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INTRODUCTION

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Introduction to Sports Economics

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INTRODUCTION

The term *sports* has many meanings encompassing a wide array of human activity that is neither work nor rest. Sports includes athletic competition, of course, but also recreational hunting and fishing, auto racing, exercise activities, and even poker. For the most part, in this book we focus on the activities covered in the sports section of local newspapers. Even this is fairly broad because that includes both amateur and professional sports, as well as recreational activities of all sorts: cycling, sailing, surfing, hiking, and many others. The coverage extends to both team and individual sports that are played in the United States and around the world. In our study, we touch on many of these, but our attention is largely on the major league professional team and individual sports that are most popular in the United States: football, baseball, basketball, hockey, golf, and tennis. Some additional attention is paid to intercollegiate sports under the auspices of the National Collegiate Athletic Association (NCAA).¹

Studying the economics of sports does not involve much discussion of batting averages, field goal percentages, or rushing yardage. From an economic perspective, these performance statistics are important because they affect the outcomes of the games. To the extent that winning leads to more fans and greater attendance, athletic performance improves economic performance – that is, profit – of the team. This, of course, is important for the team and for the athlete because salaries and bonuses reward performance. Unlike many avid sports fans, however, we will not dwell on performance statistics for their own sake. The point is that we are interested in the business and economics of professional and amateur sports.

In the next section, we briefly explore the analytical tools that are useful in studying sports economics. The balance of this chapter provides a tour of the book and its coverage.

¹ The appendix to this chapter provides a list of commonly used acronyms.

2 TOOLS OF ANALYSIS

In studying sports economics, we rely in this book primarily on the fundamental principles of microeconomics, which are probably familiar to most students. Reading this book will be much easier if you have already studied microeconomics, but the book is largely self-contained. In other words, these fundamental principles are presented here so that the reader can learn the economics necessary to analyze sports economics. Instead of having a survey chapter at the beginning, the book develops the economic tools as they are used in studying the economics of sports. I have found this approach to be effective in my own teaching because it allows us to get into sports at the outset.

The economic analysis uses numerous graphs. Consequently, some basic understanding of plane geometry is necessary. In addition, many numerical examples are presented. These require some elementary algebra. The text proceeds on the assumption that the reader is familiar with the basics of algebra and geometry, which do not extend beyond those used in standard principles of economics texts. Finally, our focus on the business side of sports leads to an examination of profit and profit maximization. To a large extent, the principles are illustrated graphically, but solving some numerical examples requires a smattering of basic calculus. The book avoids the use of calculus by providing all the algebraic information necessary to solve the numerical examples.

2.1 Present Value Calculations

There are many instances when either the costs or the benefits of a decision extend into the future. In such cases, it is useful to express these streams of costs and benefits in common values to avoid mistakes by comparing apples to oranges. In the appendix to Chapter 2, we develop the arithmetic of present value calculations. In Chapter 2, such calculations are used to understand the value of cash flows. This tool is used in many other places in the book to understand the values of multiyear employment contracts, naming rights, franchises, and other issues.

There are times when the value of a future stream of income is not stated correctly from an economic perspective. For example, when Barclays bought the naming rights to the new home of the New Jersey Nets, it committed \$20 million per year for 20 years. This may appear to be a \$400 million deal, but the present value of that stream of payments is “only” a bit more than \$170 million if the relevant interest rate is 10 percent.

This methodology for calculating the present value of a stream of future payments is used throughout the book to measure rates of return on investments in sports franchises and sports facilities. The values of other multiyear contracts involving stadium naming rights and broadcast licenses are also sensibly calculated as present values.

2.2 Economics of Uncertainty

We live in an uncertain world and therefore must sometimes make decisions before having full information. We buy tickets to a game before knowing

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whether the star quarterback will sit out with an injury or whether it will be postponed to a later date because of rain. Teams sign players to multiyear contracts before knowing how the athlete will perform, whether he will be injured, and whether he will maintain his competitive zeal. All investments in franchises, facilities, coaches, endorsements, and naming rights involve uncertain returns, but commitments must be made before the realization of the benefits.

The expected utility model developed in Chapter 8 provides a framework for analyzing decisions in the presence of uncertainty. The model is then used to analyze the demand for insurance policies to cover the risk of injury. The expected utility model proves useful in analyzing sports gambling and the deterrence of cheating, misconduct, and the use of performance-enhancing drugs.

3 THE SPORTS BUSINESS

The sports industry is a big business. Billions of dollars are spent on tickets to professional and college athletic events. Billions of dollars are spent on player salaries and tournament purses. Billions of dollars are spent to secure broadcast rights, and still more is spent on advertising. Sports facilities, such as the new Yankee Stadium, the Cowboys Stadium, and the Giants-Jets Stadium, each cost more than a billion dollars to construct. As fans, we are concerned with the competition on the field, but as students of sports economics, we focus our attention on various business issues in the sports industry.

In Chapter 2, we recognize that sports franchises, which we will often refer to as *clubs* or *teams*, are businesses. The image of a sports franchise owner as the head of a small family business run largely as a hobby is quaint but seriously misleading. Economically successful franchises may be closely held businesses that are not publicly traded, but this does not mean that they are not operated as businesses with an eye on the bottom line.

In Table 1.1, a sample of estimated franchise values in the four major leagues are displayed. As one can see, these franchises are extremely valuable assets that demand careful managerial attention. Indulging the whims of wealthy owners is an expensive proposition and is not apt to occur very often. This is not to say that all franchises are well managed, but it is to say that profit is important.

In Chapter 2, we examine team profit and the principles of profit maximization. For a sports franchise, like any other business, profit is the difference between total revenue and total cost. We identify the most important revenue sources for sports franchises and the peculiar nature of the costs incurred in earning those revenues.

3.1 Sports Leagues and Organizations

Professional sports teams are organized into leagues such as the National Football League (NFL), the National Basketball Association (NBA), and the National Hockey League (NHL). NCAA teams are organized into conferences such as the Big Ten, Pac 10, and the Southeastern Conference (SEC). Individual sports

Table 1.1. A Sample of Estimated Franchise Values, 2009–2010

Team and League	Value (\$millions)
National Football League	
Dallas Cowboys	1,650
Washington Redskins	1,550
New England Patriots	1,361
Major League Baseball	
New York Yankees	1,600
New York Mets	870
Boston Red Sox	858
National Basketball Association	
New York Knicks	607
Los Angeles Lakers	586
Chicago Bulls	511
National Hockey League	
Toronto Maple Leafs	470
New York Rangers	416
Montreal Canadiens	339

Source: <http://www.forbes.com/business/sportsmoney>.

organizations are also formed. Examples include the PGA Tour for men’s golf and the Women’s Tennis Association (WTA) for women’s tennis. Leagues and organizations form to provide a more desirable product for the fan – championships, reliable schedules, traditional rivalries, meaningful statistics, and consistent rules of play. All improve the quality of the competitive contests for the fans’ enjoyment. The improvement over ad hoc games or matches translates into greater profits that are split in some fashion between the club owner and the athletes.

In Chapter 3, we take a closer look at leagues and organizations from an economic perspective as a kind of joint venture or as a cartel. We also survey the rules and procedures of leagues to appreciate further the scope of business integration that a league entails. Finally, we examine the impact of leagues on consumer welfare.

3.2 Competitive Balance

The term *competitive balance* refers to the extent to which teams are evenly matched. This is important to a league because the quality of the product, which is competition on the field, is higher when teams are evenly matched. With higher quality comes greater fan interest, a greater willingness to pay for tickets, higher TV ratings, more sales of logoed items, and higher naming rights fees. These are obviously important for team profits. As we will see, a satisfactory measure of competitive balance is elusive. Moreover, various efforts to reduce competitive *imbalance*, which include reverse-order player drafts,

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Table 1.2. Payrolls in Major League Baseball, 2011

Team and League	Payroll
American League	
New York Yankees	\$202,689,028
Texas Rangers	\$92,299,264
Seattle Mariners	\$86,524,600
Kansas City Royals	\$36,126,000
National League	
Philadelphia Phillies	\$172,976,379
Atlanta Braves	\$87,002,692
Milwaukee Brewers	\$85,497,333
Pittsburgh Pirates	\$45,047,000

Source: <http://content.usatoday.com/sportsdata/baseball/mlb/salaries/team>.

revenue sharing, and salary caps, have resulted in limited success. The problem can easily be seen in Major League Baseball (MLB).

Competitive balance in MLB is difficult to achieve because there is substantial imbalance in the team payrolls. In Table 1.2, we show the highest payrolls in each league, along with the lowest and the two middle values. It is plain to see that teams can hardly be evenly matched in the American League when the Yankees spent nearly six times as much as the Kansas City Royals on players, and the Yankees spent more than twice as much as the two middle teams. Similar imbalance can be seen in the National League.

3.3 Pricing Decisions

It is obvious that pricing decisions are crucial to financial success. If prices are too high, profitable ticket sales are lost. If prices are too low, money is being left on the table. In Chapter 5, we begin with simple competitive and simple monopoly pricing, which are already familiar. We then examine a variety of more complicated pricing options that allow the club to extract more consumer surplus from the fan.

3.4 Advertising and Promotion

Advertising and other forms of promotion are designed to increase the fans' willingness to pay. To the extent that the resulting increase exceeds the cost of advertising and promotion, these efforts will be profitable. In Chapter 6, we analyze the incentives to advertise by teams and by the league as a whole. Here, we highlight the public-good aspect of league-wide advertising. We also examine some interesting forms of sports advertising such as Citi Group's commitment of \$20 million per year for 20 years to name the new Citi Field where the Mets play. Endorsement deals, event sponsorships, and TV advertising are also discussed.

Table 1.3. Top Media Rights Deals – Public Universities, 2010

Rank	School	Average Annual Value (\$millions)
1	Georgia	11.6
2	Ohio State	11
3	Florida	10
4	Alabama	9.4
	Texas	9.4
6	Nebraska	8.6
7	Tennessee	8.3
8	Connecticut	8
	Kentucky	8
10	North Carolina	7.5
	Oklahoma	7.5
12	LSU	7.4
13	Michigan	7.2
14	Arizona	6.7
15	Wisconsin	6.3

Source: *Sports Business Resource Guide and Fact Book 2011*.

3.5 Broadcast Rights

For some leagues, broadcast rights can be sold for extremely large sums. NBC’s deal with the International Olympic Committee is worth billions. The NFL also has billion-dollar deals with ESPN, CBS, Fox, and NBC. In Chapter 7, we turn our attention to the demand for broadcast rights and the important role that such fees play in the success of the major sports leagues.

Although media rights deals are more modest for NCAA members, they still involve substantial sums. Table 1.3 reveals that some major athletic programs receive considerable sums for their media rights. The names are familiar: Texas, Ohio State, Florida, Georgia, among others.

3.6 Insuring Player Talent

The talent required to play major league sports is extremely valuable and is put at risk every day. Injuries – on and off the field – as well as illness can destroy, or at least seriously impair, that talent. Insurance provides a way to shift that risk to someone else. In Chapter 8, we develop the analysis of decisions under uncertainty. We use this to explain the demand for insurance, which we apply to sports. Professional clubs insure player contracts, and the NCAA has an insurance program that permits top draft prospects to buy insurance covering career-ending injuries. This program allows student-athletes to borrow the insurance premiums for policies providing up to \$1.0 to 3.0 million of coverage.

4 Image and Integrity

3.7 Sports Leagues and Antitrust Policy

The major sports leagues have considerable market power and are not bashful about exploiting it. This has aroused some antitrust scrutiny and resulted in many antitrust challenges. The now-defunct United States Football League (USFL) filed suit against the NFL and won \$1 in damages. In Chapter 9, we see that antitrust challenges have not been very successful in the past. The antitrust laws, however, pose a continuing threat to anticompetitive behavior by sports leagues and their members.

4 IMAGE AND INTEGRITY

Professional athletes are entertainers and larger than life. They perform their athletic feats at an extremely high level for our benefit as fans. Because we enjoy the performance, we pay for admission, we watch on television, we buy logoed merchandise, we use equipment endorsed by our favorite athletes, and we even eat the fast food recommended by the stars. All of this economic activity results in many dollars ending up in the pockets of owners and athletes. It all depends on the preferences of the fans. Consequently, it is important for each sport to maintain its image and protect the integrity of the game. In this regard, we examine four areas of concern: gambling, cheating, misconduct, and performance-enhancing drugs. These issues are examined in Chapters 10 through 13.

4.1 Gambling in Sports

We begin in Chapter 10 with an economic analysis of gambling based on the expected utility model presented in Chapter 8. This provides an explanation for the gambler's behavior. We also provide a brief look at the operation of sports books. All professional leagues and tours as well as the NCAA have strict prohibitions on gambling. The details of these policies vary from sport to sport, but they are all intended to protect the integrity of the athletic contests and therefore the image in the minds of the fans.

4.2 Cheating in Sports

Competitors have a burning desire to win, and that creates the temptation to cheat. Although we generally disapprove of cheating to win, we understand it. Chapter 11 discusses why someone might cheat. Defensive holding in football, hand checking in basketball, scuffling baseballs, and making bad line calls in tennis are a few of the ways that athletes sometimes cheat in an effort to win. To preserve the integrity of the competition, there are punishments for such cheating. The aim of these punishments is to deter cheating by making it "unprofitable." We use the expected utility model to show how, when, and why penalties deter cheating to win.

A more serious problem arises with cheating to lose. From time to time, there are scandals that involve point shaving in basketball, performance breakdowns in baseball and football, and rogue game officials. Typically, these

episodes are induced by gambling interests who want to influence the outcome of games for their own financial gain. The punishment for this kind of behavior is harsh – usually lifetime bans from the sport and possibly criminal prosecution by state or federal authorities.

4.3 Misconduct by Participants

When a fan is arrested on a DUI or for domestic violence, it is deplorable but not big news. When a prominent athlete does the same thing, it may be in the headlines. The image of the game and the league is tarnished when those we hope will be role models engage in misconduct. We discuss this in Chapter 12. Bad behavior extends in many directions. In recent years, there have been allegations of sexual assault, bar brawls, shootings, weapons possession, drugs of all kinds, and dog fighting, to name just a few.

The commissioner's office deals with these episodes in different ways depending on the athlete's past history and the specific circumstances. All disciplinary efforts are designed to punish the bad actor so others will be deterred from engaging in similar conduct. Once again, we use the expected utility model to illustrate the deterrent effect of league punishments. This model is also used to analyze the sanctions imposed on players for engaging in dangerous on-field behavior such as helmet-to-helmet hits in football, throwing at batters in baseball, and stick-wielding assaults in hockey.

4.4 Performance-Enhancing Drugs

The use of performance-enhancing drugs is addressed in Chapter 13. It poses an integrity problem because those athletes who take the drugs have an advantage over those who do not. Consequently, competition may be impaired. In addition, records set by athletes who trained without the benefits of steroids, human growth hormone (HGH), excessive caffeine, and the like have been broken by athletes who are juiced up on such drugs. Many fans find this disappointing. It is one thing for Roger Maris to break Babe Ruth's home run record by virtue of his skill, conditioning, and discipline and quite another for those who have broken Maris's record to do so with the help of performance-enhancing drugs.

The use of such drugs to accomplish certain feats that were out of reach without them strikes many as dishonest. Moreover, it sets a bad example for young athletes. As a result, the image of these athletes and the sport in general is impaired. If that results in a loss of fan interest, everyone ultimately suffers.

The major sports leagues and organizations all have rules against the use of steroids, HGH, and other performance-enhancing drugs. Each has its own system of testing, and each has its own set of sanctions. In the NFL, for example, first-time offenders receive a four-game suspension, which amounts to an implicit fine equal to one-fourth of the player's salary. In MLB, the punishment is a 50-game suspension, which amounts to a fine of nearly one-third of a year's salary. Testing increases the probability of getting caught, and the heavy penalties reduce the expected net benefits. Both of these effects are intended to be a deterrent to use of steroids and other performance-enhancing drugs.