Legal Aspects of Competitive Construction Market Behavior—An Assessment in Support of VDOT's Antitrust Monitoring and Detection Effort

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In this paper is presented part of the first phase of an effort in support of the Virginia Department of Transportation's (VDOT's) recently created Antitrust Monitoring and Detection Unit within the Construction Division. Provided are background on the legal aspects of anticompetitive market behavior and the recent experience with bid rigging in the construction industry. This paper is a companion to a paper in this Record by Allen and Mills, *An Economic Framework for Understanding Collusive Market Behavior*. The purpose of the work is to provide a framework for empirical studies of highway construction markets. The second-phase work will also support VDOT in its evaluation of collusion detection models, the ultimate goal of which is to establish a comprehensive antitrust monitoring and detection system for use by the Construction Division of VDOT. This report has three sections. The first describes major aspects of antitrust law that affect the highway construction industry. The second section is a summary of recent experience with bid rigging. The final section presents a number of proposals for hindering collusive behavior and detecting antitrust violations.

National experience in the early 1980s showed that collusive activity among bidders on highway projects can present serious barriers to an effective construction program.

The large number of highway projects Virginia has planned for the next decade will pressure the construction industry to expand rapidly. It is, therefore, particularly important that the Virginia Department of Transportation (VDOT) develop and implement effective methods to ensure competitive bidding. As part of such an effort, VDOT established a small unit within the construction division dedicated solely to bid monitoring and collusion detection. In addition, the Virginia Transportation Research Council (VTRC) has undertaken a program of applied research in support of that effort.

PURPOSE AND SCOPE

The authors of this paper present part of the research from the first phase of that supportive effort by providing background on the legal aspects of anticompetitive market behavior, as well as recent experience with bid rigging in the construction industry. The paper is a companion to a paper in this Record by Allen and Mills, *An Economic Framework for Understanding Collusive Market Behavior*. The purpose of the work is to provide a framework for a second phase, which will be an empirical study of the highway construction industry in Virginia. In addition, the second-phase work will support VDOT in its evaluation of collusion detection models, the ultimate goal of which is to establish a comprehensive antitrust monitoring and detection system for use by the construction division of VDOT.

This paper has three sections. The first describes major aspects of antitrust law as they affect the highway construction industry. The second section consists of a summary of recent experience with bid rigging. The final section presents a number of proposals for hindering collusive behavior and detecting antitrust violations.

LEGAL ASPECTS OF ANTICOMPETITIVE BEHAVIOR

Background

Economic inquiry is useful for understanding the causes and effects of anticompetitive behavior, whereas the legal system is concerned with providing the proper incentives to deter such behavior and the remedies for those injured by it. This section is an overview of federal antitrust law and its application to the highway construction industry.

The most significant antitrust provision is the Sherman Act of 1890. (15 U.S.C. §§ 1-7 [1973 & Supp. 1988]). Section 1 of the act is of primary importance to the highway construction bidding process and, in general terms, prohibits concerted action in restraint of trade. An obvious example of a Section 1 violation is a conspiracy among contractors to rig bids.

In addition to Section 1, the substantive federal antitrust statutes include Section 2 of the Sherman Act (15 U.S.C. 2 [Supp. 1988]), the Clayton Act of 1914 (15 U.S.C. §§ 12-27 [1973 & Supp. 1988]), and the Federal Trade Commission Act of 1914 (15 U.S.C. §§ 41-44 [1973 & Supp. 1988]). Section 2 of the Sherman Act prohibits the restriction of competition through monopolization or attempted monopolization. The Clayton Act of 1914 was intended to fill loopholes in the broad wording of Section 2 and to deal with incipient threats to competition that Section 2 may not reach. (*United States v. Penn-Olin Chemical Co.*, 378 U.S. 158 [1964]). The Federal Trade Commission Act is a sweeping provision that grants

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jurisdiction to the Federal Trade Commission to deal with a broad range of unfair methods of competition. A discussion of the applicability of these statutes to the highway construction industry is provided in the sections that follow.

The wording of the antitrust laws is broad and does not provide much guidance for their application to specific business practices. The Sherman Act is particularly vague and authorizes civil remedies and criminal penalties with brief phrases that define both the prescribed conduct and the jurisdictional reach in the most general of terms. (See *United States v. United States Gypsum Co.*, 438 U.S. 422 [1978]). The legislative history shows that the legislators recognized that the courts would have a significant role in shaping the scope of the act. However, after nearly a century of judicial elaboration on the antitrust statutes, clear rules for applying the laws have not been developed, and "open-ended and fact-specific standards" continue to be applied to determine liability. (Id., at 438).

Restraints of Trade: Section 1 of the Sherman Act

In 1890, Congress passed the Sherman Act, which according to the Supreme Court was intended to be a codification of common law principles concerning restraints of trade. (*Standard Oil Co. v. United States*, 221 U.S. 1, 60 [1911]). Section 1 of the act states that "[e]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations, is declared to be illegal." (15 U.S.C. 1). The Supreme Court has made it clear that the clear intent of the Act is to protect competition in the marketplace, notwithstanding economic theories to the contrary. (*Northern Pacific Railway v. United States*, 356 U.S. 14 [1958]).

Three elements must be proven to establish a Section 1 violation: (a) a contract, combination, or conspiracy among two or more separate entities, (b) an unreasonable restraint of trade, and (c) an agreement that is in or affects interstate or foreign commerce.

Contract, Combination, or Conspiracy

The crux of a Section 1 violation is concerted action that restrains trade. The terms "contract," "combination," and "conspiracy" have been given slightly different meanings under Section 1 than the meanings used in other areas of the law. (*Pearl Brewing Co. v. Anheuser-Busch, Inc.*, 339 F. Supp. 945, 950 [1972]). Although each of the terms has slightly different definitions, the essential element of each is "conscious commitment to a common scheme or to some type of joint action." (Id. at 951). The statute does not cover independent behavior by separate entities no matter how anticompetitive the behavior. (*Modern Home Institute, Inc. v. Hartford Accident and Indemnity Co.*, 513 F.2d 102, 108 [2d Cir. 1975]).

In cases involving intraenterprise agreements, the issue is whether different parts of the same firm are capable of conspiring. In *Copperweld Corp. v. Independence Tube Corp.* (467 U.S. 752 [1984]), the Supreme Court held that a corporation and its wholly owned subsidiary were incapable of conspiring because they had common economic purposes.

Since *Copperweld*, the law is not clear as to the ability of a parent company to conspire with a subsidiary it does not completely own. In addition, courts' decisions are split as to whether affiliates of a common parent company are capable of conspiring. (See *Antitrust Law Developments* [2d ed.], First Supplement 1983–1986 at 6). The relevant inquiry in any such case is, of course, whether the "collaborators" had independent economic interests that would be considered in competition in the absence of an agreement. If competition would not be found even in the absence of agreement, Section 1 is not applicable.

Proving Restraints Are Unreasonable

The courts use two types of analysis to determine whether a restraint is unreasonable: the rule of reason and the per se rule. The rule of reason is the prevailing standard of analysis under Section 1. (*Continental T.V., Inc. v. GTE Sylvania*, 433 U.S. 36, 49 [1977]). This method is used when the challenged restraint is such that its effect on competition cannot be evaluated without considering "the facts peculiar to the business, the history of the restraint, and the reasons why it was imposed." (*National Society of Professional Engineers v. United States*, 435 U.S. 679, 692 [1978]).

Per se analysis is appropriate when the challenged activity is inherently anticompetitive and when the inquiry into the harmfulness of the activity would be difficult and uncertain.

Rule of Reason

The courts generally use a three-step analysis in rule of reason cases (Areeda, *Antitrust Law*, ¶ 1502 [1986]). First, the plaintiff must show that competition in a specified market has been restrained by the collaborators' activities. Once this threshold has been reached, the burden shifts to the collaborators to show that they imposed the restraint with legitimate objectives in mind—in other words, that the restraint has significant redeeming virtues. If the collaborators meet this burden, the plaintiff can still prevail by showing that the legitimate objectives could have been achieved with fewer anticompetitive effects. By this point, most cases will have been resolved one way or the other. If not, the procompetitive effects are weighed against the anticompetitive effects to determine whether the restraint is, on balance, reasonable. (See also, *Chicago Board of Trade v. United States*, 246 U.S. 231, 238 [1918]).

Per Se Rule

The per se rule condemns certain classes of activities that "because of their pernicious effect on competition and lack of any redeeming virtue, are conclusively presumed to be unreasonable and therefore illegal without inquiry as to the precise harm they have caused or the business excuse for their use" (*Northern Pacific Railway*, 356 U.S. at 4 [1958]). The categories of practices that have been held to be per se violations of Section 1 include horizontal price fixing (*United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150 [1940]); division of markets (*United States v. Addyston Pipe and Steel Co.*, 85 F. 271 [6th Cir. 1898], *affirmed* 175 U.S. 211 [1899]); and bid rigging (*United States v. Portsmouth Paving Corp.*, 694 F.2d 312 [4th Cir. 1982]).

Because the per se rule prohibits entire classes of behavior without analysis of the nature and extent of the resulting harm, it presents the possibility of deterring procompetitive behavior unless its application is limited precisely to those practices that have been shown to be "plainly" or "manifestly" anticompetitive. (*Broadcast Music, Inc. v. Columbia Broadcasting System, Inc.*, 441 U.S. 1, 8 [1979]).

Even though the per se rule may prohibit some commercial practices that have no harmful effect, it is appropriate because such practices are neither common nor important enough to justify the time and expense of trying to identify them. Moreover, the per se rule is a strong deterrent because the prohibited activities are defined with certainty. Nevertheless, it should be noted that the per se rule and the rule of reason are variations on a single theme: the search for competitive effects. Recent cases exhibit an emphasis on the parallel nature of these two modes of analysis. For example, in *NCAA v. Board of Regents*, 104 S. Ct. 2948 (1984), the Supreme Court refused to hold that a horizontal restraint on output is a per se violation of Section 1. The Court applied a rule of reason analysis, noting that "there is, after all, no bright line separating per se analysis from the rule of reason." (Id. at 2962 n.626). Because the restraints were deemed necessary to the marketing of the product (televised college football games), the defendants were allowed to present evidence in justification of the restraints. Whether *NCAA* signals a further convergence of the per se rule with the rule of reason is not clear. (See *Antitrust Law Developments*, First Supplement, pp. 15–16).

Interstate Commerce

The third element of a Sherman Act violation is that the challenged restraint be in or affect interstate or foreign commerce. (See *Goldfarb v. Virginia*, 421 U.S. 773 [1975] ["in commerce"] and *McLain v. Real Estate Board*, 444 U.S. 232 [1980] ["affecting commerce"]). This element derives from the Commerce Clause of the United States Constitution and is necessary to obtain federal subject-matter jurisdiction over a particular case.

Most antitrust cases in the highway construction industry involve paving companies that are local businesses. For this reason, most highway bid rigging cases proceed under the "affecting commerce" theory. However, because the indictments (or, in civil cases, the complaints) generally allege facts that purportedly would support both jurisdictional theories, it is often not clear from the cases which theory is being used or whether both tests are satisfied. (See, e.g., *United States v. Metropolitan Enterprises, Inc.*, 728 F.2d 444 [10th Cir. 1984]). At any rate, the key "analytical focus continues to be on the nexus, assessed in practical terms, between interstate commerce and the challenged activity." (*Crane v. Intermountain Health Care*, 637 F.2d 715, 724 [10th Cir. 1981]).

Monopolization: Section 2 of the Sherman Act

Section 2 of the Sherman Act provides in part that "[e]very person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several states, or with foreign nations, shall be deemed guilty of a felony. . . ." (15 U.S.C. 2).

Section 1 of the Sherman Act is concerned with concerted action in restraint of trade by more than one person or firm, whereas Section 2 is intended to prevent anticompetitive behavior by the single dominant firm with the market power to control prices or to limit competition. Section 2 prohibits monopolization and attempted monopolization. Two elements are necessary to establish a monopolization offense: "(1) the possession of monopoly power in the relevant market, and (2) willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident." (*United States v. Grinnel Corp.*, 384 U.S. 563 [1966]).

A notable aspect of Section 2 is the use of the word "monopolize" rather than "monopoly." The distinction is important because Section 2 does not prohibit the possession of monopoly power; rather, the statute is designed to prevent firms from engaging in activities intended to smother competition. Section 2 also prohibits a dominant firm from wielding its monopoly power to unfair advantage, even when its monopoly power was gained through legitimate means. (*Berkey Photo, Inc. v. Eastman Kodak Company*, 603 F.2d 263 [2d Cir. 1979]).

The distinction between "monopolize" and "monopoly" underscores the fundamental tension—one might almost say the paradox—that is near the heart of Section 2. On the one hand, the goal of Section 2 is to prevent a stifling of competition by a dominant firm. On the other hand, the intent of the statute is also to encourage firms to use their expertise to improve their competitive position through innovation and hard work. Distinguishing between aggressively competitive behavior and the type of behavior prohibited by Section 2 is often difficult.

Monopolization cases draw heavily on the sophisticated economic theories of industrial organization; however, a thorough discussion of these theories and their application to the law of monopolization is beyond the scope of this paper. The purpose here is to provide a brief introduction to the legal system's approach to monopoly power.

Mergers: Section 7 of the Clayton Act

Section 7 of the Clayton Act states "[t]hat no person engaged in commerce" shall acquire the assets or stock of another person or firm where "the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly." (15 U.S.C. 18). "The grand design of the original Section, as to stock acquisitions, as well as the Celler-Kefauver Amendment, as to the acquisition of assets, was to arrest incipient threats to competition which the Sherman Act did not reach." (*United States v. Penn-Olin Chemical Co.*, 378 U.S. 158, 170-71 [1964]). The wording of the statute and subsequent judicial interpretations make it clear that the Clayton Act is concerned with activities that present a reasonable likelihood of a substantial lessening of competition or that may have a tendency toward monopoly. Because the statute is designed to reach incipient threats, the standard of liability is lower than under the Sherman Act.

As with Section 2 of the Sherman Act, evaluation of anticompetitive effects under Section 7 of the Clayton Act requires an economic analysis of the challenged practice in the context of the relevant market. Such an analysis is even more difficult under Section 7 than under the Sherman Act because although the Sherman Act deals with behavior with demonstrated anticompetitive impact or that is blatantly anticompetitive (e.g., predatory pricing), Section 7 requires a prediction of the effect of the challenged practice. "Such a prediction is sound only if based upon a firm understanding of the structure of the relevant market; yet the relevant economic data are both complex and elusive." (*United States v. Philadelphia National Bank*, 374 U.S. 321, 362 [1963]).

APPLICATION OF THE ANTITRUST LAWS TO SPECIFIC BUSINESS PRACTICES

This section presents a discussion of the application of the antitrust laws to specific business practices of relevance to the construction industry. The list of practices is not intended to be comprehensive but rather to illustrate certain principles and help the reader understand how the laws relate to conduct that may have anticompetitive effects. An understanding of the basic principles will help the reader to identify patterns and practices that may indicate antitrust violations.

As a general matter, it is important to categorize correctly a given restraint as horizontal or vertical. Correct categorization is important because horizontal restraints are more likely to be held per se unlawful than vertical restraints. (*White Motor Co. v. United States*, 372 U.S. 253, 263 [1963]). Vertical restraints often offer procompetitive benefits that must be weighed under a rule of reason analysis (*Continental T.V., Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36 [1977]), whereas arrangements among competitors in horizontal relationships are frequently "naked restraints of trade with no purpose except stifling competition." (*White Motor Co.*, 372 U.S. at 263). The anticompetitive practices of direct relevance to the construction project bidding process generally involve horizontal restraints. This section discusses the application of antitrust laws under such conditions.

Price Fixing

Protection against conspiratorial price fixing "is an object of special solicitude under the antitrust laws" (*United States v. General Motors Corp.*, 382 U.S. 127, 148 [1966]), and the Supreme Court has repeatedly found to be per se unlawful those arrangements that either directly or indirectly restrain price competition. (See, e.g., *United States v. Trenton Potteries Co.*, 273 U.S. 392 [1927][Direct price fixing] and *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150 [1940][Indirect price fixing]).

It is important to note that although conspiratorial price fixing has generally been condemned by the courts, not all restraints on price competition are per se unlawful or even unreasonable restraints under the Sherman Act. The Supreme Court has noted that in some cases, horizontal restraints on price competition are necessary if the product whose distribution is restrained is to be offered at all. (*NCAA v. Board of Regents of the University of Oklahoma*, 104 S. Ct. 2498). In *NCAA*, the Court decided that restraints on the type of television rights offered by member universities and on the prices to be charged for those rights did not constitute a per se violation of the Sherman Act. The particular restraints imposed by the NCAA were analyzed under the rule of reason and found to be unlawful, but the Court recognized that some restraints may be needed if college sports are to be televised at all.

Cases such as *NCAA*, in which price fixing arrangements were analyzed under the rule of reason rather than the per se rule, are exceptional. The use of rule of reason analysis in price fixing is limited to certain industries in which some sort of price restraint is needed if the particular product or service is to be offered in a competitive environment. The per se rule is the principal mode of analysis in which the challenged restraint has either the purpose or effect of limiting price competition. (ABA Antitrust Section, *Antitrust Law Developments* [2d ed. 1984], p. 30).

Market Allocation

Market division among competitors was held to be a violation of the Sherman Act in *Addyston Steel & Pipe*, 85 F. 271 (6th Cir. 1898), *modified and aff'd*, 175 U.S. 211 (1899). In the years following *Addyston*, the Supreme Court stated repeatedly that market division was per se unlawful, but those cases always involved market division accompanied by price fixing, by significant market power on the part of the defendants, or by both. It was not until 1972 that the Supreme Court made clear that market division is a per se violation of Section 1, whether or not accompanied by price fixing and whether or not the conspirators have the market power needed to have a significant impact on the relevant market. (*United States v. Topco Associates, Inc.*, 405 U.S. 593 [1972]).

Topco was the most significant in that the opinion recognized that the courts are not competent to determine whether a restriction of competition in one sector of the market is justified because it is outweighed by an enhancement of competition in another sector. The fact that an arrangement improved competition by facilitating entry into a particular market or by providing other economies of scale is irrelevant if the arrangement had the effect of precluding firms from competing for the same market.

Defendants in market allocation cases will often try to avoid per se categorization by describing the market allocation scheme as something other than territorial allocation. For example, in *COMPACT v. Metropolitan Government of Nashville & Davidson City*, 594 F. Supp. 1567 (M.D. Tenn. 1984), a group of architectural firms had agreed to refrain from competing against each other on certain types of contracts offered by the city government. The designated city contracts were to be allocated to a joint venture comprised of the participating firms. The conspirators described the scheme as "subject matter" allocation, but the court stated that the firms could not avoid the antitrust laws through an amorphous definition and, regardless of the semantic characterization, a horizontal allocation of any element of the market for which businessmen or professionals compete represents a per se violation of the Sherman Act.

Joint Ventures

Treatment of joint ventures under the antitrust laws is complicated by the lack of a clear definition of "joint ventures" and by a lack of consensus regarding the anticompetitive effects of joint ventures. (See Brodley, *Joint Ventures and Antitrust Policy, 95 Harv. L. Rev.* 1521 [1982]).

Joint ventures take a variety of forms. Some are created for a single project such as when two contractors combine to submit a joint bid on a particular highway project. Others are long-term arrangements for the development, production, and marketing of products or services, but they present difficult problems of analysis because they often offer both procompetitive and anticompetitive effects. Joint ventures often enhance competition by enabling the participants to combine resources to develop new technologies or enter new markets. Joint ventures also have the potential for hindering competition. By any definition, a joint venture is formed by two or more separate business entities who would otherwise be acting independently and often in competition with each other. By combining to form a joint venture, the parent firms partially unite their economic interest, ensuring that competition between them is reduced or eliminated.

Joint venture arrangements of relevance to the construction industry are subject to challenge under both Section 1 of the Sherman Act and Section 7 of the Clayton Act. However, joint ventures are traditionally analyzed under the rule of reason. The analysis focuses on the structure of the joint venture, the conduct and intent of the participants, and the resulting impact on competition. The variables of relevance include the size of the joint venture and the market share held by the participants, the contributions of each joint venturer and the benefits received, the likelihood that any of the individual companies would have the capability or inclination to undertake a similar project in the absence of the joint venture, the nature of any ancillary restraints imposed by the joint venture agreement, and the reasonableness of those restraints.

While rule of reason is the prevailing mode of analysis in joint venture cases, the courts often apply the per se rule if the venture is found to have elements that fall within the categories of restraint that have been held per se unlawful. A joint venture is more likely to be a per se violation if the individual participants are restricted from making independent marketing and production decisions. (See, e.g., *COMPACT v. Metropolitan Government of Nashville and Davidson City*, 592 F. Supp. 1567 [M.D. Tenn. 1984]).

Bid Rigging

The term "bid rigging" refers to any "agreement between competitors pursuant to which contract offers are to be submitted to or withheld from a third party" (*United States v. Portsmouth Paving*, 694 F.2d 312, 325 [4th Cir. 1982]). Such an agreement is per se violative of Section 1 of the Sherman Act. Bid rigging schemes may involve price fixing, market allocation, or a combination of these and other acts, but the common element of all bid rigging schemes is that the element of competition is removed from the bidding process. By conspiring with competitors, a bidder can be assured that he or she will not be underbid. Because price is the only criterion for choosing among qualified contractors on government-funded projects, the bid rigger is assured of getting the contract even when he or she charges supracompetitive prices.

Following is a description of some practices that have been condemned by courts as bid rigging. The list is not exhaustive because the design of bid rigging schemes is limited only by the imagination of the participants. The important thing to remember is that if an arrangement among competitors gives a bidder the knowledge that he or she can inflate his or her bid above competitive levels and still be low bidder, that arrangement will constitute bid rigging and will be a per se violation of antitrust laws. (See, e.g., *United States v. Brinkley and Sons Construction Co.*, 1986-1 Trade Cases CCH, 66,963 [4th Cir. 1986]). Also, any practice, such as complementary bidding, that makes uncompetitive bidding easier or more effective is probably a per se violation.

Working Out the Job

"Working out" a job is probably the most basic form of bid rigging. To work out a job, a contractor determines who his or her likely competitors are on a particular job and then finds a way of either convincing them not to underbid him or her or to give him or her something in return for not bidding against them. (*United States v. Ashland-Warren, Inc.*, 507 F. Supp. 433, 438 [M.D. Tenn. 1982]). State bidding procedures facilitate this practice by publishing a list of the contractors who "pulled" or obtained proposals for a given job. This list tells the contractor who his potential competitors are. If the contractor is unable to work out the job, he will normally notify the previously contacted competitors that the bid rigging scheme is off and that the job will be "bid hard" or "bid the hard way." In some cases, a contractor will work out a deal with the firms he or she feels are his or her toughest competitors and will then attempt to underbid the other potential bidders. (See, e.g., *United States v. Metropolitan Enterprises, Inc.*, 728 F.2d 444 [10th Cir. 1984]). Such a scheme would have an advantage in that the conspiracy would involve a smaller, more manageable group, which would promote reliability among the participants and make detection of the collusion more difficult.

Bid riggers use various methods to persuade other competitors not to "bid the hard way." These methods may include payoffs (*United States v. Young Brothers, Inc.*, 728 F.2d 682 [5th Cir. 1984]), agreements to grant subcontracts (*Metropolitan Enterprises*, 728 F. 2d 444), or promises not to compete on future jobs (*Ashland-Warren*, 507 F. Supp. at 439). Contractors may also work out a job by calling in favors owed to them by competitors. Such entitlements, referred to as "having a marker out," are indefinite in nature and are often 2 or 3 years in coming. Bid rigging schemes may also involve trading jobs on the same bid letting. The trading may be job-for-job, tonnage-for-tonnage, or dollar-for-dollar.

Bid Rotation

Although many bid rigging schemes involve working out specific jobs, bid rotation conspiracies are continuing arrangements in which the conspirators take turns being low bidder. The method of selecting the low bidder will vary from one bid rotation scheme to another, and many such schemes attempt to equalize the dollar amount of work among the participants, whereas others may be set up to proportion the work according to the size of the various firms involved in the conspiracy.

Market Allocation

Highway construction markets are often allocated by territory (See, e.g., *United States v. Koppers Co., Inc.*, 1981-1 Trade Cases [CCH] ¶ 64,134 [2d Cir. 1980]). The defendants in *Koppers* were two surface-treatment contractors who engaged in a conspiracy to allocate territories in Connecticut. One of the contractors had its facilities in the eastern part of the state, and the other was based in the western part of the state. The defendants agreed that each would always be low bidder in its region. To accomplish this end, the conspirators developed a system that involved communicating their base costs to the other. Because the two firms were based at opposite ends of the state, the use of common base prices allowed each to be low bidder in its region because it would have lower transportation costs. The scheme also involved the submission of artificially high complementary bids by the "losing" bidder on each job in order to convince state procurement officials that the job had been bid competitively.

United States v. Portsmouth Paving Corp., 694 F.2d 312 (4th Cir. 1982), involved a bid rigging scheme that combined market allocation with other bid rigging techniques. The defendants in *Portsmouth Paving* engaged in a conspiracy to allocate the paving markets in the Tidewater region in Virginia. The conspiracy involved paving work in Virginia Beach, Norfolk, Portsmouth, and Chesapeake whereby the Virginia Beach work would be done by the Virginia Beach contractors, and the work in the other three cities would be done by the other conspirators. Within these allocated markets, the conspirators would use various methods to distribute the contracts among the firms.

The government argued in *Portsmouth Paving* that the goal of the market allocation scheme was to prevent the occasional outbreak of competitive bidding in one market from affecting the prices in the other markets. Without such protection, low prices in one region would lead to lower prices in adjacent regions and the resulting "domino effect" would eventually affect even the most distant member of the conspiracy.

The defendants argued that such a domino effect would not occur because it was not economically feasible for contractors in Portsmouth, for example, to compete against the Virginia Beach firms for work in Virginia Beach because of the increased cost of trying to transport hot asphalt from Portsmouth to Virginia Beach. Therefore, even if prices in Portsmouth were to decrease, the defendants argued, prices in Virginia Beach would not be affected because the Portsmouth contractors were not in competition with the Virginia Beach contractors. The court, however, rejected the defendant's argument and found that the evidence supported a finding of market allocation.

Subcontracts

Although using competitors as subcontractors is not illegal per se, it is often necessary to consider whether such subcontracts are the result of collusion. In *Metropolitan Enterprises*, a contractor convinced a competitor not to bid against him on a package of construction contracts that were simultaneously let for bids by the state of Oklahoma. Oklahoma procurement regulations allowed the use of "tie bidding," which means that contractors had the choice of either bidding individual sections of highway work or to try bidding low on a combination of multiple sections. Broce Construction Company convinced Metropolitan Enterprises not to bid competitively for any of the work by agreeing to subcontract to Metropolitan one of the sections included in its tie bid. The court held that such a subcontract is not illegal per se but that a jury could decide whether the subcontract was a product of conspiracy, in which case the arrangement would violate Section 1 of the Sherman Act.

Complementary Bidding

Complementary bidding is the practice of submitting artificially high bids with the knowledge that someone else will be the low bidder. The purpose of complementary bidding is to convince the procurement officials that a job has been competitively bid as required by state procurement regulations. By creating the illusion of competition, the complementary bidders can ensure that the contract will be awarded to the low bidder chosen by the conspiracy. Conspirators will "even feign disappointment at bid openings when their bids, which they knew to be high, were unsuccessful." (Brief for Appellant United States of America, *United States v. Portsmouth Paving Corp.*, 694 F.2d 312 [4th Cir. 1982]).

Contractors will provide incentives to competitors to submit complementary bids by offering payoffs, promises of subcontracts, or other return favors. Sometimes a firm will receive complementary bids in its favor automatically because, for example, it has its asphalt plant closest to the job site. (*Ashland-Warren, Inc.*, 507 F. Supp. at 439 [M.D. Tenn. 1982]). Such a practice would be part of a tacit, or express, agreement that the conspiring firms would maximize profits by giving each job to the firm with the lowest cost for that job. Whatever the benefits the complementary bidder may receive in return for his or her bid, the practice is per se violative of the antitrust laws.

Request for a "Safe" Bid

In *Brinkley and Sons Construction Co.*, a contractor was convicted under Section 1 of the Sherman Act simply because he contacted a competitor and requested a "safe" number to bid in order to avoid underbidding that competitor. The contractor was convicted even though he decided not to submit a complementary bid. The court held that the request for a safe bid communicated to the competitor that he could inflate his bid without worrying that he would not be competitive. The communication of this knowledge was sufficient to constitute bid rigging and was per se violative of Section 1. (1986-1 Trade Cases CCH, at 61, 924).

Monopolistic Acts

Once a firm gains monopoly power in a given market, it can maintain that power though various acts such as predatory pricing, refusals to deal, or price discrimination. The use of such practices is prohibited by Section 2 of the Sherman Act, and attempts to gain such power through vertical or horizontal integration are subject to scrutiny under both Section 2 of the Sherman Act and Section 7 of the Clayton Act.

The case of *Arther S. Langenderfer, Inc. v. S. E. Johnson*

Co., 1984-1 Trade Cases (CCH ¶ 65,905 [6th Cir. 1984]) illustrates the application of the statutes to the highway construction industry. *Langenderfer* was a civil action between rival paving contractors in Ohio. Langenderfer accused Johnson of unlawfully acquiring monopoly power in the northwest Ohio paving market and of wielding that power to exclude competitors from the market.

S. E. Johnson Co. was established in 1929, and by 1956, when founder Sherman Johnson died, had grown to be the largest asphalt paving contractor in northwest Ohio. Johnson's successor, defendant John Kirby, embarked on an ambitious expansion program during which S. E. Johnson's operation grew from 2 quarries and 3 hot-mix plants to 7 quarries, 14 hot-mix plants, and 3 sand pits. The horizontal acquisitions eliminated much of the competition in the paving market, and the vertical acquisitions gave Johnson "a captive supply of stone and sand for its asphalt paving jobs. Furthermore, defendants became primary stone suppliers for the remaining asphalt paving competitors who did not own conveniently located quarries." (Id. at 67,864). As the size of the operation grew, so did the firm's profitability.

The crux of Langenderfer's complaint was that Johnson was excluding competition by bidding artificially low until competitors were driven out (better known as "predatory pricing"). Langenderfer claimed that the size of Johnson's company was such that he could afford to sacrifice short-term profits until competition was eliminated, at which time he could raise prices and reap monopoly profits. Langenderfer also claimed that the acquisitions through which S. E. Johnson allegedly gained monopoly power were in violation of the Clayton Act.

Langenderfer presented extensive expert testimony concerning the predatory nature of S. E. Johnson's conduct. After discussing the various economic tests the courts have applied in such cases (see, e.g., A. S. Turner, *Predatory Pricing and Related Practices under Section 2 of the Sherman Act*, 88 *Harv. L. Rev.* 697 [1975]), the court held that the evidence of predatory pricing was insufficient to constitute a monopolization or attempted monopolization under Section 2 of the Sherman Act.

The *Langenderfer* case illustrates the complexity of litigation in monopolization cases. The case also shows why predatory pricing may not be common practice. In order for such a scheme to work, two important conditions must hold: (a) the monopolist must be willing to lose money long enough to drive competitors out of the market, and (b) once monopoly power is achieved, the monopolist must be able to charge high enough prices to recoup his or her losses without attracting new competition. The relevance of monopolization doctrine to the Virginia highway construction industry is difficult to gauge without further study into the actual structure of the market, the costs of entering new markets, and so on.

RECENT BID RIGGING CASES: DETECTING AND PROVING ANTITRUST VIOLATIONS

From 1980 through 1986, the U.S. Department of Justice filed 291 indictments for Section 1 violations by highway construction contractors. (Trade Reg. Rep. [CCH], ¶ 45,070-45,086). Most of the indictments resulted in either guilty or nolo contendre pleas. The indictments were the result of the largest investigation of an industry's anticompetitive behavior in U.S. history and was reportedly instigated by a comment made by a confessed conspirator during a federal investigation of alleged bid rigging at O'Hare Airport in Chicago. (*Washington Post*, Aug. 5, 1982, at A1). During an interview with U.S. Department of Transportation investigators, the conspirator noted, "If you think this is bad, you should go to Tennessee." The investigators went to Tennessee and found numerous antitrust violations by highway contractors. This discovery led, in turn, to investigations in several other states.

Whether or not this is an accurate account of the beginning of the investigation, it illustrates the nonscientific manner in which many violations are detected. Once investigators identify a market where collusion is suspected, they will attempt to obtain direct testimony regarding the existence of an illegal agreement among competitors. Participants in conspiracies often provide such testimony pursuant to plea agreements with prosecutors. The key is to induce the first witness to testify. Once the members of the conspiracy are identified through direct testimony, obtaining guilty pleas or convictions is relatively straightforward. The methods of inducing testimony will of course vary according to the facts in each case, but an example of one method used by investigators is to interrogate suspected conspirators before a grand jury until one conspirator is caught in a lie or inconsistency. Once a witness is caught lying before the grand jury, the investigators wield considerable leverage on him.

Although many of the cases rely almost entirely on the direct testimony of witnesses, courts also consider circumstantial evidence that an illegal agreement was reached. In fact, in *United States v. Finis P. Ernest, Inc.*, 509 F.2d 1256 (7th Cir. 1975), a conviction under Section 1 was upheld solely on circumstantial evidence. The next section is a review of the types of circumstantial evidence considered relevant by the courts in bid rigging cases.

Parallel Behavior Among Competitors

When the firms comprising a particular market recognize their economic interdependence, cartel-like behavior may result, even in the absence of formal agreements to collude. This noncompetitive behavior may arise through a rational assessment of the consequences of pricing decisions taking into account the probable reaction of competitors. (Turner, *The Definition of Agreement Under the Sherman Act: Conscious Parallelism, and Refusals to Deal, 75 Harv. L. Rev. 655* [1962]). Such consciously parallel behavior is not illegal by itself, but parallel behavior, whether conscious or not, may be circumstantial evidence of an agreement, especially when viewed in conjunction with additional factors such as identical prices on sealed bids or line items of bids. (See, *Theatre Enterprises, Inc. v. Paramount Film Distributing Corp.*, 438 U.S. 537 [1954] and ABA Antitrust Section, *Antitrust Law Developments* 3 [2d ed. 1984]).

The probative value of parallel behavior varies according to the facts of a case, but the inference to be drawn from such behavior is relatively weak in oligopolistic markets in which competitors are strongly interdependent and have good information about each other's actions. On the other hand, parallel behavior gives rise to a strong inference of agreement when the market is diverse, when the products involved are nonstandard, when labor or overhead is a large component of the project cost, or when similar conditions that would normally lead to price variations among competitors are present. Identical, or very similar, prices on line items of sealed bids are one of the clearest indicators of collusion.

The Relevance of Market Definition

Market definition often plays a key role in antitrust litigation. In order to show that a challenged practice exerts an unreasonable restraint on trade or commerce, it is necessary to define the market where that trade or commerce occurs. In bid rigging cases, market definition can be used as circumstantial evidence of the existence or absence of a conspiracy. However, the value of this circumstantial evidence may be more important to the detection of collusion than to the actual litigation of cases. For this reason, the issue is not often addressed in the cases.

The issue of market definition is often raised by defendants in bid rigging cases to show that they were not in competition with their alleged coconspirators and therefore had no reason to collude with them. (See, e.g., *United States v. Portsmouth Paving Corp.*, 694 F.2d 312 [4th Cir. 1982] and *United States v. Ashland-Warren, Inc.*, 537 F. Supp. 433 [M.D. Tenn. 1982]). In *Portsmouth Paving*, the defendant attempted to present testimony by an expert witness regarding the definition of markets in the Tidewater area in Virginia. The expert testimony was intended to show that the defendant's bidding behavior was influenced by economic reality rather than by an agreement among competitors. The thrust of the expert testimony was that the market area of a paving contractor was, in large part, defined by the limited haul distance of hot asphalt. According to the defendant's expert, Portsmouth Paving almost always limited bids to the Portsmouth area because to compete outside Portsmouth, it would need to construct a new asphalt plant. This geographic limitation of bidding was not, they argued, the result of an agreement to allocate markets. The court in *Portsmouth Paving* refused to allow the testimony of the expert on the grounds that it was cumulative and would possibly be confusing to the jury. The court recognized that market areas were relevant and that the farther a contractor had to travel, the less competitive he or she would be. However, the court ruled that the argument was a common sense notion and that the jury could understand it without the aid of sophisticated economic analysis.

Market definition plays a less significant role in bid rigging cases than in other antitrust cases because it tends to show only the potential effectiveness of a bid rigging conspiracy. Because bid rigging is per se violative of federal and state antitrust laws, the government need not show that the defendants actually had the means to fix prices effectively, only that they engaged in the conspiracy. (Cf., *United States v. Socony-Vacuum Oil Co., Inc.*, 310 U.S. 150, 224 n. 59 [1940]). Another reason that market definition plays a relatively minor role in the actual litigation of bid rigging cases is that contractors may have an incentive to collude with firms with which they are not in direct competition. In *Portsmouth Paving*, the court apparently accepted the government's characterization of the "domino effect" that would occur if one market were to become competitive. The result that the bid riggers were trying to prevent, according to the government, was that low prices generated by competition in one region would cause low prices in the adjacent regions until the most remote member of the conspiracy was adversely affected. The court's opinion did not address the defendant's contention that such a domino effect would not occur because the alleged conspirators were not in competition.

An interesting aspect of the market definition arguments put forth by various defendants is the reliance placed on the limited haul distance of hot asphalt. The standard argument is that the expense of setting up new or relocated plants makes it economically infeasible to compete for work outside the firm's immediate area. In *Ashland-Warren*, a defendant's witness testified that certain types of asphalt plants could be relocated for $25,000 to $30,000 (in 1980). However, such an expense would probably not be prohibitive considering the fact that contractors would pay competitors upward of $80,000 to refrain from bidding. (See, e.g., *United States v. Allied Asphalt Paving Co.*, 451 F. Supp. 804 [1978]). If these figures have any accuracy at all, they indicate that the "limited" market areas for paving contractors may be attributable in part to the existence of well-developed job and market allocation networks as well as the physical limits on haul distance.

Trade Associations

The main purposes of trade associations are to educate and to exchange information among members of an industry. Trade associations enhance the performance of competitive markets by promoting new and better methods of conducting business. However, trade associations also provide competitors an opportunity to meet and discuss possible collusive activities. Such an exchange of information is generally considered vital to the continued success of a conspiracy (Hay, *Oligopoly, Shared Monopoly, and Antitrust Law, 67 Cornell L. Rev.* 439 [1982]). In fact, bid rigging cases will often mention the fact that the conspirator attended trade association functions at which the details of the conspiracies were worked out. (See, e.g., *United States v. Washita Construction Co.*, 789 F.2d 809 [10th Cir. 1986]). In *Washita*, the defendants had attended a cocktail party hosted by the local trade association the night before a bid letting at which negotiations were conducted concerning the allocation of jobs among the conspirators. The negotiations may have included subcontracts, promises not to compete in the future, or any other aspect that needed to be coordinated among the participants in the bid rigging scheme. Once a job was worked out, the designated low bidder would tell the complementary bidders what figure to bid above.

Trade association membership and attendance at trade association functions is considered relevant circumstantial evidence in bid rigging cases because of the opportunity for communication among conspirators, not because of any inherent tendencies of trade associations. (See, e.g., *United States v. Finis P. Ernest, Inc.*, 509 F.2d 1256 [7th Cir. 1975]).

CONCLUSIONS

The purpose of this paper was to summarize the legal aspects of competitive market behavior, provide a source document for use by highway agencies, and provide a framework for empirical study of highway construction markets.

Clearly, both legal and economic approaches to this subject are closely related, although they differ in focus. Economic inquiry focuses on the causes, effects, and characteristics of markets that exhibit anticompetitive behavior, whereas the legal system is concerned with deterring such behavior and with providing remedies for those injured by it.

The unifying theme of the two approaches is that the basic doctrines are general and that problems in the area of antitrust cannot be dealt with effectively without a thorough understanding of the specific markets and firms involved. It is clear that effective collusion detection and encouragement of competition require a thorough understanding of the construction industry. This goal can be achieved through empirical studies of markets to identify those in which competition may be enhanced and those that may be at greatest risk.

The opinions, findings, and conclusions expressed in this paper are those of the authors and not necessarily those of the sponsoring agencies.

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