized impacts the business side

(2) Ownership – structure, style, rules, voting rights

(3) Decision rights at the league level – who decides what

(4) Globalization – is league growing or pursuing international growth

(5) Fan clubs – extensiveness, priority and revenue

Government and federations factors

(6) The role of federations – decisions outside the league structure

(7) The role of government – how does the government influence professional sports

(8) The role of professional sports in society – how are professional sports interpreted

Revenue sources and revenue sharing factors

(9) Broadcasting rights – how are rights fees revenues divided up

(10) Marketing, sponsorship and merchandising – significance and sophistication of off-field sources of revenue

(11) Competitive balance taxes – mechanisms, if any, in place to provide for parity

(12) Revenue sharing mechanisms – methods and policies to share league and club revenues

Labor relation factors

(13) Players' salary structure – how are players paid

(14) Player transactions – how are players moved from one club to another

(15) Free agency – are players eligible to become free agents and what are the related rules

(16) Talent draft – how is young talent allocated to each club

(17) Development system – how is future talent developed and at what level

(18) Players' background and career path – demographics of players

An important aspect to keep in mind prior to addressing the specific factors is that the beliefs and values across leagues in North America and Europe are different. North American leagues are premised on the belief that competitive balance attracts fans to the game. The extreme example of this view of professional sports is the NFL. Its business and sporting rules that impact business (such as the draft system or the athlete contracting system) are often designed to enhance the competitive balance among teams. Balance in the field is assumed to give a

chance to every team in the league, make the outcome of every game highly uncertain (aka 'any given Sunday'), and give each club 'hope' of making the playoffs. These characteristics are viewed as enhancing the overall attractiveness of the league (not to mention the economic viability of all franchises, including those in small markets). This view is found in the NBA and in the NHL architecture (and to a lesser extent MLB) where rules are designed to enhance the balance among team members. In contrast, European soccer leagues work under the belief that teams with very uneven chances to win are the way sports should be organized. For instance, the ratio between the budgets of the teams with the highest and the lowest budget is more than 10 where in North America it is usually less than 2 (see Table 2 and Figure 1 for revenue differentials between leagues). These dichotomous beliefs may reflect different objectives. It is often argued that North American leagues are run with a business objective to optimize the value generated for the sport. European leagues blend a similar business objective with a tradition of sports as social expressions that reflect competition among parties and as such business considerations should play a boundary role. Teams such as Real Madrid and FC Barcelona are examples of such a blend of objectives. Both teams are organized as non-profit sporting organizations owned by the hundreds of thousands members who pay a fee to be members but do not expect any personal economic pay-offs.

3.4 Comparison of Institutional Arrangements

This section compares and contrasts the institutional arrangements across the 4 European and 4 North American leagues, across the 18 identified dimensions.

This section describes league practices, while section 3.5 analyzes the potential business performance implications. Within each institutional factor we highlight its main aspects. It is not our objective to be comprehensive and describe every detail of business rules, many of which are very specific. For instance the NFL-NFLPA agreement (league-players' association) is a 100-page-plus document covering aspects all the way from salary caps to players' continuous education.

The corporate structure of leagues is quite similar across the eight leagues, although with significant differences regarding decision rights delegated to the league. The league is run for the teams and each team typically has one vote. The teams select a CEO or commissioner who runs the league on behalf of the teams with the objective of increasing the long-term value of the teams. European football leagues have the complexity that federations add to their functioning. This complexity comes from three layers, the national federation, the UEFA (Union of European Football Associations), and FIFA (Fédération Internationale de Football Association). For instance, in the case of EPL, the Football Association (national association) has veto power over chairman and CEO appointments as well as new rules.

It is also relevant to mention that the role of players' unions is also quite distinct league to league. While in North American leagues, players associations play a significant role; this is not the case in European leagues. Players' unions such as FIFPro (International players' union) have little involvement in governing the sport, while those in North America such as the NHL Players Association (NHLPA) and NFL Players Association (NFLPA) are highly influential[16].β

3.4.1 Structure of Competition, Ownership and Governance

The first set of factors that distinguish European and North American leagues is the structure of their leagues. The distinction in terms of sporting competition is clearly along continents. European leagues are open leagues while North American ones are closed. This distinction has implications beyond the sports to the array of business tools available to manage the sports. Ownership distinctions follow the Anglo-Saxon / Continental Europe clustering. Anglo-Saxon teams are quite homogenous (except for the peculiar ownership structure of the Green Bay Packers) with for-profit structures and shares owned by a small group of owners. Continental Europe mixes for-profit structures with publicly traded teams and non-profit organizations. Finally, governance factors range from the NFL structure where the league holds a large part of decision rights to La Liga where the league holds very few business rights. Yet, while North American leagues share certain business practices foreign to European leagues, the latter are moving towards sharing mechanisms that in some instances put them closer to the NFL than other North American Leagues.

3.4.1.1 Structure of Competition

The structure of competition is probably the most visible difference to fans across North American and European leagues with significant consequences for the business side of sports in both contexts.

In North America, the leagues have a similar sporting structure. They are all closed whereby the same teams participate each year. The only exceptions are when new teams are added via expansion or where a former team moves (i.e. plays in a new city) or ceases operations (usually due to financial reasons). Table 3 lists examples of league expansions and relocations in the American leagues. Each team is a franchise for which the league grants the rights to be part of the league. With league approval based on established league decision rules, franchises can be moved from one city to another, they can be sold to different owners and new franchises can be added. But, a franchise is not penalized (i.e. forced to leave the league) for a poor season and participates the following year.

In contrast, the European leagues have relegation. The three bottom teams from the leading league are relegated to the next lower-tier league. Promotion rules for the teams from the lower level league vary. While at La Liga it is the top three teams in the lower league that get promoted

16 This minor role of players' associations in Europe might be changing given the economic situation and the fact that teams in certain leagues are behind with their payments to players which is giving players strong incentives to collaborate.

based on the number of points at the end of the season, the EPL and Calcio promote the top two teams from the next tiered league while teams 3rd to 6th go into a playoff with a 90 minute final that selects the third team promoted[17]. At Bundesliga the bottom two teams are relegated while the top two from the lower league are promoted. The third bottom club and in the league and the third top team in the lower league play a two-leg playoff game to decide the third spot. Although a number of models exist, this practice is also common outside North America. For example, the soccer league in Argentina uses a weighted average of club performance over the last 3 years to determine relegation teams.

A second difference in the structure of the competition involves the number of tournaments that teams participate in. North American leagues normally play just one annual competition with a playoff format that differs by league. European teams compete in multiple competitions. One season-long competition is based on points accumulated. Other tournaments include the Champions League, the UEFA Europa Cup, world competitions such as the Club World Cup, and regional competitions. Thus, while North American leagues must have one champion, the European leagues may have multiple champions each year.

A third difference lies in the way in which the competition is carried out. European soccer leagues have 18 to 20 teams that normally play each other twice; once at home and once at the competitor's home (round-robin structure). Conversely, North American professional sport teams may not play against each other at all in a given season while other clubs (typically division rivals in close geographic proximity) may place each other many times in a season. Most importantly, the North American leagues use a play-off structure that follows the regular season where the top performing teams from the regular season qualify and are able to participate in an elimination-style tournament for the League Championship[18]. European leagues use this play-off structure in their cup tournaments that include teams across divisions. Yet, the round-robin league format (no playoff) is the dominant competition in Europe.

Fourth, the role of minor league structures differs across leagues. The MLB (as does the NHL) has an associated minor league structure[19]. Baseball teams in MLB have affiliated teams that play in "minor" leagues. There are typically three 'farm teams' per MLB franchise, one at each of the AAA, AA, and A levels[20]. These leagues have a much lower profile with less talent and much lower media presence, yet they maintain the closed league structure. Each of the teams in these leagues is affiliated with a specific MLB team. This affiliation is used for talent development (see section 4.4.5). MLB teams can pick players from their affiliates (and send players that are going through a drought to get back in shape in a less demanding environment) at any point

17 If the difference between the 3rd and 4th teams is more than 10 points, the 3rd team is automatically promoted in the Calcio.
18 Some European leagues tried the North American play-off at the end of the regular season in the 1980s but was quickly discarded.
19 University sports programs play a similar role for the NBA and NFL and to a lesser extent for MLB and NHL. The prominent role of these programs is totally absent in European leagues.
20 The minor league structure is integrated into the structure of the MLB and there cannot exist MLB teams without affiliated teams. In contrast, European teams which have affiliated teams choose to do so for organizational reasons.

during the season making their overall roster size (MLB team plus affiliates) much larger[21]. This minor league structure is somewhat reproduced in some leagues in Europe where clubs have the main team in the top league and other teams in lower leagues. The main team has the right to get players from its teams in lower leagues during the season,[22] although this right is seldom used. The main purpose is talent development and these talent-development teams usually go all the way down to eight-year old kids' teams. Moreover, most teams competing in these lower leagues have no affiliation to any team in the main league but are independent and can theoretically reach the top league.[23]

3.4.1.2 Team Ownership

Although owners (individuals, syndicates, publicly traded, etc.) differ by club, the element of 'owner intent' holds regardless of league, location and sport. Owners' interests (win a championship, build other related business, grow profit, enhance team value, etc.) are the principle driver(s) of the management decisions and practices that follow for their clubs. In contrast to other types of ownership where the economic objective is fairly clear, ownership in sports mixes an economic purpose together with an aspiration to win, to become a public figure, or to be socially recognized as successful because of the trophy that owning a club represents.

North American teams, in their legal structure, are all for-profit ventures. While the NFL only allows individuals or syndicates to own teams and at the individual level these multiple objectives are intertwined, other leagues such as the NHL allow for corporations to be owners. Some of these corporations have abandoned sports over time as these multiple objectives were not necessarily aligned with the traditional business objective of value creation.

European teams are mostly legally structured as for-profit ventures. However, their ownership structure differs. It combines teams with concentrated ownership with clubs that have disperse ownership and teams that are publicly traded. In addition, there are teams that are non-profit sporting organizations run without a profit purpose but to have the most competitive team.

3.4.1.3 Decision Rights at the League Level

Decision rights delegated up to the leagues is another important difference. The NFL is at one extreme again. They manage centrally most strategic decisions all the way from broadcasting rights, to NFL TV channel, to internationalization, or where to locate an expansion team. The 32 team owners sit above the league commissioner and are the final decision makers, yet the commissioner and his office design the strategic plans and execute them. The other North American leagues have a significant amount of decision rights compared to European leagues.

21 A regular MLB team has 25 players expanded to 40 with the difference playing in these affiliated teams. These 40 players can play in the team at any point during the season.

22 There are certain restrictions. For instance, in La Liga players from the affiliated teams that can play in the main team without being part of the 25 players registered at the league have to be younger than 23 years old and do not have a professional license. Those older than 23, cannot play in the affiliated teams if they play more than 10 games.

23 Affiliated teams in European leagues have no possibility of promoting to leagues where other teams from the same club compete.

Negotiations with players union are carried at the league level. Decisions about economic rules are also at the league level and even sporting rules are taken at the league level. For instance, the NHL changed certain sporting rules to make the game more fan friendly and increase the average goals per game. These changes have made the NHL different from other ice hockey leagues. The NBA has also sporting rules that are different from the ones in other basketball leagues.

European leagues range from the EPL where certain strategic decisions such as commercializing broadcasting rights are delegated to the league all the way to La Liga entrusted mostly with operational decisions such as scheduling the games or assigning referees. Sporting rules are under the control of FIFA that also establishes certain business rules such as transfer regulation.

3.4.1.4 Sports Globalization

Leagues are also taking different views on how to globalize their sport. Most leagues are maturing in their home markets whether it is North America or Europe. Thus, they are looking to overseas markets as ways to reinforce their growth. Yet, their views on how to go global differ. North American leagues typically take a league perspective while keeping the idiosyncratic element of each sport. Through its NFL Europe venture (1997-2007; following from its antecedent which began in 1991), the NFL learned that the most attractive European markets are Germany (where most of the franchises ended up moving) and the UK. The NFL also learned that international growth will most likely occur by bringing the best NFL overseas. The league has identified countries where success is more likely to happen and it is focusing on those countries to spread the sport. They are doing it through regular games overseas and considering the possibility of having each team play a game during the season overseas. The NHL and the NBA face a different challenge. Both leagues play sports with large a following in other parts of the world. Their challenge is not as much to get people to become fans, so as to coordinate with leagues in other countries and with international federations to enlarge the pie for the sport and the league. The NHL is also moving some official games out of North America. The MLB has had certain countries with a strong presence and keeps on building on these countries.

With a few exceptions (e.g., EPL's global media rights strategy), European football normally does not go international taking a league perspective. Rather, the efforts are made at the team level. Each team is experimenting with different strategies from creating local football schools, exhibition games, and even considering a franchise in other countries. Some of them go after the North American market while others focus on China or Japan. Some go to both markets with exhibition games one year in each market. The senior football league in North America (Major League Soccer (MLS)) is a local venture with little if any involvement from European teams. Only the EPL is somewhat of an exception where the league is taking some steps to globalize, for instance suggesting the possibility of moving some regular season games overseas (which has met resistance from other country federations). Yet, soccer has the advantage of its global reach with fans from top European clubs throughout the world and reaching their teams through broadcasts.

3.4.1.5 Fan Clubs

The premier league clubs in Europe are far ahead of their North America counterparts in launching, developing and leveraging fan clubs as a source of revenue, brand and growth. Indeed, this is an area that has been identified by many North American professional sport teams as a high priority. Teams such as Real Madrid have hundreds of thousands of members who pay a yearly fee just to be associated with the team and take advantage of certain benefits such as easier access to tickets when the games are not sold out. They also have fan clubs around the world that get together because of their passion for the team even if they are thousands of miles away from the stadium. These communities around football are also spreading to the web world where social networks are emerging around this passion (www.footbo.com).

North American teams have not worked as effectively at creating these physical and web social networks. Fans typically get together informally without the team knowing it or being able to influence the get-together.

3.4.2 Government and Federations

Another set of significant differences separate European and North American leagues. These are around the role of the government and federations. In North America, these two institutions have little role other than the rules that govern any other industry or for profit organization. 1953's monopoly exemption for baseball is probably the most relevant government intervention in the sports industry. In contrast, federations and governments have a significant role in Europe. FIFA and UEFA set a very significant number of sporting but also business rules for soccer in Europe. Not only do these non-profit organizations have the power to set rules but they also act as leagues in that they organize competitions and capture a larger share of the value than traditional leagues do because they do not have the teams acting as "board of directors" like North American leagues do. Supra-national federations even confront governments with certain of their rulings as FIFA is currently doing in trying to limit the number of foreign players in a team. Governments also interfere more often into sports. Some times it is through rulings such as the Bosman ruling (on player transfers) or economic decisions (such as the percentage of revenues from soccer lotteries appropriated by teams).

3.4.2.1 The Role of Federations

A relevant point regarding the structure of European leagues is the role of football federations. Federations are non-for-profit organizations that regulate the sporting, social, and economic aspects of the sport. Many federations were created a hundred years ago to manage amateur sports. Nowadays, this original structure has been adapted to the needs of professional business oriented sports without abandoning its original grassroots' objective.[24]

24 This transition is not unique to federations. The International Olympic Committee is probably the best example of this move from amateur to professional sports.

This transition has not been without clashes. Traditionally, national federations were running the professional leagues until teams associated into structures independent of the federation much like the North American sports and run for the benefit of professional teams in the league. Federations are responsible for the sporting side such as scheduling referees, registering players or disciplinary rulings. England's Football Association has veto power over the election of the CEO and chairman of English Premier League. Federations have a broad perspective taking care of professional football but most importantly the grassroots efforts to support football among amateur players and kids.

Federations have an embedded structure with FIFA (International Federation of Football Associations) at the top governing football worldwide, then UEFA at the European level, then the national federation (such as RFEF in Spain or the Football Association in England) and even regional federations (county associations). FIFA at the world level and UEFA at the European level play an important role for professional sports. FIFA defines sporting and a significant number of business rules that the leagues have to abide. For instance, Glasgow Rangers from the Scottish league asked to join the much more lucrative EPL to find the Football Association rejecting the demand. Opening national leagues to teams from other leagues will see the power of the federation structure challenged as a league could grow to become a Champions League type.

UEFA controls the European level competitions (Champions League and Europa Cup) as well as the national team competition (Euro Championship).[25] UEFA has professionalized itself quickly to keep control of what is probably the best soccer league in the world (the European Champions League). In contrast to leagues, whether national European ones or North American, teams do not manage UEFA. Rather, the traditional UEFA role as manager of the sport (back when it was amateur) has put teams as reporting to UEFA. Yet, powerful teams are constantly challenging its power to gain a larger share of this important revenue source.

3.4.2.2 The Role of the Government

Governments play a role in professional sports both in North America and Europe. Yet their roles are distinct. The most well-known intervention of the U.S. government was the "monopoly exemption" to the baseball league in 1953. Yet, government intervention in North America is low compared to Europe. Much government involvement in North America professional sports happens through stadium financing. Closed leagues with a limited number of franchises leaves certain significant markets without a team (something that in an open league is less likely to happen as larger markets will develop competitive teams because of access to more resources). Los Angeles has been without an NFL team since 1996 even though it is the second largest market in the U.S. Having a professional team is often seen as a helping the local economy not only through more business but mainly through its signaling value. Teams often use the competition among various cities to host a professional team to demand public money to fund the building or refurbishing of a stadium. Local governments have often given public money to

25 It also manages the Euro Cup for national teams.

build stadiums although it is not always the case (the San Francisco Giants saw their request for public funding turned down four times in popular votes).

The intervention of government in Europe is much more visible. On the one hand, the European Commission has overruled FIFA regulations (the Bosman ruling being the most visible example). On the other hand, national governments have discretion over a significant amount of policies. For instance, Spain ruled that foreigners were taxed at 25% during their first five years in the country rather than 43% pike the rest of the population. The ruling was intended to attract foreign talent, yet the rule was called the "Beckham rule" because it was issued in time for Real Madrid to hire David Beckham. The fact is that each league faces very different business rules (from taxes to labor).

In addition to European leagues facing different business environments, governments intervene in a number of different ways. For instance, certain countries force leagues to show free to air a certain number of games even if it means lower revenues for the TV operators (and ultimately for the teams). They also subsidize leagues sharing with them the proceeds from soccer lotteries. An additional way in which governments subsidize soccer teams is through stadium financing (either when the country hosts an international competition, building public stadiums, stadium naming rights, rezoning permits, or soft loans).

3.4.2.3 The Role of Professional Sports in Society

Sports in Europe are more than entertainment. It is a social movement. The tag line for FC Barcelona "more than a club" illustrates this characteristic. Teams represent more than sport, they signal political positions and channel emotions among communities. They are even used by governments to try to manage the mood of the country. They are the excuse to celebrate as well as to be violent (Argentinean soccer is probably the best example of violent behavior associated with soccer fans—back in the 1920s, soccer fields were surrounded with barbwire). The social implications of soccer have often been seen as a reason for government intervention beyond what it would do to save other industries.

3.4.3 Revenue Sources and Revenue Sharing

The contrasting beliefs across the Atlantic regarding what makes sports attractive is best reflected in their views on economic competitive balance. North American leagues use various mechanisms to share revenues across teams and subsidize weaker teams in other to make them more competitive at least from an economic perspective. These sharing mechanisms are now starting to permeate the European model. Traditionally, revenue sharing has been mostly absent (except for certain ticket sharing) in Europe. Only recently the EPL defined sharing rules for broadcasting rights and Bundesliga has put certain restrictions on the economics of the teams. At the other extreme, La Liga has almost no balancing mechanisms in place.

3.4.3.1 Broadcasting Rights

Broadcasting revenues have become a large component of professional leagues' revenues. High-profile and successful teams such as Barcelona and Real Madrid make about 35% of their revenues from broadcasting rights. This percentage might go above 50% for the elite teams in the Italian league and below 20% for smaller teams. In North America, these percentages range from 40% to 45% for NFL teams with relatively low local (unshared) revenue, to a reported 18% on average for the NHL clubs. Although some large market MLB clubs like the New York Yankees garner significant revenues from local and regional broadcasting rights, small market MLB clubs without a history of success have sizably less revenue from broadcasting rights (Nadeau & O'Reilly, 2006). See Figure 2.

Broadcasting rights differ across leagues in two main aspects, the negotiation of broadcasting rights ('source of pool') and the distribution of broadcasting revenue ('distribution of pool'). La Liga is at one end where each team negotiates its own rights and keeps the cash generated. At the other end the NFL negotiates the rights at the league level and distributes broadcasting income as part of central revenues equally among the 32 teams. Both the NFL and EPL have central pools only, while the other leagues have both central pools and local pools. Some European Super-Clubs (i.e., FC Barcelona, Real Madrid) negotiate all of their own media deals and, hence, have local pools only. The La Liga market has gone through a period of consolidation and 18 out of 20 teams have sold their rights to the same media company that distributes them to televisions and internet. The dynamics of the market have led to a situation where the rights of all teams are pooled together and are sold as packages very much as the NFL model, but the distributor is not the league but an external company. Moreover, each team receives the amount of money that they negotiated directly with the consolidator rather than following a distribution rule of the money generated from the pool. Real Madrid and FC Barcelona received about €160 million per season each compared to €50 million for Valencia or €20 million for Athletic Bilbao (2008).

Broadcasting rights for the EPL are negotiated at the league level and sold broken down into six live packages and an additional five packages for highlights, near to live, and clips. Half of the revenues are distributed equally among teams. Teams relegated over the previous two seasons get half of the payment (parachute payments). Another 25% is distributed based on each team's number of appearances on TV. The final 25% is divided based on performance: the winner gets 20, second 19, and so on until 210 parts are distributed. EPL gets about £670 million per year for its rights within the UK. Ligue 1 (France) also sells the rights for all the teams broken down into 12 packages. The national rights are worth €668 million per season and they are distributed among teams much like the EPL: 50% is shared equally among Ligue 1 teams, 30% based on league position, and 20% on TV appearances divided among the 10 teams with most coverage. Bundesliga uses a similar approach negotiating rights for all teams and distributed through packages. Its rights bring the league €412 million a year. About 75% of the rights go to teams in the first division with the remaining going to second division teams. The revenues associated with the rights are probably the

most equitable in Europe[26] and are split with a similar philosophy as EPL or Ligue 1 based on sharing, maximum and minimum payments, and performance averaging performance over the last three years. Calcio sells its broadcasting rights through the league.[27] The international rights 2010-2012 were sold for €181 million. Packages are often broken down into live packages, highlights, or delayed; national and international rights are also sold separately. Platform-based packages are not that common (only Calcio does it) mainly because the rights are difficult to define across platforms.[28]

The remaining three North American leagues have broadcasting models that have central pools and local pools. Each of MLB, NBA and the NHL has league deals with national networks in each of the United States and Canada. These deals are typically with one of the large free-to-air networks (e.g., NBC, CBS, Fox, and ABC in the US; CBC or CTV in Canada) or with a cable-based sport channel (e.g., ESPN, TNT and ESPN2 in the US; TSN or SportsNet in Canada). However, and this differs from the NFL, these leagues allow each franchise to sign their own regional and local television deals which are worth significantly more in major markets (e.g., New York, Toronto, Los Angeles, Chicago) than in minor markets (e.g., Ottawa, Pittsburgh, Minnesota).

3.4.3.2 Marketing, Sponsorship, and Merchandising

Merchandising in the four European leagues is run by teams that keep the money and little is shared at the league level. However, leagues have signed sponsors such as Barcalay's title sponsor for EPL or BBVA for La Liga (€20 million per year). European leagues have an additional organization, the National Federation that has significant revenue from marketing, sponsorship and merchandising. National Federations manage the national team that is one of the most business-generating teams in countries participating in the lucrative Euro Cup and World Cup, each happening every four years with qualifying rounds through the previous two years.

Conversely in North America, some leagues (NFL) share most of the marketing revenues while others (MLB) share very little. At the NFL all licensing revenues go to the league and are equally distributed across teams. Table 4 presents the Green Bay Packers' annual report. Notably, the Green Bay Packers received approximately 57% of their 2007-2008 revenues from central sources. Compare this to EPL teams where revenue sharing is limited to TV money. Although specific numbers are uncertain, it is widely accepted that large market teams like the New York Yankees, Toronto Maple Leafs, Dallas Cowboys and Los Angeles Lakers have large revenue sources from marketing while smaller market teams like the Minnesota Twins, Ottawa Senators and Utah Jazz (Salt Lake City) have limited revenue potential in these areas. A recent evolution in North

26 It might be argued that this equitable split penalizes the big German teams in European competitions where they have not done well in the last few years. However, the German league is the second European league in size.

27 Calcio Series A moved from each team selling their own rights to collective selling by the league.

28 Another important source of broadcasting revenue for teams competing in Europe comes from their participation in UEFA tournaments.

America is the naming rights of the stadium which has led to deals upwards of US$25 million per year and is kept by the teams.

An interesting case in point is the NHL that had a season-long strike in 2004-05 that lead to a restructuring of the business rules of the game. Prior to the strike, NHL teams had often suffered from significant financial problems. The strike led to a redefinition of these rules including issues such as: (1) introduction of a salary cap, (2) subsidies for teams in smaller markets through revenue sharing via a complex system based on mid-point of club average revenue.

3.4.3.3 Competitive Balance Taxes

The effort of North American leagues to balance the competition is reinforced through "taxes" where rich teams are penalized economically and these penalties are used to subsidize poorer teams. These competitive taxes are built on top of other balancing policies such as revenue sharing rules, salary caps (budget restrictions), or draft mechanisms. While the NFL and the NHL do not add these "luxury" taxes, the MLB and the NBA do so. The MLB tax teams that exceed the salary cap (US$162 million in 2009) at a rate that varies between 22.5% (teams going over the cap for the first time), 30% (for those teams exceeding a second time) and 40% (teams above for the third or more times) the amount above the cap. The New York Yankees paid US$26 million in taxes in the 2007 season. The NBA taxes teams US$1 per each dollar that exceeds a certain amount[29]. While leagues differ in the redistribution rules for this 'tax income', the intent is to redistribute it to promote competitive balance.

The concept of competitive balance is much less relevant in Europe where leagues favor dominant teams. These teams simultaneously compete in and dominate their national league and play in European competitions where the balance is more pronounced. The performance in these competitions is often associated with the quality of the national league and national pride (much like the feeling around World Cups).

3.4.3.4 Other Revenue Sharing Mechanisms

North American leagues use various mechanisms to balance the business playing field (as noted in the previous sections on broadcasting, marketing and competitive balance taxes). In addition to these mechanisms, North American leagues use additional revenue sharing rules. The primary example is the NFL. In most categories, it shares revenue with a ratio of 1/32 for each of the 32 clubs. An illustrative example is its home/away ticket sales revenue share where up until 2002, the share was done 60% - 40% with the home team sharing with the particular visiting team. However, the sharing was changed so that the home team gets 60% and the total of the 40% of all games and all visiting teams is put into one pot and divided amongst the teams in equal 1/32nd shares. The NBA complements the luxury tax on rich teams with an additional pool coming out

29 This amount is estimated at 61% of Basketball Related Income (BRI) adjusted for previous year's BRI and divided by the number of teams.

of teams' local revenues. EPL teams share no ticketing revenues with the visiting team while Calcio gives the visiting team 5% of ticketing revenue.

Yet, revenue differences in North America are large. A typical NFL team gets approximately 40-45% of its revenues from revenue sharing, while this percentage for a typical NBA, MLB or NHL team is considerably less. For instance, while the NFL splits ticketing 60% - 40% as previously described, the home team keeps all ticketing at the NBA much like it in Europe.

3.4.4 Labor Relations Factors

The role of labor unions negotiating on behalf of players and the rules around labor costs also set apart North American and European leagues. Europe relies more on unregulated markets ("capitalism") to structure teams-players relationships, changes in players' labor regulations come mostly from government regulation (such as the Bosman ruling). Contracts have no restrictions other than the ones that national and European labor laws impose. North American leagues impose additional restrictions around maximum labor costs or minimum salaries; these restrictions come mostly from the leagues without government intervention. Differences around transactions are also significant as well as the role of unions.

3.4.4.1 Players' Salary Structure

Differences across the salary models in both sides of the Atlantic are quite important. It reflects in a vivid way the contrasting objectives of the various leagues. At one extreme, the NFL pursues enhancing competitive balance. At the other extreme, the European leagues value flagship teams. The budgets devoted to players' salaries are more similar the more the league believes in economic balance. Leagues achieve this balance through revenue sharing mechanisms (as described in section 4.3) and payroll related policies such as payroll cap (usually known as salary cap) or payroll floors (minimum payroll to receive subsidies).

The NFL has a hard salary cap, where the collective bargaining agreement between the league (NFL) and the players association (NFLPA) determines the percentage of revenues that are allocated to players' salaries with both a maximum and minimum team salary established. In addition the minimum salary of a rookie is set. The MLB has a soft salary cap and those teams that exceed it are charged with a luxury tax that is then distributed to poorer teams.

The NBA has a soft salary cap, meaning that there are exceptions that allow teams to exceed the established cap. These exceptions make it easier for teams to break the cap in order to keep flagship players that have had a long career within the team and deserve a larger contract but the cap would not allow it. Table 5 reports the salary structure of NBA teams. The NBA has an additional mechanism to control players' costs. These costs are fixed at a percentage of Basketball Related Income (BRI). Yet, the exact amount is not known until the end of the season. Therefore, the league withholds a certain amount from players' salaries that is put in an escrow account and distributed back to the players at the end of the season or back to the teams if the percentage was

exceeded. Then NBA also has a minimum and a maximum salary. The minimum is set for a rookie and this minimum salary goes up as the player cumulates years in the NBA. The maximum is set at 48% of BRI. The NBA also has a payroll floor set at 75% of the salary cap. The salary cap has various exceptions. There most notable exception to the salary cap is the "Larry Bird Exception" where a team can hire their own veteran players who become free agents[30] even if it goes over the salary cap and limits to the player's maximum salary.

The NHL established a salary cap after the 2004-05 lock out. The salary cap is hard but estimated as the average player salary over the length of the contract. This rule has led to practices such as long, front-loaded contracts.

European leagues are a striking contrast to the NFL in terms of salary structure. They do not have salary caps, there are no upper or lower limits on players' salaries, and certain leagues, such as EPL, allow their teams to sign as many players as they want (others have limited rosters). Restrictions on the European soccer labor market have been reduced over time. The traditional limit on the number of foreign players was turned down by the European community for EU players with the Bosman ruling.[31] Restrictions for non-EU players vary across leagues. EPL and Bundesliga have almost no restrictions, while La Liga and Ligue1 limit the number of non-EU players (3 for La liga) although this limitation has become flexible when certain non-EU countries sign special agreements to bypass this limitation.

European and North America players both face different taxation and employment regulations according to the country and state/province they belong to or are playing in. For instance, foreign workers in Spain pay 25% income tax during their first five years in the country while in France or Germany these workers pay the same income tax percentage as a national of about 45%[32]. In North America, players must pay more income tax in home games played in certain states with high state income tax (e.g. New York, California) as compared to states with no state income tax (e.g. Texas, Florida).

3.4.4.2 Players' Transactions

The four European leagues share the same players' transaction rules because their teams compete in the same European labor market (although subject to different labor and tax laws). A typical player contract includes a fixed salary plus bonuses tied to individual as well as team performance. The player may also release the use of his image for the team to manage. The contract also specifies its length. The length is a crucial aspect because the contract has to be honored regardless of whether the player gets injured or the team is relegated. The team can only dismiss the player if it pays the remaining of the contract. Another important aspect is the rescission clause that

30 The policies around free agents are discussed in more detail in section 4.4.3. At this point, it suffices to interpret free agent as a player who finishes his contract and is free to move to other teams.

31 The Bosman ruling also declared a player to be a free agent once his contract expired breaking the previous rule where even after the end of the contract a transfer fee existed.

32 This favorable tax structure in Spain disappeared for players hired after January 1, 2010.

specifies the amount of money that the team shall receive if another team wants to buy the contract. This clause is often set high enough to discourage any team from buying the contract without negotiating with the team. If a transaction is of interest to both parties, the team holding the contract can reduce the transfer amount below the rescission clause to make the transaction happen. In addition, the player may also get a one-time fee associated with the transfer. For instance, FC Barcelona upgraded Messi's contract in Fall 2009 increasing the rescission clause to €250 million. The transfer fee may be contingent on issues such as the players' success at the new team, the success of the new team, future transfers of the player, etc. For transfers of players older than 23 years' old or reaching their second transfer, 5% of the transfer fee is distributed to teams involved in the development of the player (ages 12 to 23). Trades may happen during summer (12-week window) and the winter (4-week window) that happens mid-season when teams may adjust their roster given injuries or performance. An additional aspect of European leagues is FIFA's Article 17 that allows a player to break his contract at his will after two (older than 28) or three years for an amount well below the rescission clause.

Trading in North American leagues is different. First, certain leagues such as the NFL do not guarantee the contract for its full duration, so the injury cost is on the players' shoulders. This policy has led to front loaded contracts in the sense that the player gets a signing bonus in his first year that is then amortized over the term of the contract. Other leagues such as the MLB have guaranteed contracts. But the most significant difference is that trades in North American sports seldom involve the transfer of money (the almost exclusive exchange currency in Europe) but other players and draft picks. This policy is enforced at the league level that has to approve every trade. The non-money trades together with salary cap considerations often leads to complex trades in leagues such as the NBA where several players and draft picks are simultaneously traded. It is also common to have various transactions and more than two teams involved in making a trade happen.

3.4.4.3 Free Agency

North American and European leagues use various types of contracts that structure the relationship between players and teams. A free agent is a player who is not under contract and can freely sign a contract with a team. In some cases, a player can become an unrestricted free agent within a few years (MLB) and in others they are not eligible until they are 27 years of age or have played at least 7 seasons (NHL). Some leagues are restrictive (NFL) while others are open (MLB). In the case of the MLB, a player becomes a free agent after six years in the league. When a free agent changes teams, the original team receives draft picks as compensation. Different rules apply to players in the minor leagues.

In the case of the NFL, it recognizes two types of free agents (a) unrestricted who can sign with any team without the prior team demanding any sort of compensation, and (b) restricted free agents where the prior team has the right to match the player's best offer. For the 2009 season, a player with 4 or more accrued seasons whose contract is set to expire is an unrestricted free agent, while a player with 3 accrued seasons is restricted.

The NHL and the NBA have a similar distinction where the current team of a restricted free agent may make the player an offer improving his salary or matching what he gets from another team. If the player ends up moving, the original team gets compensation in draft picks. The contract of a restricted free agent has expired but does not meet the requirements to be an unrestricted free agent. In contrast, the European leagues treat free agents as unrestricted with the ability to sign with any team in any league. This rule applies to players older than 23. Until that age, a transfer fee has to be paid even if the contract has expired. This fee has a development cost rationale.

3.4.4.4 Talent Draft

European soccer leagues do not have a draft system as North American leagues typically do. European teams compete against each other for talent all over the world. They are free to sign any player from any place in the world as long as they respect FIFA's transfer regulations and register the player within the two periods to hire players into the squad set by the national association. The first period goes from the end of the season up until the beginning of the following one for a total of twelve weeks at most. The second period happens in the middle of the season and lasts for about four weeks.

In North America, the entry draft is a vitally important aspect of success and player recruitment in the NBA and NHL, where the most 1st round draft picks become regular stars in the league and demand high salaries (up to the rookie salary cap) and effort from the teams to sign them. The NFL and MLB also have entry drafts although they are not as evidently successful in terms of predicting player success when drafted high (although high rookie salaries and high club risk in signing draft picks is a reality).

North American player drafts are league-leveling competitive balance mechanisms. The draft regulates the way in which new players join the league. Players that want to come into the league because of their personal interest and meet the league requirements are listed for teams to choose. The league then establishes the order in which teams pick from the list. Teams that pick first can choose the most talented players coming into the league while teams coming later have less talent to choose from. The ordering of the draft is another balancing mechanism. Weaker teams are given first priority to choose in an effort to move talent into these teams. The draft can become so important that players' transactions often include draft picks as part of the transaction. Although some players do enter the league by other methods (e.g., via minor league systems, walk-ons, etc.), the draft is the main way for a player to join the league. Once in the league, the player may move between teams following the transaction rules. Players coming into the league often have their salary restricted by a rookie salary cap.

3.4.4.5 Development Systems

The feed of talent into the leagues differs across the Atlantic as well as within the North American leagues. European soccer leagues compete in a global market for talent that FIFA,

the international football federation, regulates within the limits of labor laws.[33] The talent reaches European leagues through two main routes. The first route is the team's own talent development system. The most important teams in Europe invest significant resources in developing talent within their soccer schools. They have teams for children as young as eight years' old. Scouts can identify talent in kids as young as twelve or thirteen years' old. Promising kids are nurtured through the teams at different development leagues. This route is very attractive because those players that reach the main team through the development system take a position that otherwise would have to be filled with a player coming from another team and a transfer fee. However, labor laws in Europe do not allow a person that has not reached eighteen years of age to sign a contract. Thus, competition among teams to grab young talent has become more intense as players without a contract are free agents. Thus, a seventeen-year-old player can be taken from the development system of a team at no cost, often offering a contract to his parents to move to the location of the new team[34]. The original team has the right to a training compensation fee estimated based on the years the player has been at the club, the categories at which he played, and the ratio of players trained per professional player (FIFA, 2007).

The second route to bring talent to European leagues is to purchase it from non-European countries; mostly from Latin America and Africa. Teams in these leagues make a significant percentage of their revenues from selling their most talented players to European leagues. For instance, 35% of Argentinean teams' 2008 revenues came from transfers compared to 5% from ticketing and 19% from broadcasting rights. The transaction process is comparable to the one described in section 4.7 where the player has a rescission clause that the European team negotiates to hire the player. The transaction amount associated with the clause goes to the selling team.[35]

These two routes are intertwined. Scouts from European teams are spending more time in these developing countries to identify talent below the contracting age with the idea of bringing this talent within their development system earlier rather than later. Even if FIFA bans the transaction of players younger than eighteen years' old into Europe, it has made exceptions. The case of Leo Messi in FC Barcelona is a case in point. He went to FC Barcelona's development system when he was thirteen from Argentina. The argument for these transactions is that they give these youngsters opportunities to develop that they would otherwise miss.

In North America, the system works differently. Following the entry draft (previous section), the player either makes the professional club and, if not, they are typically sent to a minor league club (or, in the case of hockey, back to their junior or college team) to continue their

33 It is not unusual for FIFA regulations to have to 'accommodate' country/trading block labor law. For instance, FIFA has been toying with the "6+5" rule where 6 of the players at the beginning of a game should be players eligible to play in the national team. The objective was to strengthen the national teams forcing teams from the country to have players getting exposure to top level competition. Yet, the rule goes against labor laws in Europe where workers with EU nationalities can work in any EU country without restrictions.

34 Transfer is granted if the transfer is for "non-soccer" related reasons.

35 As well as intermediaries, people that hold rights over the player's transfers, and the player himself.

development. They remain the property of the club during this period. This is the common route in MLB and NHL. However, the NFL does not have a strong development system although some players will play in other minor professional leagues like the Arena Football League or the Canadian Football League but neither of these are official or formal relationships with an NFL club.

3.4.4.6 Players' Background and Career Path

Young players follow different paths in each sport before becoming a member of a professional club via the entry draft or signing. The typical career paths in the various North American leagues are:

- NBA – players are required to play one year of college minimum or in a European league. In the NCAA, this is often dubbed the "one and done", as star players often enter the draft after one year. Prior to the 'one and done' rule, players could enter directly from high school (e.g., Kobe Bryant, Lebron James). As the percentage of players coming from outside the traditional North American college route increases, the European or Asian leagues route is becoming more common. While the North American route requires players to have a high school education and at least one year of college, the European or Asian routes do not require such an educational background

- NFL – Three years minimum after high school is the rule and most players tend to play their entire college career before entering the draft. The objective is to force players to mature physically before entering a game that is fundamentally physical.

- NHL – most players do not go the college route. They must be at least 17 years old on draft day and most come from the Canadian Junior Leagues (Ontario Hockey League, Quebec Major Junior Hockey League, Western Hockey League) or US High School Hockey or European Leagues, while some do come from college and the NCAA.

- MLB – minor leagues, drafted young with intense scouting. Sometimes via college. Players tend to play multiple years in the minors before going to the MLB with very few exceptions.

- European football (soccer) leagues – No rules on player backgrounds. European leagues have no rules on players' background or career paths, resulting in comments on the weak educational background of some of the best players ever. Farm systems are starting to emphasize the educational side of kids much like sport as seen in the North American college system.

3.5. Business Implications

The previous section described important differences in the structuring of the business of sports in both sides of the Atlantic. The picture that emerges is a very different approach to sports management and industry structure. This difference is summarized in the idea of whether the argument of economic competitive balance leading to sporting balance leading to product attractiveness holds. This section moves from the descriptive nature of section 4 to the implications that structure has on the behavior of the various actors and the performance consequences of those behaviors. The arguments that are presented should be read as hypotheses rather than conclusions. Performance itself is a multi-dimensional concept. The 2008 crisis has put several European soccer clubs in significant financial trouble, yet players' salaries in Europe have seen steep increases over the last ten years. Soccer is the most popular global sport in contrast to North American sports that in general are limited to a few regions or clearly behind soccer at the global level. From the perspective of "customers" and people practicing, soccer is ahead of the game. Thus, the multiple facets of sports make performance to be an elusive concept. Second, the differences are numerous as it has become evident in the previous section. The structures are path dependent and behave as systems with complementarities and dependencies that reinforce certain configurations. The hypothesis should be read more as summaries of the arguments rather than bivariate relationships.

3.5.1 Implications of Structure of Competition, Ownership and Governance

Closed versus open leagues, single versus multiple competitions, unique versus diverse ownership structures of teams, the structure of decision rights between teams and leagues, globalization strategies, and the existence of fan clubs create industry structures that shape the behavior of the actors in the industry and their performance. The behaviors that emerge are the response to these various forces without a single one of them dominating.

3.5.1.1 Implications of Structure of Competition

North American teams do not face relegation and managers can emphasize long term planning and economic viability. Furthermore, this closed league structure provides stronger incentives to cooperation than leagues with relegation. Without the threat of being demoted from the league, low sporting performance teams can focus their efforts to developing and improving the team over various seasons, often using league mechanisms such as draft picks. In Europe, the mindset of lower ranking European league clubs is to avoid demotion at any cost (due to the significant decreases in marketing and broadcast revenues associated). This threat emphasizes short term management and "betting the club" with costly hires mid-season to avoid relegation.[36] Relegation together with a transaction window half way through the season, long-term player contracts, and no salary cap structure puts a lot of pressure on lower ranking teams to spend in an effort to avoid the economic damage associated with relegation. This behavior can be expensive from

36 If this "betting the club" move fails and the team is relegated, the economic troubles are compounded. Leeds United is one notable EPL example of a club that dropped from the EPL to the Championship and then to League 1.

an economic perspective. If relegation is not avoided, these teams see their revenues drop dramatically while their cost structure drops much move slowly. The English Premier League uses TV parachute payments in an effort to ease this big disequilibrium in the income statement structure. However, other leagues do not do so.

Closed leagues provide incentives for teams to cooperate to make the league viable and successful. The attractiveness of a particular team depends to a large extent on the success of the league as a whole. Closed leagues also insure that bad luck (or bad management) does not kick out the league flagship teams. Open leagues miss this collective view to a much larger extent as league success is not associated necessarily linked to team success. The cooperative behavior that closed league structures lead to have two opposing forces. On the one hand, it lowers internal competition that is often associated with less progress and innovation. On the other, it enhances collaboration to compete against other leagues. The profitability of North American leagues compared to their European counterparts favors the latter argument, while the worldwide fan base of soccer supports the former.

Multiple competitions provide alternative sources of revenue to teams. However, most teams in national leagues do not participate in European competitions where a lot of value is distributed. The fact is that most teams compete in the round-robin league tournament and the knock-out national competition. However, the relevance of European competitions for top level clubs has moved the knock-out national competition to a role that is not always attractive for them from an economic perspective. Multiple competitions also put significant demands on the players of top level teams that may have to play twice as many games even if the roster is of equal size.

The scheduling flexibility that North American leagues have is absent from European leagues where all teams play each other twice. The implication is that North American leagues can define calendars with attractive games if needed. The play off structure also offers the attractive feature of seeing the most competitive teams in a set of final games.

3.5.1.2 Implications of Ownership

The homogeneity of ownership structures in North America facilitates the functioning of the leagues. Decisions are made with objectives common to businesses such as growth, margins, market share or value creation. While, certain owners may have other objectives such as being a public figure or winning, business objectives increasingly dominate decisions. This structural dimension interacts with more decision rights granted to the league where the business criteria of the majority of owners dominates any other criteria that particular owners may have. The behaviors implicit in this business mentality may explain the economic performance of North American teams.

In contrast, European teams have diverse objectives. In addition to mixing for profit and non-for profit teams, within for profit teams certain owners value business criteria while others see their teams as pet projects and are willing to spend beyond reasonable business criteria to win. The behavior of extremely wealthy owners who want to win at almost any cost and with little if any

financial restrictions is quickly translated into the prices in the players' market. This salary inflation puts additional pressure on the economics of other teams.

Non-profit teams pursue objectives other than value creation. In addition to winning, they emphasize social aspects of sports (which sometimes are used as a way to enhance value creation to invest in winning). They invest in social projects that do not necessarily have economic returns. They do not require a return on their investments (other than breaking even). Moreover, their governance structure is different from that of an owner. While an owner is putting his or her own wealth at stake, the president of a non-for profit team is judged on various criteria such as winning or political clout with the economic criteria being just another (even minor) criterion. The figure is closer to a politician that to a businessperson. And the incentives are closer to the former who is willing to leverage the team if it provides him with power (usually through success on the field).

A final aspect associated with ownership is the non-sports related business where the owner is willing to lose money in the team to facilitate business deals in other industries (typically in real estate).

3.5.1.3 Implications of Decision Rights

Decision rights are an important management aspect in any organization and professional sports is no different. The North American model centralizes many decision rights at the league level. This solution has several advantages. First, coordination is easier. The league manages to enhance the overall value of the league rather than the interests of individual teams. The league enforces a level of cooperation that is absent when key decision rights are at the team level and additional organizations such as federations have some of the decision rights. This cooperation focuses the effort of the teams in executing an agreed plan rather than having each team focus its efforts on achieving individual objectives.

Second, the league is a single entity when negotiating with players' unions, televisions, or any other entity that wants to make business with the league. It presents a coherent and unique set of demands. This is in contrast to multiple negotiations happening when different objectives and interests are being pursued.

Third, knowledge sharing is faster and more transparent when the league has more power. The cooperation imposed by the single entity facilitates sharing best practices. In contrast, dispersed decision rights reinforce the competitive view. Teams try to hide their best practices to gain advantage vis-à-vis other teams. When a team adopts a new practice (such as opening soccer schools in other countries) the practice is quickly copied even if its success is uncertain.

Fourth, concentration of decision rights facilitates the hiring of management talent. Commissioners are often managers with deep top management experience. Their teams often have highly experienced and qualified managers. When decision rights are delegated to teams, the resources

to hire talent divided among several dozen teams. Powerful teams have more access to management talent increasing the difference between weak and strong teams.

Finally, delegation of decision rights has the advantage of experimentation. Each team is toying with different ideas much like in a market economy. Innovation and creativity are enhanced (at the cost of inefficiency). Concentration of power at the league level decreases experimentation but experiments are likely to be better designed.

3.5.1.4 Implications of Globalization

Globalization strategies are an interesting aspect of league management. North American leagues have more decision power and can deploy a coordinated plan to go international. They also have the power to change the business rules to enhance international expansion if they believe that it is the best way to go. They coordinate their efforts to go to certain markets and they devote management talent that brings together the resources of all the teams to planning and executing their efforts. European football benefits from a lot more experimentation where each team tries different formulas that other teams quickly copy if successful (or if they might be successful). It also benefits from the effort of international federations (FIFA and UEFA) that have plenty of resources. These international federations (that also help more established sports such as basketball through FIBA) do not work with the benefit of professional teams in mind, yet they spread the sport worldwide creating the demand that later on these teams can pick up.

3.5.1.5 Implications of Fan Clubs

Fan clubs are a way to monetize the passion of fans beyond merchandising, marketing and broadcasting revenues. Fans pay directly to the team as a way to show their commitment to, and passion for, the team in exchange for certain benefits. European teams are far ahead in monetizing this source of revenue than their North American counterparts. The challenge going forward is how to expand the number of fans who are also members of the team (and pay a yearly fee) especially for fans far from the team's home city. The second challenge is how to segment these fans to extract differential rents depending on their willingness to contribute to the club. This segmentation will be based on traditional socio-economic and geographic factors but also on emotional factors vis-à-vis the club. Each segment will receive different benefits according to its profile.

3.5.2 Government and Federations

The markedly different structures of the society vis-à-vis sports across the Atlantic have also implications for the behavior and resource allocation of sports' actors. Federations have significant power in Europe with decisions that in North America are at the league level. Yet, federations have objective functions very different from those of leagues. Governments also have different views on sports. While North American governments see sports as just another industry, Europe sees it as part of society's knitting and intervenes accordingly. These views are consistent

with the role of sports in society. While in the US professional sports are a form of entertainment, in Europe they may even play political roles.

3.5.2.1 Implications of The Role of Federations

Federations are organizations that mark a significant difference between North American and European professional leagues. They reflect the differing views on sports across the Atlantic. While professional sports have been accepted as part of the sporting landscape for more than a hundred years in North America, the amateur nature of sports has only recently been replaced in Europe with a professional interpretation. Federations were created to manage amateur sports with the main objective of spreading the practice of sport at all levels.

UEFA and FIFA have power comparable to that of leagues in North America. They can ban players and teams from competing in soccer tournaments. They issue sporting and business rules that leagues and teams abide by. They oversee professional as well as amateur soccer. Yet they are non-profit organizations with the goal of spreading soccer around the world. These objectives set them apart from North American leagues that work exclusively for the teams. FIFA and UEFA often clash with professional teams which argue that they appropriate value they create and use their resources (players in national competitions) at a symbolic cost. These federations have to walk the fine line between satisfying teams (their main source of revenues), pursuing their objectives outside professional sports, and maintaining an authority granted by history.

While federations' investment in amateur sports might be interpreted as a diversion of resources away from the professionals who create it, this investment creates fans that otherwise might not exist to support professional soccer. The presence of federations adds to the complex European professional sports industry. The intersection of teams with business, sports, and social objectives with the behavior of federations designed to support amateur sports but ruling professional sports leads to performance that is necessarily evaluated in multiple dimensions.

3.5.2.2 Implications of the Role of the Government

The role of government in North America is limited to the role of public funding. Some people see it as simply transferring tax money to professional sports owners. However, if professional sports events bring additional economic activity to a region, then this transfer provides benefits beyond the sports industry actors. An important debate in sports economics evolves around this question. The answer appears to be that additional economic activity happens when spectators come from out of town.

The role of government in Europe is much more complex. The fact that most clubs have consistently being bailed out (through different mechanisms)[37] creates a significant moral hazard

37 Few relevant teams have failed. Less relevant teams have failed more often and dropped to lower level leagues within the country as a restart.

problem. Teams take additional risks knowing that they are "too popular to fail." This role of government differs across countries with Germany being more careful about this kind of behavior while Spain and Italy tend to be more prone to it. Yet, it creates market dynamics where failure is not punished. This structural factor leads teams to behave in ways that are not fully aligned with those of regular market organizations.

Governments also have broader agendas such as promoting the health and welfare of its citizens that they use as ways to collaborate with professional sports beyond the traditional role of a government in an industry. They may justify outlays for sport initiatives by attributing their effort to helping reduce obesity or to curb inner city crime. These government outlays may well be positive net-investment projects when the broader social benefits are taken in to account.

3.5.2.3 Implications of the Role of Professional Sports in Society

The sociology of sports is very different across the Atlantic. Professional sports in North America are an industry. It is an industry that emotionally binds people to a larger extent than other consumer products, but an industry that has to compete in the market for entertainment against other sports and entertainment products.

Professional sports in Europe and soccer in particular permeate society. They are entertainment but also a way to bind people around political and social concepts. Celebrations bring millions of people to the streets to see the players. This role beyond the mere entertainment means that sporting failure can quickly be interpreted as a political move against a certain group. This view enhances the "too popular to fail" view of sports.

3.5.3 Implications of Revenue Sources and Revenue Sharing

Revenue sharing mechanisms have significant influence on the structure of professional leagues. Higher central revenues leverage the economic playing field that might translate into competitive balance and a more attractive product. Teams in less attractive markets get enough resources to be competitive. However, sharing mechanisms also generate incentives at the team level. Teams that see their revenues guaranteed might free ride on the effort of other teams. Other league rules are set to limit this behavior, yet the incentives are there. Competitive balance gives to teams in smaller markets, teams that have lower revenue potential, more options to win.

3.5.3.1 Implications of Broadcasting Rights

Broadcasting rights reflect the differing views on the essence of competition. TV rights are equally shared among NFL teams with the objective of balancing the competition. At the other extreme, each team in La Liga sells its rights independently. The allocation method for the NFL enhances economic balance, while the allocation for La Liga feeds into dispersion, where richer teams have higher budgets making them even more competitive.

Revenue sharing is one of the most relevant economic rules to ensure the sustainability of teams and the budgeting balance across teams (the other rules are associated with cost management).

Revenue sharing, with broadcasting being one of the most prominent ones has a significant impact on the revenue side at the team level. Equal sharing leads to teams with comparable economic strength that enhances the likelihood of competitive balance on the field. We argue that this equal sharing "props up" the weaker clubs who are mismanaged (see Figure 1). Equal sharing also reinforces the financial viability of the teams, giving teams a high certainty about a significant percentage of their revenues and therefore decreasing the variance of their revenues.

Keeping revenues at the team level amplifies the virtuous and vicious circles that teams may get into. When a team happens to do well (either because of good management or luck), revenues quickly follow, providing the team with additional resources to buy additional talent, leading to more success. Conversely, when performance deteriorates, it translates into lower revenues and lower talent, reinforcing the negative loop. Another consequence is an incentive to focus on what is best for the team and not what might be best for the league. Short-term optimization of team revenues may weaken the league as a whole, compromising the long term attractiveness of the teams in the league. Finally, revenues at the team level mimic best the "perfect market" within the league. The Darwinian nature of economic competition exposes teams to the rewards and punishments of market forces as well as the creativity associated with competition.

3.5.3.2 Implications of Marketing, Merchandising and Sponsorship

The implications of revenue sharing described for broadcasting rights are compounded when adding marketing, merchandising and sponsorship. The NFL again shares a sizable portion of these revenues equally among teams. For marketing and sponsorship, these revenues can occur at both the league level and the club level, where contracts at the league level are typically for larger amounts and are equally shared. Other North American leagues have some level of sharing. European leagues have little sharing. North American leagues have an interesting tension that is resolved through the power granted to the league. The league is run with the interest of each team equally weighted. If this equal sharing is strongly correlated with the overall value of the league, then the league's view enhances value vis-à-vis other leagues. Yet, each team belongs to a different owner who has individual value creation as one of the relevant objectives. Teams in attractive markets will want to set rules where they keep most of the value that they generate and do not share it with teams in weaker markets. This tension between powerful teams keeping the value that they generate versus the league looking for the viability of all teams in the league and its overall value is resolved through decision rights. Those leagues with more decision rights also use revenue sharing mechanisms to enhance the competitive balance, while leagues with less decision rights have powerful teams that capture a significant piece of the value which leads to higher competitive dispersion. At one extreme is the NFL, while other North American leagues have weaker leagues. In Europe, the EPL is working towards a North American model starting to play somewhat with revenue sharing mechanisms while other leagues have little if any economic power to set rules.

3.5.3.3 Implications of Competitive Balance Taxes

Competitive balance taxes are rarely found outside North American sports. Their objective is to subsidize those teams in smaller markets that cannot expect to reach the level of revenues that

teams in big markets can achieve. However, these subsidies do not provide incentives for good management, in fact the opposite is often true which is counter to the typical thinking on revenue-generation incentives.

The subsidies come from "taxes" to the richest clubs and can take two different forms. First, is 'revenue taxes' where the clubs with the highest revenues are "taxed" and those tax dollars are shared. The second type of tax is 'payroll tax' where the clubs with the highest payrolls are taxed when they choose to spend beyond the various caps (league dependent). The rationale behind these taxes is to subsidize the small market clubs and provide league-wide economic viability, where each team in the league has the potential to generate an attractive product. A more level economic field does not necessarily lead to a league with all teams having an equal chance to win at the beginning of the season. Although they are not rewarded by the revenue incentive structures, differences in management quality and marginal revenues become more salient and may lead to certain teams dominating the sporting side during a few years. Yet, an economically balanced league is believed to lead to a more attractive average product where each game can be interesting.

As noted, competitive balance taxes are an approach to provide resources to weaker teams in order for them to be competitive enough. Yet, they do not remove all the incentives to richer teams from being creative in generating additional revenues. In a more balanced revenue sharing model such as the NFL, the team that is able to come up with a new way to enhance revenues only gets 1/32 of centralized revenues. However, this encourages teams to focus their growth and revenue-generating efforts on local revenues which are not shared.

3.5.3.4 Implications of Other Revenue Sharing Mechanisms

Revenue sharing mechanisms work to the same objective as previous revenue sharing mechanisms (sharing of broadcasting rights, marketing and merchandising and luxury taxes). Figure 1 is also a relevant illustration here. The objective of revenue sharing mechanisms is to subsidize weaker teams so that they have resources to field a competitive team to create an attractive product. European leagues are much less supportive of what has often been called a "socialist" system relying on much more of a Darwinian/capitalistic system. Behind this capitalistic approach to professional sport management, there is a dominance of a few teams per national league that meetin European competitions an a more level field. Being competitive at the European level requires an investment much larger than that needed to compete at the country level.

3.5.4 Implications of Labor Relations Factors

Labor relations emphasize the objective of economic competitive balance in North America. They are also designed to guarantee to the largest extent possible the economic sustainability of the league and the teams within it. To do so, risk is shared with players through salary caps and wealth that players appropriate in Europe are transferred to teams in North America. The fact that the government does not bail out failed teams in North America might explain why strong player unions would accept this wealth transfer. This transfer helps league sustainability when alternative survival mechanisms are absent.

3.5.4.1 Implications of Players' Salary Structure

The salary structure has significant implications on the structure of the labor market and the distribution of rents. First, the existence of a strong players' association that negotiate with the league establishes a contracting environment very different from that of individual players negotiating directly with teams. Because an association represents the majority of the workforce, it often allocates income from the best players to the less talented players through minimum salaries.

Second, the existence of a salary cap limits the income that players can extract from the sport. Proponents of salary caps argue that this mechanism helps the long-term viability of the league. The argument being that it protects teams from overspending and putting teams at financial risk. The threat of relegation (and its economic implications) or the personal utility from winning may lead managers to take too many risk. In other words, salary caps protect teams from mismanagement (such as excessive risk-taking). However, protection from mismanagement is absent in most industries except certain cartels, an observation that highlights the "legal monopoly" status of North American teams.

Third, salary caps within the context of other institutional arrangements such as revenue sharing and minimum salary expenses enhances the economic balance that, at least in North America is often equated with the attractiveness of the league.

Fourth, salary caps are just another way for rich teams to subsidize weaker teams (much as the revenue sharing mechanisms). The cap limits the ability of rich teams to pay for talent and attract better players away from weaker teams.

Salary caps have often been associated with economic viability of teams and the league itself in addition of providing a more balanced economic starting point. The former is an important argument that led the NHL to a season-long strike and constantly illustrated in European leagues when teams in the bottom half of the league which suffer relegation and often either run into significant economic troubles (and further relegated) or are bailed out by local or regional governments.

3.5.4.2 Implications of Players Transactions

The main difference across the Atlantic is the absence of money as a relevant aspect in North American trades. This difference is viable because these are closed leagues where all teams are supposed to want a competitive team. European leagues are part of a world system under FIFA where teams in certain parts of the world (mainly Latin America and Africa) benefit greatly cash-wise from transfer payments for players. A player-for-player transaction is of lower interest to them. The absence of money makes transactions more complex in that trades involved assets worth lump sums whether it is a draft pick or a player. It also precludes a strategy where a team would become a talent developer living off players' development. Money trade would be a transfer within the league comparable to a revenue sharing mechanism.

European leagues work almost exclusively through transfer payments. Contracts having to be honored, the existence of a rescission clause and FIFA's Article 17 gives power to players who have proved their talent. While a high rescission clause may lock a certain player into a team, FIFA Article 17 gives the player power to force the team to negotiate if he feels that he can be more valuable in another team.

3.5.4.3 Implications of Free Agency

The mechanisms of free agency are similar across leagues on both sides of the Atlantic once it kicks in. Players who become free agents can negotiate with any team without no restrictions. However, the mechanisms to achieve free agency are somewhat different. European leagues restrict free agency through the rescission clause and the term of the contract. This structure benefits players with negotiating power because of their performance on the pitch or their media power. These players can negotiate longer contracts that protect them against injury risk, a lower rescission clause that keeps them "on the market" and forces renegotiation as their value goes up (or a higher compensation if a large clause isolates them from the market). FIFA's Article 17 gives the player additional bargaining power. Players with lower status may have to sign shorter contracts and absorb injury risk. The free agency structure in Europe provides strong incentives to perform earlier in the players' sporting career with significant compensation and risk bearing pay-offs; however, the incentives associated with this mechanism quickly decrease once the player proves his talent and signs a long term contract.

Free agency in North American sports is somewhat different in its objective. When a player joins the league, he is bound by significant restrictions in terms of the number of years he must remain with the team who drafted him (in addition to his maximum salary, if a rookie salary cap exists). But once this period expires, he automatically becomes a free agent. This period of restricted free agency supports weaker teams and may allow them to keep certain players (for a limited number of years) that they may not afford later on.

3.5.4.4 Implications of Talent Draft

The coming of talent into the league is another significant difference across leagues. European leagues keep their competitive market design here also. As long as the player has no contract, any team is free to sign him. Because talent can be spotted as early as 12-year-old kids, the competition among teams to hire talent is moving down to younger kids. Rescission clauses and long contracts reinforce this trend where competition for talent is moving down to kids.

The entry into North American leagues is highly regulated through the draft system. The draft system creates a market at a certain point during the year where teams and new players trade. This regulated market enforces certain rules such as minimum age or education requirements. These rules limit talented players from starting to earn earlier yet it protects them from early burn-out. But the main aspect of the draft system (together with trading restrictions during the early years) is to give weaker teams the option to field a competitive team. The draft system is a direct mechanism to balance players' talent across the league (although no mechanisms exist to

balance talent at the sports and business management positions) in contrast to other mechanisms that work indirectly through the economic resources.

3.5.4.5 Implications of Development Systems

European leagues rely on development systems to a larger extent, while North American teams rely on rules to join the league and the existence of career paths outside the league such as college sports (and European leagues for NBA and NHL). The development system in European leagues has two main purposes depending on the stature of the team. Top teams use their farm system as a way to reduce costs. They believe that their investment in several hundred kids to find a few top level players is profitable. Bringing up their own talent saves on transfer fees and for those players who are good but not good enough to make it in a top team, the transfer fee to mid-level teams still brings some revenue. However, the competition among top teams has moved to kids where teams hire the player's parents to bring the kid into their farm system and away from a competitor. The team losing the kid has to decide to let him go or make a better offer to the parents. Fàbregas or Piqué were part of the FC Barcelona farm system and hired away into the farm systems of EPL teams (Piqué was later brought back to FC Barcelona for a substantial transfer fee). Mid-level teams (and teams in Latin America and Africa) use their farm systems as important sources of revenues. However, the hiring away of kids (through the hiring of parents) into the farm systems of top teams is becoming a challenge going forward (that FIFA is starting to regulate).

Development systems in North America (NHL and MLB) are intended to give players the chance of playing if they are coming out of an injury or having sporting problems. The idea is to give flexibility to the teams in managing their resources.

3.5.4.6 Implications of Players' Background and Career Path

The rules in North American leagues (NFL and NBA mainly) put some demands on the age and the educational background of their players. While this education is not a guarantee of good behavior or smart life decisions, they give players the chance to get an education. European teams (there is little legislation at the federation or league level) are only now starting to consider education as an important aspect of their deal with the sport. But in this case is not done out of league requirements but corporate social responsibility.

The existence of certain requirements imposes restrictions on players who have to wait until they have met the criteria before they start getting rents out of their talent. These requirements also work against the teams in that they limit their access to talent. However, they are intended to support the long term viability of the league avoiding burning out talent if they are demanded top level performance at too young age. In Europe this decision is delegated to the individual player and the team which has to discipline itself to sacrifice short-term demands on talent to protect its growth.

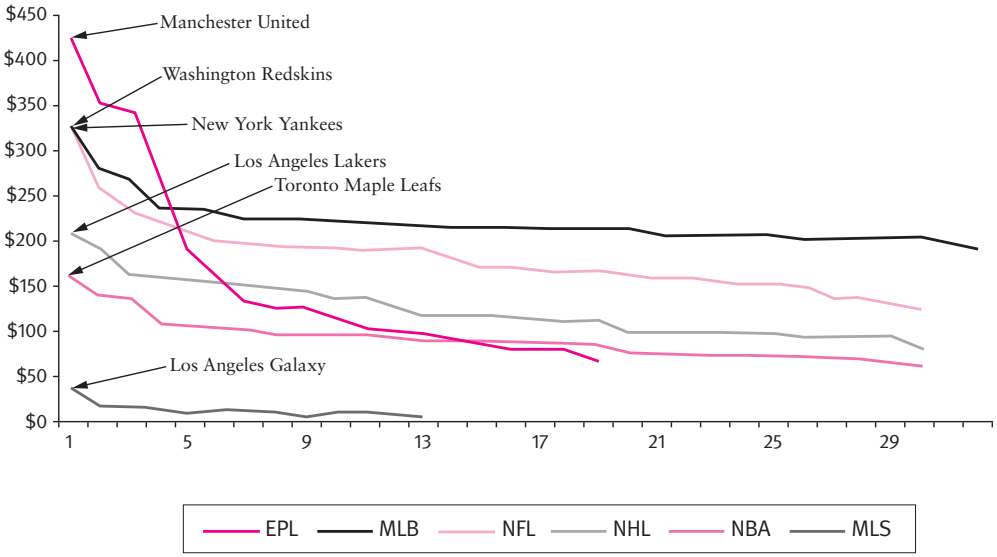
3.6. Conclusions

North America and European soccer leagues are among the most professionalized sports around the world. Yet, their business structure differs in a large number of dimensions. These differences come from the path that these sports have followed over their history. The concept of sport as an amateur activity structured around federations contrasts with the view of sports as a profession that has been accepted in North America for several decades. The differences also come from the distinct role that sport plays in society. While in Europe, soccer has often been a vehicle to reflect social identities from political to local identities, in North America professional sport has been seen more as an alternative entertainment product. These differences have relevant consequences to value creation, value appropriation and the interplay between these two forces.

Sports in North America are an alternative and very successful form of entertainment. While fans may be very engaged with their team and emotionally attached to it, in a relative sense, sport is less of a social movement than in Europe. Figure 3 provides an illustration of a potential reason why North American professional sport is often viewed critically by European sport managers who tend to describe its structure as overly socialist. Figure 3 classifies teams into four quadrants according to their revenue (high/low) and the attractiveness of their local market (high/low). The four resulting quadrants show how league collective bargaining agreements (and their revenue sharing mechanisms) are typically established with what could be viewed as a socialist lens as motivating incentives (from a revenue perspective) for effective club management are not in place. There are teams with low market attractiveness that even if their management is excellent they have limited revenue upside (top right quadrant). At the other extreme, there are teams in attractive markets that do not perform as well as they should but keep on surviving because of the socialist approach to league management (bottom right). There are teams with low market potential and low revenue compared to their possibilities that also survive supported by the socialist system (bottom left). Finally, there are the star clubs in attractive markets and well managed which do not capture all the value they created (top right).

The paper describes and analyzes these differences. The conclusion that emerges is business models that differ to a large extent with different actors in the industry benefiting or losing from the current structure. The attractiveness of each model depends very much from the perspective that is taken, whether it is overall value creation, the owners' point of view, the players' interests or some broader social welfare.

Figure 1. Club Revenue Differentials by Sporting League

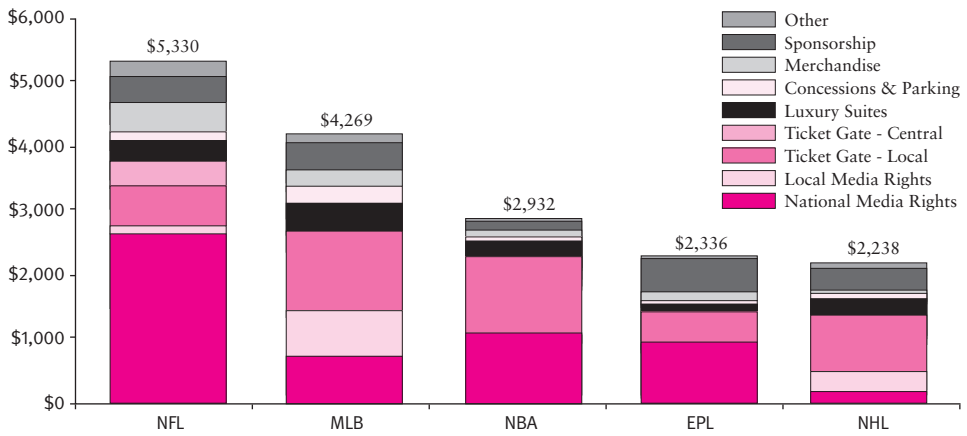


Revenues by Club :

- EPL = English Premier League
- MLB = Major League Baseball
- NFL = National Football League
- NBA = National Basketball Association
- NHL = National Hockey League
- NBA = National Basketball Association
- MLS = Major League Soccer

*2008 or 2009 Data (Forbes or Deloitte) - presented in US$

Figure 2. Revenue mix across sports



Sources: NFL: Total revenues for 2002-2004 season from 1/27/2005 issue of Forbes. Central Revenue percentage from Green Bay Packes 2004 Annual Report.
MLB: Total revenues for 2004 season from 4/2005 issue of Forbes. Percentages based on team by-team revenue and expense forecasts for the 2001 season in the Congressional disclousure as reported by USA Today on 12/2001.
NBA: Total revenues for 2003/2004 season from 2/16/2004 issue of Forbes. Estimated breakdown of revenue-sources.
EPL: Revenues and revenue percentages from Debiitte & Touche 2002-2003 Annual Review of Football Finance.
NHL: Total revenues for 2003/2004 season from 11/29/2004 issue of Forbes. Revenue percentage from 2003 Levitt Report.

Figure 3. North American Professional Sport Club Management Competency

Attractiveness of Local Market

Revenue Generation		Low	High
	High	Penalty for Good Management Performance	Large Penalty for Good Management Performance
	Low	Subsidized for Poor Management Performance and Small Market	Subsidized for Management Incompetence

Table 1. EPL TV revenue sharing

CLUB	'07-08	'06-07
Manchester United	US$96.4M	US$62.5M
Chelsea	US$89.1M	US$60.4M
Arsenal	US$91.5M	US$56.7M
Liverpool	US$88.7M	US$55.5M
Everton	US$82.3M	US$49.5M
Aston Villa	US$82.7M	US$43.0M
Blackburn	US$78.6M	US$43.0M
Portsmouth	US$79.0M	US$45.0M
Manchester City	US$77.6M	US$41.1M
West Ham United	US$72.0M	US$41.3M
Tottenham Hotspur	US$70.4M	US$53.4M
Newcastle	US$76.7M	US$41.5M
Middlesbrough	US$66.9M	US$40.1M
Wigan	US$65.3M	US$36.0M
Sunderland	US$65.8M	US$12.7M*
Bolton	US$62.6M	US$48.1M
Fulham	US$61.3M	US$39.9M
Reading	US$59.9M	US$46.2M
Birmingham	US$58.3M	US$12.7M*
Derby County	US$57.0M	---
EPL TOTALS	**US$1.6B**	**US$983.5M**

NOTES: * = denotes parachute payment for clubs promoted from the Coca-Cola Championship. Total payout to the 20 EPL clubs, excluding parachute payments, was US$1.5B, up from US$907.3M in '06-07.

Source: Sports Business Daily (http://www.sportsbusinessdaily.com/article/120914)

Table 2. Budget of European football leagues

La Liga (€)	
Real Madrid	345
Barcelona	315
Valencia	139
Atlético de Madrid	138
Sevilla	90
Villarreal	68
Deportivo de la Coruña	65
Athletic de Bilbao	53
Espanyol	45
Racing de Santander	33
Mallorca	30
Osasuna	29
Almería	23
Getafe	18
Valladolid	18
Málaga	14
Sporting de Gijón	12

English Premier League (£)	
Manchester United	167
Chelsea	152
Arsenal	133
Liverpool	122
Newcastle	83
Tottenham Hotspur	74
Manchester City	62
West Ham	60
Everton	58
Bolton Wanderers	54
Aston Villa	49
Blackburn Rovers	43
Charlton Athletic	42
Birmingham City	40
Sunderland	39
Fulham	37
West Bromwich	35
Wigan Athletic	35

Table 2 (continued)

Ligue 1 (€)	
Lyon	200
Marseille	80
Paris SG	75
Bordeaux	60
Monaco	55
Lens	50
Saint-Etienne	50
Lille	47
Rennes	45
Sochaux	40
Toulouse	40
Auxerre	35
Nancy	30
Caen	28
Strasbourg	28
Nice	27
Valenciennes	25
Le Mans	24.5
Metz	24
Bretagne	23

Bundesliga (€)	
Bayern München	287
Schalke04	150
Hamburger SV	138
VfB Stuttgart	132
Werder Bremen	112
Borussia Dortmund	107
Hertha BSC Berlin	78
Bayern Leverkusen	75
VfL Wolfsburg	75
Eintracht Frankfurt	66
FC Nüremberg	61
Hannover 96	50
MSV Duisburg	40
VfL Bochum	38
Arminia Bielefeld	33
Karlsruher SC	30
Hansa Rostock	30
Energie Cottbus	25

08-09 data for La Liga, 05-06 data for EPL, 07-08 for Ligue 1, 07-08 Bundesliga

Sources: Deloitte Football Finance, La Ligue, LFP, German Money League.

Table 3. Examples of Expansion and Relocation[38] in North American Leagues

Recent Expansions

NFL	
1995	Carolina
1995	Jacksonville
1999	Cleveland
2002	Houston

MLB	
1993	Florida
1993	Colorado
1998	Arizona
1998	Tampa Bay

NHL	
1998	Nashville
1999	Atlanta
2000	Columbus
2000	Minnesota

NBA	
1989	Minnesota
1989	Orlando
1995	Toronto
1995	Vancouver
2004	Charlotte

Recent Relocations

MLB
- 1970: Seattle Pilots to Milwaukee (Brewers).
- 1972: Washington Senators to Arlington (Texas Rangers).
- 2005: Montreal Expos to Washington, D.C. (Washington Nationals).

NFL
- 1982: Oakland Raiders to Los Angeles.
- 1984: Baltimore Colts to Indianapolis.
- 1988: St. Louis Cardinals to Phoenix.
- 1995: Los Angeles Raiders to Oakland.
- 1995: Los Angeles Rams to St. Louis.
- 1996: Cleveland Browns to Baltimore (Ravens).
- 1997: Houston Oilers to Memphis (Tennessee Oilers, then Titans).

NBA
- 1971: San Diego Rockets to Houston.
- 1972: Cincinnati Royals to Kansas City-Omaha (Kings).
- 1977: New York Nets to New Jersey.
- 1978: Buffalo Braves to San Diego (Clippers).
- 1979: New Orleans Jazz to Salt Lake City.
- 1984: San Diego Clippers to Los Angeles.
- 1985: Kansas City Kings to Sacramento.
- 2001: Vancouver Grizzlies to Memphis.
- 2002: Charlotte Hornets to New Orleans.
- 2008: Seattle SuperSonics to Oklahoma City (Thunder).

NHL
- 1976: California Golden Seals to Cleveland (Barons).
- 1976: Kansas City Scouts to Denver (Colorado Rockies).
- 1980: Atlanta Flames to Calgary.
- 1982: Colorado Rockies to East Rutherford (New Jersey Devils).
- 1993: Minnesota North Stars to Dallas (Stars).
- 1995: Quebec Nordiques to Denver (Colorado Avalanche).
- 1996: Winnipeg Jets to Phoenix (Coyotes).
- 1997: Hartford Whalers to Raleigh, North Carolina (Carolina Hurricanes).

38 Note that relocations rarely occur in European cities due to the concept of relegation, where a team or city that declines results in the club dropping to a lower league but still remaining in that city.

Table 4. Green Bay Packers' income statement

GREEN BAY PACKERS STATEMENTS OF INCOME
Fiscal Year Ended March: US$Millions

	2005/2006	2006/2007	2007/2008
OPERATING INCOME			
National revenue			
Television	87,334	84,658	87,584
Road Games	12,919	14,123	15,138
Other NFL Revenue	15,073	26,092	32,853
Total National Revenue	**115,328**	**124,874**	**135,576**
Local Revenue			
Home Games (net)	28,451	28,996	30,889
Private Box (suite) income	11,289	11,778	12,059
Sales and Maketing Revenue	41,446	40,710	50,256
Local Media	4,053	4,278	4,463
Concessions & Parking (net)	5,052	5,574	5,495
Other	2,790	1,859	2,593
Total Local Revenue	93.083	93,198	105,758
Total Operating Income	**208,411**	**218,073**	**241,335**
OPERATING EXPENSES			
Player Costs	102,868	110,690	124,651
Team Expenses	33,674	17,710	26,459
Sales and Marketing Expenses	21,353	20,739	26,008
Operations/Maintenance (net)	6,309	7,222	7,567
General + Admin Expenses	23,274	27,464	35,227
Total Operating Expenses	**184,481**	**183,827**	**219,915**
Profits from operations	**20,930**	**34,246**	**21,420**
Other income (Expense)	8,100	6,150	14,369
Income Before Provision For Income Taxes	29,031	40,396	35,789
Provision for Income Taxes	11,000	18,400	12,425
Net Income	**18,031**	**21,996**	**23,364**

Table 5. NBA payroll per team – 2008/2009 Season

Team	Payroll
1. New York Knicks	US$96,643,646
2. Dallas Mavericks	US$94,830,398
3. Cleveland Cavaliers	US$90,833,539
4. Portland Trailblazers	US$79,887,114
5. Boston Celtics	US$79,188,973
6. Los Angeles Lakers	US$78,245,793
7. Phoenix Suns	US$76,001,311
8. Toronto Raptors	US$73,197,890
9. Houston Rockets	US$72,981,100
10. Milwaukee Bucks	US$71,088,614
11. Detroit Pistons	US$71,084,287
12. Washington Wizards	US$70,542,500
13. Miami Heat	US$69,952,802
14. Indiana Pacers	US$69,668,818
15. Orlando Magic	US$69,672,979
16. Denver Nuggets	US$69,422,003
17. Sacramento Kings	US$68,739,818
18. Oklahoma City Thunder	US$68,341,605
19. Atlanta Hawks	US$68,168,841
20. San Antonio Spurs	US$67,993,153
21. Chicago Bulls	US$67,705,816
22. Golden State Warriors	US$67,416,431
23. Philadelphia 76ers	US$67,242,522
24. New Orleans Hornets	US$66,842,294
25. Minnesota Timberwolves	US$65,980,450
26. Utah Jazz	US$65,841,407
27. New Jersey Nets	US$62,666,523
28. Charlotte Bobcats	US$62,507,774
29. Los Angeles Clippers	US$62,174,296
30. Memphis Grizzlies	US$55,093,507

Source: http://www.eskimo.com/~pbender/index.html

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3.8 Discussion by Michelle Centenaro (European Club Association) and Stefan Kesenne (University of Antwerpen)

Michele Centenaro

The paper by Antonio Dávila, George Foster and Norm O'Reilly is a very comprehensive study that covers the main differences between the European and North American leagues. But I wonder why, in Europe, you only scrutinized football. I know that football is the top league, the main league, but I think there are also examples and interesting initiatives in other sports, like basketball, rugby or even Formula 1, because of recent developments in terms of competitive balance. They might also give a different perspective to the European picture.

Descriptive reporting has the advantage and the beauty of providing data that can make comparisons and draw some conclusions. Mine are dictated by experience, even if they might seem naïve or simple. The two approaches - the two methods - have big differences. There is no doubt about that. The reason is genetics. I apologize if I misuse the word. I mean that it is going to be very difficult for these approaches to change. Like genetics, you are the way you are. And it was interesting to listen to Professor Szymanski mentioning the fact that we believe that Europe is trying to copy the United States. If this is true, we have to ask why we do not have a European superleague and why we do not apply salary caps. I think that, in the United States, they are also trying to copy Europe. And this is something new that I did not know, so it is quite interesting. I think it has positive and negative aspects.

The first genetic difference is really the essence of the idea of sport and how sport –particularly with reference to football – is really innate in Europe. I believe it is part of our genes, it is part of our blood. But this historical and social role, the cultural background, makes a huge difference. I could also see a difference in the speeches by professor Dávila, Foster and O'Reilly. They use different words – more business-professional on the European side and more sports-oriented on the other side.

The concept of promotion and relegation in sports is a fundamental pillar that we will discuss later on. The fact that the league is open changes the whole thing. The other element is the role of the competitive balance. There is also the concept of pyramids and solidarity across all levels. The European pyramid of football goes from the base to the top and it is all linked. In the United States, the pyramid starts, but at some point it breaks. Then you have the professional leagues. It also relates to the fact that football is probably one of the most widely practiced sports in the United States at youth level, and up to a certain level. And then players have a harder time going professional. So this link, which is dictated by this pyramid and solidarity system, this idea that when somebody gives you something, you give something back in return is very important and constitutes a really a big difference compared to the American system. Finally, the nature and objective of football clubs as opposed to the American situation: for an American club owner, the main objective is to do business, not to lose money, to be profitable. And then of course, sometimes for a club and often for a football club, it is more important to win. The clubs want to win. Even the bottom club in the league thinks about it.

There is also another physical difference. The United States is one country and Europe is made up of 53 countries if you think in football terms or 27 if you think in terms of the European Union. And so there are 27 or 53 different brains, and every brain has its own taxes and laws and systems. How can you drag them all together? It is really difficult. That is why clubs play for many objectives in the season, with the added importance of domestic competitions. There are domestic values, there is the championship, there is the cup, there is the qualification to play in Europe and, at the same time, players play in Europe at another level. Some clubs, like FC Barcelona, also play the FIFA club world championship.

So there was one point in the paper I couldn't fully agree with: when the authors say that the role of player representation is more influential in North America than in Europe. It may seem so, but in my opinion, the situation in Europe is the way it is as a result of the Bosman ruling. I think that, recently, there has been a shift from the power of clubs to the power of players. The best example is Article 17 of the FIFA regulations. I would not only say players, I would also say agents - even more so.

Eventually, I would like to make a point on competitive balance and financial imbalance. In a study carried out by UEFA in late 2007 and early 2008, while I was working there to decide on what the future format of the European competitions should be, we compared domestic TV revenue, commercial revenue and Champions League revenue with UEFA Cup revenue. We took 12 different markets from large to small, and divided the clubs into tier 1, tier 2 and tier

3, depending on the level of income they obtained every year. It is not difficult to guess which teams we were looking at in terms of spending power. We see that the role of TV revenue for the tier-1 clubs and the role of Champions League contribution is rather limited compared to the role of what we called here, "other commercial revenue", which means sponsorship and merchandising, - basically everything that has to do with the power and the strength of the brand, like big football clubs. This also means that the so-called fan bases really make a big difference in revenue collecting between big, medium and small clubs. Big clubs have a huge fan base and that is also the reason why they work much more than they do in the United States in terms of exploiting and developing their brand, because the larger the fan bases are, the more they can sell to their sponsors and association. The difference between the United States and Europe is that clubs sell to sponsors their association with the image of the club as a brand. In Europe, how can you sell an association with the image of a league? What does a league mean? Another difference between the two models is that, whereas in the United States the commercial rights are sold collectively, this is not the case in Europe. And this is what causes a huge rebound in terms of the so-called competitive imbalance.

As a very last and controversial remark, I would say that, in the United States, they need unpredictability desperately because it is a closed league. Europe, on the other hand, is an open league, so clubs play for at least three different objectives. There are the groups that play to win, the groups that play for Europe and the groups that play to avoid relegation. The importance of big clubs, as highlighted by Professor Seabright, attracts a lot of attention. You need the big superstars, who are also good for the small ones, because they bring business to this sport. In conclusion, there are huge differences between the American and the European systems and I would say their very nature would make it very difficult to change them in their own territory.

Stefan Késenne

In the paper, the authors present a very extensive overview of the important differences in management structure between the four major leagues in North America and four rich national leagues in Europe – England, Spain, Germany and France. My first question is why France and why not Italy? The Italian league is more important than the French league in terms of money.

Then the authors distinguish between no less than 15 institutional arrangements that are shaping the business landscape. Of course, I will only concentrate on a few factors in my comments. First of all, I want to draw attention to the very peculiar international dimension of European football. The European football industry, with its many national football leagues, is characterized by an open European player market but by nationally protected football product markets. This is very important from an economic point of view. When the European Union was established, we first liberalized the product market, but the labor market was still relatively closed because of all kinds of cultural and language barriers. In sports, we did the opposite, and this led to huge imbalances in European football. Since the Bosman ruling in 1995, all the best players run off to rich football countries. And this is quite understandable because a team like Ajax, for instance (it is a pity that Johan Cruyff is no longer there), was a former European top cup-winning team.

This is not the case anymore because Ajax cannot compete with Manchester United or FC Barcelona or Real Madrid, because they are playing in the very rich domestic league, whereas Ajax has to play in its own small Dutch league. So Ajax could not play in the premier league even if it wanted to. So this national product market is still protected, whereas the player market is open. And from an economic point of view, this is a very strange situation.

We also observe very large and growing gaps between budgets, which already existed before the Bosman verdict because of the huge booming TV rights. Ajax and Anderlecht are good examples of that. Anderlecht is nowhere in Europe anymore - just a very weak team. They won a European cup in the past, but now that is no longer possible. How can they compete with Manchester for players if they cannot play in the same product market as Manchester? One possible solution, although we still think that Europe is maybe not right for it, is to also open the European football product market - not only the player market, but also the product market - by creating a European superleague, or several European divisions on top of the national divisions. Then the championship, the champions of the national competitions should leave the national competition and only play in the European league. Some people say we already have the European Champions League. But the Champions League is only making things worse because it is adding to the growing imbalance in Europe. We just have to look at the price system in Europe in the Champions League. If Anderlecht wins the European Champions League, which is a probability tending toward zero, it will earn less money than Manchester United if they win the Champions League. This is because the prize money is based on the size of the domestic league and the amount of TV money they can raise. So this European Champions League is also creating huge imbalances within the national leagues because Anderlecht or Club Brugge in Belgium can make it to the Champions League. Then they make a lot of money even if they do not win one game, they can increase their budget by between 10% and 20%, and then they come back, they take that money back home. And then they have to play against other teams with small budgets. For instance, the smallest team in the Belgian first division has a budget of €3 million. Anderlecht has a budget of €40 million, which is nothing compared to FC Barcelona, which is more than 10 times the budget of the smallest team in the first division. So this situation has also been made worse by the European Champions League. There are some data that show what is going on. We just need to have a look at the ratio of the average budgets of the large and small countries. I compared England and the Netherlands, Germany and the Netherlands and Belgium. So in 1995, England's average team budget was 3.8 times as large as the average budget for Dutch teams. In 2002 and 2003, it was already 7.6 times as large. If we compare England with Belgium, the change has been from 7 to 15. For Germany and Holland, it was from 2.8 to 4.7; and for Germany and Belgium, from 5.4 to 9.2. If we then compare the big leagues, England and Germany, there has hardly been any change (from 1.3 to 1.6). Holland and Belgium, two small countries, go from 1.9 to 2.7, so no large changes there.

Another table that shows what is going on is one that lists the teams that made it to the semifinals of the European Champions League. If you look at the Big 4, i.e., England, Germany, Italy and Spain, between 1994 and 1998, those that made it to the semifinal of the Champions League were only 55% of all teams, whereas between 1999 and 2003, the Big 4 teams were 95% of the

teams making it to the semifinals. So we can see what is going on. Another point to take into account is that the players leave the country. Even France, which is the fifth league in Europe, is not able to keep players in their national clubs. It is evident that there is a clear break in 1995, the year of the Bosman verdict, which saw an increase in the number of French players that played in the Big 4.

As for competitive balance, I would like to point out that the budget gaps and the competitive imbalance in European football are more pronounced than in U.S. major leagues, as stated by the authors. Maybe it is also caused by the difference in the clubs' objectives: profit maximization versus win maximization. In a win-maximizing league there is more imbalance than in a profit-maximizing league. So the question is whether sports clubs are profit or win maximizers. So far, this is an unanswered question because all the tests that I know of are based on the ticket-pricing rule. This ticket-pricing rule is exactly the same under both the profit-maximization and the win-maximization hypothesis, so this test cannot distinguish the two objectives. Therefore, there is now more doubt in the United States as to whether or not teams are profit maximizers. More and more experts also think that American teams are more win maximizers than profit maximizers. Ticket prices are higher in the win-maximizing leagues than the profit-maximizing leagues and this might also justify imposing a maximum ticket price, because these teams are, in most cases, local monopolists, so they can set ticket prices. On top of that, win-maximizing teams will set higher prices than profit-maximizing teams, even if the pricing rule is exactly the same. The NFL is probably the best example of revenue sharing. But then it has been shown in the literature that under the profit-maximizing hypothesis, we cannot expect any positive effects on competitive balance of gate revenue sharing. Whereas, in the NFL, you have a 60% to 40% revenue share for the home and visiting team, respectively, provided these teams are profit maximizers. Then, depending on the model that you use, it has no impact on the competitive balance, as Simon Rottenberg's balance proposition shows; nor even a negative effect on competitive balance, as Stefan Szymanksi and I have stated. You can show that, in the win-maximizing hypothesis, revenue sharing improved competitive balance, but not under profit maximization.

As for the sale and distribution of broadcast rights, it has been shown that performance-based sharing of rights is the best guarantee for improving competitive balance. I also think that there is a widespread misunderstanding that it is necessary to monopolize the sale of TV rights in order to share the rights. You can still share the rights even if they are sold individually. So you should not link the two. The sharing is the important factor, not the way they are sold. Moreover, I think it is important to mention that several court cases in Europe, one in the Netherlands and one in Germany, at least, have concluded that the legal owner of the TV rights are the clubs, not the league. So, in fact, the clubs have the right to keep the television rights to themselves and sell them individually. They cannot be forced to hand over their rights to the league.

Regarding salary caps, the NBA model, which applies the same maximum payroll to every team, seems to improve the competitive balance, as has been shown in theory, although there are problems with enforcement. On the other hand, the G-14 type of salary cap, proposed by the association of the 18 most successful clubs in European football, did not mean a better competitive

balance in either the profit-maximization hypothesis or the win-maximization hypothesis. The reason is that this gentlemen's agreement was not meant to improve the competitive balance; it was meant to guarantee the financial health of the clubs because their ratios were becoming excessive - even exceeding 100%, as shown in the case of FC Barcelona.

The authors point out that the budget ratio between the richest team and the poorest team in European football is more than 10, while in the U.S. major leagues, it is more than 2. The question, then, is whether there is an optimal competitive balance somewhere. What are the determinants of competitive balance? If we do a simple exercise with only three groups of spectators in a two-team league, where there are supporters of the large mock team X, supporters of the small mock team Y, and the more neutral supporters who do not care who is winning, we see that the winning percentage of the strong team should be only twice the winning percentage of the small team. Also, the larger the group of neutral TV spectators, the more balanced the competition should be. Therefore, attention must be paid when allowing too large differences in winning percentages, because they are certainly not optimal from a welfare point of view.

4. The Football Players' Labor Market: Recent Developments and Econom(etr)ic Evidence[39]

Bernd Frick[40]

4.1 Introduction

4.1.1. The Development of Player Salaries in Professional Football in Germany

The "escalating" and/or "skyrocketing" salaries of professional football players have only recently become a highly controversial issue in Germany. Perhaps surprisingly, this has not always been the case: When in the summer of 1954 the members of the German national team after their glorious victory in the World Cup final against Hungary returned home, each player received a gratification of DM2,000 – about six months' pay of a male full-time employee (Müller-Jentsch 1989: 148). By that time, the "enormous" amount was considered by most people a well-deserved recognition for an outstanding performance.

The public opinion, however, changed gradually. On July 28th, 1962 when the representatives of the 21 different regional football associations in Germany agreed to introduce a single first division, they also introduced a minimum and a maximum salary (the former being DM250 per month and the latter DM1,200 per month)[41]. Moreover the maximum transfer fee was set at DM50,000, of which a maximum of DM5,000 could be paid to the player (all these caps were finally abandoned in 1972). The salaries of the top players soon started to rise: In 1966, Uwe Seeler – at the time captain of the national team – earned DM50,000, while midfielder Günther Netzer in 1972 was paid DM100,000 already. Another five years later, top-scorer Gerd Müller earned DM500,000 per season. In 1987, Rudi Völler was paid DM1.1m and in 1992 Andreas Möller made DM1.7m. Upon his return from the Italian "Serie A" to the

39 I would like to thank Jordi Galí, Pedro García del Barrio, Stefan Késenne, Stefan Szymanski and an anonymous referee for their helpful comments and suggestions. Moreover, I would like to thank Marcel Battré, Christian Deutscher, Thomas Fritz, Julia Nagelschneider and Wiebke Held for their assistance in compiling the data sets used in this study. Errors and omissions are, of course, my own responsibility.

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41 In the same year the average salary of a full-time blue-collar worker amounted to DM7,77. i.e. about 60% of a football player's annual income. Today, the average player salary is about 45 times the average salary in Germany.

Bundesliga in 1995, Lothar Matthäus was paid DM2.5m; an amount that he more than tripled until 1998[42]. In 2001, Stefan Effenberg as well as Oliver Kahn were paid DM9.5m (Sonnenberg 2002: 24-29).

This development – that can mainly be attributed to the development of the TV revenues generated by the clubs – has, for most of the time, been accompanied by public discussion about the "adequacy" of player salaries and has recently even attracted the attention of a number of politicians. Since the mid 1960s, the increasing liabilities of some first division clubs were considered as early signals of the forthcoming "collapse" of professional football due to "excessive" player and head coach salaries (Die Zeit, 17th May 1968; Der Spiegel, 22nd Jan. 1968). This discussion went on for decades and culminated shortly before Christmas 2007, when Norbert Lammert, the president of the German "Bundestag" (the nation's parliament) released the following statement:

> "I am particularly annoyed by the salary explosion that we have recently experienced in professional sport in general and in soccer in particular. (…) This is something I cannot understand at all" (Onabrücker Zeitung, 23rd Dec. 2007).

This caused the president of the German Football Association, Theo Zwanziger, to respond as follows:

> "From a "moral" point of view, the salaries of many professional soccer players are too high – as are the incomes of most actors and some top managers" (Süddeutsche Zeitung, 9th Jan. 2008).

Given the steadily increasing ticket sales and merchandising revenues it is hardly surprising that football fans seem to be quite relaxed with regard to the level and the development of player salaries. In an online opinion poll that was started shortly after the interviews were published, the daily newspaper "Die Welt" asked its readers the following question: *Should politicians be concerned about the development of player salaries in professional football?* The results were as follows:

42 In the latter year, Oliver Bierhoff – later Matthäus' teammate in Munich – earned more than DM12m in Italy.

Table 1. Are Fans Envious?

Possible Responses	%
Yes, because politicians are obliged to intervene if certain developments in society are causing discontent.	19
Yes, because the salaries in football are simply too high.	0
No, because politicians should in principle abstain from intervening in private businesses.	36
No, because the salaries are the result of market forces.	45

Source: welt.de (last access on 8. Jan. 2009)

The fans position is nicely summarized in the following quote by sports journalist Oskar Beck:

> "We football fans are a rather strange species. We complain when our heroes earn enormous amounts of money, but at the same time we readily accept higher ticket prices if this enables our favorite club to sign yet another top-scorer. Moreover, we are prepared to pay €19.90 for the memoirs of Stefan Effenberg and the diaries of Lothar Matthäus as if it were the most recent works of Nobel laureates Heinrich Böll and Günter Grass" (Die Welt, 30. December 2007).

Summarizing, it appears that fans have fewer problems with the "escalating" and "skyrocketing" salaries than politicians and journalists seem to expect (or perhaps even hope for). From an economic point of view, however, the question is not whether the salaries are "adequate" or "excessive", but whether the observable variation in player remuneration can be explained by differences in individual performance and the clubs' ability to pay (which, in turn, is a function of past and recent sporting success, market size, and tradition). These – and related – questions – will be answered in section 4.2 of my paper.

4.1.2. The Development of Contract Duration in Professional Football in Germany

The issue of contract duration is as contested as the remuneration of players. Dragoslav Stepanovic, former head coach of Eintracht Frankfurt, in an interview in the summer of 1992 when his team finished 3rd in the Bundesliga (a position the club never accomplished until then) argued as follows:

> "In principle, player contracts should not exceed three months. In case of excellent performance such contracts can always be extended for another three months".

Norbert Pflippen, a well-known player agent who represented former star player Christian Ziege by the time the young man was 21 years old and had just signed a five-year contract with Bayern Munich, reasoned similarly:

> "An ambitious young player should never sign a long-term contract. He must always be convinced that within one or two years he will again be underpaid. Having the opportunity to renegotiate is crucial".

Thus, not only sports fans, but also head coaches and player agents seem to believe that players can strategically vary their performance – an impression that is consistent with modern principal agent-theory. One of the major insights of that theory is that properly designed incentive contracts will align the interests of a rational and opportunistic agent with those of a principal not completely informed about the talent and the abilities of the agent[43]. Explicit incentives, such as performance-related pay, are not the only motivating factor. Workers with fixed-term contracts, for example, have incentives to vary effort at different points of their contract cycle, i.e. to increase effort just before a new contract is signed and to reduce it after a lucrative multi-year contract is secured. The duration-related incentives create a considerable moral hazard-problem which has been examined empirically only occasionally[44].

Although the issue that will be dealt with in the second part of my paper (see section 4.3 below) is of critical importance for the managers of professional (soccer) teams as well as the managers of "normal" firms, most of the available studies rely on data from the sports industry. This is not surprising, because individual performance can be measured easily and the data is readily available to the researcher.

> "Professional sport offers a unique opportunity for labor market research. There is no other research setting than sports where we know the name, face, and life history of every production worker and supervisor in the industry. Total compensation packages and performance statistics for each individual are widely available, and we have a complete data set of worker-employer matches over the career of each production worker and supervisor in the industry. … Moreover, professional sports leagues have experienced major changes in labor market rules and structure … creating interesting natural experiments that offer opportunities for analysis" (Kahn, 2000: 75).

43 With respect to contract length as a "discipline device" see Cantor (1988, 1990), Dye (1985) and van Ommeren and Hazans (2008).

44 The few studies that have been conducted with representative samples of employees (see Jimeno and Toharia 1996, Riphahn and Thalmeier 2001, Guadalupe 2003, Ichino and Riphahn 2005, Engellandt and Riphahn 2005) use information on work accidents, unpaid overtime and absence days as dependent variables. Although the result reported in these papers is surprisingly consistent – fixed-term contracts induce higher levels of performance – the endogenous variables are far from perfect.

Thus, section 4.3 of my paper will empirically analyze the behavioral consequences of short- versus long-term contracts. The main questions to be addressed are as follows: First, is "shirking" – as alleged by fans and sports journalists – really an issue in professional football and, second, does this kind of (undesired) behavior have an impact on the sporting performance of the clubs? What most of the available studies do to answer these questions is to compare a player's performance in the first season after he has signed a long-term contract with that same player's performance in the last year of his old contract. Given the obvious problems of this approach, I take a different route: I look at changes in players' performance as they approach renegotiation, i.e. I compare their performance in the last year of a particular contract to the performance in the season(s) before that contract expires. The assumption here is that if performance improves in the last year of the old contract this is most likely the result of a deliberate change in behavior. If, on the other hand, performance deteriorates in the first year of the new (long-term) contract, this can be due to a number of different factors (such as stochastic variations in performance and/or random shocks that are beyond the player's control).

4.2 Salary Determination in Professional Football: Evidence from the German "Bundesliga"

4.2.1 The Remuneration of Professional Football Players

Theory

In the absence of labor market restrictions (such as salary caps, reserve clauses and/or draft rules) players will be paid according to their marginal product, i.e. the wage an individual player receives is a function of his contribution to the team's revenues which is, in turn, influenced by his talent and experience on the one hand and his "fan appeal" on the other hand (Rottenberg 1956). However, since the clubs differ with respect to their drawing potential – there are "small market" and "large market" teams – they also differ with respect to their "ability to pay", i.e. the marginal product of Arjen Robben or Franck Ribery is certainly higher in Munich than it is in Freiburg or in Mainz. However, since it rests on a number of critical assumptions (such as player mobility, complete information, and risk neutrality) the neoclassical model of wage determination has often been rejected not only by sports fans, but also by some highly respected economists:

> "… the elementary classical model presents a very poor description of employment relations in advanced economies" (Milgrom and Roberts, 1992: 329).

However, the problems that are characteristic for most – if not all – "real life" labor contracts (information asymmetries, incompleteness, importance of implicit elements) are clearly less important in professional team sports. Here, an individual player's performance can easily be measured, "shirking" can be detected at low cost, effort and talent can be evaluated not only by a player's current club but also by other teams. It is, therefore, plausible to assume that in the German "Bundesliga" – as in other professional team sports leagues with an unregulated

labor market – players are paid mainly according to their (past and recent) performance and their ability to attract fans[45]. Thus, the term "marginal product" is used here to describe the value of an individual player's contribution to the "spectacle", i.e. the matches he appears in[46].

Moreover, professions in which talent is highly valued by consumers are usually characterized by a highly skewed distribution of earnings: Small differences in talent translate into large differences in pay (Rosen 1981). Player reputation not only attracts (additional) spectators, but advances in technology facilitate the reproduction of matches at low cost. Together, these two effects lead to a considerable expansion of the market. In general, players are neither completely homogenous nor completely specialized. This, in turn, creates a situation of bilateral monopoly in which players and teams share a surplus or economic rent. Only a few players who are sufficiently differentiated can shift surpluses (rents) completely into salaries; these players will tend to be the "superstars" of their sports.

Previous Evidence

To the best of my knowledge, only three studies have been published in English so far that seek to identify the determinants of player salaries in professional football. Lucifora and Simmons (2003) use information on 533 outfield players from the Italian "Serie A" and "Serie B" at the beginning of the 1995/96 season (i.e. a cross section). They find that individual performance (measured primarily by the number of games played and goals scored) has a statistically significant and economically relevant influence on salaries. Moreover, earnings are highly convex in the individual's career goal-scoring rate and the assist rate, suggesting the existence of a considerable "superstar effect". Lehmann and Schulze (2008) use 651 player-year-observations from the German "Bundesliga" in the seasons 1998/99 and 1999/2000. Their performance measures also have the expected and statistically significant influence on salaries. Surprisingly, however, media presence has a positive, but declining influence, suggesting decreasing returns to popularity – a finding that is difficult to reconcile with the concept of "superstardom"[47]. Finally, Feess, Frick and Mühlheusser (2004) use a sample of players appearing in the German Bundesliga in the period 1994/95-1999/2000 (n=604 observations) and find that above and beyond the "traditional" performance measures (such as games played, goals scored and international appearances) contract length also has a positive and statistically significant impact on a player's annual wage and that this effect has become much stronger in the "post bosman era", i.e. after the transfer of property rights from the

45 Contrary to the findings reported by Horowitz and Zappe (1998) for baseball veterans, this suggests that "nostalgia effects" will be of minor importance only.

46 I am grateful to an anonymous referee for making this point because it has obvious implications for the empirical analysis presented below: Contrary to the situation in most American team sports, few individual performance measures are recorded in football. Apart from the number of goals scored, assists made, tackles won, yellow and red cards as well as number of substitute appearances nothing is available at acceptable cost. It is, therefore, difficult to distinguish "talent" from "popularity" and/or "fan appeal". Fortunately, it turns out that the set of measures that I use below to describe a player's talent, popularity and fan appeal are not very highly correlated, i.e. multicollinearity is not a problem.

47 Publications in German include Lehmann and Weigand (1999), Lehmann (2000), Huebl and Swieter (2002), and Frick and Deutscher (2009). With the exception of the latter, all these papers use much smaller samples from short sub-periods since the early 1990s.

clubs to the players induced by the respective decision of the European Court of Justice in December 1995. The finding that contract length and annual salary are complements rather than substitutes again suggests that "superstar effects" are of particular importance in the pay determination process.

Summarizing, these papers show that salaries of professional athletes are not just random, that systematic factors determine these salaries to a large extent and that these systematic factors such as age, experience and performance are very similar to those found in other occupations. Where sports teams differ in structure of earnings is that the distribution of salaries is even more highly skewed than in standard occupations and also that sports teams apply more stringent selection procedures into occupations. For example, poor performance by a player results in being dropped from team squad and very quickly being discarded; there are high levels of mobility within the industry (between teams) and into and out of the industry, with shorter careers than in most occupations[48].

Testable Hypotheses
The observable variance in player salaries is primarily due to the variance in talent and performance:

1. Player salaries will increase with performance (e.g. league appearances, goals), experience (age) and popularity (e.g. appearances in the national team)[49] .

2. The most recent performance – i.e. in the last season – will have a greater impact on player salaries than (previous) career performance.

Moreover, the clubs' different ability to pay (which, in turn, is a function of the size of the respective market, the club's history and its sporting performance) will also affect player salaries significantly.

4.2.2. The Structure and Development of Player Salaries in the German "Bundesliga"

Available Data
My primary source of information is "Kicker", a highly respected soccer magazine that offers market valuations of players assessed at the beginning of a season for 13 consecutive years (1995/96-2007/08) as a proxy for undisclosed salary, which remains private and confidential not only in Germany, but in the rest of in Europe too. I am confident of the reliability of these proxies for several reasons. First, the correlation between Kicker salary figures and the ones from another

48 On the determinants of individual career length see, inter alia, Frick (2007) as well as Frick, Pietzner and Prinz (2007, 2009).
49 Thus, the variables I use to explain the observable variance in player salaries are "indirect" at best and measure an individual player's contribution to his team's economic performance only imperfectly.

reliable source (see www.transfermarkt.de) is high, at 0.75 (Torgler *et al.* 2006). Second, the player valuations in *Kicker* magazine have been compiled by a stable team of experts who have established consistent practice over a long period. I therefore interpret the players' market values as published by *Kicker* as particularly reliable. Aggregating the individual market values across teams and dividing these by a constant factor of 1.5 results in the aggregated wage bills of the 18 teams in the Bundesliga as published in the annual reports of the German Football Association over the period 1996-2007. Furthermore, the correlation between *Kicker* player valuations and a subset of actual salary data obtained from the Bundesliga has been found to be high, at 0.80 (Frick, 2003).

The size of my sample is quite large: I have 6,147 "player-year-observations" for 1,993 different players to which I add player characteristics (such as age, number of career games played, number of games played last season, number of career goals scored, number of goals scored last season, number of career international appearances, number of international appearances last season, team captain (dummy), position (a set of three dummies), region of birth (six dummies), and previous league as well as team characteristics (win percentage, average attendance) that are also available from pre and postseason special issues of "Kicker".

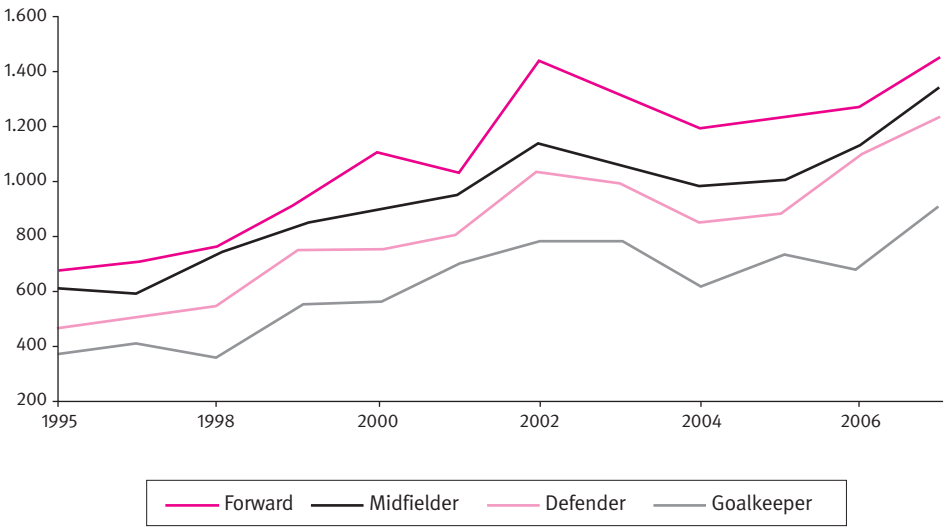
Descriptive Evidence

It appears from Figure 1 that average player salaries have increased from €550,000 in 1995/96 to about €1.3m in the season 2007/08. Interestingly, the standard deviation constantly oscillates around the mean, suggesting that the dispersion of player salaries has remained more or less constant over time[50]. The decline in player salaries in the seasons 2003/04 and 2004/05 has to be attributed to the insolvency of the Kirch group, the company that had bought the TV rights for a record amount of DM695m per year starting with the 2000/01 season. Moreover, player salaries differ considerably by position: In the season 2007/08 goalkeepers on average earned about €900,000 while forwards were paid an average of €1.45m (see Figure 2). The salaries of defenders and midfielders are higher than those of goalkeepers, but lower than those of forwards.

50 This is interesting insofar, as Theo Zwanziger in the interview quoted above also argued that many politicians by supporting the developments that have been induced by the Bosman-ruling of the European Court of Justice in December 1995 "have made few particularly gifted players richer and richer and the clubs poorer and poorer". He then went on to argue that "UEFA and the national associations will do their very best to introduce an individual salary cap and to reach a more egalitarian wage structure in professional football." However, the distribution of player salaries (as measured by the Gini coefficient) has remained more or less constant between 1995/96 and 2007/08 providing little reason for such an intervention.

Figure 1. The Development of Player Salaries in the Bundesliga (in €1,000)

Figure 2. Player Salaries by Position (in €1,000)



Although statistically significant (2007/08: $F = 3.08$; $p < .05$), these averages hide considerable variation within the different groups of players. Particularly in the case of goalkeepers, the standard deviation of individual salaries – and, therefore, the corresponding coefficient of variation – is rather high. Perhaps also surprising is the fact that the wage premium of forwards seems to decline over the years. Whether this is due to changes in the supply of forwards (relative to other positions) or to changes in the (again, relative) quality of all players under contract, remains to be seen.

Econometric Findings

I start with the estimation of an OLS model (with robust standard errors), a Random-Effects model as well as a Median Regression model[51]. I then present the findings of various quantile regressions (.10, .25, .75, .90) with bootstrapped standard errors (200 repetitions). The results are comparable to those obtained from OLS as well as RE-and MR-estimation. However, few of the coefficients remain constant over the percentiles.

The model to be estimated is of the following general form:

$$\begin{aligned}\ln PAY = {} & \alpha_0 + \alpha_1\, AGE + \alpha_2\, AGE^2 + \alpha 3\, GPL + \alpha_4\, CGP + \alpha_5\, CGP^2 + \alpha_6\, CGP^3 + \alpha_7\, IAL + \\ & + \alpha_8\, IAL^2 + \alpha_9\, IAL^3 + \alpha_{10}\, IAP + \alpha_{11}\, IAP^2 + \alpha_{12}\, IAP^3 + \alpha_{13}\, GSL + \alpha_{14}\, CGS + \\ & + \alpha_{15}\, CGS^2 + \alpha_{16}\, CGS^3 + \alpha_{17}\, TEN + \alpha_{18}\, CAP + \alpha_{19}\, FDD + \alpha_{20}\, PD + \alpha_{21}\, RD + \\ & + \alpha_{22}\, TD + \alpha_{23}\, YD + \varepsilon\end{aligned}$$

where AGE: Player Age
GPL: number of appearances in Bundesliga in last season
CGP: number of career appearances in Bundesliga
IAL: international appearances last season
IAP: international appearances in career
GLS: goals scored last season in Bundesliga
CGS: career goals scored in Bundesliga
CAP: captain of team (0 = no; 1 = yes)
FDD: previous team in first division abroad (0 = no; 1 = yes)
PD: position dummies (ref.: goalkeeper)
RD: region of birth dummies (ref.: Germany)
TD: team dummies (ref.: Borussia Moenchengladbach)
YD: year dummies (ref.: 2001/02)

51 Although the Hausman-Test suggests using the results from the fixed effects estimation, I report the findings of the random effects estimation. The problem is that region of birth is a constant for each player and cannot be used in a fixed effects estimation. However, the differences between the remaining coefficients in the RE-and the FE-estimations are negligible.

Thus, my models distinguish between a player's career performance and his most recent (i.e. last season) performance. The most recent performance (measured by, inter alia, the number of games played, the number of international appearances and the number of goals scored) is, of course, not included in the career performance (the results of my OLS, RE and MR estimations are displayed in Table 2 below)[52].

Most studies of pay determination in football rely on the standard conditional expectations model. However, the focus on the conditional mean is likely to misrepresent the relationship between pay and performance if there are differences in the returns to performance along the conditional distribution. Several studies of salary determination in other professional (North American) team sports use quantile regression estimation since log salary measures tend to have even greater kurtosis values than standard occupations (Hamilton 1997, Reilly and Witt 2007, Berri and Simmons 2009, Simmons and Berri 2009, Leeds and Kowalewski 2001, Vincent and Eastman 2009). OLS salary regressions are sensitive to the presence of outliers and can be inefficient if the log salary measure has a highly non-normal distribution as is often the case in professional team sports. In contrast, quantile regression estimates are more robust. Presence of nonnormality is indicated by a large kurtosis value and the D'Agostino et al. (1990) test is performed by the sktest command in Stata 10.1. In my panel, the *p*-value for the test statistic of the null hypothesis that kurtosis does not depart from the value associated with a normal distribution is 0.000 and hence my log salary data depart from normality, a result that is similar to those found in some studies of North American sports (e.g. Berri and Simmons, 2009 on NFL).

52 Contrary to the situation in most American team sports leagues with their abundance of performance figures, measurement of individual player performance in (European) football can be problematic especially for defenders whose task it is to prevent the opposing team's forwards to score goals. While counting the number of goals scored, shots on goal and assists is straightforward, it is far more difficult to assess the performance of defensive players. In future work, I will therefore estimate the models separately for the different groups of players.

Table 2. Estimation Results I: Various Methods

Variable	Random Effects		Robust OLS		Median Regression	
	B	T	B	T	B	T
AGE	.5121	22.43***	.4559	18.99***	.4361	23.71***
AGE2	–.0092	–21.48***	–.0083	–18.69***	–.0079	–23.12***
GPL	.0191	25.66***	.0240	31.95***	.0226	33.12***
CGP	.0042	7.48***	.0056	11.27***	.0057	12.46***
CGP2 *100	–.0021	–5.97***	–.0028	–9.18***	–.0030	–10.26***
CGP3 * 10000	.0033	5.46***	.0043	8.07***	.0046	9.06***
IAL	.0848	6.86***	.0903	6.04***	.0909	8.02***
IAL2	–.0071	–3.56***	–.0081	–2.79***	–.0094	–5.01***
IAL3	.0002	2.19 **	.0002	1.74 *	.0003	4.09***
IAP	.0118	4.19***	.0125	5.36***	.0131	5.94***
IAP2	–.0003	–3.40***	–.0003	4.17***	–.0003	–4.48***
IAP3 *1000	.0017	2.99***	.0016	3.67***	.0016	3.67***
GSL	.0444	14.24***	.0465	16.28***	.0513	18.26***
CGS	–.0129	–4.71***	–.0114	–4.69***	–.0077	–3.56***
CGS2	.0002	4.13***	.0002	4.38***	.0001	3.31***
CGS3 * 1000	–.0011	–3.68***	–.0011	–4.15***	–.0007	–3.11***
TEN	–.0142	–4.43***	–.0187	–6.46***	–.0153	–6.53***
CAP	.2692	6.60***	.3406	10.17***	.3718	10.50***
FDD	.5910	12.46***	.6159	11.41***	.6346	15.11***
DEF	.2113	5.17***	.0990	3.20***	.0539	2.24 **
MID	.2677	6.65***	.1667	5.34***	.0965	4.04 **
FOR	.3157	7.14***	.2167	5.97***	.1020	3.68 **
S_AM	.4494	8.23***	.3778	9.87***	.3824	11.91***
N_AM	–.0822	–0.73 +	–.1785	–1.92 *	–.1510	–2.10 **
W_EU	.2442	6.62***	.1848	7.00***	.1969	8.53***
E_EU	.0774	2.23 **	.0329	1.36 *	.0200	0.95 +
AFR	.0654	1.24 +	–.0117	–0.30 +	–.0166	–0.52 +
AS_AU	.0928	1.28 +	.0099	0.20 +	.0185	0.42 +
CONST	5.8725	19.30***	6.8245	21.14***	7.1631	29.21***
Team Dummies	included					
Season Dummies	included					
N of Obs.	6,147		6,147		6,147	
Obs. per Player	1–13		—		—	
N of Players	1,993		—		—	
R2*100	61,7		62,7		40,5	
F-value	—		164.5***		—	
Wald Chi2	6,672.0***		—		—	
LM-Test	392.0***		—		—	
Raw Sum of Dev.	—		—		4,656.6	
Min Sum of Dev.	—		—		2,772.6	

+ not significant; * p < .10; ** p < .05; *** p < .01

Table 3. Estimation Results II: Quantile Regressions

Variable	.1 Quantile	.25 Quantile	.75 Quantile	.9 Quantile
AGE	.5415***	.5485***	.3660***	.2829***
AGE2	–.0097***	–.0099***	–.0068***	–.0055***
GPL	.0347***	.0271***	.0173***	.0124***
CGP	.0050***	.0058***	.0047***	.0030***
CGP2 *100	–.0027***	–.0034***	–.0021***	–.0001 **
CGP3 * 10000	.0042***	.0057***	.0030***	.0013 +
IAL	.0340 **	.0568***	.1241***	.1129***
IAL2	–.0003 +	–.0034 *	–.0149***	–.0114***
IAL3	.0000 +	.0000 +	.0006***	.0004***
IAP	.0108***	.0119***	.0126***	.0122***
IAP2	–.0002 **	–.0003***	–.0002***	–.0002 *
IAP3 *1000	.0014 **	.0019***	.0013***	.0009 +
GSL	.0453***	.0511***	.0486***	.0425***
CGS	–.0094 **	–.0038 +	–.0132***	–.0077 *
CGS2	.0002***	.0000 +	.0003***	.0002 **
CGS3 * 1000	–.0014***	.0000 +	–.0001***	–.0009 **
TEN	–.0134***	–.0181***	–.0201***	–.0177***
CAP	.3662***	.3742***	.3114***	.3296***
FDD	.7485***	.6895***	.5848***	.4772***
DEF	.2154***	.1049***	–.0002 +	–.1560***
MID	.2414***	.1458***	.0756***	–.0537 +
FOR	.2832***	.1634***	.1111***	–.0170 +
S_AM	.3010***	.3086***	.3863***	.4230***
N_AM	–.1989 +	–.0509 +	–.2002***	–.2519 *
W_EU	.1999***	.1992***	.1637***	.1627***
E_EU	.0635 *	.0690***	–.0344 +	.0085 +
AFR	–.0153 +	.0538 +	–.0389 +	–.0320 +
AS_AU	.1296 +	.1042 **	–.2022***	–.1494 *
CONST	4.6571***	5.1341***	8.6862***	10.4911***
Team Dummies	included			
Season Dummies	included			
N of Cases	6,147	6,147	6,147	6,147
Pseudo R2*100	43.6	42.4	39.2	39.2
Raw Sum of Dev.	2,196.5	3,891.5	3,577.2	1,934.0
Min Sum of Dev.	1,239.1	2,240.8	2,139.6	1,175.5

not significant; * p < .10; ** p < .05; *** p < .01

One further advantage of quantile regression is that it facilitates examination of salary returns to characteristics at different points in the salary distribution (Koenker and Bassett, 1978; Buchinsky, 1998). That is, I can investigate the impacts of the available performance measures at any quantile of the salary distribution, not just the conditional mean. Moreover, the quantile regression approach is semi-parametric in that it avoids assumptions about the parametric distribution of the regression error term, an especially suitable feature where the data are heteroskedastic as in my case. To ensure robustness of standard errors, I bootstrap with 200 replications. I report quantile regression estimates in Table 3 above.

My main findings can be summarized as follows (see Tables 2 and 3 above):

- First, age, career games played, international appearances over the entire career and international appearances in the last season all have a statistically significant non-linear influence on salaries. The statistically significant coefficient of the cubic term suggests existence of "superstar effects" (Lucifora and Simmons, 2003).

- A strange result is obtained for career goals scored: The coefficient of the linear and the cubic term are significant and negative, while the coefficient of the squared term is positive and significant[53].

- Second, goals scored last season as well as games played last season have a significantly positive and strictly linear influence on annual income, i.e. there seem to be no decreasing returns to either goals scored or games played.

- Comparing the returns to career performance and to performance in the last season, it appears that "historical merits" do not count very much, i.e. recent performance is – as expected – far more important than past performance.

- Third, defenders, midfielders and forwards earn significantly higher salaries than goalkeepers. The premiums for these positions, however, differ considerably across estimations: The effect is most pronounced in the RE-estimation and weakest in the MR model.

- Fourth, region of birth is also important: Players from South America and Western Europe receive a considerable pay premium while players from the "rest of the world" are neither favored nor "discriminated" against. The pay premium for South Americans and West Europeans is not surprising: Other things equal, players from these regions attract larger crowds (Wilson and Ying, 2003) and contribute more to merchandising revenues (Kalter, 1999).

53 This unexpected result „survives" a number of different specifications: Interacting the number of career goals with the position dummies leaves the finding virtually unaffected. Moreover, estimating the model separately by position yields the same result for forwards and midfielders, but not for defenders. Estimating the model only for position players (i.e. without the goalkeepers) yields again the "strange" coefficient.

- The longer a player has been active for his current club, the lower is c.p. his annual salary. Whether this is the result of an adverse selection process (better players are traded while less talented players remain with their old club) or whether some players are willing to forfeit money to "stay at home" is not yet clear[54].

- Finally, team captains and players who moved from a first division club abroad to Germany are paid a significant premium, too. In the former case this is obviously due to "leadership skills" that are required for the job and that are, therefore, particularly rewarded in the market (Kuhn and Weinberger, 2005).

Few of the coefficients retain their magnitude across the different quantiles of the salary distribution[55]:

- Generally, the maximum income is reached at an age of about 27 or 28 years. The age-earnings profile, however, is much flatter for the players with the highest incomes.

- The impact of games played last season as well as career games played on annual salaries is much stronger for players at the bottom of the income distribution.

- International appearances (past as well as current) seem to have a much stronger influence on the salaries of the players at the top of the income distribution.

- Goals scored (past as well as current), tenure with the current club and being a team captain seem to have a more or less constant impact on player salaries, i.e. the coefficients are quite similar for the different quantiles.

- The coefficients of the position dummies change considerably across the income distribution, indicating that goalkeepers are the "real superstars" in the business[56].

- The pay premium enjoyed by players from South America increases across the pay distribution while the premium for players from Western Europe decreases[57].

54 Anecdotal evidence seems to support the argument that some players suffer from "home sickness" once they are traded to another club.

55 Estimating the models with the lagged annual salary to control for unobserved heterogeneity reduces the sample size considerably (from 6,100 player-year-observations to 4,700). Although most of the coefficients retain their statistical significance, their magnitudes are somewhat reduced. The complete results are available from the author upon request.

56 This term has first been used by Alan Krueger (2005) analyzing the revenues generated by particularly successful rock bands and musicians.

57 In further research subjective evaluations of a player's performance (i.e. "school grades") will also be used to estimate the hedonic wage equations (for a first application see section 4.3 below).

4.3 Contract Duration and Player Performance

4.3.1 What Can We Learn from the Available Literature?

The common perception among sports fans is that players become lazy and expend less effort once they have signed a long-term contract. The available evidence – summarized in Table 4 below – is less clear: While some of the studies find robust evidence supporting the shirking hypothesis, others do not find any sign of such behavior. However, even if no shirking can be detected, opportunistic behavior may well be an issue: First, reputation considerations may keep players from reducing their effort levels. In this case, only a player who knows that he has recently signed his last contract will have an incentive to withhold effort. Anticipating such behavior, managers will refrain from giving long-term contracts to older workers. Second, many player contracts will include incentive clauses tying individual and/or team performance to compensation. This, in turn, is likely to result in a higher wage bill because risk-averse players may expect a premium in exchange for their readiness to accept contingent pay[58].

Summarizing, agency theory identifies two different options for teams to control moral hazard: First, monitoring can reduce information asymmetries and, second, incentive contracts may be used to mitigate the underlying "motivation deficit". Since monitoring is often rather costly and difficult to implement (especially with regard to the player's behavior outside the game) teams tend to reward their players at least partly depending on the output produced (assuming that measuring inputs is more or less impossible). However, outcomes are not fully under the control of the agent and, at the same time, risk aversion on behalf of the player limits the team's ability to use output-related pay only. Thus, an efficient contract balances the costs of risk bearing against the benefits of improved incentives[59].

58 Using data from ten consecutive seasons (1990/91-1999/00) from the first German soccer division, Frick (2003) shows that c.p. the percentage of variable pay positively affects the performance of the teams. This finding, however, raises a further question: If the teams that pay their players to a large extent via bonuses are more successful than those that prefer fixed payments, why do not all teams turn to performance related pay? The negative correlation between the log of total pay and the percentage of variable pay suggests that poor teams motivate their employees via bonuses while rich teams achieve this goal by paying high fixed salaries.

59 In this view, contractually secured income may entice the player to shirk if the utility sacrificed with effort is not offset with income. However, it is also possible that long-term contracts are used as tournament devices. The reward of a secured multi-year contract may be part of a lucrative compensation package designed to increase competition among workers. Thus, in a tournament setting, such contracts may serve as incentives for which workers compete by increasing their individual effort levels. Moreover, long-term contracts may also be offered to players by risk-averse managers for risk management purposes.

Table 4. Player Opportunism in Professional Team Sports: A Selective Review of the Literature

Author(s) and Year of Publication	League and Data Used	Basic Findings
Lehn (1982)	650 MLB-players in 1980	Long-term contracts increase amount of time spent on disabled list: Each additional year remaining on the contract is associated with a 25% increase in the average number of days spent on the disabled list. This is due to the fact that guaranteed multi-year contracts reduce the incentives for players to invest in proper physical conditioning. However, the disincentive effect of long-term contracts can be mitigated by inclusion of incentive bonuses in player contracts.
Lehn (1984)	155 MLB-players in 1980	Players who re-sign for at least three years with their old team experience a significantly smaller increase in days spent on the disabled list than players who signed for three years or even longer with another team.
Krautman (1990)	110 MLB-players (only hitters) signing contracts of more than 5 years duration, 1976-1983	There is no evidence of a significant departure from the means of players' productivity distributions due to proximity to contract negotiations. Thus, the observable variation in performance is the result of a stochastic process rather than shirking.
Scoggins (1993)	110 MLB-players (only hitters) signing contracts of more than 5 years duration, 1976-1983	A convincing answer to the question whether shirking occurs or not depends on the choice of the performance measure (if total bases instead of slugging average is used as performance measure, shirking can be detected).
Gramm and Schnell (1994, 1997)	1,106 out of 1,260 players under contract with one of the 28 NFL teams on Sept. 21, 1987	Players with long-term contracts were less likely to participate in the 1987 strike. Since the main reason for the strike was the NFLPA's demand for free agency and since average career duration in the NFL is rather short (about three seasons) players with long-term contracts were less likely to reap the benefits of free agency and were, therefore, more interested in maximizing their current incomes.

Table 4 (continued)

Author(s) and Year of Publication	League and Data Used	Basic Findings
Maxcy (1997)	MLB 1986-1993; 1,343-2,284 player-year-observations for hitters and 882-1,552 player-year-observations for pitchers	For players with long-term contracts, status with regard to re-contracting at the end of the current season does not influence performance. The reason is that long-term contracts are given to players who have already proven themselves as reliable and consistent performers and are, therefore, not likely to shirk.
Fort and Maxcy (1998)	MLB 1986-1993; 2,238 player-year-observations for hitters and 1,625 player-year-observations for pitchers	Performance does not increase as players approach renegotiation, i.e. when the individual contract is about to expire and when the individual, therefore, should be most likely to expend more effort. Particularly when players with long-term contracts are analyzed from the shirking perspective, there is no evidence of shirking.
Conlin (1999); Conlin and Emerson (1999)	1,873 of the 2,016 players selected in the 1986-1991 NFL drafts	Rookies signing their first contract after training camp has started reveal positive private information about their abilities. Thus, players who sign after longer contract negotiations are of higher ability levels (higher percentage of active contracts and higher number of games started in first three years). Moreover, a player's effort level is influenced by the remaining duration of his contract, i.e. the number of games started is significantly higher in the last year of the contract.
Fernie and Metcalf (1999)	50 British jockeys, 1983-1995	When performance-related pay is replaced by guaranteed annual salaries via so-called "retainers" the individual athlete's performance deteriorates dramatically. Thus, non-contingent payments introduce moral hazard into a payment system which had previously proved to be rather successful in overcoming such behavior. Not surprisingly, therefore, these non-contingent payments have been largely abandoned recently.

Table 4 (continued)

Author(s) and Year of Publication	League and Data Used	Basic Findings
Frick, Dilger and Prinz (2002)	349 team-year-observations, NFL, 1988-1999	The only legal way to circumvent or partly avoid the "hard" salary cap in the NFL is by paying signing bonuses to free agents (these bonuses are prorated). However, these guaranteed up-front payments that are unrelated to actual performance induce players to behave opportunistically: The higher the percentage of the signing bonuses, the poorer the performance of the team.
Maxcy, Fort and Krautman (2002)	1,160 player-year-observations on 213 hitters and 812 player-year-observations on 140 pitchers in MLB	For both pitchers and hitters time spent on the disabled list decreases in the season immediately preceding contract negotiations. Moreover, playing time is above average in that season, too. However, there is no evidence of ex post opportunism, because long-term contracts do not cause a subsequent decline in performance.
Marburger (2003)	279 free agent non-pitchers signing contracts between 1990 and 1993 with any of the MLB-teams and 133 nonpitchers in 1970 who had at least six years of major league experience	The redistribution of property rights that was caused by the conversion from the reserve clause to free agency should have increased player effort. However, free agency also saw an increase in multi-year contracts which, in turn, creates shirking incentives. The net impact of property rights assignment on shirking in MLB is obvious: Free agents with one-and two-year contracts outperform comparable reserve clause players over the same time frame. This is not the case for free agents with contracts exceeding two years.
Berri and Krautman (2006)	515 player-year-observations in the NBA, 2000/01-2002/03	Depending on the specific measure of performance used in the estimates, the evidence appears to be mixed: Although in the first estimation the effect of signing a long-term contract on performance is significantly negative, the economic impact is small. In the second estimation, however, even this small impact disappears.
Stiroh (2007)	349 NBA-player contracts signed 1993-2001 (2,077 player-year-observations)	Individual performance improves in the year before signing a multi-year contract and declines after the contract is signed. This is consistent with an observed salary structure that rewards both historical performance and recent improvement, and thus provides strong incentives to increase effort and improve performance before signing a new multi-year contract.

4.3.2. Data, Estimation and Empirical Findings

The sample used in this study includes all "regular" players[60] who were under contract with any of the teams in the first German soccer division (n=760) obtained from various annual editions of *Kicker*, the leading soccer magazine in the country. Altogether, the sample includes 1,866 player-year-observations from the 1998/99 through the 2002/03 seasons. Table 5 displays the distribution of player grades on a season-by-season basis. These grades are subjective performance measures that summarize a player's effort and contribution to his team's performance in a "school grade", ranging from 1 (very good) to 6 (very poor). It appears that the number of graded appearances varies between 7,113 and 7,239. This means that, on average, between 23 and 24 graded players appear during each match (a grade is awarded only if the player spends at least 30 minutes on the pitch).

Table 5. The Distribution of Player Grades (1998/99 -2002/03) #

Player Grade		Season					
		97/98	98/99	99/00	00/01	01/02	02/03
Very Good	1	33	25	24	29	27	16
	1,5	103	101	93	97	87	83
Good	2	471	433	423	371	364	353
	2,5	730	748	700	634	620	595
Satisfactory	3	1,734	1,644	1,655	1,551	1,406	1,531
	3,5	1,091	1,163	1,156	1,065	1,175	1,139
Acceptable	4	1,573	1,565	1,564	1,494	1,623	1,675
	4,5	639	650	688	773	759	740
Poor	5	749	842	841	997	903	840
	5,5	56	58	73	113	121	125
Very Poor	6	8	10	14	33	28	26
N of Grades		7,187	7,239	7,231	7,157	7,113	7,123

This grading system is also used in German schools.

Source: Kicker (1998-2003)

60 These are players appearing in at least 25% of all regular season matches. Since the league is formed by 18 teams, each team has 17 home matches and 17 away matches.

Table 6. Number of Regular and Back-up Players

Season	Regular Players#		Back-up Players##		All Players
	n	%	n	%	
1997/98	307	73,6	110	26,4	417
1998/99	321	73,9	114	26,1	435
1999/00	313	74,0	110	26,0	423
2000/01	301	66,2	154	33,8	455
2001/02	307	70,9	126	29,1	433
2002/03	317	72,1	123	27,9	440
Average	311	71,7	123	28,3	434

Players appearing in at least 25% (n = 9) of all regular season matches
Players with less than 9 appearances per season.

Due to the definition chosen in this paper, approximately 72% of the players are considered "regular" and 28% "back-up" players (Table 6). Apparently, the number of regular players varies less than the number of back-up players (n=301-321 and n=110-154). This is mainly due to the fact that in 2000/01 two of the three relegated teams increased their roster sizes considerably during the season. By definition, regular players appear significantly more often than the back-up players. Looking at Table 7 it appears that, on average, more than 93% of the graded appearances (i.e. those of a minimum duration of 30 minutes) were by regular players.

Table 7. Number of Grades for Regular and for Back-up Players

Season	Regular Players#		Back-up Players##		All Players
	n	%	n	%	
97/98	6,713	93,4	474	6,6	7,187
98/99	6,780	93,7	459	6,3	7,239
99/00	6,762	93,5	469	6,5	7,231
00/01	6,569	91,8	588	8,2	7,157
01/02	6,619	93,1	494	6,9	7,113
02/03	6,670	93,6	453	6,4	7,123
Average	6,686	93,2	489	6,8	7,175

Players appearing in at least 25% (n = 9) of regular season matches
Players with less than 9 appearances per season.

Table 8 reveals that 286 (37.6%) of the players appear in my data set for only one season and disappear again thereafter (due to a transfer to a lower division club or a transfer to a club abroad or because the player's club has been relegated at the end of the season). On the other hand, 106 players (14.0%) managed to survive in the Bundesliga for at least five seasons.

Table 8. Presence of Players in the Data Set#

Number of Seasons in Data Set	Individual Players#	
	n	%
1	286	37,6
2	178	23,4
3	116	15,3
4	74	9,7
5	56	7,4
6	50	6,6
	760	100,0

Regular players only. If a regular player becomes a back-up player (i.e. due to injuries or due to a lack of physical fitness) he may disappear from the sample either for a single season or for the rest of the period under investigation although he is still playing in the Bundesliga.

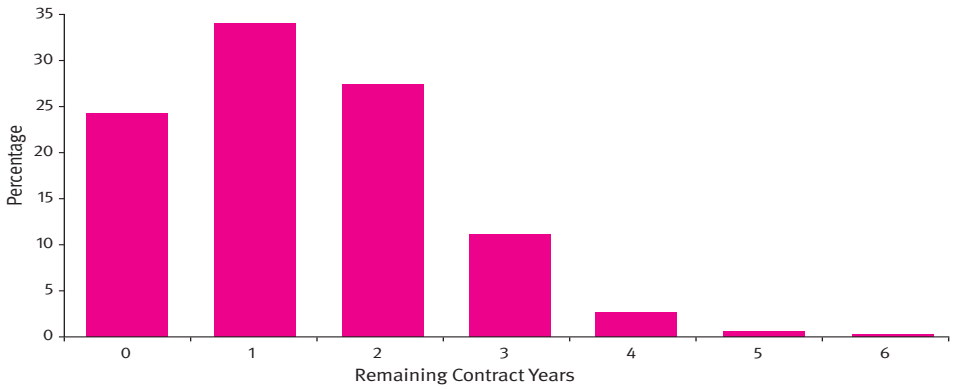
Since the data set is an unbalanced panel, the number of years the individual players have been active in the Bundesliga differs considerably. Note, however, that the presence in the data set is not identical with the duration of individual careers. First, if a player cannot retain his status as a "regular" player (due to lack of fitness or due to injury) he disappears from the data set although he is still active as a back-up player for one of the first division teams. Second, many of the regular players started their career as substitutes who later on managed to become established players. This means that they have been playing in the Bundesliga already before they appear in the data set.

Table 9. Alternative Measures of Remaining Contract Duration#

Variable	Mean	Std Dev
Remaining Contract Years	1,35	1,07
Recoded Number of Remaining Years##	1,17	0,79
Last Year of Contract (0=no; 1=yes)	0,24	–

N of cases=1,866 individual-year-observations for regular players
Number of years > 2 recoded as 2

Figure 3. The Distribution of Remaining Contract Durations in the German "Bundesliga" 1997/98-2002/03



Turning to the contract variable it appears that 24% of the observations are in their last contract year (see Table 9 and Figure 3). About 34% have one year remaining on their contracts and 27% have two seasons remaining. Since it is plausible to assume that in the case of a multi-year contract a player's incentives to perform well will increase linearly, the estimations presented below not only use the number of remaining contract years as an exogenous variable, but also a "censored" contract variable with any duration of more than two years recoded as two. The implicit assumption is that with two years remaining on the contract players gradually start to deliver better performances in order to reach their optimal bargaining position in the last season before the contract expires.

The estimated models are of the following general form:

$$PP = \alpha_0 + \alpha_1\, CS + \alpha_2\, GS + \alpha_3\, RC + \alpha_4\, YC + \alpha_5\, SP + \alpha_6\, CGP + \alpha_7\, CGP^2 + \alpha_8\, AGE + \\ + \alpha_9\, AGE^2 + \alpha_{10}\, INT + \alpha_{11}\, TCCB + \alpha_{12}\, DEF + \alpha_{13}\, MID + \alpha_{14}\, FOR + \varepsilon$$

where PP: player performance in season t (rag=relative average grade (see figure A2); apg=average player grade (see figure A3); vpp=variance of player performance (see figure A4 in the appendix))[61]
CS: contract status in season t (remaining contract duration (estimates 1.1, 2.1 and 3.1); "censored" remaining contract duration (estimates 1.2, 2.2 and 3.2); last contract year (dummy; 0 = no; 1 = yes; estimates 1.3, 2.3 and 3.3)
GS: goals scored in season *t*
RC: number of red cards in season *t*
YC: number of yellow cards in season *t*
SP: semi-professional (dummy; 0 = no; 1 = yes)

61 The school grades that are used here to express a player's performance (ranging from "very good" to "very poor") are clearly, but not exclusively affected by whether a player receives a yellow or a red card, whether he scores a goal or produces an assist. Thus, the school grades express in a simple one digit figure a player's contribution to his team's performance on the pitch in a particular match.

CGP: career games played in Bundesliga
CGP^2: career games squared
AGE: player age
AGE^2: age squared
INT: appearance in national team (dummy; 0 = no; 1 = yes)
TCCB: team change during Christmas break (dummy; 0 = no; 1 = yes)
DEF: defender (dummy; 0 = no; 1 = yes)
MID: midfielder (dummy; 0 = no; 1 = yes)
FOR: forward (dummy; 0 = no; 1 = yes)
ATG: average team grade

In models (1.1) -(1.3) the dependent variable is the individual player's average grade, in models (2.1) -(2.3) it is the relative individual average (corrected by the average grade of the player's team). Given the grade system used, higher values of the dependent variable denote a weak or even a poor performance[62]. The expected sign of the contract status variable is, therefore, positive in estimates (1.1), (2.1) and (3.1) as well as in (1.2), (2.2) and (3.2) and negative in estimates (1.3), (2.3) and (3.3):

- the higher the remaining duration of a player's contract, the poorer will be his performance and the higher the variance in his performance and

- the performance will significantly improve and the variance will be significantly lower in the last year of the contract.

Looking at the control variables (see Tables 10-12) it appears that the number of goals scored and the number of yellow cards per season have a significantly positive influence on player performance (recall that performance is worse, the higher the average grade)[63]. Player age and experience (measured by the number of career games played) have the expected non-linear impact on performance while being a member of the national team, the number of red cards per season and the position dummies are – by and large – statistically insignificant. Perhaps surprisingly, semi-professionals and players who have been traded over the Christmas break, perform significantly better than otherwise comparable players without these characteristics (perhaps expectations are lower in these cases and players are, therefore, graded more "generously").

With regard to the variance of player performance, the picture is slightly different (see Table 11): First, the number of goals scored and the number of red cards increase – other things being equal – the variation as does membership in the national team. Second, none of the coefficients of the other control variables (apart from one of the position dummies) comes close to statistical

62 Kernel density estimates of the dependent variables are displayed in figures A2-A4 in the appendix.
63 Estimating models (1.1) –(1.3) without the average team grade as an exogenous variable leaves the coefficient of the contract status variable unaffected. The results are, of course, available from the author upon request.

significance. Third, the higher the number of appearances in the last season, the smaller the variation in a player's performance.

Table 10. Contract Status and Player Performance (Dependent Variable: Average Player Grade)

Variable	Model (1.1)		Model (1.2)		Model (1.3)	
	Contract Variable: Remaining Years		Contract Variable: Remaining Years < = 2		Contract Variable: Last Year-Dummy	
atg	.8052 .0408	19.72***	.8054 .0408	19.76***	.8100 .0409	19.80***
cs	**.0187** **.0069**	**2.70*** **	**.0283** **.0085**	**3.32*** **	**–.0413** **.0145**	**–2.85*** **
def	–.0632 .1890	–0.33 +	–.0752 .1887	–0.40 +	–.0717 .1889	–0.38 +
mid	–.0884 .1894	–0.47 +	–.0999 .1892	–0.53 +	–.0994 .1894	–0.53 +
for	–.0277 .1940	–0.14 +	–.0407 .1937	–0.21 +	–.0395 .1939	–0.20 +
gs	–.0385 .0029	13.23***	–.0385 .0029	–13.25***	–.0385 .0029	–13.23***
rc	.0079 .0220	0.36 +	.0074 .0219	0.34 +	.0069 .0219	0.32 +
yc	–.0105 .0029	–3.52***	–.0103 .0029	–3.49***	–.0104 .0029	–3.49***
sp	–.1570 .0768	–2.04 **	–.1556 .0767	–2.03 **	–.1616 .0768	–2.10 **
cgp	.0012 .0006	1.82 *	.0012 .0006	1.87 *	.0012 .0006	1.84 *
cgp$^{2\#}$	–.0001 .0005	–1.97 **	–.0001 .0000	–2.03 **	–.0001 .0000	–1.97 **
int	.0001 .0011	0.17 +	.0001 .0011	0.14 +	.0001 .0011	0.09 +
age	–.0782 .0380	–2.05 **	–.0849 .0381	–2.23 **	–.0846 .0381	–2.22 **
age^2	.0011 .0006	1.95 *	.0012 .0006	2.13 **	.0012 .0006	2.07 **
tccb	–.1207 .0382	–3.16***	–.1145 .0377	–3.03***	–.1059 .0376	–2.81***
const	2.0694 .6380	3.24***	2.1671 .6365	3.40***	2.2136 .6379	3.47***
N of Obs	1,863		1,863		1,863	
N of Players	760		760		760	
R2*100						
F-Value	54.7		55.1		54.8	
LM-Test	138.8***		143.2***		143.5***	
Hausman	111.6***		111.6***		108.6***	

coefficient multiplied by 1,000 for ease of presentation

+ not significant; * p < .10; ** p < .05; p < .01

Table 11. Contract Status and Player Performance (Dependent Variable: Average Player Grade Relative to Average Grade of Team)

Variable	Model (2.1)		Model (2.2)		Model (2.3)	
	Contract Variable: Remaining Years		Contract Variable: Remaining Years < = 2		Contract Variable: Last Year-Dummy	
cs	**.0199**	**2.85*** **	**.0296**	**3.44*** **	**–.0466**	**–3.19*** **
	.0069		**.0086**		**.0146**	
def	–.0355	–0.19 +	–.0479	–0.25 +	–.0462	–0.24 +
	.1907		.1905		.1906	
mid	–.0665	–0.35 +	–.0784	–0.41 +	–.0798	–0.42 +
	.1912		.1910		.1911	
for	–.0059	–0.03 +	–.0195	–0.10 +	–.0199	–0.10 +
	.1958		.1956		.1957	
gs	–.0369	–12.65***	–.0369	–12.66***	–.0369	–12.66***
	.0029		.0029		.0029	
rc	–.0017	–0.08 +	–.0022	–0.10 +	–.0025	–0.11 +
	.0221		.0220		.0221	
yc	–.0115	–3.85***	–.0114	–3.81***	–.0114	–3.81***
	.0030		.0030		.0030	
sp	–.1509	–1.94 *	–.1495	–1.93 *	–.1560	–2.01 **
	.0776		.0775		.0775	
cgp	.0010	1.45 +	.0010	1.51 +	.0010	1.50 +
	.0006		.0006		.0006	
$cgp^{2\#}$	–.0009	–1.59 +	–.0009	–1.66 *	–.0009	–1.61 +
	.0005		.0005		.0005	
int	.0005	0.51 +	.0005	0.48 +	.0004	0.42 +
	.0011		.0011		.0011	
age	–.0753	–1.96 **	–.0823	–2.14 **	–.0827	–2.15 **
	.0384		.0384		.0385	
age^2	.0010	1.78 *	.0012	1.97 **	.0011	1.93 *
	.0006		.0006		.0006	
tccb	–.1397	–3.64***	–.1328	–3.50***	–.1236	–3.27***
	.0384		.0379		.0378	
const	1.3492	2.16 **	1.4533	2.33***	1.5288	2.44***
	.6260		.6249		.6264	
N of Obs	1,863		1,863		1,863	
N of Players	760		760		760	
R2*100						
F-Value	17.7		18.0		17.9	
LM-Test	130.8***		134.6***		134.5***	
Hausman	95.3***		95.7***		94.5***	

coefficient multiplied by 1,000 for ease of presentation

+ not significant; * p < .10; ** p < .05; p < .01

Table 12. Contract Status and Player Performance (Dep. Variable: Variance of Player Grade)

Variable	Model (3.1) Contract Variable: Remaining Years		Model (3.2) Contract Variable: Remaining Years < = 2		Model (3.3) Contract Variable: Last Year-Dummy	
cs	**.0090**	**1.64 ***	**.0150**	**2.08 ****	**–.0142**	**–1.11 +**
	.0055		**.0072**		**.0128**	
nog	–.0034	–3.67***	–.0034	–3.69***	–.0034	–3.65***
	.0009		.0009		.0009	
atg	.1105	3.57***	.1110	3.59***	.1073	3.47***
	.0310		.0309		.0309	
def	–.0561	–1.99 **	–.0569	–2.01 **	–.0579	–2.05 **
	.0282		.0282		.0282	
mid	–.0264	–0.94 +	–.0271	–0.96 +	–.0279	–0.99 +
	.0281		.0281		.0281	
for	.0178	0.56 +	.0169	0.53 +	.0158	0.49 +
	.0319		.0320		.0320	
gs	.0377	16.57***	.0377	16.58***	.0378	16.61***
	.0022		.0022		.0022	
rc	.0546	2.86***	.0545	2.86***	.0547	2.86***
	.0190		.0190		.0191	
yc	–.0024	–0.99 +	–.0024	–0.97 +	–.0024	–0.98 +
	.0024		.0024		.0024	
cgp	–.0001	–0.83 +	–.0001	–0.79 +	–.0001	–0.86 +
	.0001		.0001		.0001	
$cgp^{2\#}$	.0001	0.77 +	.0001	0.73 +	.0001	0.80 +
	.0002		.0002		.0002	
int	.0569	4.52***	.0570	4.53***	.0584	4.64***
	.0126		.0125		.0125	
age	.0146	0.78 +	.0130	0.69 +	.0142	0.76 +
	.0187		.0187		.0187	
age^2	–.0003	–1.02 +	–.0003	–0.93 +	–.0003	–1.02 +
	.0003		.0003		.0003	
sp	–.0045	–0.17 +	–.0037	–0.14 +	–.0046	–0.18 +
	.0262		.0262		.0263	
tccb	–.0201	–0.65 +	–.0188	–0.61 +	–.0138	–0.45 +
	.0310		.0308		.0307	
const	.1602	0.60 +	.1747	0.65 +	.1985	0.74 +
	.2691		.2688		.2694	
N of Obs	1,863		1,863		1,863	
N of Players	760		760		760	
F-Value	29.4		29.5		29.3	
Wald χ^2	611.2***		611.4***		606.6***	
LM-Test	26.5***		26.3***		26.9***	
Hausman	14.5+		13.3+		12.4+	

coefficient multiplied by 1,000 for ease of presentation

+ not significant; * p < .10; ** p < .05; p < .01

Turning to the coefficients of the contract status variable, it appears that, irrespective of its concrete specification, convincing evidence in favor of the shirking hypothesis can be found: The shorter the remaining duration of a player's contract, the better his performance. Moreover, the consistency in a player's performance increases as he approaches renegotiation. Depending on the specification of the model, a player's performance increases by 2-3% per year as his contract elapses. This is by no means trivial: Since players can be – and are indeed – monitored day by day not only by their coaches but also by millions of sports fans, such an increase in performance is certainly surprising. It mirrors a player's possibilities to increase his effort as he expects to benefit from being more devoted to his job.

Equally interesting in the context of the paper is yet another question: Do these contract-related changes in individual performance affect team performance? If the performance measures used in the paper are valuable to the teams, we should observe team outcomes to follow the individual player's performance, i.e. to rise when many players are in the last year of their contracts and to fall when many have signed new (multi-year) contracts. The relevant literature has identified several wedges that might exist between individual and team performance. First, if only some valuable tasks are measurable, incentive effects can lead players to misallocate resources toward the measurable tasks and away from other, equally important ones (see Holmstrom and Milgrom 1991). Second, the readiness to cooperate may suffer under some incentive structures, i.e. if players are paid according to the number of goals scored or the number of appearances (see Baker 1992). Finally, rational individuals might behave opportunistically when individuals who reduce their effort levels cannot be identified (see Holmstrom, 1982). While the latter problem is unlikely to occur in professional team sports, the former two are certainly worth being investigated.

To examine whether changes in individual player performance actually affect team performance, I estimate a fixed effects model with the average team grade as the endogenous variable and the number of points at the end of the season as the dependent variable[64]. Taking into account that an individual player's performance improves considerably in the last contract year, the potential improvement in the team's performance can be easily calculated. On average, four players are up for contract negotiations each season. If that figure increases by two, the team will secure slightly more than one additional point, i.e. a draw instead of a loss. If half of the roster (instead of one quarter) is in the last contract year, the team will win two additional points[65]. Given the usually close competition – in some of the seasons under consideration already one point more would have resulted in either avoiding relegation (Karlsruhe in 1997/98 and Nuremberg in 1998/99) or in qualification for a European cup competition (Berlin in 1998/99, Leverkusen in 2000/01, Munich in 2001/02, Dortmund in 2002/03) – these marginal changes in individual performance can have massive (economic) consequences for the clubs affected.

64 The results are, of course, available from the author upon request.

65 A larger share of players negotiating a new contract can, of course, also be problematic for the team's managers, because they may find themselves in a hold-up situation where particularly the stars can credibly threaten to sign with another team.

4.4 Summary and Implications

Using two large longitudinal data sets from German professional football, the paper demonstrates that, first players are remunerated by the market according to their innate talent and their performance with the most recent performance being far more important than the performance delivered years ago. The OLS-and the RE-models explain more than 60% of the observable variance in player salaries. This is quite high and indicates that the available performance measures – although far from ideal – are indeed well suited for the empirical analysis. The quantile regressions, in turn, demonstrate that restricting the analysis to the standard models is problematic insofar as the focus on the conditional mean is likely to misrepresent the relationship between pay and performance because there are considerable differences in the returns to performance along the conditional distribution. Second, the paper finds clear evidence of increasing player effort over the duration of individual contracts. Other things equal, a player's performance increases by 2-3% in the last year of the contract, indicating that players can – and indeed do – vary their effort levels strategically.

The analyses can – and will be – extended in different directions[66]:

The wage equations will be estimated separately for goalkeepers, defenders, midfielders and forwards as the determinants of player wages are likely to differ across positions[67]. Re-estimating the models for regular and substitute players can also reveal interesting insights in the wage determination process. Moreover, the number of (previous as well as recent) international appearances should be weighted by the "quality" of the respective national team, i.e. its position in the annual ranking of FIFA. Finally, estimating the models for different sub-periods will possibly yield information about changes in the wage determination process over time.

The contract models, in turn, will be extended too: First, annual salaries can be included in the estimations to control for unobserved heterogeneity among players. Second, young and old players clearly have different incentives. It is, therefore, necessary to include a variable in the estimation that interacts the dummy for last year of contract with player age. Perhaps even more important is the fact that player contracts are of a "rolling" nature, i.e. they are very often renewed before the contract is about to expire. Thus, the timing of renewal of a contract should also be included in the refined estimations as an additional explanatory variable.

Clearly, current as well as proposed policy interventions in the now globalized football players' labor market would benefit from better contextual empirical evidence on the economic

66 A first example for an extension that is currently being performed is Bryson, Frick and Simmons (2009) who use an unbalanced panel from the Bundesliga as well as a cross-section from the "Big 5" European leagues to analyze the impact of "both-footedness" and "left-footedness" on player remuneration. Controlling for player age, height, position and national league, they find that both-feet players enjoy a pay premium of more than 20% while left-footed players receive a statistically significant premium of about 10%.

67 Another possibility is to interact the position dummies with the number of goals scored, the number of career appearances, the number of international appearances, etc. to see whether the returns to experience and popularity differ by or are equal across position.

mechanisms that influence current practices in professional sports. Hence, future analyses should provide empirical evidence on how sports labor markets function economically, using this evidence to predict the likely consequences of proposed reforms. So far, an economic welfare analysis of effects of sports policies has been largely absent from recent debate, which tends to be dominated by specialists in law, sociology and sports management. In particular, the need for some of the proposed interventions, such as quotas on team composition, is best assessed by asking whether the labor market for players is allocatively efficient, and if not, why not? So far, an analysis of labor market efficiency in professional sports has not been forthcoming due to data limitations. Using the available and assembling new data from football across several countries, rigorous investigations of labor market structure, conduct and performance in professional sports are possible and rewarding.

4.5 Appendix

Table A1. Means and Standard Deviations

Variable	Mean	Std. Dev.	Min.	Max.
PAY	909,014	889,577	17,043	10,000,000
lnPAY	13.31	0.96	9.74	16.12
GPL	13.27	12.62	0	34
GSL	1.63	3.14	0	28
IAL	1.43	3.08	0	25
CGP	55.81	80.61	0	540
CGS	6.34	14.93	0	171
IAP	7.54	16.56	0	130
TEN	2.67	3.12	0	21
CAP	0.04	–	0	1
FDD	0.04	–	0	1
GK	0.11	–	0	1
DEF	0.28	–	0	1
MID	0.39	–	0	1
FOR	0.22	–	0	1
GER	0.58	–	0	1
S_AM	0.05	–	0	1
N_AM	0.01	–	0	1
W_EU	0.13	–	0	1
E_EU	0.16	–	0	1
AFR	0.05	–	0	1
AS_AU	0.02	–	0	1

Figure A1. Kernel Density Estimate of Player Salaries

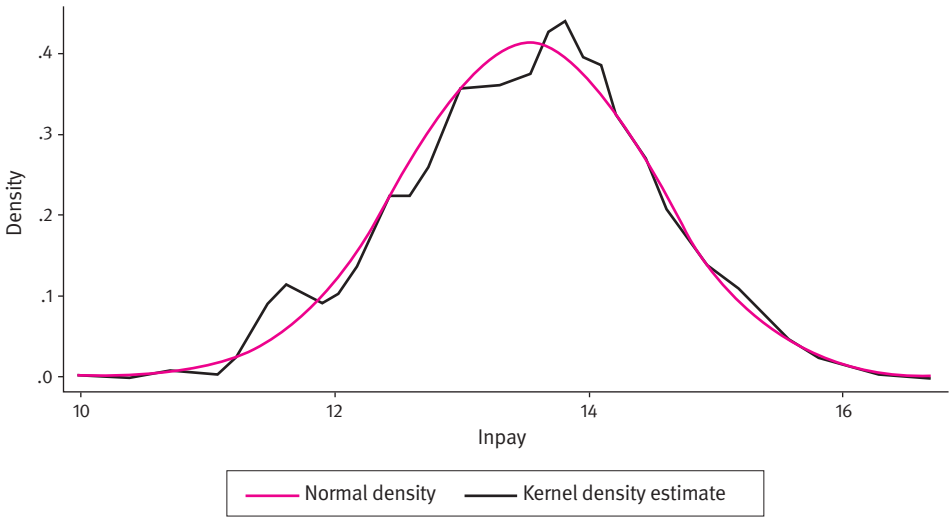


Figure A2. Kernel Density Estimate of Average Player Performance

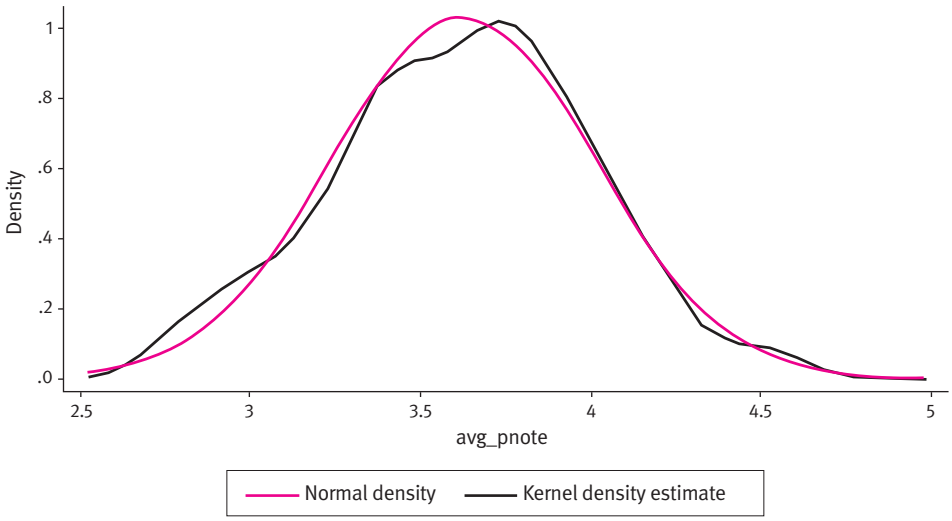


Figure A3. Kernel Density Estimate of Average Player Performance Relative to Teammates

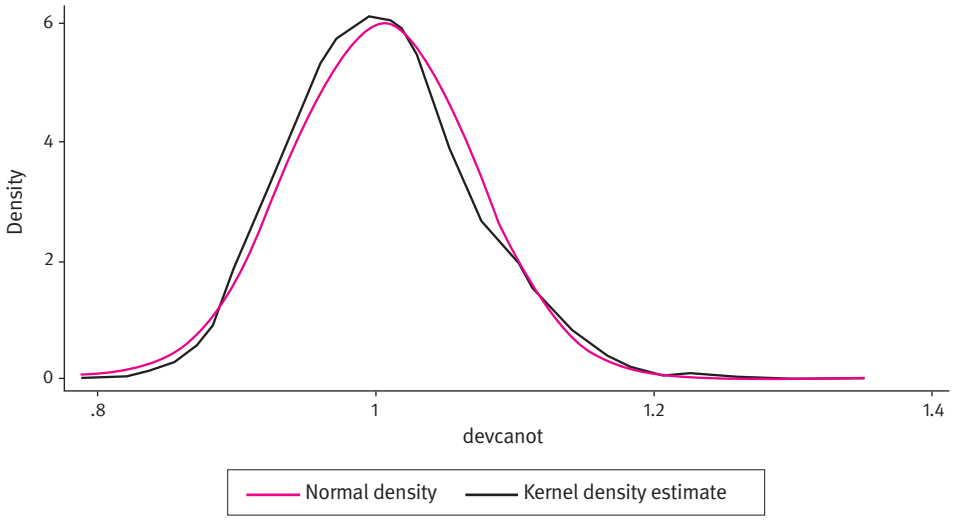
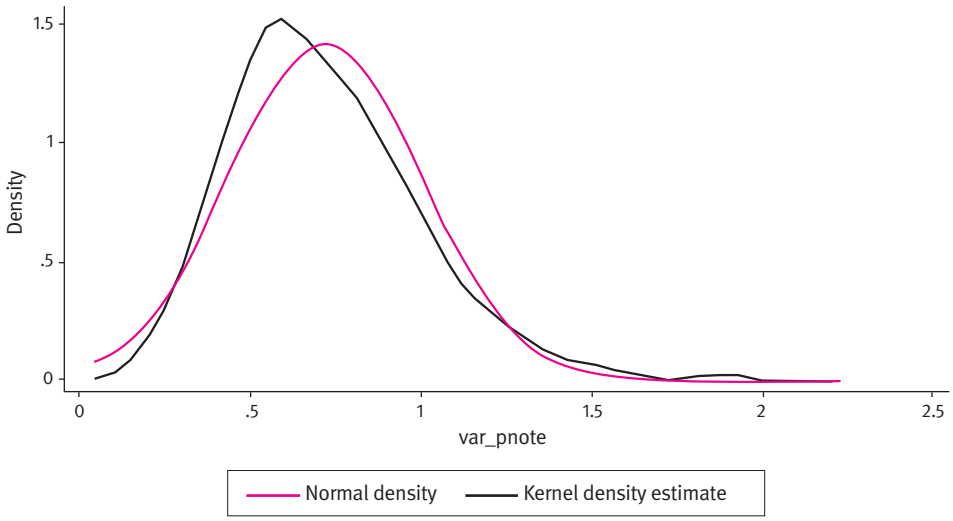


Figure A4. Kernel Density Estimate of Variance of Player Performance



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4.7 Discussion by Pedro García del Barrio (Universitat Internacional de Catalunya) and Arturo Canales (IMG)

Pedro García del Barrio

The paper by Bern Frick touches on very interesting topics, based on research data from the German Bundesliga. Besides, several issues raised by Frick certainly go beyond the football industry. In fact, the labor market in sports is a very good laboratory in which to reach conclusions that can be extrapolated to other markets.

The first topic addressed here deals with the fairness of the current level of rewards in the football labor market. The motivation of Frick's paper was to see whether we should intervene in these markets to achieve greater fairness in the rewards. This is a difficult topic to address. The crucial thing for teams is to get as much talent as possible, while respecting their opponents, their competitors, and without overspending. Even if the incentives for the big teams are to attract the biggest players, they also try to maintain an efficient financial balance.

Anyway, I would like to focus on the two topics mentioned by Frick: the determinants of salaries in professional football leagues and the influence of the length of the contract in terms of the possibility of shirking. Salaries have increased dramatically in both German and Spanish clubs. Revenue, which comes basically from gate takings, broadcasting rights and commercial sponsorship, has followed a similar trend. According to Deloitte and Touche, we find that, with the exception of Germany in 2003-2004, broadcasting rights are the largest source of revenue for the other for major leagues in Europe. If we look at individual teams, we reach similar conclusions. The Italians consistently get more than half of their revenue from broadcasting-rights contracts. So, right now, broadcasting rights are just crucial.

Frick mentions that there is a bilateral-monopoly situation here. One could spend a lot of time arguing about this, but we should recognize the existence of a few economically powerful teams as well as a small number of superstar players. I think it is important to include in the paper the reference to Frank and Cook's book, titled *The-Winner-Take-All Society*. It is a way to highlight the fact that this is a widespread phenomenon that goes beyond football, and that Frick's empirical analysis can be used in other markets. The crucial issue is thinking that maybe some players do not need to get paid as much as they do nowadays. There might be some inefficiencies behind the figures, but because the key issue is the comparative status, by introducing some regulation, we should not damage the outcome, the level of spectacle.

Now my point was to show whether this labor market presents a segmented structure like a dual labor market. In one of these segments the market would consist of a very large number of workers, because the majority of players can be substituted by a similar player. And these candidates to be hired are normal candidates so that, in this segment of the market, we expect the salary to be in line with marginal productivity of labor. But there is another segment of the market where there is this monopoly-market power situation. And the extent of this power

on the part of players or teams needs to be discussed. In fact, there are some empirical papers stating this issue of the winner-take-all element and, in particular, there is also this idea of some outstanding players getting paid far more than what would be proportional to their talent.

To summarize this first idea, three elements may explain these large payments made to football players: the structure of the industry, in which there is a market power situation, the superstar phenomenon and the prevalence of football clubs looking to maximize winning rather than profits. If we look at the operating profits of the leagues, we quickly see that football teams do not necessarily pay out with the aim of maximizing profit.

One of the important questions addressed by Frick deals with the determinants of player salaries. Most of the empirical findings are in line with the previous findings, with talent, age and experience affecting salary increase. But most of these studies focus almost exclusively on performance in the sport. It is important to note that recent performance has a greater impact than career or past performance. I would also add two more comments with respect to this. The first one is about the proxy variable chosen by Frick for capturing the undisclosed salary. It could also be capturing the transfer fee in addition to the salary. So when a team is considering hiring a new player, it is considering two elements: whether this player is at the end of his contract or whether the team will have to pay this transfer fee, which makes things more difficult. Thus, the number of games is a poor proxy variable, because it depends on many factors, such as the quality of your roster, your teammates; or the number of goals and the meaning of scoring a goal, because this would, in fact, make it possible to evaluate even the performance of keepers.

Therefore, my proposal is this: why not look into the economic contribution of football players together with their sporting contribution? There are some studies that conclude that the media value of the player is as important as his sporting performance. As the figures show, broadcasting rights are the main source of revenue driving the business in recent years. So, like any other organization, football teams look for factors that mean the inputs contribute in different manners, and perhaps some of the players are meant to contribute through sport performance, while other players are meant to attract revenue. We can think of David Beckham and other players. So when Real Madrid hired Cristiano Ronaldo or Kaka or when Liverpool hired Torres, they were not looking for just great football skills, but for something else that is crucial for attracting sponsorship and so on.

Arturo Canales

As an economist, I think it is good news that we have arrived at the same conclusion as, for example, Johan Cruyff, who stated that shorter contracts make players perform better.

He used to recommend a contract of no longer than three years. As an agent, I have to be a little careful with my statements. I currently represent two players in Barcelona. I think that managing a club is very difficult because there are a lot of challenges, and expectations are very high. Sometimes players who arrive in the last year of a contract do not perform well because

they get very nervous, they get stressed. This is understandable. I think FC Barcelona's system of paying the players is very good. They give a premium to players that play more than 60% of games. Normally, just 12 to 14 of the team members reach that level. So this has to be taken into account at the end of the season.

Concerning contracts, clubs have to keep best talent. So when a team cannot pay the kind of salary that FC Barcelona would, it has to give the player more security. We have the example of David Villa in the summer of 2010. Valencia could not pay what Barcelona was offering him, or even Real Madrid. In this case, it becomes necessary to convince the player to stay by offering him more years.

Another point to underline is the need for more control in transfers. The good thing about short-term contracts is performance, but when you enter the final year of the contract, you can have difficulty controlling the player, because all the clubs try to avoid paying the transfer premium. At the end of the day, that means that if a club wants to keep the player on its squad, it will have to pay a higher salary. There is huge competition between clubs at different levels. We have five top leagues in Europe if we consider Spain, Germany, England, Italy, and France, plus some top teams in Portugal, Holland, Greece and Turkey. So, there are no less than 60 clubs trying to play in the UEFA Cup or the Champions League. This means that there are 1200 players who are big stars in their countries. So to attract those players, there is huge competition everywhere. This is one of the reasons why, at the end of the day, clubs have to sign longer contracts. Moreover, players and agents have to think of the best moment to negotiate the contract. There are many factors that make players stronger in these situations.

So in conclusion, I would say that I consider players as luxury products. They are not something that you can put into big statistics and we have to consider each case individually. Each one is different in every different situation. As for performance, it is important to take into account that stability within the club, the coach and the system are positive motivational influences.

5. ROUNDTABLE: Perspectives and Economic Challenges for Elite Football Clubs

Chair:
Xavier Vives (Public-Private Sector Research Center, IESE)

Panelists:
Francisco Roca (previous risk manager)
Michael Gerlinger (FC Bayern Munich)
Simon Kuper (Financial Times)
Joan Oliver (FC Barcelona, general manager)

5.1 Introduction

Xavier Vives touched on a number of points before the panel. He pointed out the distinction between sporting competition and economic competition, wondered whether the club objectives are profit maximizers o win maximizers and brought up a third important issue about competitive balance. Which are the main approaches in analyzing the concept of competitive balance in professional team sports? What about revenue sharing mechanisms? What can explain the explosion of the superstar phenomena? Do the contracts have to be signed for a long or short term? How can we address the organization of the competitive structure? Do we need a European superleague or even a global league? Will the systems in Europe and the United States converge or diverge? As the director of the Public-Private Sector Research Center of IESE, Vives also drew attention to the taxation issue and mentioned the two issues growing in Europe: market integration and competition policy.

5.2 Panel

Francisco Roca, who currently works as a general manager in the Liga de Fútbol Profesional (LFP) in Spain, described the characteristics of the Spanish league. The combined income budget for the whole first division of the Spanish League will be approximately €1.9 billion for the 2009-2010 period. That means it is going to be second or third in Europe. The top two teams in the Spanish first division make 47% of the above amount. So the imbalance from the standpoint of distribution of income is obvious. This has positive aspects, such as the fact that it enables top elite teams to compete at the international level. But it also makes smaller teams unable to compete in the first division.

To be in the first division, teams need between €25 million and €30 million. Nevertheless, this imbalance in income does not translate into a greater competitive imbalance. Spain is not in a significantly worse situation than the other top five leagues in Europe. It is possibly just a little worse, but this does not affect the core business. Broadcasting revenues are increasingly higher. Therefore, there is no cut-and-dried approach to the concept of competitive balance in a football league. It is a tough analysis to make.

According to Francisco Roca, the biggest problem of the Spanish league is relegation (dropping to second or third division, which is locally called second B), as the average income there is between about €5 million and €6 million, i.e., four times lower than the average sum raised in the first division. A way to tackle that problem needs to be found.

Finally, the expert made a few final comments about collective selling. He proposed dedicating some of the money raised with television rights to alleviating the situation of the teams being relegated. This is the responsibility of the business as a whole and a solution has to be found, he concluded.

Michael Gerlinger, who is the director of legal affairs for Bayern München, insisted on the issue of contractual stability and highlighted the contradiction raised by the fact that Article 17 of the FIFA regulations allows players to breach contracts. This controversy has become a very serious threat in negotiations for player contracts and also has some sporting implications. For instance, if a club engages players for a 4-4-2 or 4-3-3 system and one of them leaves, it affects the way the team plays. Moreover, the solution is not as simple as buying a new player.

On the other hand, long-term contracts are good for the players, as they can be sure they will be paid for 5 years, even if the club does not want them to play after 3 years. Unions argue that most of the clubs are throwing away players by applying this regulation, but Gerlinger, who is also the general manager of the European Club Association, denied it.

The most important issue with Article 17 appears to be compensation: how much the old club gets from the new club. But in Gerlinger's view, this is a minor question. The bigger concern is that FIFA registers the player for the new club and the player is gone. So if the club breaches the

contract, the player gets paid for the rest of the period. If the player breaches the contract, the player does not need to perform anymore and the club does not know what it will receive as compensation, how it can solve the problem of the squad, the problem of the budget.

There are no legal remedies to solve this. So what can it be done? Clubs can impose a contractual penalty on the player but this is not a solution, as sanctioning the player causes the club to lose him without receiving any transfer compensation. So, at the moment, there is no real formal remedy to solve the problem raised by Article 17. The only way that a club has to solve the puzzle is trying to personally convince the player not to leave.

Finding replacements is a big challenge for elite clubs at the moment. Trying to find another Messi, for instance, is quite difficult both from the sporting and the financial point of view, as FC Barcelona would need to balance the replacement with its strategy, coach and budget without knowing whether it will be compensated. It could receive €30 million by losing Messi, although his market value is over €100 million.

Simon Kuper wondered how a club can become an elite one and what will happen to those who do not make it. Ten years ago, clubs like Leeds United (United Kingdom), Valencia (Spain), Rangers (Scotland), Lazio (Italy) thought they could join the A League, become a Bayern München or an FC Barcelona by investing tens of millions of euros. Their reasoning went like this: if they hired top players, they would win trophies, and those trophies would attract fans from all over the world and then revenues. But, according to the *Financial Times* columnist, this growth model of becoming an elite club does not work. Leeds United and Valencia are examples of how this theory fails. Other clubs that have tried it now owe hundreds of millions of euros.

Kuper pointed out that there are only two ways to become an elite club. The first one is the Bayern-Barcelona-Manchester United method, which consists of having a very strong historic brand that can be converted into high revenues. The second one is having a billionaire sugar daddy, which is what Chelsea and Manchester City have done.

In the last decade, clubs have frantically tried to build brands by spending. In the top 10 ranking of the clubs with the biggest number of European fans are FC Barcelona, Real Madrid, Manchester United, Liverpool, Arsenal, etc. The list of the clubs that were big 30 years ago would not have been vastly different from what it is today. It takes decades to build a football brand. There is only one exception in this list: Chelsea. Research shows that Chelsea's fan base is very fragile. According to a Forbes study, Chelsea supposedly has nearly 6 million fewer fans. So, in other words, Chelsea is getting a short-term lift in people who say they are fans now, but when its owner, Russian businessman Roman Abramovich, disappears and Chelsea sinks back out of elite status, it will no longer be in the top ten in number of fans. Chelsea has a weaker brand compared to the other clubs in the global elite. The list shows that there are just eight or nine clubs in the world that can ever hope to become elite clubs purely on the strength of their brand, their global brand. Two are in Spain (FC Barcelona, Real Madrid), three in England

(Arsenal, Liverpool, Manchester United), and three more in Italy (Juventus, Milan and, just possibly, Inter). Galatasaray would be a candidate too, because it has a lot of fans in different countries. Zenit St. Petersburg has almost no fans outside Russia. Now these clubs all have slightly different methods. For example, Real Madrid does not just squeeze money out of its brand, it also gets money from banks and goes into debt. But generally this is the brand model of becoming an elite club.

The second way to become an elite club is the sugar-daddy model. Bayern and Michel Platini are the great opponents of sugar daddies. In Germany they are not really allowed to exist at all. They cannot buy a majority stake in a German club. The main objection against sugar daddies is that they distort football. They come in, they bid up the price of players, so all the other clubs suffer. A sugar-daddy club can be thought of as a charity or a hobby rather than a business. But is this bad? Kuper considers this question to be a personal moral choice. Can it be considered immoral to waste a fortune on bringing a football club into the global elite? Everyone is allowed to spend their money in the way they choose.

Now the second question is what happens to the club if a sugar daddy disappears. Football needs a rule establishing that, when a sugar daddy takes over a club he or she has to guarantee all debts for a certain period. So if a sugar daddy buys Didier Drogba, currently playing at Chelsea, he or she has to guarantee that, for the next five years, he will pay Drogba's salary whatever happens. In the end, that can be arranged without too much difficulty; it is a legal issue.

Anyway, football clubs do not go bust. They very regularly go bankrupt, which is a slightly different thing. They go bankrupt and they continue to exist. Almost no football club of any size has ever disappeared. Kuper reminded us that the new local cliché is that clubs must be sustainable. Going bankrupt and still existing is much more than sustainable. So football clubs are about the most sustainable businesses in the world. In England, for instance, dozens of football clubs have gone into insolvency, which is their particular version of bankruptcy, since 1992. But only Aldershot F.C. (England) resigned from the league during the course of a season. But even this tiny club, which was wound up in the High Court in 1992, returned under a slightly different name very quickly. Therefore, football clubs survive even when they go bust. There is no Lehman Brothers in football and there will not be, insisted Kuper.

Now why are football clubs immortal? It is because nobody dares to pull the plug. And that means that football clubs can incur debts without fear, which of course is the definition of moral hazard. Debts are enormous and will never be repaid by football clubs. They will mostly be written off, which you can do by nationalizing the debt. Argentina is a good example of that. And what you get is a situation where the taxpayer pays for the Ferrari of a footballer. It happens to some degree in Spain and Italy. This can be done, governments can afford to do this because football is a tiny industry, this is very cheap. Total European professional football revenues for the 2007-2008 season were less than €15 billion, which is about one-quarter of the turnover of the British supermarket chain Tesco.

The third objection to sugar daddies is that some of them are bad people. Stronger rules are needed to keep them out of football.

Finally, Kuper asserted that all the objections to sugar daddies are surmountable. The benefits they bring to football clubs are so attractive that even the Germans are now considering the possibility. Christian Seifert, the head of the Bundesliga, said so. If Germans get sugar daddies, it is all over, because Germany is the biggest economy in Europe and has the best stadiums.

Kuper also argued that sugar daddies are actually a force for equality in football. They have enabled clubs like Chelsea, Hoffenheim, AZ Alkmaar and Manchester City to reach the top. Sugar daddies are the only formula that can create upward mobility in European football. But the sugar-daddy clubs cannot stay at the top without the sugar daddy. Chelsea can only keep Frank Lampard and Didier Drogba as long as Roman Abramovich gives them money.

Lastly, this situation leaves us with a tiny elite of football clubs. Francisco Roca was more optimistic than Kuper about what will happen with this tiny elite. Kuper said that Spain risks a Scottish scenario where the league becomes boring because the same two clubs win it all the time. In fact, the list of the Spanish champions and runners up in the last five years shows a clear pattern, although Villareal snuck in one year. The strong domination of Real Madrid and FC Barcelona has never been so clear. If this situation continues for a couple of years, why would anybody keep watching Sevilla or Sporting de Gijón? Therefore, the only way to expand this tiny elite is to bring in more sugar daddies.

Joan Oliver wondered about the future of elite football clubs. He was convinced that the economic crisis is a good moment for the entertainment industry, and especially for football clubs, because people seem to have the impression that watching football on TV or at the stadium is cheaper than going out.

The evolution of the top football clubs in the world has been very clear in the last 25 or 30 years. Until the 1970s or maybe the early 1980s, the football clubs were mainly a circus, meaning the kind of show that goes from one city to another and makes money through the sale of tickets. The model was very simple then: the stadium revenue was the main source of revenue for all groups of soccer.

However, in the last 20 years, clubs have become increasingly more like a film industry, where people are watching spectacles, matches through television. TV rights have become the clubs' main source of income, and the clubs have started to become global brands. When clubs were a circus, no one knew them beyond the people in the cities in which they were performing, but when they became a film industry, they became known all over the world.

The question now is what is the next step in the process of becoming global? Oliver put forward two potential alternatives. The first one is the Cirque du Soleil, which is a circus that makes its revenue mainly from the films they record from the shows. They also have some groups of artists

performing in different cities, which is a good idea because people need to be in contact with the real characters. The problem with football is how to build six or seven teams exactly like Bayern, FC Barcelona or Manchester United. But perhaps there is a future in which we will have some teams all around the world with a club's name, probably not of the same level, but probably with the same style of playing. This is a possibility. This is exactly what the NBA is trying to do in China, for instance.

Another possibility is to become theme parks. This is an opportunity that has been explored by the film industry. Disney World illustrates the theory. Perhaps we will be able to build Bayern parks or Barça parks all around the world. But the reality is that only a few football clubs will become true global brands. And to become a global brand, consumers need some kind of real experience. This real experience has to be provided either by a match, by a theme park or by other means. The future is more complex and more open than what we are able to imagine today. The history of football as a business is a very short one and it is very difficult to imagine how it might evolve.

5.3 Discussion

During the discussion, the panelists and some paper authors commented on several questions, such as transfer fees, the whole issue of competitive balance and the persistence of winners, the reform of the taxation system, broadcasting rights and the general characteristics of the football business. This is a summary of their remarks.

5.3.1 Transfer fees

Simon Kuper, Michael Gerlinger and Stefan Késenne brought up the issue of transfer fees. Why are there transfer fees when, according to the Bosman ruling (1995), a player can walk away?

Gerlinger made his views on the topic very clear. FIFPro (International Federation of Professional Footballers) and the player's union claim that the system of transfer sums has been abolished by the Bosman ruling, but this is not true because the Bosman decision points out that, if there is no relationship at the end of the contract, the player is not allowed to claim a transfer sum.

When you agree for transfer, and when you agree to terminate the contract prior to the end of the contract, then, as the selling club, you agree only in exchange for transfer compensation, for a fee. Why? Because you need to compensate for the loss of the services that you incur. If you lose Cristiano Ronaldo, you need to buy another player, you probably need to pay another transfer sum, you need the salary, you need the agent's fee. So you need some money to compensate for the loss of services. So the problem is that transfers are increasing, particularly from Brazil. In January 2009 there were 850 transfers, of which 800 were from Brazil. The reason for this is not that there is a change in the system, but that there is more money at the top, in particular at the top of the big five leagues. This is why transfer sums have increased and player salaries have

risen. Finally, Gerlinger argued against clubs that pay these transfer sums and salaries without having the money.

Stefan Késenne, however, proposed a solution to this situation: getting rid of transfer fees for players who are not at the end of their contract if both parties agree to break the contract.

5.3.2 Competitive balance and the persistence of winners

Competitive balance, which refers to the balance between the sporting abilities of different teams, was discussed by several speakers. Luis Cabral argued that there is no evidence that people do not like the persistence of winners. Has the Spanish premier league become more boring over recent years because there is a greater concentration of winners? Bernd Frick agreed that spectators do not walk away if competitive balance declines for whatever reason. This is one of the few stylized facts that can be gleaned from a comparative analysis of the European football leagues.

In turn, Stefan Szymanski brought up the notion that competitive balance is an American concern, which has been studied in the United States since the 1930s and 1940s. There is no reference to the concept in European football before 1990. It first appeared when the Bosman ruling was handed down. Some studies have found that competitive balance matters; others have found the opposite. In the United States, with closed leagues, there is at least an argument to say that competitive balance might matter because, when a club is at the bottom of the league towards the end of the season and not involved in any competition for the playoffs, then, presumably, there is less interest from the fans. In Europe, the situation is very different, particularly because of open leagues. A European club is in competition to qualify for the Champions League, in competition to qualify for the European league, or otherwise in competition to avoid relegation. There is almost no team for whom the game does not matter until right at the end of the season. So fans almost always have something at stake, and this is why it is unlikely to find any significant effect on competitive balance in European football.

5.3.3 Taxation

Francisco Roca commented on the modification of the Beckham law, written by the Spanish government (November 2009), that raised the taxes paid by foreign players who earn more than €600,000 a year from 24% to 43%. He complained that the change was very sudden and took place in the middle of the fiscal year. Moreover, he pointed out that other draft laws, like the audiovisual law, were also on the table, making things even more difficult for Spanish leagues. Roca also tackled the issue of the length of contracts. The Spanish competition authority was about to decide to change the signed individual contracts to make them three-year contracts instead of five-year contracts. The LFP was trying to reach some agreement with the government to solve the question.

With respect to taxes, Joan Oliver reminded us that the clubs have to follow the law. He considered it more serious that the government compels the clubs to offer a private business for free. By law, clubs have to provide one free match every week on TV because football is a matter of social interest. Then, according to Oliver, there was a contradiction between the fact

that football is considered of public interest and the fact that it has to pay as everyone else does. Finally, he noted that FC Barcelona players have always paid full taxes.

5.3.4 Pay-per-view vs. free-to-air

As for free matches, Paul Seabright agreed that it is strange that this industry should be subject to this requirement. But he was also curious to know how costly this requirement would be in the medium-to-long term, because industries increasingly understand that you have to give away free content in order to really attract your viewers, your spectators to the content you make them pay for.

Joan Oliver explained that free content could mean two different things: content that is free for the users and content that clubs give for free. Then he insisted that free-to-air television is not a good business in Spain. The cost of giving one Liga match for free is around 50% of the total value of the rights, i.e., between €200 million and €300 million. The reason is simple: the value of pay-per-view decreases dramatically as long as there is a competitive offer on free-to-air television.

Francisco Roca agreed that the situation is unsustainable and could become even worse if the Spanish government creates a council to decide which games would be broadcast for free - an issue that has been put forward.

5.3.5 Characteristics of the football industry

Paul Seabright wondered why this industry is apparently different from other industries. He mentioned Michael Gerlinger, who said that long-term salary contracts are much more important in this kind of industry than in others because of the particularly strong nature of the complementarities between the talents of particular players on a team. But what is the evidence that these complementarities are stronger than in many businesses? Furthermore, in this industry, he noted, everybody bends over backwards to lend money they know cannot be repaid. When you see that happening in the long run in any industry, you know that there is a structural flaw. It has to do with the fact that there is essentially pressure for subprime lending in the football industry, just as there was political pressure for subprime lending to house owners. So, according to Seabright, the solution to the repeated financial crises in the football industry cannot be some kind of way of getting together to raise the revenues of the industry because, if the problem is that they keep being able to borrow money to spend on the player's salaries beyond their capacity to pay, this is going to continue whether the revenue increases or not.

In his turn, **Francisco Roca** added that football is a very tricky kind of business, as there can be teams, like Levante in 2007, that go through receivership, which is a very serious issue that can affect the whole league. In the last 20 years, some Spanish teams have disappeared, and some people have faced jail sentences for this kind of situation.

Michael Gerlinger came back to the example of the German Bundesliga, which has reported a profit for 18 clubs out of 18, according to him. He pointed out that the difference between a

normal industry, where everybody wants to be profitable, and the football industry is that clubs want to score one goal more than the other on the pitch. Therefore, the most difficult part is combining a good strategy for making money with a sporting success.

Bernd Frick contradicted him on the figures for the German Bundesliga and Gerlinger admitted that German clubs have debts and bank loans, but that the licensing criteria at the end of the season are not the level of debts; there is some level of debt-equity ratios, but the decisive figure is a loss - it is simple profit-and-loss statement.

Simon Kuper predicted that banks and governments are going to lend less money to clubs in the next 10 years. The growth model has collapsed. So clubs are just going to go back to the 1970s model of having smaller debts. There is not going to be this business fantasy attached to it.

Francisco Roca responded that most of the teams in Spain that have bank loans have very good collateral. And they can obtain these loans as long as they have collateral to cover them. They have their television contracts, they have their big licensing contracts or sponsorship contracts. But there is always real collateral behind them. It is very unusual to see a substantial amount of money being given out to a football club without good collateral. Michael Gerlinger added that the German and French models force clubs to pay off the debts basically in cash, even if they are allowed to raise equity.

5.3.6 Local leagues vs. global leagues

Stefan Szymanski asked the panel about the nature of competition within Europe and their view of the argument that a lot more revenue and a lot more interest can be generated if the big teams in different countries in Europe play each other a lot more regularly.

Joan Oliver insisted on the fact that the leading football clubs in the world have become global brands and, as a consequence, the weight of European competition is increasing. Nonetheless, in global terms, FCB gets more money from the TV rights of the Spanish league and the Spanish cup than from the UEFA Champions League. He also got back to his idea of the Cirque du Soleil model as a way to play more matches with European clubs.

Francisco Roca agreed that the revenue generated in the local Spanish league is much greater than the money raised in international competitions. Nevertheless, there is a time and place for both types of competition and they can be combined to cater to the interests of the paying consumer. He added that the snowballing of debt in football has to stop and announced that LFP was looking for formulas to achieve this.

Xavier Vives closed the session and thanked all participants.

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