

Chapter 2

Cartels in College Sports

The NCAA is the clear choice for best monopoly in America.

— Robert Barro, Harvard economist

2.1 Introduction

The statement above would probably surprise many college students, parents, alumni, and legislators. Most people do not even think of college sports as a business, and even if they did, with hundreds of colleges and universities competing against each other, how can it be a **monopoly**? And as for the NCAA itself, the “basic purpose of [the] Association is to maintain intercollegiate athletics as an integral part of the educational program” (Article 1.3.1 of the NCAA constitution), not to promote anti-competitive behavior.¹

The focus of this chapter is to examine the evidence for a monopoly in the market for big-time college sports, particularly top-level men’s football and basketball. It begins with an overview of the economic theory of collusion, including the internal struggles and how they can be overcome. The theory is then used to identify and analyze examples of cartel behavior in intercollegiate sports.

¹ The NCAA’s constitution, operating bylaws, and administrative bylaws appear in the Division I Manual (http://www.ncaa.org/library/membership/division_i_manual/2006-07_d1_manual.pdf).

2.2 Collusion and Cartels

Collusion occurs when the firms in a market cooperate rather than compete with each other. In its simplest form, all firms agree to raise their prices. This is commonly known as **price-fixing**, and it is strictly illegal in the US. It can also be surprisingly difficult to accomplish. If firms increase prices then the quantity demanded by consumers will decrease. Firms will have to reduce their level of production, which some firms may be unwilling to do. If a firm does not reduce its output, it will be unable to sell it all if it charges the same high price as the others. It will be tempted to lower its price slightly and attract customers away from the other firms. With their sales falling even more than they expected, the other firms will probably retaliate and the agreement will fall apart. The renegade firm may also resort to other methods to attract additional customers, such as advertising and product innovation. The cost of such non-price competition can quickly dissipate the gains from raising prices.

In some cases, market conditions favor successful collusion. Beginning in the 1950s, the Ivy League colleges agreed to limit the amount of need-based financial aid they offered to prospective students. The schools, known collectively as the Overlap Group, met each year to set the size of a standard aid package. By reducing financial aid, this practice effectively raised the price paid by students (and their parents). The system worked well because the Ivy League reputation allowed them to be highly selective, that is, accept only a fraction of those that applied for admission. Even with a higher price, there was still enough demand to allow each school to fill its entering class. They were not tempted to offer slightly higher financial aid to lure students away from the other schools.²

In many other cases, the urge to compete and the lack of trust among firms are too strong, and a simple agreement to raise prices

² The government began an investigation of this practice and filed an antitrust lawsuit in 1991. The schools agreed to stop colluding, but Congress passed legislation that allowed limited agreements between colleges on financial aid.

is not sustainable. An alternative is a **cartel**. A cartel is a more structured type of collusion, with formal agreements on how much each firm will produce and sell, and limits on other forms of competition, such as advertising. For example, the Organization of Petroleum Exporting Countries (OPEC) meets regularly to decide how much crude oil each member country should produce. By limiting their total output, the market price of oil increases. For decades, DeBeers has successfully controlled the world price of diamonds by arranging with the major producers, including the former Soviet Union, to sell all diamonds through a single location in London. The DeBeers cartel strictly controls the number of diamonds released to the market, leading to much higher prices and higher profits for its members.

A cartel can control the price charged for the output (e.g., tickets to a baseball game) or the price paid for an input (baseball players). In the past, Major League Baseball owners agreed to limit the ability of players to switch teams, which enabled them to keep salaries low. This practice was known as the Reserve Clause. The owners could decide to trade a player to another team, but the player could not try to get a higher salary by having teams compete for his talents. A player's only leverage to negotiate for a higher salary from his current team was the threat of leaving professional baseball completely. When the owners' collusive conduct was declared to be illegal, and players were able to become free agents, salaries increased dramatically.

So are college sports a cartel? To answer this question, we must explore cartel behavior in more detail, review the history of college sports and the NCAA, and then determine whether it fits the pattern of a cartel.

2.3 The Three Challenges

For any form of collusion to be successful, the conspirators must overcome three inherent problems: reaching **agreement** on the appropriate actions by all members of the group, preventing **cheating** by some members, and dealing with **entry** into the market by

producers attracted by the high profits. We will discuss each of these challenges in order.

2.3.1 Agreement

In theory, a cartel should make decisions as if it were a monopoly, with the members behaving like the divisions of one large firm. But there is a big difference between a single large firm and a group of smaller ones acting together. For a monopoly, if one of its factories is old and inefficient, production would be shifted to one that operates at a lower cost per unit, resulting in higher overall profits for the firm. In a cartel, while such a decision would increase total profits, it would reduce profits for one producer and increase them for another.³ In the absence of some form of profit sharing between the members, the losing firm would not agree to a lower output target while others are producing more, preferring an equal output for each producer.

Figure 2.1 illustrates the situation of two firms, with firm #2 having a higher marginal cost (MC) curve than for firm #1.

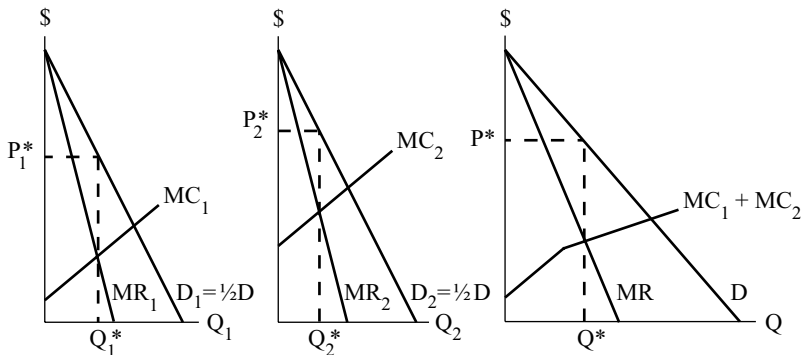


Figure 2.1. Collusion with cost differences.

³ The increase in profits for one firm would be larger than the decrease in profits for the other firm, so total profits increase.

Suppose that the firms agree to share the market, so that each firm's demand curve is one half of the total (represented by $1/2 D$ in the figure). Notice that the profit-maximizing price (the price that corresponds to the quantity where **marginal revenue** equals MC) is higher for firm #2 than for firm #1, while its profit-maximizing quantity is slightly lower. The problem is that if firm #1 charges a lower price than firm #2, it will capture more than half of the market, resulting in less demand (and thus less profit) for firm #2. To keep its share of the market, firm #2 would have to match #1's lower price, which also reduces its profits. If the firms were acting as a monopolist to maximize joint profits, with a combined MC curve ($MC_1 + MC_2$) and the entire market demand curve, the optimal price (P^*) would be between the values for each firm. Just reaching an agreement on output targets can become quite complicated!

A difference in costs is not the only possible cause of disagreements. Suppose that the products sold by the members of the cartel are not identical, and that consumers consider some to be better than others. If you were the producer of the less popular good, would you agree to charge the same price as the other producers? If you did, you would not be able to sell your entire output. Having different objectives can also create problems. Some firms may be focused on increasing profits in the short term, while others would prefer to sacrifice some current profits to increase market share and long-term profits.

Have you ever been required to do a group project for a class? One of the first problems is getting everyone to agree on a time to meet. While some people will get exactly the time they wanted, others will end up making sacrifices (rearranging a work schedule, paying for an extra hour of childcare, missing a favorite TV show). These people may resent the rest of the group and not work as hard as they might have, hurting everyone's grade. They may also decide to join a rival group. In the world of cartels, if an agreement favors some producers over others, it may be sowing the seeds of discontent and eventual collapse.

2.3.2 *Cheating*

If you were a member of a cartel, reaping above normal profits, would you be tempted to violate the agreement, and if so, how? Even in a cartel, each firm will act in its own self-interest, not for the good of the other firms. If its self-interest is served by cooperating with the others, it will do so. But if there is a way to increase profits even more, it will do that instead.

Each firm does not agree to reduce its output unilaterally because it will benefit directly. If it reduces its output, the market price will not rise appreciably and its market share and profits would fall. However, if *all* the firms reduce their output at the same time, the market price will rise, market shares will remain constant, and everyone's profits will increase. Each firm only reduces its output because all of the others agree to do the same. If it did not believe that the others would abide by the agreement, neither would it.

Unfortunately, if a firm believes that the others will *decrease* their output, the resulting rise in market price creates an incentive to *increase* its own output, causing its profits to increase even more dramatically. If the other firms do something that increases the profit per unit, why reduce your output? Every extra unit you sell will bring in a significant profit. You may be tempted to exploit the willingness of others to reduce their output to make even higher profits for yourself.

Economists use **game theory**, a model of behavior developed by mathematicians such as John Nash, to explain cheating and the unstable nature of cartels. A common illustration of game theory is the **Prisoners' Dilemma**. Suppose that two criminals, Bob and Sue, have been arrested for a theft at a jewelry store. The police find some of the stolen goods in their apartments, but they cannot prove that Bob and Sue were the ones to actually rob the store. As they are being taken to jail, Bob and Sue agree to not confess to the robbery. They know that without a confession from one of them, they can only be convicted of possession of stolen property. However, the detectives are clever. They put the two criminals in different rooms and make each one the same one-time offer. In return for confessing

		Sue	
		Confess	Not confess
Bob	Confess	Sue: 5 years Bob: 5 years	1 year 10 years
	Not confess	1 year 10 years	2 years 2 years

Figure 2.2. The payoff matrix for a Prisoners' Dilemma game.

to the robbery and agreeing to testify against their partner, the district attorney will ask for a light sentence, perhaps even probation. However, if one of them does not confess, and their partner does, then they will be sentenced to a long stretch in the slammer. Each one is told that their partner is being given the same offer, and that they must make their choice now. Anyone who has watched crime shows on television is probably familiar with this gambit. The possible outcomes are summarized in the payoff matrix in Figure 2.2.

Given this situation, what should Sue do? If she believes that Bob is a standup guy and will not confess, she can either not confess and serve two years, or confess and serve just one year. If she believes that Bill is a ratfink and will confess, she can choose to not confess and serve ten years, or confess and serve five years. Whether Bill confesses or not, it turns out that she gets the shortest sentence by confessing. This is known as a **dominant strategy**. Faced with the same situation, Bill will also confess to the crime, and both will be sentenced to five years in prison.

What would have been the optimal outcome for the criminals? It is for neither one to confess and to both serve two years for possession of stolen property. However, each person acts to either exploit their partner (to get a one year sentence) or out of fear that their partner will attempt to exploit them (to avoid a ten year sentence). They will both end up spending five years in jail.

Why do criminals not always betray each other in the real world? Because the actual payoff matrix is more complicated. If Bob testifies against his partner, expecting to serve a short time, he may serve a short but very unpleasant sentence. Prison is not a friendly place for

squealers. Sue could also make a very clear threat while they are in the police car riding to jail. "Testify against me and I will kill you when I get out." If he makes the same threat, and they believe each other, then no offer of a shortened sentence will induce either one to confess.

If Bob and Sue are habitual criminals and are likely to be arrested again in the future, Sue can threaten to retaliate to Bob's confession today by testifying against him the next time the "game" is played. For such a **repeated game**, one possible outcome is for each player to adopt a "**tit-for-tat**" strategy. Each person states that they will do tomorrow what the other person does today. If Bob does not confess this time, then Sue will not confess next time. If he tries to exploit her and confess this time, then she will confess next time. He might gain this once (serve one year rather than two), but he will be hurting himself in the long run by eliminating the possibility of a shorter sentence for both (when neither one confesses) in the future.

So how does game theory apply to the incentive for firms in a cartel to cheat? First, in many situations firms do not compete with each other just once, so the model of repeated games is more appropriate than the simple Prisoners' Dilemma. A firm may be tempted to increase its output or lower its price to get a higher short-term profit, but it knows that this may destroy the cartel and reduce profits in the long run. This increases the chance that collusion can be sustained.

Second, the firms can change the payoff matrix to reduce the incentive to cheat. If the colluding firms discover that one of their members is violating the agreement, they can impose a penalty. For example, the non-cheating firms can offer the cheater's regular customers a heavily discounted price and reduce its sales for a period of time. Once it is clear that cheating will be punished, the incentive to do so can evaporate. Of course, if the punishment is too severe, such as forcing the offender out of business, it is unlikely to ever be used. If it is too lenient, it may not have the desired effect.

Third, even if firms are able to suppress the incentive to compete with each other on price, other forms of competition may take

over. The non-repeated Prisoners' Dilemma is more applicable to non-price competition, such as advertising and product innovation. The decision to launch a new advertising campaign or develop a new product will have lasting consequences. There are often advantages to acting first, making it difficult for the others to fully respond. With uncertainty about how rivals will respond and the fact that it will probably take them some time to do so, the temptation to try and steal their customers is stronger for non-price methods than it is for price cuts. Just because firms are able to cooperate to raise prices does not mean that they feel all warm and fuzzy about each other. If they can find a way to stab their rivals in the back and be safe from retaliation, at least for now, they will be tempted. In addition, the high price both increases the incentive to steal customers and gives firms the resources to spend on research and development and advertising. Each firm engages in such non-price competition both because it hopes to gain an advantage over its rivals and because it knows that its rivals will be attempting to do the same thing to it. The economic rents achieved by cooperating on price are competed away in the ensuing non-price arms race.

2.3.3 *Entry*

The more successful a cartel is at increasing the profits of its members, the more it encourages other firms to enter that market. The entrants can either join the cartel or act independently. If they join, then the existing firms must give up some of their market share to keep total output from rising and the price from falling. This will reduce profits per firm. If the entrants do not join the cartel, then the added output will depress the price, reducing total profits.

When OPEC reduced their output of oil and caused world oil prices to increase, oil exploration in other countries increased. Oil fields in areas such as Alaska and the North Sea were developed. Before the rise in oil prices, this would not have been economically feasible, but they became profitable at the higher price. The result was an increase in world production capacity. The members of OPEC faced the choice of further reducing their own output to

maintain the higher price or letting the price fall. The high price also encouraged energy conservation and the production of alternative energy sources. The long-term result was a decline in oil prices (after adjusting for inflation) and a decrease in OPEC's global market share.

2.4 The Keys to Success

Given these challenges, when is a cartel most likely to be successful? In general, when the rewards from cooperation are high and the costs are low. If collusion can increase profits substantially, the conspirators will find a way to solve any problems that arise. For an output cartel, a partial list of specific conditions includes inelastic demand, growing demand, a small number of competitors, no firms on the edge of bankruptcy, similar firms (products, cost structures, and goals), and tolerant government policy. For a cartel that controls the market for an input, the conditions would include inelastic supply and growing supply. We will examine how each of these conditions affects the rewards and/or costs to collusion.

A cartel operates by reducing its output and thereby increasing the market price of the product. If the **elasticity of demand** by consumers is low, then a relatively small decrease in total output will result in a large increase in market price and profits. This will occur if consumers consider the product to be a necessity and there are few close substitutes. A cartel consisting of the producers of purple paper clips is unlikely to be successful because any attempt to raise the price would cause consumers to buy blue, red, or even plain paper clips (or staples, or binder clips, or . . .) instead. With highly elastic demand, the rewards from cooperation would be very low. Even if some consumers prefer purple paper clips, it would take a huge reduction in output to increase the price by even a small amount.

Similarly, for an input cartel, a low **elasticity of supply** will result in a large decrease in the price paid for that input with only a small reduction in the quantity used. The reward to cooperation, namely a lower cost of producing goods that use that input, will be

substantial. This will occur if the owners of the input have few alternative uses, so they will continue to supply it even when the price they are paid decreases. If the input is labor, economists refer to the wage that is high enough to convince them to forgo the alternatives (such as working in another occupation or staying home to take care of children) as the **reservation wage**. If many of the workers have low reservation wages, then they will continue to work even if the wage rate falls. Only those few workers with better alternatives to this occupation will leave the market, resulting in an inelastic (unresponsive) supply.

If demand is stagnant or contracting, it will be more difficult to assign enough of the reduced output to each firm to allow it to operate efficiently. Most producers prefer to operate in the region of 80–90% of capacity. This is because cost per unit generally falls until output approaches capacity, where it begins to increase (remember those U-shaped cost curves from microeconomics). If demand is growing, all firms can experience higher output and rising sales without resorting to cheating.

A cartel with a small number of members is more likely to be successful. Just from everyday life, it is obvious that trying to get 50 people to agree on something is much more difficult than for just two or three. The effect on cheating is a bit more complex. *First*, with a large number of conspirators, each one may think that they can get away with just a little bit of cheating. After all, the impact on any other member of the cartel will be quite small. Suppose that there are 50 firms, each selling 100 units. If a cheater can lure away just one customer from each of the others, its sales would increase from 100 to 149 units. The other firms might not notice the drop from 100 to 99. Even if they did, would it be worth retaliating against the cheater? This lowers the expected cost of cheating. *Second*, it is more difficult for a cartel to monitor 50 members than just a handful. Unless the cartel is willing to devote significant resources to monitoring each other, the chance of catching cheaters is lower. If the cartel does spend a large amount on monitoring, then the net gains from collusion are reduced. Every dollar spent is one less dollar of profit to act as an incentive to keep the cartel

together. If a firm gains little from being part of the cartel, it will be less concerned about taking actions that might lead to its demise.

If there are any producers that are on the edge of failure, even with the cartel raising the price, then they have little to lose by cheating. If they do not cheat, then they will probably fail. If they do cheat, then there is at least a chance that they will succeed and survive. Even if the other producers detect the cheating, they may be persuaded to forgive and forget rather than risk a complete breakdown in the cartel. In recent years, it has been particularly difficult for airlines to raise fares because so many have been in bankruptcy or close to it. If the other airlines raise fares, the weak ones will be tempted to raise theirs by less and hope to increase their number of passengers. This just forces all airlines to revoke their fare increases, leaving everyone with lower profits.

As noted earlier, it will be easier for the firms to agree on output quotas and/or a price structure if the firms have similar products, costs, and objectives. Having products of different perceived quality will require a more complex system with some prices lower than others. If not, the producers of the less desirable goods would lose too many customers to make collusion worthwhile. If some producers have substantially higher costs due to aging factories or small size, then they will want a higher price structure to make a profit. Firms with large factories and low costs would favor a somewhat lower price and greater sales. If some firms were more interested in increasing profits in the long run, they would also favor a lower price to increase demand for the product.

One of the most important issues related to the success of collusion is its legality. Overcoming the problems of agreement and cheating is much easier if the firms can meet to work out their differences. When collusion is against the law, having regular meetings only increases the chances of getting caught. By enforcing antitrust laws, not only does the government create a penalty that may dissuade some firms from colluding in the first place, but also it makes collusion more difficult to manage. By agreeing to go easy on firms that turn themselves in, it also encourages firms that have been taken advantage of by other members of a cartel to get back at them.

In the US, there are a number of statutory exemptions from antitrust laws. For example, the Sports Broadcasting Act of 1961 allows teams in professional sports leagues to cooperate to jointly sell broadcast rights.⁴ Some activities by labor unions are also exempt, as is Major League Baseball (how could a senator vote against a law to protect the financial stability of “America’s Pastime?”). There are also judicial exemptions. The courts have been willing to allow collusion if it results in some greater social good. After an impasse was declared in labor negotiations in the NFL in 1996, the owners collectively imposed a salary of US\$1000 per week for substitute players on development squads. The Supreme Court allowed this joint action by the team owners, arguing that it is an example of behavior in the collective bargaining process that is important to the industrial relations system.

2.5 The Market for College Sports

The remainder of this chapter will examine whether the theory of cartel behavior applies to the market for college sports. An important first step in analyzing any industry is to carefully define the relevant market. For example, if you were studying the footwear industry, would you include dress shoes and running shoes in the same market? What about men’s and women’s dress shoes? Your answers will determine whether Nike and the Italian designer Manolo Blahnik will be treated as competitors. In the case of college sports, is women’s lacrosse at Harvard in the same market as men’s basketball at Duke? Are men’s basketball at Duke University and Carleton College, the latter a small liberal arts college in Minnesota, in the same market?

Economists resolve this type of issue by asking two questions. *First*, will customers switch from one product to another when

⁴ The league is considered as a single entity, rather than a collection of individual teams. Antitrust laws outlaw conspiracy among a group of firms, but if there is just one big firm then there cannot be a conspiracy.

their relative prices change?⁵ In other words, do consumers treat the two as substitutes? Do men begin buying women's shoes if the price of men's shoes rises? Probably not, suggesting that they do not belong to the same market. *Second*, can the firms switch their production from one to the other in response to price changes? Could Nike easily begin selling expensive designer women's shoes if the price of sneakers falls? Nike may lack the design expertise, production facilities, and distribution channels to give it a significant share of that market. Again, this means that the two products should be put in separate markets.

Is there evidence that consumers view various college sports as poor substitutes for each other? CBS and its advertisers certainly believe so. If not, why pay hundreds of millions to broadcast March Madness, the men's basketball tournament, and not even televise the field hockey championship? The only other college sport that can command such lucrative broadcast fees is football, both regular season and the bowl games. Many of the same companies advertise during both football and basketball broadcasts. If advertising fees for one increased significantly, no doubt they would reallocate their spending between the two. On this basis, we can put these two sports in one market and the rest of college sports in a different market.

If there is another product to put in the same market with big-time college sports, it is professional sports. Colleges have always viewed professional teams as competitors for fan interest. As mentioned in Chapter 1, they once even tried to restrict their graduates from playing professionally. To increase the separation between college and professional football, an understanding was reached, with colleges playing on Saturday and the pros on Sunday. In basketball,

⁵ The change in demand for a product when the price of a different product changes is measured by the **cross-price elasticity** of demand. For substitute products, an increase in the price of one will cause demand for the other to increase, resulting in a positive cross elasticity. The cross-price elasticity is negative for complementary products, and it is zero if the products are unrelated (so the price of one has no effect on the demand for the other).

both college and professional games are now played throughout the week, making them closer substitutes. Still, for many fans the excitement of a college game is not matched by the business-like attitude of highly paid professional athletes. The NCAA certainly goes to great lengths to remind the public that its players are students, not professionals. There is also the devotion by alumni of a particular school that a professional franchise cannot match. While not as clear cut as the difference between football and field hockey, we can discuss college sports as a distinct market as long as we keep the shrinking gap between college and professional in mind.

In the future, it is possible that the popularity of other college sports may increase enough that they will need to be put in the same big-money market as football and men's basketball. ESPNU, the new college sports cable network, signed an agreement with the NCAA in 2005 to televise all or part of tournaments in 10 sports, including baseball, softball, ice hockey, lacrosse, and wrestling. Parts of some of these Division I tournaments were already televised on ESPN or ESPN2, such as the semi-finals and finals for men's ice hockey (the Frozen Four), but this will expand coverage to include earlier rounds and switch some games from regional to national coverage. This expanded coverage is due in part to the willingness of the NCAA to cover production costs. The NCAA has subsidized telecasts of some Division I tournament games, such as early rounds of men's ice hockey, and in 2005, it decided to allocate funding for selected Division II championships. The objective is to make the public aware of these events and increase their popularity with viewers to the point that subsidies will no longer be needed.

Just as many viewers treat other college sports as a poor substitute for football and basketball, Division I-A is significantly different from the other NCAA divisions, and strong differences exist even between I-A conferences. Attendance at football games in Division I-A averages more than 40,000, with the elite programs limited only by the capacity of their stadiums. As of 2005, the University of Michigan had played 193 consecutive home games with attendance of at least 100,000. Tickets for individual games,

when available, can sell for US\$300 or more. In Division III, attendance per game averages less than 2000 and ticket prices are much lower, if not free. At Western Michigan University, a Division I-A school that is not a member of one of the big-time conferences, a sideline ticket sells for just US\$20. Clearly, the fans treat football at the top DI-A programs as a unique product.

Television contracts tell a similar story. The Southeastern Conference, with four football teams ranked in the top 10 for 2005 by the Associated Press and *USA Today* coaches poll, signed a broadcast deal with CBS and ESPN worth roughly US\$49 million per year. In contrast, the Mountain West Conference was paid just US\$8 million per year by ESPN for the rights to football and basketball, and its games were relegated to late night and early morning broadcast times.

Even merchandise sales make the distinction clear. When Ohio State won the national football title in 2003, its royalties from merchandise sales doubled to US\$5 million. This amount is bigger than the entire athletics budget of most D-II programs!

2.6 How Schools Benefit from Sports

The last step before examining cartel behavior in the market for football and men's basketball is to ask what the individual colleges and universities hope to gain from those programs. For most cartels, the members are profit-maximizing companies. Their objective is simple — maximize financial returns to their owners. Colleges and universities, many of which are public institutions, may have different desired outcomes that can complicate the analysis.

One possible objective is to generate profits that can be used to fund other programs on campus. To the extent that the revenue generated directly by the football and basketball programs (ticket sales, broadcast contracts, bowl games, the NCAA basketball tournament, merchandise sales, and donations by boosters) exceeds the costs, the athletic department will have additional funds to pay for other sports programs, such as men's lacrosse or women's swimming. If an athletic department reports only a small surplus, or

even a deficit, this may only mean that they spent the money on other sports rather than turn it over to the university's general fund. The university could also choose to devote the profits to academic pursuits instead, such as higher salaries to attract the best possible faculty.

With literally thousands of colleges and universities in the US, there is considerable competition for student enrollment. Increasing enrollment brings more tuition revenue, and for public institutions, greater government subsidies. The marginal cost of educating these additional students can be quite low, with excess capacity existing in many classes (although many faculty will argue that adding ten more students to a class of 20 can affect teaching and learning adversely). Marketing campaigns directed at prospective students have been increasing steadily, including direct mail and media advertising. What better way to advertise than have millions of viewers tune in to watch a game or read reports in the sport pages? If the television network will pay you for the broadcast rights, even better!

An athletics program can also enhance loyalty on the part of alumni and other supporters of the institution. These people often show their support by making donations to the university. The donors may stipulate that funds go to a specific program, including athletics or academics. The money may be directed to athletic scholarships, a new stadium, faculty salaries, or a library.

What does it take to achieve these desired outcomes? In one word, winning. In the words of the late Vince Lombardi, legendary coach of the Green Bay Packers, "Winning isn't everything, it's the only thing." Few fans will attend games if there is little or no chance that their team will win. Teams that have poor regular seasons will not be invited to compete in the lucrative NCAA basketball tournament or the top-tier football bowl games. If the team is a perennial loser, that image can even be associated with the entire institution, hurting efforts to attract students. After all, if the school cannot field a winning football team, why would its academic programs and campus life be any different? Boosters will be unwilling to make generous contributions if there is little to show their efforts. Losing can even become self-perpetuating, with the best

athletes choosing to attend a school with a better record. Their path to the pros is not through a losing program. The relationship between spending on athletics, winning, and returns to the university will be explored in greater detail in Chapter 6.

2.7 Evidence of Cartels

If there is an effective cartel operating in college football and basketball, we should be able to find evidence of high profits. We can also look for more direct evidence of cartel behavior, such as higher prices charged for their output or lower prices paid for their inputs.

2.7.1 *High profits?*

We saw in Chapter 1 that the amount of revenue flowing to athletic programs at the top-tier schools is substantial. How many of these programs are operating in the black, that is, with revenue greater than costs? Unfortunately, there is little consensus on profitability at Division I-A schools, in part because there is little incentive for athletic departments to report profits accurately. As we will examine in more detail in Chapter 6, the Athletic Director (AD) may be reluctant to report a substantial profit to the university administration, which would probably appropriate it for other uses on campus. One solution is to use creative accounting to hide revenue or overstate costs. The AD can also allocate the profits from the football and basketball programs to subsidize other sports, resulting in a balanced budget for the entire department. If the profits from these sports are to be spent by someone on campus, the AD would probably prefer to be the one to do the spending.

Another way that high profits can be disguised is by paying artificially high salaries to coaches and other staff. Sharing **economic rents** with employees is common in cartels. For example, when the government prohibited price competition between airlines, the pilots were able to bargain for very high wages. This reduced the profits reported by the airlines and paid to their stockholders, but it really meant that the stockholders had to share some of their profits

with the pilots. When airlines were deregulated and forced to compete on price, the result was lower airfares and eventually lower salaries for pilots. As we will see in Chapter 5, the salaries of the elite college coaches are approaching US\$4 million per year. If college sports were unprofitable, do you think that they would be able to command such high salaries?

As discussed earlier, the lack of price competition in a cartel may lead to greater non-price competition. When airlines could not lure customers from their competitors by lowering fares, they began offering more frequent flights, more legroom, decent food, and hired only single, attractive flight attendants. Flying between Detroit and Memphis four times per day with planes that are only half full is very costly compared to two full flights, but if customers are unable to choose an airline based on low fares they will use other criteria, such as the frequency of flights. Fares were high, but costs rose to match them. In college sports, if schools are unable to get the best athletes by paying them more, they will be compelled to spend money on the other things that the athletes look for, like luxurious locker rooms, state-of-the-art training facilities, and stays in five star hotels on road trips. College sports may be a successful cartel when it comes to price, but their inability to control other forms of competition can mean that they end up with little in the way of profits.

2.7.2 Low input prices?

One objective of a cartel is to lower the price paid for its inputs, with only a small reduction in the quantity offered by the suppliers of the inputs. In this case, the suppliers are the high school and junior college athletes who wish to play at the college level. The NCAA restricts the amount that colleges and universities can pay their players, and to make sure that each school has a chance to get a fair share of the talented athletes, they have rules about recruiting, limits on the number of student-athletes on the payroll (i.e., on scholarship), and rules to make it more difficult for students to transfer to a college that makes a better offer.

Economists measure the increased revenue generated by one more unit of an input as the **marginal revenue product**, or MRP. As will be discussed in greater detail in Chapter 3, according to economic theory the wage rate (w) should equal the MRP in a competitive labor market. However, if the college sports cartel is successful, then w will be less than MRP. Is there any evidence that $w < \text{MRP}$ in football and men's basketball?

To answer this question, we must first measure w for college athletes. As discussed in Chapter 1, NCAA rules place an upper limit on grants-in-aid equal to the dollar value of tuition and room and board for regular students. All other payments by the school or a booster are prohibited, whether in the form of cash or the use of an apartment or car. For Stanford University, a private school, the equivalency value exceeded US\$40,000 in 2006. The dollar amount is usually smaller at public universities, which receive financial support from state governments and charge less for tuition. However, the tuition for students who are not residents of a state is often close to the amount at private schools. An out-of-state student attending the University of California would pay more than US\$30,000 in 2006.

Measuring the marginal revenue product is much more complex. How does an athletic team contribute to the revenue earned by the university? How does a particular athlete affect the contribution made by his or her team? As discussed above, a winning program can increase revenue to the school in a number of ways, including payments for bowl games, donations by boosters, and more favorable media exposure for the university. Each player contributes by increasing the team's winning percentage. Putting a dollar value on that contribution is difficult.

The *San Jose Mercury News* (Wilner, 2006) recently estimated the MRP for Marshawn Lynch, the star tailback at the University of California-Berkeley. The newspaper collected data on the athletic department's revenue from ticket sales, donations, television contracts, corporate sponsorships, and Pac-10 revenue sharing (but they omitted indirect benefits to the university, such as greater interest by prospective students). Total revenue for the football

program in 2006–2007 was estimated to be US\$25 million. To assign a value to each player on the football team, they used a formula based on the split of revenue in an actual market, namely professional football. In the NFL, the players get nearly 60% of team revenue. Adjusting for the fact that college coaches take a much larger share of revenue for their salary than do NFL coaches, this study estimated that California's players would receive 40% of the US\$25 million if the school had to compete for their services. With the top running backs in the NFL paid 8% of total team payroll, they estimated Lynch's free-market value to be 8% of 40% of the US\$25 million, or US\$800,000. In return, the school provided him with an athletic scholarship worth US\$16,800, plus the cost of books. In his case, w was certainly less than MRP!

Before considering this as proof of cartel behavior, you might be asking yourself about the rest of the players on the team. The MRP for second and third string players is probably much lower, perhaps even lower than their w . If their MRP is close to w , then the evidence for a cartel would appear to be much less compelling. However, unlike star athletes like Marshawn Lynch, these players were probably not heavily recruited out of high school. They were not expected to be "franchise" players who can make the difference between winning and losing big games. Just as football at UCLA is in a different market than Harvey Mudd's team, the elite athletes coming out of high school are in a different market than even the average DI-bound player. The evidence above suggests that in the market for the most talented recruits, the NCAA is apparently acting as a highly successful cartel. The members of the cartel simply choose to share some of the resulting profits with the less talented players (the difference between Lynch's estimated MRP and his w will cover the full scholarships of 47 other players).

You may also be thinking about highly recruited high school players who end up making only minor contributions to winning (and revenue). Some heavily recruited athletes end up as benchwarmers, not stars. This suggests that we should compare w to the *expected* MRP, not the MRP for the players like Marshawn that turn out to be as good, or better, than anticipated when they were

recruited. Suppose that out of every ten highly recruited high school athletes, one goes on to be a star player and the rest contribute absolutely zero to revenue. In that case, the expected MRP would be one-tenth of US\$800,000, or US\$80,000. That is still far greater than $w = \text{US}\$16,800$, and those assumptions are rather extreme. The case for an input cartel is hard to ignore. More evidence of the disparity between w and MRP will be examined in Chapter 3, The Labor Market for College Athletes.

***Fast fact.** On January 2, 2007, Marshawn Lynch announced that he would skip his senior year at California and enter the NFL draft. After just three seasons, he was already the school's second-leading rusher, with 3,230 yards. In his final game for the Golden Bears, he led his team to a 45-10 victory over Texas A&M in the Holiday Bowl. Marshawn was selected as the #12 pick in the first round of the 2007 NFL draft, by the Buffalo Bills.*

2.7.3 High output prices?

It is difficult to determine the extent to which the NCAA has been able to influence the price of the outputs, primarily television broadcasts of regular season games and postseason tournaments and bowl games. There is no doubt that prices are high, as was shown in Chapter 1, but what would they be without the cartel? One potential piece of evidence comes from the period after the NCAA lost its control over the broadcast of regular season football in 1984. Individual conferences were able to negotiate their own television contracts with the networks, resulting in more games on television. As shown in Table 2.1, when the number of televised games increased the price per game fell sharply. Comparing 1983 to 1985, the price paid by the networks decreased by almost 74% when the number of games increased by nearly 60%, causing total revenue to decrease significantly. The contract originally negotiated by the NCAA for the 1984 season, which was cancelled due to the court's decision, would have brought in US\$134 million

Table 2.1. Television broadcast contracts before and after the 1984 court decision (in millions of 2004 US dollars).

Year	Number of Games	Total Revenue (\$)	Price per Game (\$)
1980	24	70.46	2.94
1981	24	68.00	2.83
1982	28	114.52	4.09
1983	28	120.35	4.30
1984	36	39.66	1.10
1985	42	47.00	1.12
1986	42	49.56	1.18
1987	42	46.17	1.10
1988	43	44.13	1.03

Sources: Fort (2007, p. 485) and Kahn (2006).

(in 2004 dollars). This suggests that the NCAA had been successfully increasing revenue by restricting the quantity supplied. However, the steep drop in prices after 1983 may have been due in part to a lack of experience in contract negotiations by the conferences, which the networks were able to exploit, rather than the increase in the quantity of games available for broadcast. As demand has grown and the conferences have become more sophisticated in their dealings with the networks, the size of television contracts has increased dramatically.

As we saw in Chapter 1, and will revisit later in this chapter, the prices of broadcast rights for the post-season have skyrocketed. The most popular events are the NCAA men's basketball tournament and the BCS bowl games. The former generates hundreds of millions for schools in Division I, while the latter yields close to US\$150 million each year for schools in the six BCS conferences, a cartel within the NCAA cartel.

Is there significant evidence of a cartel in college sports? For most economists, the answer is a clear yes. We turn next to a more detailed analysis of how big-time college sports has dealt (successfully or not) with the challenges of agreement, cheating, and entry.

2.8 Cartel Agreements in College Sports

The agreements between schools cover both inputs and outputs. As discussed above, for the athletes this appears to be relatively straightforward — have the NCAA enforce a rule to pay them no more than the cost of tuition, room and board, textbooks, and some fees.⁶ The schools also agree to avoid non-scholarship inducements to prospective athletes, such as use of an automobile, a round of golf, or even popcorn and a soda at a baseball game. This covers the school and anyone associated with it, including alumni and other boosters. A booster who allows a student to use a cell phone for a long distance call, even if they have free nationwide calling, has caused a violation of the agreement.

The NCAA also limits the potential length of scholarships. In their absence, schools competing for the best prospects would be forced to offer them four-year scholarships. If they cannot compete on the basis of the amount of the scholarship, at least they could compete by offering to cover the student's costs for all four (or five) years it takes to graduate. As noted in Chapter 1, the members of the NCAA voted in 1967 to allow coaches to revoke scholarships for students who voluntarily withdraw from a sport, and in 1973 they limited the guaranteed length of a scholarship to one year. The institution could renew that offer each year, but an athlete who is injured or underperforms may not be renewed.

The members of the cartel agreed in 1977 to limit the number of scholarships, which further limited competition for players. For football, the maximum is 85 in Division I-A and 63 in I-AA, while Division II is capped at just 36. By comparison, an NFL team is limited to a roster of 46 for each game plus seven reserves. Basketball teams in Division I are limited to 13 scholarships, and similar rules are in place for all other men's and women's sports. There are no

⁶ The rules are designed to avoid opportunities for the student to profit in any way other than attaining an education. For example, any textbooks purchased from the scholarship award are the property of the athletic department and must be returned upon completion of the degree program.

limits on the number of players on the roster, and some sports have a significant number of athletes who do not receive any financial compensation.⁷ The average Division I-A football team has 32 “walk-ons,” players who were not recruited or awarded a scholarship. Many basketball teams have a few walk-ons.

By keeping the amount paid to athletes low compared to their financial value to the institution, the cartel creates an incentive to recruit the most talented players by whatever means necessary. In a free market, they would offer slightly more money than their rivals, but the agreement keeps that from happening. To avoid excessive spending on recruiting, a vast array of rules has been put in place over time. The number and timing of visits by a coach or other representative is restricted, as is the nature of visits by prospective students to campus. A school is not allowed to put a prospect’s name on a locker or display it on the scoreboard while visiting the stadium. When the University of Oregon picked up prospects in private jets and drove them from the Eugene airport in Hummers, the NCAA quickly imposed rules forbidding their use. The NCAA is forced to keep up with colleges looking for new ways to stand out from the crowd.

For a period of time, the cartel members were also able to restrict the amount paid to another labor input, assistant coaches. In 1992, the NCAA implemented a rule that capped the salary of the least senior member of the coaching staff at US\$12,000. It also limited their employment to five years. While the stated rationale was that this benefited those same assistant coaches by creating more entry-level positions, the number of coaches allowed by the NCAA was actually reduced from five to four. This practice only ended after a successful lawsuit by a group of assistant coaches (*Law v. National Collegiate Athletic Association*, 10th Cir. 1998). In fact, when the rule was overturned, a number of smaller schools expressed concern that schools with larger budgets would steal the

⁷ Football rosters are limited to 105 before the start of the academic year. In most sports, there is no maximum size of the team, but a limited number can suit up for each game.

best assistant coaches, not that the coaches would suffer from fewer openings. While the NCAA argues that low salaries are good for assistant coaches, there has never been an agreement to restrict payments to head coaches. In recent years, salaries for coaches at the top-tier programs have exceeded US\$3 million. The economic reasons for such high salaries will be discussed in Chapter 5.

Perhaps the most difficult agreement to reach concerns building and upgrading facilities such as stadiums, arenas, practice fields, weight rooms, and locker rooms. With no easy way to take into account different needs, existing facilities, use of facilities by other groups, it should be no surprise that there have not been any attempts to reign in this expensive form of competition between schools. Even a school like Baylor, which has not had a winning season in nine years, was compelled to spend more than US\$2 million on a new locker room for its football team as a way to compete for players. Myles Brand, the president of the NCAA, has repeatedly called for discussions to end the spiral of escalating costs, but no action has been taken. He has also suggested that universities consider paying for these costs with funds from the general operating budget (see Box 2.1).

The other major agreements concern the output market, namely the rights to televise regular and post-season football and basketball games. For the regular season, there are three issues that complicate the ability for cartel members to agree. *First*, if the number of games that will be sold to the networks is reduced to create a shortage and raise the price, which teams will participate in the televised games? For example, if the networks broadcast just two football games each weekend, then only 48 of the 115 I-A teams can make an appearance on national television that year. With some regional broadcast allowed, the total could double, but that is still short of allowing all teams to appear. If the objective is to collect as much money as possible from the networks, the games that will attract the largest expected audience should be selected. Fans are more likely to watch games between highly ranked teams that are evenly matched (watching a blowout is much less exciting).

Box 2.1. Excerpt from the speech “Academics First: Progress Report” by NCAA President Myles Brand at the National Press Club, March 4, 2003.

There is another element to the reform movement, which is exceptionally difficult to know how to resolve. It is the rapidly increasing costs for a competitive program, especially in Division I-A. This problem has been labeled in the media and other quarters as “the arms race.”

No single university can unilaterally withdraw from the arms race without putting its athletics program in an uncompetitive position. Like everyone else, salary and earning guarantees matter to coaches, and facilities do play a role in student-athlete recruiting.

It has been suggested that universities band together and agree to salary limitations and facility construction. Conferences are likely not a large enough group to be effective; it would take several conferences or, likely, all of the Division I-A schools organized through the NCAA to make a difference.

This approach, however, suffers from being illegal. Antitrust laws prohibit institutions from engaging in constraint of trade. When the NCAA tried to restrict the earnings of assistant basketball coaches several years ago, it was sued and lost the case, resulting in a US\$55 million settlement.

The question before us soon may be whether the ingrained presumption that athletics departments should be self-sustaining is justified.

There is a truth about universities that is rarely spoken about in public. Namely, internal budgeting involves massive cross-subsidization. Research and graduate education is subsidized through undergraduate tuition. Federal indirect costs for research fall short of the actual expenses. Some academic

(Continued)

Box 2.1. (Continued)

programs are subsidized by others; for example, service courses in English, math and psychology help support music and classics departments. This is perfectly acceptable, since a university must offer a wide range of subjects to be viable as an educational and research institution.

Is the next logical step to openly cross-subsidize athletics programs within the larger university budget? If we believe these programs have educational and developmental value in ways similar to a number of academic programs — and I certainly do — should they enjoy the same type of financial security as other academic programs? Of course, not every university's athletics program needs to be subsidized; some, in fact, can provide funds for academic programs.

If this strategy maximizes the dollar value of the television contract, as long as each school's share is more than it could make selling its own broadcast rights in a competitive market, why is there a problem? One of the benefits to the college or university of a sports program is exposure. Prospective students and their parents, donors, legislators, high school teachers, and high school athletes get a chance to see the school on television. Television coverage is also important to the athletic department itself. Many high school athletes have dreams of playing professionally, and it is important to get national recognition while in college to increase the chance of getting a lucrative pro contract. All else equal, a student will likely choose a school where he can count on playing in front of a national audience. If only the best teams are televised, and that allows them to attract the best athletes, the lower-tier schools are caught in a Catch-22. They need top athletes to play at a level that national television audiences will want to see on TV, but without that kind of exposure they will not be able to attract those top athletes.

A *second* issue is how to distribute the proceeds of the television contract. The conferences with the most popular teams will argue for a larger share, based on the fact that it was their teams that were responsible for generating the revenue. Within each conference, the teams that appear on television most often will want more money. This can create a widening gap between the haves and the have-nots. If the teams with the best records are selected more often for the Game of the Week on Saturday afternoon, and thereby get more revenue from the contract, they will have the resources to continue to support a winning program.

Chapter 1 detailed how the NCAA was able to overcome most of these issues and negotiate a single contract for all college football in 1952. It helped that the agreement did not have to be unanimous, only a voting majority. As long as a large block of schools did not break away, the NCAA could deal with lone dissenters. When the University of Pennsylvania negotiated its own contract, the NCAA simply banned other member schools from playing it. Without any opponents, Penn was forced to back down. The number of broadcasts was strictly limited, and only the most popular match-ups were televised. No school was allowed to play on television more than twice each year. The NCAA paid 90% of the proceeds to the schools that appeared on television, with the remaining amount distributed to the other colleges and universities.

By the 1970s, with the rising popularity of college football broadcasts, and therefore more money at stake, nearly everyone was unhappy with this arrangement. The conferences most responsible for generating the revenue were dissatisfied with the restrictions on the number of appearances. The smaller schools that did not appear on television wanted a larger percentage of the money. After all, by agreeing to appear on television infrequently, if ever, they were doing their part to limit output and maximize revenue. Why should they be denied a significant share of the proceeds? Remember, cartels work best when the members have similar products and costs, which was not the case here.

As discussed in Chapter 1, the College Football Association was formed in 1976 by members of the major football conferences. The

purpose was to either get the changes they wanted within the NCAA or negotiate their own television contract. One favorable result for them was the NCAA's decision to split Division I into I-A and I-AA for football, with only the top 105 programs assigned to I-A. Some of the CFA members were dissatisfied with this and other concessions, and they filed an antitrust lawsuit against the NCAA. In 1984, the Supreme Court agreed that the NCAA was guilty of price-fixing, and the member institutions were free to negotiate their own TV contracts. Rather than each university negotiating on its own, the I-A schools attempted to form their own cartel within the NCAA cartel, with the CFA in charge. By limiting membership to schools with large programs, which have similar goals, costs, and products, they would have an easier time reaching an agreement. However, the CFA was unable to convince a coalition of the Big Ten and Pac-10 to join their new cartel, and the NCAA monopoly was replaced by a duopoly (two large producers, the CFA and the Big Ten/Pac-10). The number of televised games increased, with a predictable effect on prices. There were still enough differences within the CFA that some independents (particularly Notre Dame) and conferences decided after a time that they could make more profits on their own. The CFA ceased operation in 1997, and individual conferences now negotiate their own broadcast contracts.

The other major product for college sports is postseason games, including championship tournaments and bowl games. The basic issues are the same as for the regular season; which teams will participate and who will get the revenue? In the case of men's basketball, the NCAA retains control over the choice of teams and the distribution of the revenue (US\$6 billion over the life of the current 11 year contract). As noted in Chapter 1, most of the money goes to the members of Division I. Approximately half of that allocation is based on each school's performance in the men's basketball tournament over the last six years, so having a winning team is important financially. The evolution of the tournament will be covered in more detail in Chapter 7.

For football, there is no NCAA championship tournament. Instead, another cartel has formed within the NCAA cartel. As seen

in Chapter 1, the Bowl Championship Series (BCS) is an agreement between six major football conferences, the organizers of the four major bowl games (Fiesta, Orange, Rose, and Sugar), and the major independents (notably Notre Dame). It effectively limits the appearances in those lucrative bowls to teams from the BCS conferences, and one bowl site is chosen each year to bring the top two ranked teams together to determine the national champion. The BCS bowls have been an immense financial success for the schools in those conferences. The revenue for the 2005–2006 BCS games was US\$125.9 million. A small portion of that amount, less than US\$7 million, was paid to the DI-A conferences that are not members of the BCS and to all DI-AA conferences. The lion's share is paid to the six BCS conferences, based on the number of teams that appear in the bowls and the national championship. The revenue sources and distributions for the period 2003–2006 are shown in Table 2.2.

There are other postseason games, but none that come close to the five BCS bowls. The number of secondary bowls sanctioned by the NCAA is growing, from 13 in the early 1990s to 18 in 1999 and 24 in 2006. This expansion further dilutes the value of any individual game. An invitation to one of the minor bowls is based in large part on the school's ability to get its fans to travel to other parts of the country and spend freely once they are there. The schools are often required to buy a large number of tickets, which they can try to resell or give to faithful supporters. They often spend nearly as much transporting, feeding, and housing a large contingent of players, administrators, band members, cheerleaders, and boosters as they are paid by the bowl organizers. Zimbalist (1999, p. 123) describes the situation of Michigan State, which spent US\$150,000 more than it earned for appearing in the 1998 Aloha Bowl, including US\$300,000 for a chartered flight to Hawaii.

The current bowl system illustrates an effective solution to the problem of reaching an agreement among a disparate group — simply exclude the weaker ones. A group of just the strongest producers will have more in common and find agreement much easier to reach and sustain. This method also serves to increase the gains

Table 2.2. Revenue and conference distributions for BCS bowl games (amounts in US dollars).

	2003–2004	2004–2005	2005–2006
Television/Title Sponsorships	75,000,000	78,000,000	81,000,000
Revenue from:			
Fiesta Bowl	4,420,000	4,420,000	4,420,000
Sugar Bowl	4,600,000	4,400,000	4,400,000
Orange Bowl	4,400,000	4,700,000	4,600,000
Rose Bowl	1,500,000	1,367,500	1,740,000
Subtotal	14,920,000	14,887,500	15,160,000
Rose Bowl Payout	28,799,782	29,234,392	29,733,334
Total BCS Revenue	118,719,782	122,121,892	125,893,334
Pacific 10	17,528,780	16,247,847	16,594,445
Big Ten	22,028,780	16,295,461	21,094,444
Southeastern	17,015,556	16,247,847	16,594,444
Atlantic Coast	17,015,556	16,247,847	16,594,444
Big East	17,015,556	16,247,847	16,594,444
Big 12	21,515,556	20,795,460	16,594,445
Notre Dame	0	0	14,866,667
Mountain West	1,000,000	14,569,583	1,050,000
Western Athletic	1,000,000	1,050,000	1,050,000
Conference USA	1,000,000	1,050,000	1,050,000
Mid-American	1,000,000	1,050,000	1,050,000
Big Sky	190,000	200,000	225,000
Atlantic 10	190,000	200,000	225,000
Mid-Eastern	190,000	200,000	225,000
Gateway	190,000	200,000	225,000
Ohio Valley	190,000	200,000	225,000
Southwestern Athletic	190,000	200,000	225,000
Southland	190,000	200,000	225,000
Southern	190,000	200,000	225,000
Sunbelt	480,000	720,000	960,000
Total BCS Distribution	118,119,782	122,121,892	125,893,333

Source: NCAA (http://www1.ncaa.org/membership/postseason_football/2005-06/4-yr_summary_rev_distribution.pdf).

to the members of the cartel, since they are not sharing any profits with the excluded producers. Andrew Zimbalist likens this to a caste system, with the 65 teams from the top conferences in the privileged group (Woolsey, 2006). The six elite conferences are the Atlantic Coast (ACC), Big 12, Big East, Big Ten, Pac-10, and Southeastern (SEC). The have-nots are the schools in the five other Division I-A conferences (Conference USA, Mid-American, Mountain West, Sun Belt, and Western Athletic), and all of those in DI-AA. Table 2.3 shows the total 2005–2006 bowl revenue paid to each conference, the expenses for the teams participating in the

Table 2.3. 2005–2006 revenue and expenses for all bowl games, by conference (amounts in US dollars).

Conference	Bowl revenue	Participating institutions' expenses	Excess of revenue over expenses	% of excess revenue per conference
ACC	23,937,752	8,106,026	15,831,726	12.31
Big East	19,821,378	4,813,095	15,008,283	11.67
Big Ten	33,329,796	9,592,496	23,737,300	18.45
Big Twelve	26,477,497	10,615,178	15,862,319	12.33
Conf. USA	5,658,219	6,236,713	(578,494)	−0.45
Mid-American	2,550,000	1,562,545	987,455	0.77
Mountain West	3,740,000	2,686,734	1,053,266	0.82
Independent	15,616,667	4,020,685	11,595,982	9.01
Pac-10	21,752,334	5,037,373	16,714,961	12.99
SEC	31,057,905	6,695,626	24,362,279	18.94
Sun Belt	1,285,000	494,894	790,106	0.61
WAC	3,225,000	1,739,539	1,485,461	1.15
Other	1,800,000		1,800,000	1.40
2005–2006 Totals	190,251,548	61,600,904	128,650,644	100
2004–2005 Totals	186,373,416	58,279,982	128,093,434	
2003–2004 Totals	181,044,784	52,876,135	128,168,649	
2002–2003 Totals	181,721,956	59,563,619	122,158,337	

Source: NCAA (http://www1.ncaa.org/membership/postseason_football/2005-06/summary_bowl_rev_exp.pdf).

bowls games, the net revenue for the conference, and the percentage of all net revenue earned by each conference.

This system also creates an effective barrier for schools trying to move their way up to the elite ranks. If a school does not have a top caliber football program, it cannot have the kind of winning season that would even give it a shot at the revenue from one of the top five bowls. Without the revenue from a BCS appearance, it is difficult to upgrade a program to compete at the highest level. Even if a team from outside of the six BCS conferences has an undefeated season, it can always be claimed that they did not play many games against teams from the “power” conferences. As of 2007, only two non-BCS schools had been invited to play in one of the major bowls.

Besides near-exclusivity for the BCS bowls, membership in the elite six conferences also gives these schools greater access to the more lucrative minor bowls. In addition to the Rose Bowl, the Pac-10 has contracts with five other bowl committees (Emerald, Hawaii, Holiday, Las Vegas, and Sun). While Oregon State’s 9-4 record in 2006 placed it third in the Pac-10, it was still invited to the Brut Sun Bowl, for which it received US\$1.9 million. Table 2.4 shows the records and payouts for the Pac-10 bowl participants in 2006–2007.

So what about the teams in the major conferences that do not make it to bowl games? Do they lose out on the big money and start a downward spiral? Without a dependable flow of revenue, do they have a chance of making it back into contention? It turns out that the

Table 2.4. Bowl appearances and payouts for Pac-10 teams in 2006–2007.

Bowl	Team	Pac-10 Rank	Record	Payout (US\$)
Rose	USC	1	10–2	17,000,000
Pacific Life Holiday	California	2	10–2	2,200,000
Brut Sun	Oregon State	3	9–4	1,900,000
Emerald	UCLA	4	7–5	850,000
Sheraton Hawaii	Arizona State	5	7–5	398,000
Pioneer Las Vegas	Oregon	6	7–4	950,000

Source: “College football 2006–2007 bowl schedule” (2006).

schools in these conferences look out for each other by sharing the proceeds from the bowls and television contracts. A typical arrangement is for the schools that participate in bowls to hand over the payments from the bowl committees to the conference office. Each bowl participant is given an allowance for bowl-related expenses, and the rest of the money is split among all conference members. In 2005, members of the SEC were paid US\$31 million for participating in bowl games, and US\$20 million of that was redistributed to other members of the conference. An additional US\$40 million from television contracts was paid out to the 12 SEC members.

In addition to access to revenue from bowl games and big TV contracts, members of the elite conferences also benefit from hosting well-known opponents at their home games, increasing their ability to sell out their stadiums. An extra 10,000 fans for six home games at US\$50 per ticket translates to US\$3 million in additional revenue. The result is that even the perennial conference doormat can end up with more revenue from its football program than a school that dominates one of the non-major conferences. The total bowl income in 2005 for the top three non-major conferences (Conference USA, Western Athletic Conference, and Mountain West Conference) was US\$12.5 million, US\$6.5 million less than the amount earned by Syracuse in the Big East Conference, which went 1-10 that year. As extolled by advertising campaigns for American Express, "Membership Has Its Privileges." The danger is that the other members of the conference may eventually decide that another school could add more value to the group and tell the perpetual loser to find another conference to join.

The alternative to a collection of bowl games is a national championship tournament, like the NFL's playoffs, which culminates in the hugely popular Super Bowl. With revenue distributed to a larger number of teams, and more schools outside the BCS conferences eligible to participate, this could help to equalize funding and opportunities in Division I-A. It would also give the NCAA further influence over college sports in general, since they would then control the postseason for the two big money sports, men's basketball and football.

Why has this not happened? It is opposed by the bowl committees and the schools that benefit from the current system, namely those in the six privileged conferences.⁸ The NFL may also prefer not to have competition for football viewers during the playoffs leading up to the Super Bowl. Some educators argue against a tournament because it would extend the football season even later. This will be discussed further in Chapter 9, which focuses on possible reforms in college sports.

2.9 Cheating in College Sports

The NCAA divides violations of its rules into **major and secondary infractions**. By definition, a secondary infraction is “isolated or inadvertent in nature, provides or is intended to provide only a minimal recruiting, competitive or other advantage and does not include any significant recruiting inducement or extra benefit” (NCAA Bylaw 19.02.2.1). All other infractions are considered major violations, “specifically including those that provide an extensive recruiting or competitive advantage” (Bylaw 19.02.2.2). Secondary violations are further divided into Level I and Level II based on a list of specific bylaws. For example, inappropriate donations to the university from a professional sports organization (Bylaw 12.6.1) is a Level II violation, while student representation by an agent (Bylaw 12.3.1) is Level I. Multiple secondary violations may collectively be considered a major violation.

The incentive for athletic programs to cheat is a function of the expected gains, the probability of getting caught, and the costs of any punishment. The optimal amount of cheating will occur where the marginal benefit (the gains associated with an increase in winning percentage) just equals the marginal cost (the increase in the probability of getting caught times the penalty).

For each school, the benefits from cheating depend on whether rival teams also cheat. If the rivals cheat, they will have greater

⁸ Many coaches at BCS schools have expressed support for a football championship tournament, but university presidents are mainly united in their opposition.

success in recruiting the most talented athletes in that region and will win more games. A school that is not currently cheating will be tempted to do so, since it will help them avoid a losing season that could cost the coach and athletic director their jobs. If the rivals are not cheating, then the incentive to cheat is based on increasing the probability of a winning season. This can lead to more job security and higher pay for the coach and AD. An important issue is whether the two situations are symmetric. Is the possible damage from a losing season equal in magnitude to the possible gains from a winning season? If not, and the coach is more concerned about avoiding a really bad season than having a really good one, the marginal benefit from cheating will be higher if other schools are also cheating.

What about the cost of cheating? As the amount of cheating increases, the likelihood of getting caught by the NCAA increases and the penalties increase in severity. Other schools are more likely to turn in what they see as flagrant violators, and the NCAA may be alerted by sudden dramatic changes in team performance. Major violations, which have a significant impact on recruiting success, are punished more severely than secondary violations.

How can the NCAA reduce the amount of cheating by its members, particularly major infractions? It can either reduce the benefits that schools generate when they cheat or increase the expected costs from getting caught. It can accomplish the first by imposing still more regulations, such as the requirement that athletes who transfer to another college or university sit out their first year. A cheater may still try to lure good athletes away from their current school, but if those players are ineligible for an entire year the benefit to the cheater will be diminished. The second method, increasing the expected costs, requires an effective way to catch cheaters and impose significant penalties.

How can the NCAA detect cheating? They could assume that most violations are caused by rogue individuals, such as boosters and misguided staff members, and that the university will discover and report such activity on its own. In 1993, the NCAA initiated a certification process that requires all Division I members to

undergo a comprehensive peer-reviewed self-study of its athletic program every ten years. The NCAA (2006, p. 6) identifies three benefits to the institutions. *First*, it can educate the university community about the purpose of the athletics program and the challenges it faces. *Second*, it can identify aspects of the program that are worthy of praise. *Third*, it can identify weaknesses in the institution's control of the athletics program. With an adequate system of internal scrutiny, the isolated actions of a lone assistant coach or booster should be discovered and reported to the NCAA. The administration has an incentive to self-report such activities, since failure to do so can result in additional penalties when the infractions are eventually discovered by the NCAA. If the school's administration chooses not to report violations, concerned individuals may contact the NCAA Enforcement Office directly.

So do schools actually report violations voluntarily? "It is not unusual to report 50–60 violations in a given year — depending on the number of sports, coaches, and administrators. Provided the violations are not major in nature, are not committed willfully and do not constitute a pattern of violations by a specific person or program or in a specific area of the rules, this is acceptable. In fact, the NCAA may become as concerned about those schools that report very few violations each year (e.g., 10) as they are about those who report a very high number of violations" ("Violations," n.d., ¶ 5). From 1997 to 2003, the number of self-reported violations in Division I increased by 40%, which probably indicates an increase in the willingness to disclose minor infractions rather than an increase in the number of actual violations.

Does a significant number of self-reported infractions each year prove that the system is working? Not necessarily. If you are expected to report your illegal activities to the police, and you know that they will start asking questions if you have nothing to report, what would you do? I would tell them about the times I drove 34 mph in a 30 zone, crossed the street before the light changed to WALK, and failed to tell the IRS about the US\$20 I got for looking after my neighbor's cats. I would not report the US\$50,000 I embezzled from the Girl Scout cookie sale. A school

may decide to report that a student intern placed the name of a high school recruit on a locker, but will it be as willing to disclose that a booster paid US\$5000 to that same prospect? The current system allows the NCAA to burnish its image as the protector of the noble ideals of amateur athletics, while allowing schools to keep the NCAA at a comfortable distance.

If the NCAA suspects that schools are not reporting all violations, particularly major ones, it can still conduct its own investigations. One method is to look for indirect evidence of recruiting violations. They may view as suspicious any significant change in team performance. After all, if a school has not been successful in the past, what else besides cheating could explain a large improvement from one season to the next? Economists Trey Fleisher, Brian Goff, and Robert Tollison (1992, pp. 111–112) examined NCAA enforcement actions over a thirty-year period and verified that a change in performance is more likely to result in an investigation, while consistently high performance does not. They offer two possible explanations. First, the schools with perennially strong teams have shaped the enforcement system to keep other programs from becoming more competitive. The former may be just as likely as the up and coming programs to commit violations but they are less likely to be caught because the NCAA's attention is focused on the latter. Second, the most successful programs do not need to commit violations to remain highly competitive. Their winning traditions, combined with the facilities their greater revenue stream can pay for, allow them to recruit the premier athletes without resorting to illegal inducements. In this case, the lesser degree of scrutiny by the NCAA is justified.

If you were the athletic director at a major university, would you be anxious to report suspicious activities at other schools? After all, your opponents could be weakened by NCAA sanctions, such as a loss in scholarships. The danger in doing so is that the other schools will now be much more likely to report your violations. Unless your program has no skeletons to hide, the last thing you want is to start opening closets. However, if a school starts getting too many of the best recruits and wins significantly more games, it risks retaliation, particularly from schools that have little to hide. Even the other

violators may see a need to put them in their place. After all, there is honor even among thieves.

How many violations of NCAA rules actually occur, and how many of those are investigated? Zimbalist (1999) provides answers to both questions:

David Berst, the NCAA's chief of enforcement from 1988 to 1998, estimates that every day at least ten of the biggest universities are involved in a serious violation of NCAA rules. . . . When all is said and done, Berst's office conducts 20–25 investigations a year — not many if Berst is correct that there are 10 major infractions per day, just among the big schools (p. 174).

With only 15 investigators for 327 institutions in Division I (plus 296 in DII and 440 in DIII), the NCAA largely relies on the schools to investigate themselves. Many schools choose to hire an outside investigator, hoping to increase the credibility of their report to the NCAA Committee on Infractions.

Suppose you were charged with robbing a store, and the court asked you to submit a report on your alleged illegal activities. You could simply investigate yourself and claim that there was no evidence of wrongdoing. The court may suspect that you were biased in your own favor and convict you anyway. It would be better to hire someone the court trusted. Who would you hire? Someone with a track record of thorough investigations that resulted in convictions and lengthy prison terms? Not if you actually robbed the store. How about someone who used to work as a court investigator, is still close friends with the judge, and has a history of issuing reports that contain evidence of only minor crimes that result in probation? I would pick the latter, even if he charged very high fees, particularly if the judge recommended him to me. According to Zimbalist (1999, p. 174), colleges and universities make this same choice. From 1986 to 1988, one-third of all “independent” investigations were made by one particular consultant. This attorney had worked for the NCAA for 7 years and was still a golfing buddy of the NCAA chief of enforcement.

The possible lack of impartial investigations is further complicated by the high rate of turnover among members of the NCAA enforcement staff, who often take jobs with colleges and universities after they leave. Given their professional expertise in NCAA rules and regulations, it makes sense for them to find a job that utilizes that experience. This creates two potential problems. First, while at the NCAA they may be reluctant to be aggressive with schools where they may later apply for a job. Second, once at a university they may be able to influence their former colleagues at the NCAA. In this sense, the investigators may be “captured” by those that they are supposed to investigate.

For an effective deterrent against cheating, violations must be punished once they are discovered. Schools are typically placed on probation, with additional possible penalties including a reduction in the number of scholarships allowed, a reduction in recruiting visits, and a ban on television appearances or postseason tournaments. If a school is placed on probation, it risks more severe penalties if subsequent transgressions are discovered.

Zimbalist (1999, p. 179) notes that while the length of probations has increased from the 1970s to the 1990s, the length of actual penalties such as prohibitions on postseason play and TV appearances has diminished. During the 20 years prior to 2006, there was also a remarkable decrease in the number of significant sanctions. As shown in Table 2.5, bowl appearance bans were the only penalties still imposed in the latter period (the scholarship reduction was self-imposed in an attempt to avoid more serious sanctions), and they were used at a rate three times lower than in the earlier period.

Table 2.5. Sanctions against DI-A football programs, 1987–2006.

Sanction	1987–1995	1996–2006
Bowl appearance bans	16	5
TV broadcast bans	10	0
Scholarship reductions of 20 or more	5	1

Source: NCAA infractions database; research by ESPN.com (Farrey, 2001) for 1987–2001, the authors for 2002–2006.

Depken and Wilson (2004) examined the impact of sanctions placed on NCAA Division I football programs during the period 1996–2000, and estimated that the cost of probation is close to zero, while any financial impact of scholarship reductions and postseason bans is shifted to women’s basketball and men’s and women’s non-revenue sports. The offending program is basically held harmless, at least from a financial standpoint.

One reason for the apparent reluctance by the NCAA to impose its most powerful sanctions is that the cost of these penalties has increased significantly, to the point where the membership is unwilling to support their common use. As a member of society, I support fines for speeding, knowing full well that I might be ticketed. However, if the standard fine for driving less than 10 miles per hour over the limit increased from US\$100 to US\$1000, I would vote to stop the courts from fining drivers unless they exceeded the limit by a larger margin. In the case of college sports, when the stakes were smaller the NCAA may have been more willing to impose significant penalties.

Consider one of the primary tools available to the NCAA — a ban on postseason bowls and tournaments. The creation of the Bowl Championship Series, a cartel in itself, has increased the stakes to schools in those conferences. Remember that a school can receive more than US\$10 million for a BCS appearance, and the television exposure is invaluable for recruiting the best prospective athletes. Is it a coincidence that the number of bowl bans decreased at the same time that the size of the payouts was increasing?

The most severe sanction is the **death penalty**, which bans a school from participating in intercollegiate athletics in that sport for a period of 2 years. It can be imposed when a school is a repeat offender, that is, it commits a major infraction within 5 years of another major violation. This has been used just once, when the football program at Southern Methodist University was shutdown for the 1987 and 1988 seasons (see Box 2.2 for a description of the violations in that case). After compiling a 52-19-1 record during the 7 years prior to the penalty, the SMU football program had a difficult time recovering. During the next 17 years, the team’s record

Box 2.2. Violations at Southern Methodist University.

In August 1985, the NCAA determined that the coaching staff at Southern Methodist University had been aware of flagrant violations by boosters during the period 1981–1984, including payments to potential recruits and student-athletes. Nine boosters were banned from any contact with athletes, and an assistant coach was prohibited from participating in the recruiting process. The university was prohibited from offering any athletic scholarships in football for 1986–1987 and just 15 scholarships for 1987–1988. It was banned from postseason competition in 1986 and 1987 and appearances on live television in 1986. SMU was also placed on probation for three years. This was the fourth instance of NCAA actions against SMU in 11 years, with documented violations in 11 of the previous 14 years.

The following November, a former player disclosed in a television interview that he had been paid US\$750 per month by the university's recruiting director. Two days later, a current student revealed that he had been living rent-free in an apartment owned by one of the banned boosters. The NCAA Committee on Infractions eventually determined that 13 football players had been paid a total of nearly US\$47,000 during the 1985–1986 season and another US\$14,000 during the last four months of 1986. These violations occurred after the university had been placed on probation in 1985.

was 47-119-3, with only one winning season and just two victories over nationally ranked teams. The penalty also contributed to the demise of the Southwest Conference in 1996 and the move by SMU to the non-BCS Western Athletic Conference.

During the next 15 years, ten other college football programs have been judged to be similar repeat offenders, but none have been given the death penalty, and some have received only probation. John Lombardi, who was president of the University of Florida

when it went before the NCAA Infractions Committee for major violations, was quoted as saying that “SMU taught the committee that the death penalty is too much like the nuclear bomb. It’s like what happened when we dropped the (atom) bomb in World War II. The results were so catastrophic that now we’ll do anything to avoid dropping another one” (Farrey, 2001, ¶ 15). This appeared in an article that was part of a series at ESPN.com on the lack of effective punishment in Division I-A football. The series was aptly subtitled “The Death of the Penalty,” reflecting the fact that the actual use of the Death Penalty may have led to its effective demise.

How can we determine the **optimal amount of policing** for a cartel like the NCAA? As usual, economists compare the benefits from more policing (marginal benefit) with the costs (marginal cost). The quantity that maximizes the difference between the total benefits and total costs occurs where $MB = MC$. To use this approach, we must identify the benefits and costs of policing to the members of the NCAA.

The benefit from additional policing efforts is a reduction in the level of cheating. Cheating hurts the members of the NCAA in two ways. First, it increases costs. A bidding war for the most talented athletes could lead to wages close to their marginal revenue product, which can be considerable. Second, it damages the carefully guarded reputation of college athletics as a bastion of amateurism. If fans knew that college athletes were being paid, particularly when such payments are against the rules, would they lose interest? The athletes would not just be professionals, they would be cheaters too. Fans may be willing to overlook minor infractions, and even the occasional major one, but a widespread pattern of abuse is likely to change the public’s perception of the game. Presuming that even a minimal amount of policing will deter many of the most flagrant major violations, and that increases in policing will deter progressively minor infractions, the MB curve will be downward-sloping.

The marginal cost of policing is based in part on the expense of the NCAA’s enforcement division and the compliance efforts by individual campuses. As noted earlier, the NCAA’s enforcement

staff is relatively small. A typical compliance office at a major university employs a director, associate director, assistant director, and support staff. Multiply this by hundreds of NCAA institutions. The cost of detecting the flagrant major violations should be fairly low, but unearthing additional more subtle violations will be more difficult, resulting in the familiar upward-sloping MC curve.

Effective policing also requires punishments that will deter violations, and these punishments create their own costs. Stricter punishments will result in fewer violations, which is the desired outcome, but at a higher cost. The collective cost of mild sanctions should be quite small. If the football team loses five scholarships for four years, which prospective athletes will the school choose to not recruit? Certainly not the most talented ones. Even if the result is that the team loses an extra game or two each season, other teams in the conference will win more games.⁹ With stricter sanctions come more substantial costs. If the NCAA bans a school from post-season play, then it may have to forgo a football bowl game or a berth in the men's basketball tournament, both of which are very lucrative. If the offender loses a significant number of scholarships, the competitiveness of its program may suffer serious damage. This can even harm the reputation of the entire conference. If a school from the Pac-10 is crushed by its Big Ten opponent on national television, fans may start to believe that the Pac-10 is losing its ability to produce winning programs. Many people put much of the blame for the demise of the Southwest Conference on the inability of SMU to regain national prominence after its 2-year Death Penalty in football. The implication is that because policing to deter more and more cheating will require stiffer penalties, and those penalties will cause greater harm, the marginal cost curve for policing is upward-sloping.

The optimal amount of policing effort is shown in Figure 2.3 where MB and MC intersect at Q^* . Much like Goldilocks, who did not want her porridge too hot or too cold, the members of the

⁹ This is what economists refer to as a zero-sum game. When one person loses, somebody else wins an equal amount. As a result, the cost to the group is zero.

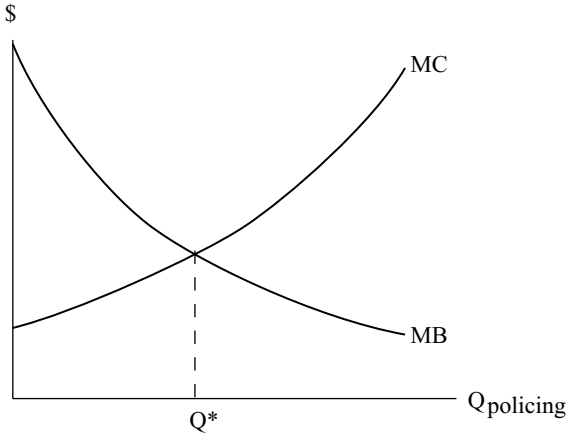


Figure 2.3 Costs and benefits from policing.

NCAA do not want to conduct more or less policing than Q^* . For their mutual benefit, they want to deter a certain amount of cheating, but to stop at the point where the cost of further deterrence becomes too great.

How might the value of Q^* be affected by the growing popularity of college basketball and football? Unfortunately, there is no clear answer to this question. On the one hand, if the economic impact of sports for each school increases, then the damage caused by media reports of widespread cheating is greater. Policing, which prevents that damage, is increasingly valuable. This shifts the MB curve upward, resulting in a higher Q^* . On the other hand, if part of the rise in popularity and commercialization of college sports has been an increased acceptance of cheating (at least by the school you are loyal to), and thus less benefit from deterrence of cheating, the MB curve shifts downward and Q^* decreases. On yet another hand, the potential damage to schools and conferences from more severe sanctions also increases, which shifts the MC curve upward and reduces Q^* .¹⁰

¹⁰ A frustrated President Harry Truman is reputed to have once said, "Give me a one-handed economist!" Economists are infamous for believing that there is always more than one answer to a question.

If Q^* is relatively low, that is, it is optimal for the NCAA to do little in the way of investigation and punishment, why does the organization have so many rules and regulations? One explanation is that it is trying to create the perception that it is in control. If the public's confidence is bolstered by a proliferation of rules that cover all the details of recruiting and eligibility, then many of the benefits of actual policing can be had without the costs. A sustained public relations campaign, complete with examples of such serious violations as a free ham sandwich given to a recruit while visiting a campus, can create the **illusion of control**. If the NCAA is going after **ham sandwich violations**, they must really have a handle on the major ones, right?

2.10 Entry in College Sports

Thus far, we have examined how the college sports cartel has dealt with the challenges of reaching an agreement and minimizing cheating. The remaining challenge is to prevent **entry** by schools lured by the promise of substantial benefits to their institutions. Before examining the cartel's strategy for dealing with this threat, a few clarifications are needed. First, the focus of the cartel is on the revenue sports, primarily the football and men's basketball programs at major universities. If UCLA adds a lacrosse team, or tiny Harvey Mudd (enrollment of 700) starts a football program, the profitability of nearby USC's athletic department is not in jeopardy. Second, entry is most likely to take place within the NCAA itself. The greatest threat is from current NCAA members trying to move up to the elite ranks (DI in basketball and DI-A in football). Third, the damage from entry is the additional supply of games for broadcast, which would decrease the market price, and the additional demand for athletes, which would lead to an escalation of the arms race, including more temptation to offer illegal payments. Fourth, college sports is inherently different from other markets. Unlike most goods, which can be sold without any cooperation from other producers, athletic teams need to play other teams. Any new program that cannot schedule a full season of games will not be viable.

Imagine yourself as the president of a state university that is currently competing in Division I-AA football. Attendance at home games averages only about 5000 and donations from the booster club are meager. In your daydreams, the school is playing against I-A opponents, ticket sales are way up, booster excitement (and contributions) have increased, the team is able to attract better athletes, and the school is getting increased media exposure. If your team is really good, you might even get invited to one of the top bowl games, which can mean millions in revenue. So how to make the switch? One option is to operate as a I-A independent and try to schedule a season of games against other independents and teams in DI-A conferences. Even better, you could convince a major DI-A conference to let you join. This would guarantee a full schedule and a share of the bowl revenue paid to other conference members. If the conferences are not interested, you could contact other DI-AA schools to find out if they are interested in forming a new DI-A conference.

To implement your vision, you create a campus committee to write a report on the feasibility of the different options. Perhaps unwisely, you put the university's Nobel Prize-winning sports economist in charge of the committee. After a 6-month wait, the report arrives, and it is not what you expected. First, it notes that the NCAA rules impose a number of costly requirements for acceptance into Division I-A, including more varsity sports, more scholarships, and a stadium large enough for at least 15,000 fans. There is also a two-year waiting period, during which you will no longer be eligible for the I-AA championship. Second, your plan to be an independent, in the tradition of Notre Dame, is hampered by NCAA limits on the number of games a school can play each season. While DI-A schools in your region might otherwise be interested in scheduling a game with your team, they are already at the maximum of 12.¹¹ With most

¹¹ A total of 13 games can be played under specific circumstances. For example, an extra game can be scheduled in Alaska, Hawaii, or Puerto Rico against an active member located in one of those areas. For a complete list of exemptions, see Bylaw 17.11.5.2.

conferences having 11 to 12 members (the Pac-10 is the smallest of the major conferences, and the Big Ten actually has 11 members), just playing each of the other members uses up all but one or two of the slots.¹² Many schools use one of those to play a warm-up game against a DI-AA team before the start of the regular season. They also try to schedule a game against a top-ranked team to get national television exposure, stimulate fan interest, and bolster their chance for a bowl bid if they win the game. With the number of other independent schools dwindling to just three (Army, Navy, and Notre Dame), you cannot rely on them for a full season of competition.

Third, it will be difficult to join an existing DI-A conference. The report cites a study that estimates that the optimal size of a conference is 12, and most conferences are already at that number. They do not want to grow and it will be hard to convince them to dump another school and admit you. After all, you are only a DI-AA program with aspirations but no long-term record of competing at the elite level. Even if they have a particularly weak member, there is a strong tradition of competition that still brings in the fans. The report also notes that the school should be careful about which DI-A conference to join. The really big money is in the BCS-eligible conferences. Remember that even the lowliest members of these conferences have greater annual revenue than some entire DI-A conferences, in large part because of revenue-sharing agreements for television contracts and bowl appearances. Unfortunately, as the old adage goes, you may not want to join a club that would have you as a member, and the clubs you want to join do not want you.

As for the final option, creating a new conference, the report again notes a number of roadblocks. To qualify for DI-A status, the NCAA requires that a conference must have at least eight full DI-A members, so forming a new conference with a few other schools in your area is out of the question. While there may be seven other DI-AA institutions contemplating a move to DI-A, they are spread out all over the

¹² For basketball, the limit is 29 games per season. For a conference with 12 members, if each school plays one home game and one away game against each opponent, then there are seven open slots per season.

country. Your travel budget will be enormous, and students will spend even more time away from school just getting to and from games. Without regional rivals, fan interest may also be low.

Even if you could find enough schools for a new conference, the networks are unlikely to pay large amounts to broadcast games between relatively unknown former DI-AA schools. The bowl committees are looking for schools that will draw a large television audience, making it difficult to negotiate agreements like the Pac-10 has that guarantee invitations to even fourth and fifth place finishers. If you were hoping to win your conference's basketball tournament and earn an automatic berth in the national tournament, NCAA rules require that a conference have at least seven core institutions that have been Division I members for at least eight years, and at least six of those members must have competed together for a minimum of five years. There are no exceptions to the five-year waiting period.

At this point, you may decide that sports economists have spent too much time in the ivory tower, that just about *everyone* knows that DI-A is the place to be, and that you need to appoint a new committee to write the report you wanted in the first place. After all, this will be the legacy that you leave to the university. People will remember you and what you did for the institution, not that idiot economist.

Hopefully, instead of moving ahead you stop and think of why there are obstacles to joining the elite ranks of college sports. Put simply, the schools already at the top have no reason to dilute their share of the profits by letting you in. Over the years, they have passed the NCAA rules mentioned in the report. Of course, creating barriers to entry was not the rationale used publicly at the time. When the number of games per season was limited, it was argued that this would keep the student-athletes from spending too much time away from classes. It just happens that this also makes it harder for new programs to find opponents. If you were the president of a university in one of the BCS conferences, you would also be trying to lock the gate behind you. The more that schools like

yours want to get into the top ranks, the more rules that will appear to keep them out. While you are already part of the NCAA cartel, there is an even more powerful cartel at the top that wants things to stay just as they are. Listen to your economist!

2.11 Chapter Summary

Cartels benefit their members by restricting the total quantity produced, thus increasing the price (or reducing the quantity of an input purchased and thereby decreasing the price paid). We saw that a cartel faces three inherent challenges: agreement, cheating, and entry. The conditions that make cartels more likely to succeed include inelastic demand for the product (or supply of the input), a small number of firms, and similar products, production costs, and objectives.

After defining the relevant market as the revenue sports of football and men's basketball at the elite universities, we examined how a successful athletics program can benefit its institution. A winning team can generate significant revenue from ticket sales, donations from alumni and other boosters, contracts for television and radio broadcasts, and payments for appearances in postseason bowl games and tournaments. Institutions can also benefit from higher attendance and the ability to be more selective in admitting new students.

On the basis of high prices for outputs and low prices for inputs, it appears that cartel behavior does exist in college sports. However, the NCAA has not been completely successful. On the output side, the growing disparity between the elite programs and the rest of the members eventually led to a revolt against the regular season football television plan. The NCAA does control the lucrative post-season tournament for basketball, but the regular season for basketball and the post-season for football have eluded them. The major football bowls are controlled by the six BCS conferences, a cartel within the cartel. On the input side, cheating in the form of recruiting violations continues, due in part to the rela-

tively small amount of resources devoted to policing by the NCAA. The proliferation of self-reported secondary violation reports can create the illusion that the NCAA is in control. The NCAA has no authority over coaching salaries and spending for state-of-the-art facilities, the major elements of the current arms race. The existing structure of conferences and NCAA divisions is an effective barrier to entry for schools that attempt to move up to the elite ranks. It is particularly difficult for teams to enter the ranks of the top DI-A football programs.

A cartel creates benefits to its members at the expense of its customers (who pay more and get less) and its input suppliers (who get paid less and sell less). If you do not watch sports on television (customer) or are a college athlete (supplier), why should you care? To an economist, the answer is simple: The benefits to the winners are less than the harm to the losers, resulting in a net loss to society. In economic terms, this is known as a **deadweight loss**. We will examine this loss in the market for college athletes in the following chapter.

2.12 Key Terms

Agreement	Illusion of control
Cartel	Major infraction
Cheating	Marginal cost
Collusion	Marginal revenue
Deadweight loss	Marginal revenue product
Death penalty	Monopoly
Dominant Strategy	Optimal policing
Economic rent	Price fixing
Elasticity of demand	Prisoners' dilemma
Elasticity of supply	Repeated game
Entry	Reservation wage
Game theory	Secondary infraction
Ham sandwich violation	Tit-for-tat

2.13 Review Questions

1. In collusion, for firms to be able to raise their prices, what else must they agree to do?
2. What are the three challenges for any form of collusion?
3. In the Prisoners' Dilemma, why does each person confess?
4. What are some of the conditions that make collusion more likely to succeed? How does the price elasticity of demand influence the success of a cartel?
5. What are economic rents? How can they be dissipated in a cartel?
6. What two questions do economists ask to decide if two products belong to the same market?
7. Why did the NCAA need to impose rules on recruiting after it limited payments to athletes to a full scholarship?
8. As the agent for a cartel, why does the NCAA put a limit on the number of scholarships that can be awarded in each sport?
9. What is an example of a "cartel within a cartel" in college sports?
10. What is the difference between major and secondary violations?
11. How does the NCAA learn about most violations? Who investigates those violations once they are reported?
12. For each school, what are the benefits and costs of cheating?
13. For the NCAA, what are the benefits and costs of policing?
14. What are examples of NCAA rules that make it more difficult to enter the elite ranks of college sports?

2.14 Discussion Questions

1. How might a drug-smuggling cartel change its payoff matrix to reduce the incentive for members to cheat on the agreement?
2. Should beer and wine be treated as part of the same market?
3. A professor announces the following grading system for the final exam. If all the exams are blank, everyone gets a zero, but since this is the average score they all get a C. If some students leave it blank and others write even one correct answer, the former will get an F and the latter an A. She leaves the room for a few minutes to let the class discuss what to do, and everyone agrees to

- turn in a blank exam. What do you think will actually happen? What could the group do to reduce the incentive to cheat?
4. Would cigarette companies have been in favor of the government ban on cigarette advertising on television and radio? What do you think happened to profits in the cigarette industry immediately after the government implemented this ban? What do you think eventually happened to profits?
 5. If there is extensive cheating in a cartel, the cartel will probably fall apart. In the NCAA there are so many rules violations each year yet the cartel remains in place. How is this possible?
 6. If the NCAA hired another 50 investigators, what would happen to the optimal amount of cheating?
 7. Should DI-A split into an even smaller division of the best schools?

2.15 Internet Assignments

1. Visit the web sites for three schools in your state, with one from each NCAA division. Find and compare information on football ticket prices and availability.
2. Visit the NCAA web site (www.ncaa.org) and locate the Major Infractions Database. Search the database for violations in Division I-A football programs within the last year. Did any result in penalties other than probation?

2.16 References

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