

# **T W O**

## **Economic Theory and the NCAA**

**T**his chapter brings economic theory to bear on various aspects of NCAA behavior. In section 1, the production of certain public goods by the NCAA is considered. These public goods include such activities as the standardization of the rules of play, the provision of referees, and record keeping. In section 2, the economic theory of cartels is applied to NCAA behavior. The process of cartelization is examined with respect to output (e.g., televised games) and input (players). In other words, the behavior of the NCAA as a monopolist and a monopsonist is analyzed. In section 3, the economic theory of rent seeking is shown to be relevant to NCAA behavior. The purpose here is to analyze the competition among member schools for cartel rents. In section 4, the critical process of cartel enforcement is discussed, the point being to study which schools are put on probation by the NCAA and why. Some summary remarks are offered in section 5.

### **1. The NCAA's Provision of Public Goods**

Coalitions among producers are not formed without good reasons. The obvious motivation is increased firm wealth. However, either relatively low potential profits from collusion or the enforcement of legal prohibitions on collusion may limit such coalitions from emerging. The NCAA fits this model. Basically, the low potential profits from collusion in intercollegiate sports during the late 1800s meant that, if an association of schools formed, some other motivating factor must have been present.

An alternative organizing incentive appears when producers face a common externality problem. Such an externality may, in fact, arise due to the activities of the firms in an industry. With each firm imposing costs on the others without compensating them, the balance sheet of every producer is negatively impacted. The case of fishermen harvesting fish in a common fishery is a classic example of such a negative externality. Each producer harvests more than would be harvested if the resource carried a price or, what is the same thing, were owned by someone. Consequently, all producers in the industry suffer the effects of rapidly depleted stocks of fish.

College athletic producers faced such a situation in the late 1800s and early 1900s.<sup>1</sup> Violence during college football contests had reached alarming proportions (a large number of players were being killed) due largely to the absence of effective punishment of such behavior. No one school had an incentive to reduce such tactics, since other teams would continue to use them and win. In addition to violent play, football was still in a formative period as far as its basic playing rules were concerned. The roots of rugby lingered in some rules recognized by some teams. Lack of standardized rules helped to contribute to the violent play, as well as contributing to difficulties in other aspects of on-the-field performance.

In many cases, the parties involved not only recognize the costs imposed on each other by such externalities but also clearly see the source of the problem. Yet recognition of the problem is no guarantee of a solution. Each producer may find itself in the so-called prisoners' dilemma.<sup>2</sup> All producers may agree that a superior outcome exists if each producer will refrain from or limit the activity creating the externality. But without a formal agreement or means to punish the aberrant behavior, each producer continues to engage in it. If any one firm imposes constraints on itself, the problem on the whole

1. The relevant historical details are covered in chap. 3.

2. The "prisoners' dilemma" originated in a story told by mathematician A. W. Tucker. The choice given two prisoners (held in isolation from one another) is to confess or not to confess, and the structure of the punishment for each choice is such as to lead each prisoner to confess even though each would be better off if he did not confess, provided that his compatriot also did not confess.

continues, and the self-constrained firm loses profits relative to the other firms. The fishery example typifies the problem. Fishermen clearly recognize the rapid depletion of fish stocks. Also, they recognize that, if all or most of them would limit their harvest, the problem would be alleviated. Still, no single producer will find it in his interest to limit catches.

Colleges with football teams in the late 1800s understood the costs and the benefits of reducing violent play. In fact, a few schools chose, at least for short periods, to limit the use of violent tactics. With no comprehensive agreement and most schools continuing to pursue such tactics, the problem of violent play persisted. Moreover, injuries and deaths grew in spite of the increased awareness of the problem, facts which lowered the appeal of the game to fans and jeopardized its future.

A stable solution to such externality problems requires some agreement, either explicit or implicit, among firms. In addition, the agreement must provide for rewards for holding to the terms of the contract and punishments for breaching the contract. Even when the participants know how to solve a problem, reaching an agreement to do so may be difficult. Benefits to contracting may be large, but the costs may also be large. In general, the organization of an externality-reducing institution is not a simple process.<sup>3</sup>

Clearly, the benefit from contracting is the reduction of an externality. As the size of the externality increases, the benefit and likelihood of reaching agreement increases, holding the costs of contracting constant. The costs of agreement stem from two main sources. First, the time and effort involved in negotiating an agreement is costly. The number of producers involved influences the size of this cost; more producers mean higher costs. Second, an opportunity cost is entailed in agreeing to a contractual association with other firms. Each firm loses some degree of self-determination and freedom of choice. The length and complexity of the agreement is a factor in determining the size of this cost. As these contracting and opportunity costs increase, the likelihood of reaching agreement falls, when the benefits are held constant.

3. For more general treatments of the costs of organization and agreement, see Buchanan and Tullock (1962) and Olson (1965).

In the case of college athletics, this organizing calculus played an important role, as evidenced by the fact that the problem of violent play persisted long after it was recognized. The costs of organizing, negotiation costs, and the loss of some power of self-determination proved high enough to block the early emergence of a wide-ranging agreement. Small groups of schools floated into and out of associations, but a far-reaching agreement was not forthcoming until the early 1900s.

The tide turned because of changes in the benefits of organization. As noted, the externalities of violence and non-standardized play grew to prohibitive levels in the late 1800s and early 1900s. This increased the potential benefits of organization, while the costs remained relatively constant. The implicit cost-benefit calculus finally led to an agreement between schools and the birth of the predecessor of the ultimate NCAA.

## 2. Cartel Theory and the NCAA

### *Collusion and Profits*

The initial reason for cooperation among producers often centers on solving a common externality problem. The resulting association may provide such public goods as measurements, standards, and the like. In this section the focus shifts to consider how such an association can evolve into an organization with a different purpose. The primary purpose may remain constant, that is, the management of potential externalities; yet the organizational format can turn from reducing externalities to increasing joint profits. This scenario has been referred to as the by-product theory of organization.

The initial or startup costs of an organization are often high. These fixed and quasi-fixed costs hinder the effective solution of externality problems. As stressed in the case of the NCAA, the extent of the initial costs is evidenced by the degree to which violent play and other problems were allowed to grow before they were addressed. In spite of these large startup costs, once an association is organized and such origination costs have been incurred, the continuing costs of association may be quite low. In other words, variable and marginal costs are low with respect to the fixed costs, and the association

enjoys economies of scale. In addition, the costs of expanding the scope of the association to include additional areas may be quite low; the association may enjoy economies of scope. The factor behind such economies is that the association already has a management and decision-making apparatus in place. Once an association is organized, given that the initial organizational costs are borne, the marginal costs of agreeing to extend the scale and scope of the association are low.

The areas into which the association extends its grasp can vary. The firms and organizations may agree on additional rules and institutions to reduce other externalities. However, producers may also use the cooperative apparatus to behave like a cartel. Such behavior includes making price-fixing agreements, placing restrictions and quotas on the quantity of the product sold, colluding on the purchase of inputs, and so on. To paraphrase Adam Smith, producers seldom get together without the discussion turning to plots against consumers and input suppliers.

The NCAA is no exception to this general maxim. The colleges did not originally cooperate for cartel purposes. Instead, the association that became the NCAA bore the initial costs of organization in order to provide public goods. Very shortly thereafter, the discussion turned from the reduction of violence and on-the-field rule standardization to price and output restrictions and restrictions on the purchase of inputs. For the most part, the evolution of the cartel took place over the first half of the 1900s. By 1950, these restrictions on college athletic product and resource markets had become the primary preoccupation of the NCAA.

The motivation behind market-restricting collusion by producers is easy to see. The rationale is to increase returns per firm relative to the situation in which firms freely compete with one another. This holds true whether the restrictions are in output or input markets. The fact that the NCAA is a nonprofit organization simply changes the balance sheet item which is maximized. Instead of "profits" or returns to shareholders, it may be implicit subsidies to the university general operating expenses, coaches' salaries, office facilities, and so on which are maximized. The accounting practices of colleges and universities merely mask the recipients of cartel rents.

*Cartel Basics*

The effects of cartel practices on profits have been well documented.<sup>4</sup> In the product market in an industry, if each firm prices its product competitively, the price charged by each firm will be driven toward its marginal cost. Over time, producers will reap only average or normal rates of return on their invested capital and the value of their time. As long as the firms' products are relatively interchangeable, increasing price above cost is not a profitable strategy. Collusion among producers to raise prices and restrict the quantity sold alters this outcome. Market and the individual firms' prices rise above costs, and profits per firm increase. Of course, the firms must effectively restrict prices and quantities to their agreed upon levels, or competition will return price and quantities to their competitive levels. This usually requires an enforcement or punishment procedure for noncompliance. Also, resource availability or some other factor must limit the entry of new competitors. As a general principle, a cartel will be more profitable the less responsive consumers are to price increases. Lack of an enforcement or punishment process, rapid entry into the marketplace of firms outside the cartel, or large consumer responses to price increases signal difficulties for cartel stability.

Likewise, in the market for inputs, if each firm competes for resources independently of other producers, each firm will have to purchase the resources at close to their marginal value to the firm, that is, their marginal revenue product. In contrast, collusion among firms in the purchase of resources changes this outcome. If firms agree to fix prices for inputs, the productive factors will be paid less than their MRPs. This difference between payment to the input and its MRP accrues to the firm.<sup>5</sup> In general, the conditions required for successful input collusion are also required for output collusion—an effective enforcement or punishment mechanism for noncompliance, a

4. For an intermediate-level discussion of cartel fundamentals, see Browning and Browning (1989). For more advanced treatments, see Stigler (1964), Osborne (1974), Asch and Seneca (1975), Green and Porter (1984), Waterson (1984), McGee (1988), and Shughart (1990).

5. Scully (1974, 1989) provides his view of how this process applies to Major League baseball.

limitation (for whatever reason) on alternative competition for inputs, and an input whose supply is relatively unresponsive to changes in its compensation. If any of the three conditions is absent, the profitability and stability of the collusive input agreement are threatened.

The NCAA has engaged in both types of market restraints. In the product market the NCAA's primary means of restricting output for many years was to specify the number of games that could be televised. Member schools signed a single contract to govern their revenues from televised games as well as the number of appearances their team could make over a season. These restrictions helped to increase revenues relative to the situation in which each school or group of schools would sign individual TV contracts (in fact, the NCAA itself made this claim). Additionally, the NCAA limited season length, although this could arguably be construed as the provision of a standardized format for competition. In the input market NCAA restrictions are far more numerous. Prohibitions on direct player payments—as well as in-kind and/or implicit favors, limitations on grants-in-aid, standardized scholastic requirements, and many other similar restrictions—exist. Although enacted in the name of standardized rules, most of these restrictions help to keep compensation to players below their MRPs and redistribute rents toward schools, athletic departments, and coaches.

#### *Market Conditions and Cartels*

The profitability of a cartel depends on overall supply and demand conditions in its markets. And, of course, market conditions change over time, and, thus, the benefits of collusion change. Whenever product demand increases, other things equal, the cartel becomes more profitable. It can obtain higher prices from consumers with the same level of costs. Increased profitability impacts on a cartel in various ways. For one, it can alter the prospects for the stability of the cartel. This is discussed in section 4 below. Also, if a competitive fringe of non-cartel producers is present in the market, higher profits mean higher potential benefits to cartel membership, and some of these firms will attempt to join the cartel. Increases in market demand for the product influences input market conditions;

specifically, the marginal value of inputs will increase, at least, on average. If producers hold input compensation steady, more rent will accrue to producers as product market demand and the marginal value of inputs increase.

Changes in market supply conditions are also important. Increases in overall market supply represent a threat to a cartel. New entry into the market by noncartel members or increases in production by cartel members above allotted quantities render the market more competitive. Other things equal, prices and profits will fall under these conditions. Additionally, an increase in market supply will encourage membership expansion by the cartel in order to bring some of the new production under the umbrella of cartel quantity restrictions. This helps the cartel maintain stability relative to outside competitors; however, per-firm profitability in the cartel falls, which may decrease internal stability.

All of these changes have affected the development of the NCAA. First, the demand for college athletics, especially football and basketball, has grown over the entire century. Growth of revenues and surpluses (correctly measured) make this clear. As a result, more and more of the "competitive fringe" schools have sought membership in the NCAA. Second, the supply of college athletics in terms of major participants has increased. This has prompted the NCAA to add members and, as discussed in the next section, has created friction within the NCAA. Third, while the demand for NCAA products has increased, the allowable compensation to athletes has remained almost constant (at least in real terms). This increase implies an increase in the rents accruing to other factors. This is seen most readily in the rise in coaches' salaries, athletic department expenditures, and university revenues from athletics.

As for the conditions necessary for successful and stable cartels (an enforcement and punishment mechanism, limited entry, and an inelastic supply of inputs), the NCAA has developed institutions to handle some of these problems and has benefited from underlying market conditions on others. Around 1950, the NCAA solved the problem of an effective enforcement and punishment mechanism by creating the Committee on Infractions. In addition, the sanctions for violations were radically strengthened in the 1980s (e.g., the adoption of the so-called



death penalty for repeat offenders). Although entry of individual schools into the major college sports market has taken place, the NCAA itself enjoys a natural barrier to outside competition. This is due to the "lumpiness" of entry into the relevant market. In order to compete effectively with the NCAA, a school must not only break with the organization but also convince enough other major producers to exit so that a viable schedule of opponents is possible. Finally, the NCAA has also benefited from the inelastic supply of athletes. Most eligible athletes range from eighteen to twenty-two years of age and have relatively meager alternative opportunities.

### **3. Competition among Producers**

#### *Competitive Strategies*

Cartel agreements, whether in output or input markets, typically restrict price competition and limit production. The intent behind these restraints is to create above-average profits in the output markets and a flow of economic rents from certain inputs which are compensated below their market value in input markets.

The cessation of explicit price competition, though, does not imply the disappearance of all forms of competition among producers. Profits at the firm level still remain a motivating force for individual members of the cartel. Moreover, as the cartel becomes more successful at extracting profits and rents, the potential gains from successfully out-competing rival producers increase. One would expect the level of nonprice competition to intensify as profit opportunities increase. Clearly, this creates a source of potential instability for any cartel.

Some forms taken by these alternative competitive strategies are easy to identify (from an analytical and not a cartel standpoint). The first is actual price competition. Firms may offer consumers secret price cuts or inputs above cartel wage inducements. If the goods or inputs are not traded in a single or a few central markets, such violations of the cartel agreement may not be easy to detect. On top of secret payments and price cutting, rival firms within a cartel may engage in competitive activities which deal on margins other than nominal prices. For example, the quality of the product offered to consumers may

be altered. During the period of price regulation in the airline and banking industries, airlines competed by offering various attractions to customers such as brightly colored planes and scantily clad attendants, while banks built fancier facades, more expansive message boards, and plush facilities. In input markets, rival producers can also compete in terms of quality. They may offer different amenity and benefit packages to workers. In addition to these standard forms of nonprice (implicit) competition, the entrepreneurial spirit can lead firms to discover new ways to attract customers or inputs.

The NCAA has experienced such competition. The market restraints which have helped to create large surpluses and rents also create an atmosphere of intense competition for such rewards. Competition thrives in the NCAA both in terms of violations of its rules and in areas not covered by the rules. Recorded accounts as well as rumors of monetary and in-kind payments (e.g., cars) to recruits are numerous. The competition for prize recruits does not end with cash payments and free cars. Schools compete for athletes in areas not covered by the NCAA rules. These areas include physical capital such as training and practice facilities, stadiums and arenas, and living quarters. In addition, personal services, such as orientation and registration aid, tutoring, and special food, are offered in some cases. Also, firms expend resources to exploit their brand names in athletics and academics in order to attract athletes.

#### *Importance of Alternative Competition*

The competitive tools utilized by rival members of cartels, while often appearing frivolous and fanciful, ultimately play a crucial role. They determine each member's actual share of the cartel profits. The firms most skillful at circumventing the rules receive larger shares of cartel rents. This holds whether the circumvention occurs by means of a school making secret payments to athletes or by means of innovating new amenities and packaging of the amenities most desired by consumers or student athletes.

Circumvention of the NCAA agreement obviously occurs, and profits are unevenly distributed within the NCAA because of this competition. Cash inducements to athletes and explicitly prohibited in-kind benefits are offered. The latter range

from cars to cosigned loans, phony jobs, airline tickets, T-shirts, and so on. Seemingly, these prohibited enticements occur frequently; yet, in spite of the frequency, the amounts involved are usually quite small relative to athletic revenues. Apparently, the enforcement process does retard the level of cash and in-kind payments.

In contrast, competitive expenditures to attract athletes and consumers not prohibited by the NCAA are quite large. Physical capital expenditures stand out among all others. Schools build elaborate stadiums, scoreboards, sky boxes, locker rooms, training facilities, and athletic dormitories, as well as stocking them with expensive furnishings and equipment. Also, expenditures which exploit school brand-name capital are growing. These include such items as brochures, videos, logos, advertisements, and specialized athletic department personnel, including coaches with well-developed public relations skills.

Even the most casual observation confirms the importance of these brand-name and physical capital expenditures in determining the final distribution of revenues among NCAA members. The schools with the most plush and spacious facilities, the smoothest recruiters, and the most successful programs dominate on the playing field, television appearances, alumni dollars, and, ultimately, cartel returns.

The alternative forms of competition not only redistribute revenues in a cartel but also provide a potential destabilizing force. As each firm seeks a larger share of rents, some firms will succeed; some will not. The losers have an incentive to intensify their competition and also to reconsider their membership in the cartel. In the extreme, membership no longer makes sense if a firm's share of the rents falls below the competitive level. Cartel stability requires at least some sharing of the benefits among members. On the other hand, sharing diminishes the rewards from expenditures to out-compete one's rivals.

The distribution of profits and the dynamics of cartel stability help to determine who will control the legislative and enforcement agendas of the cartel. The firms responsible for generating the lion's share of revenues hold the upper hand in this context. If they leave the cartel or balk at the redistribution of

revenues, cartel stability faces a greater threat than if small-revenue firms leave. So whatever determines the distribution of revenues will also play a large role in determining the capture of the legislative and enforcement apparatus. Of course, the process is more complicated than that. Strategic behavior and coalition formation can occur; still, the powerful position of the cartel bulwark firms will provide a benchmark for control of the cartel.<sup>6</sup>

Naturally, the NCAA faces the same destabilizing influences from competition among members. The association constantly finds itself facing the issue of how to slice the pie. The first half of the century saw the smaller schools capture more and more of the revenues. This occurred by growth in membership and by restraints such as those on the number of television appearances a school could make. Beginning about 1980, though, some of the larger producers began asserting themselves. The division of the NCAA into separate competitive leagues, especially the IA/IAA split between major and smaller schools in football, was such an adjustment. More recently, the opposition by Oklahoma and Georgia to the single television package and Notre Dame's move, signing its own five-year television package worth \$36 million, fall into this exercise of power by the larger schools.

The capture of the legislative and enforcement process by certain firms has also occurred in the NCAA. Again, the most successful programs, those with the largest physical and brand-name capital bases, have an advantage in this respect. In chapter 7, a specific hypothesis based on this proposition is tested. Also, whatever group is successful in dominating the legislative and enforcement process, it is clear that rivalry and self-interest will be apparent among schools when new issues and proposals arise. Many of the proposals will not benefit all schools, and support or opposition will center around the potential winners and losers from the proposals. In chapter 6,

6. "Strategic behavior" occurs when a firm, or in this case a school, alters the environment in which it competes so as to increase its profits. Examples of this type of behavior will be identified in chaps. 5, 6, and 7. For a general overview of strategic behavior in economics, see Rasmussen (1989) and Carlton and Perloff (1990).

the struggle over new athlete eligibility requirements, "Propositions 48 and 42," is used to portray this aspect of NCAA behavior.

*Market Conditions and Intracartel Competition*

Increases in product demand alter the returns from and the incentive to engage in circumvention of cartel rules. The higher profits implicit in higher product demand make cartelization more enticing. At the same time, they lure self-interested cartel members to intensify their efforts to obtain those profits because the reward to such competition is higher. This holds for both violations of the cartel agreement and nonprice forms of competition. The message here is that higher product demand is a double-edged sword for cartel stability. Over some periods, it may encourage cooperation toward collusive agreements. Over other periods and once agreements have been reached, it may encourage the destabilizing effects of intracartel rivalry.

Demand for college athletics has grown by leaps and bounds over this century as a whole and especially since about 1980. The new billion-dollar, multiyear basketball tournament contract with CBS testifies to this fact. The NCAA cartel has experienced both the benefits and costs of the higher profits from these increases in demand. Membership has increased, and new agreements have been reached. However, schools have intensified their efforts to obtain and increase their share of the spoils.

Another result of increases in demand for any cartel is that the marginal value of inputs will increase. If the cartel restricts compensation of some input, compensation rates and MRP for that input diverge further with an increase in demand. This development also has an up side and a down side for the cartel. The cartel or certain factors within the cartel reap higher rents at the expense of the restricted input. At the same time, each firm has a greater incentive to make more illicit inducements to the restricted input and to spend more on amenities which are attractive to the input.

The NCAA squarely faces this problem. As demand for college athletics has increased, player compensation in real terms has remained nearly constant. This provides schools and certain inputs, such as coaches and athletic personnel, with

higher rents. These rents take the form of salaries, plush offices, and the like. However, the NCAA has also seen the problem of secret cash and in-kind payments multiply as well as the dissipation of rents into nonregulated physical amenities for athletes. In response, the NCAA has increased enforcement efforts and punishments. Also, steps have been taken to "cut costs" which, in most cases, means limiting the dissipation of the rents. Still, while raising the costs for offering secret enticements, the differential between the MRPs of athletes and their relevant compensation remains and grows. As long as this condition holds and the probability of catching violators is less than one, boosters and athletic personnel will continue to engage in the secret activity. And, if the NCAA does become more effective in enforcement, more dissipation of nonregulated amenities can be expected.

As discussed earlier, an inelastic supply of the restricted input enhances a cartel's ability to limit compensation and receive rents. An additional factor is the competitive nature of the supply of the input. If collusion among labor takes place, the firms in the cartel are no longer able to purchase from a competitive pool of labor. Instead, the input behaves like a monopolist. If either the supply curve of the input becomes more responsive to changes in its compensation or the various input suppliers organize, the ability of the cartel to drive a wedge between compensation and MRP is reduced. There are some indications that such developments may be in store in college athletics over the course of the next several years.

To this point in time, the NCAA has been able to draw its labor supply from an inelastic and disorganized source. Over time, this may change. As in professional sports, players may become increasingly aware of their marginal values to the school and the divergence of their compensation from these values. College athletes, younger and less informed, have taken longer than their professional counterparts but are starting to recognize the divergence of their value to a school from the value of their compensation.<sup>7</sup> Also, as foreign sports

7. A single student athlete may not have an incentive to organize against schools. As stated earlier, such an organizational initiative takes time and can

leagues and domestic minor leagues in football and basketball grow, college athletes have more opportunities. Both of these changes may signal difficulties for the NCAA over the longer term.

#### 4. Cartel Enforcement

Now that some of the basic economic principles concerning cartel behavior and the NCAA have been discussed, the problem of cartel enforcement can be discussed. This topic has been saved for last because some of the foregoing analysis is important in understanding the nature of the enforcement process. This is especially true in the specific application to the NCAA.

A necessary condition for successful cartel operation is a viable enforcement and punishment mechanism. Yet the mechanism must be cost-efficient. It is on this point that a cartel faces a dilemma. Widespread cheating on the cartel agreement signals the end of the cartel, and such behavior must be controlled. However, if members of the cartel are locationally dispersed when selling their products and purchasing inputs, enforcement may be expensive.

In general, the cartel has two ways to determine if firms are violating the collusive agreement. First, it can monitor each member directly, that is, engage in constant surveillance of each firm's practices. Second, it can use probabilistic evidence to infer when a producer's behavior diverges from agreed-upon principles. Unless cartel members sell and purchase in centrally located and well-organized markets, direct surveillance is prohibitively costly. With dispersed firms, the cartel enforcement agency is not able to monitor all members directly.

Without direct monitoring, the enforcement agency must monitor imperfectly. A relatively inexpensive way to infer cheating is by use of a probabilistic model. If some statistics are available on firm performance (profits, revenues), probabilistic inferences can be drawn about behavior. The enforcement pro-

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be expensive. By the time a "union" is organized, it is likely that the initial organizers will have graduated. Thus, these initial organizers would bear the costs of organization but not enjoy the benefits. Of course, as in other occupations, professionals at organizing such groups might defray some of these costs.

cess, at least in a stylized way, is not difficult to imagine. Suppose the enforcement agency uses an end-of-year performance statistic as its guide. It knows past historical performance and from this can compute the probability of various levels of firm performance relative to the cartel as a whole. Using some decision rule, the enforcement agency infers a violation has occurred if firm-level performance exceeds its average performance relative to the cartel by a large amount; that is, the probability of such an outcome occurring by random chance is small. One would expect to see enforcement and punishment actions brought against members performing extraordinarily well given their historical performance.

Application of this analysis to NCAA enforcement is direct. Consider the rules regarding compensation to athletes. Given the number and location of schools and the diversity of places visited by schools in recruiting, direct surveillance is not possible. This is especially true in view of the limited enforcement staff of the NCAA but would still hold for even a much larger NCAA staff. The number of possible contacts between schools, athletes, coaches, and alumni is far too large for a cost-efficient system of direct surveillance monitoring. As a result, the NCAA uses probabilistic evidence to infer violations (at least at the initial stages of an investigation). The most obvious statistic from which to draw inferences is on-the-field performance. If a team's on-the-field performance increases dramatically relative to its historical average, illegal activity may be occurring. This idea is developed and tested further in chapter 5.

Enforcement has interesting implications for the allocation of rents within the NCAA. If the enforcement process is relatively successful at keeping compensation to athletes close to its agreed-upon value, such secret cash and in-kind payments will have little impact on the distribution of rents in the cartel. Instead, the allocation of rent to a particular school will depend primarily upon that school's ability to compete in the nonregulated areas. As we have seen already, these areas are largely physical and brand-name capital expenditures. Generally, traditional winners with a large stock of brand-name capital and schools with the financial resources to build up their physical capital stock will gain from the enforcement process. These programs have a built-in group of fans, large stadiums, and



plush facilities and are therefore in a natural economic position to benefit from good teams, high rankings, conference championships, and bowl games.

## 5. Summary

This chapter develops a framework of the economic theory of cartels with which to explain and predict NCAA behavior. Some of the finer and more technical theoretical issues have been neglected in favor of seeking to provide a sense of the connection of various parts of the theory with the NCAA and its workings. Before moving on, some of the most important points from the preceding sections are summarized.

1. Cartels often originally organize to solve genuine economic problems. In the case of the NCAA, its original organizational purpose was to solve an externality problem, especially the problem of standardized rules and violent play.
2. Once organized, for whatever reason, firms often find the rewards of restraining output and input markets high, while the costs of reaching such agreements are low. The NCAA moved from on-the-field rules standardization and enforcement to collusive product and input market agreements.
3. Profits are the prime motive behind cartel actions. The NCAA has consistently adopted rules intended to enhance member revenues and profits (properly measured). These rules include the restraints on televised appearances as well as the restrictions on the eligibility and compensation of athletes.
4. Increases in demand for a cartel's product encourage more firms to join the cartel. Over this century more universities have undertaken athletic programs and NCAA membership has grown rapidly.
5. Successful input market cartels require a relatively inelastic supply of labor. Young athletes, the NCAA's primary input, have few alternative opportunities and to date are unorganized.
6. Increases in demand imply higher profits and more rent from restricted inputs. Over the century, NCAA revenues have grown rapidly, especially since about 1970. Over the

same period, athlete compensation has remained nearly constant in real terms.

7. Long-term success by a cartel requires barriers to new entry and competition. The NCAA has benefited from the "lumpiness" of entry into the organization of college athletics, that is, the need for many firms to agree to compete before a viable season for an alternative league can be scheduled. Also, recent state legislative restrictions on agents and alumni have given legal force to some NCAA restraints.
8. Higher cartel-wide profits encourage more intracartel rivalry. The years since 1970 have seen a breakdown of the NCAA television package, formation of Division IA/IAA, formation of the CFA, and the signing of an individual network television package by Notre Dame.
9. Much of the intracartel competition takes place in unregulated activities. While prohibited payments to athletes are made, the size of these expenditures is dwarfed by expenditures on physical and brand-name capital by member schools.
10. Cartel enforcement will most often proceed by the use of probabilistic evidence. The NCAA does not have a large enough staff for direct surveillance. Even with a larger staff, direct surveillance would be prohibitively costly. Therefore, the NCAA must rely on probabilistic evidence, such as on-the-field performance, to detect cheating on its rules.
11. The legislative and enforcement mechanism in a cartel will tend to be captured by the largest revenue producers. It seems apparent that some of the perennial winners and largest programs have successfully dominated the NCAA's internal processes.
12. Rivalry and firm self-interest will be apparent in struggles over newly proposed areas of collusion. In the NCAA, self-interest among schools is displayed in debates over such new issues as Propositions 48 and 42.