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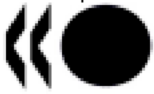

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DIRECTORATE FOR FINANCIAL, FISCAL AND ENTERPRISE AFFAIRS
COMMITTEE ON COMPETITION LAW AND POLICY

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ROUNDTABLE ON PRICE TRANSPARENCY

-- Note by the United States --

This note is submitted by the Delegation of the United States to the Committee on Competition Law and Policy FOR DISCUSSION at its forthcoming meeting to be held on 31 May-1 June 2001.

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Executive Summary

1. The United States antitrust agencies, the Federal Trade Commission ("FTC") and the Antitrust Division of the U.S. Department of Justice ("DOJ"), do not follow a set policy with regard to price transparency but analyze price transparency issues on a case-by-case basis. Price transparency can serve to increase or decrease competition and can yield efficiencies. Thus the agencies must attempt to balance any procompetitive and anticompetitive effects of changes in price transparency induced by their actions.

2. This submission describes matters in which the FTC and DOJ have encountered price transparency issues. These matters include cases dealing with: business-to-business (B2B) electronic exchanges, "most-favored-nation" (MFN) clauses, trade associations and price advertising restrictions, invitations to collude through price sharing, bid depositories, reference prices, and regulatory evasion. Two price-fixing cases brought by the DOJ–one involving the Airline Tariff Publishing Company and eight major domestic U.S. airlines, and the other against the Ivy League universities and the Massachusetts Institute of Technology (MIT)–are then discussed in greater detail. This collection of diverse contexts in which price transparency has been encountered illustrates that price transparency may have different effects in different settings.

Introduction

3. The United States antitrust agencies have encountered many price transparency issues while enforcing the antitrust laws and formulating antitrust policy. In general, the agencies do not follow a set policy with regard to price transparency but analyze price transparency issues on a case-by-case basis. Sometimes price transparency can increase competition by reducing consumers' search costs, allowing better comparisons among diverse products, facilitating entry or spurring innovation. In addition, price transparency may decrease production costs, foster beneficial collaboration, facilitate "benchmarking" or lead to other efficiencies. In other situations, however, price transparency may decrease competition by helping firms monitor defections from a collusive agreement and punish defectors. Thus the agencies must attempt to balance any procompetitive and anticompetitive effects of changes in price transparency induced by their actions.

4. The agencies' actions in different contexts have served both to increase and to decrease price transparency. The agencies have acted to increase price transparency in particular market circumstances where it appeared that transparency helped consumers to be informed or was otherwise important to the maintenance of competition. Agency actions increasing transparency include: 1) challenging trade associations' limitations on truthful, non-deceptive advertising or boycotts of publications advertising low prices; 2) challenging transactions that would increase the ability to manipulate a reference or benchmark price; and 3) challenging transactions that would hinder the ability of a regulator to observe input prices. On the other hand, the agencies have acted to decrease price transparency in other circumstances where it was thought that the increased risk of collusion or other threats to competition outweighed any benefits. Agency actions decreasing transparency include: 1) challenging certain MFN clauses; 2) challenging trade associations' use of reference schedules to maintain prices; 3) prosecuting invitations to collude through price sharing; and 4) challenging bid depositories. In addition, the agencies have dealt with price transparency on policy questions such as issues arising from the increasing prevalence of B2B electronic marketplaces.

5. Section 2 of the submission describes some matters in which the FTC has encountered issues of price transparency.[1] Section 3 describes transparency issues in two price-fixing cases brought by the DOJ,

one involving the Ivy League universities and MIT, and the other against the Airline Tariff Publishing Company and eight major domestic U.S. airlines.

Federal Trade Commission Cases and Policy

6. The FTC has encountered price transparency issues in policy debates and enforcement of the antitrust laws. One important policy debate has been on the formulation of antitrust policy toward B2B electronic exchanges. Computerized exchanges have the ability to organize and disseminate information widely and thus could increase price transparency. The FTC has sought to develop an antitrust policy under which B2Bs' increased information sharing and price transparency will be able to benefit consumers without reducing competition. Trade associations can work to increase or decrease price transparency. The FTC has issued complaints against health care associations, automobile and farm equipment dealers, and a music industry group alleging restrictions on price advertising. The FTC has also issued complaints alleging that trade associations in the health care industry and an interpreters' association were increasing prices by working to enforce adherence to some price reference. MFN clauses can serve to increase price transparency but can also reduce competition. The FTC has challenged MFN clauses in pharmacy networks and the petrochemical industry, but included an MFN clause in the consent agreement resolving a recent merger involving broadband access. Price sharing among competitors can increase price transparency and production efficiency, but also may be an invitation to collude. The FTC has issued complaints against price sharing between competitors in the linerboard, bearing, and zipper industries. Bid depositories can increase price transparency by forcing uniformity among subcontractors' bids to general contractors. The FTC issued a complaint in the electrical industry alleging that the bid depository reduced competition among subcontractors. The FTC has also sought a divestiture in a merger that threatened to increase the ability to manipulate an important price benchmark in the oil industry and entered into a consent agreement with a joint venture that threatened to decrease the transparency of input prices to a regulated electric utility. Each of these matters is discussed below.

Business-to-business (B2B) issues

7. B2Bs are business-to-business electronic market places using the Internet. Currently, B2Bs are estimated to handle billions of dollars in transactions, and they have been predicted to transform the way business is conducted in the twenty-first century. Given the potential economic importance of B2Bs and the ability of computerized marketplaces to control, organize, and disseminate information, B2Bs could have dramatic effects on competition and price transparency. To analyze the potential impacts of B2Bs, the Federal Trade Commission organized a workshop on June 29-30, 2000,[2] published a staff report,[3] and held a further workshop on May 7-8, 2001. The price transparency that B2Bs promote could prove either procompetitive or anticompetitive. B2Bs could reduce buyers' search costs, enabling buyers to find more suppliers able to meet their needs and allowing buyers to draw comparisons between diverse product and price offerings. B2Bs could also help suppliers find more potential customers, in some instances effectively creating new markets for selling hard-to-place goods such as used capital equipment or goods susceptible to expiration. B2Bs can also reduce administrative costs and maverick purchasing costs while increasing joint purchasing, systems integration, and other procompetitive collaborations. All these potential efficiencies must be weighed against the anticompetitive potential of B2Bs.

8. Participants in the FTC workshops identified five factors relevant to whether information-sharing agreements are likely to raise antitrust concerns: 1) whether the market being served is susceptible to collusion since this susceptibility would likely be exacerbated in an electronic marketplace because of increased price transparency, speed of interaction, and potential information sharing; 2) whether the parties sharing information in the B2B are competitors; 3) the type of information being shared–although sharing

of price information would likely raise concern, sharing of other information, e.g., information on direct input purchases, might also raise concerns; 4) the speed of the information sharing;[4] 5) whether the information is already available to the participants. These five factors can be used to assess whether a B2B is likely to facilitate collusion among the participants.

9. The first B2B venture reviewed by the Commission, named Covisint, was in the automotive industry supply chain. Covisint would provide assistance in product design, supply chain management, and procurement functions performed by auto manufacturers and their direct and indirect suppliers. The venture was formed by five competing automotive manufacturers and two information technology firms.[5] After analyzing the venture, the Commission closed the investigation in September 2000 but issued a letter to the parties stating:

> Because Covisint is in the early stages of its development and has not yet adopted bylaws, operating rules, or terms for participant access, because it is not yet operational, and in particular because it represents such a large share of the automobile market, we cannot say that implementation of the Covisint venture will not cause competitive concerns.[6]

10. The Commission reserved the right to take further action in the future as the venture becomes more developed if further action is warranted.[7]

Trade associations and price advertising restrictions

Trade associations can increase price transparency by facilitating the exchange of information among members and by enforcing standards in advertising. The Commission has brought several cases where trade associations have instead acted to limit competition among their members by either (i) placing limits on the truthful, non-deceptive advertising of members, (ii) boycotting publications that accept low price advertisements, or (iii) enforcing minimum advertised price (MAP) agreements. In these cases eliminating advertising restrictions, the Commission acted on the belief that increased price transparency in this context would result in more informed consumers and more efficient market transactions.

Limits on truthful, non-deceptive price advertising

11. Standardization of advertising by members of a trade association may improve price transparency for consumers thereby allowing consumers to better compare prices. However, the Commission has found that the potential for anticompetitive effects can outweigh these benefits and has challenged a number of trade associations and state boards that have sought to limit certain forms of truthful, non-deceptive price advertising. In 1994, the Commission issued a complaint alleging that the Arizona Automobile Dealers Association (AADA) agreed with its member dealerships to restrict non-deceptive comparative and discount advertising and advertising concerning the terms and availability of consumer credit. For example, the complaint challenged certain sections of AADA's Standards for Advertising Motor Vehicles which, among other things, prohibited members from advertising that prices are equal to or lower than a competitor's, or are the lowest; that the advertiser will match or beat any price; or that the advertiser will offer compensation if it cannot offer an equal or lower price. The complaint was settled with a consent agreement prohibiting the alleged conduct.[8]

12. In 1993, the Commission issued a complaint against California Dental Association (CDA). CDA's 19,000 members comprise 75 percent of the dentists in the state. According to the complaint, CDA's rules prohibited certain valuable categories of price advertising (including advertising of across-the-board discounts for seniors or others, and statements such as "care at reasonable prices"), and

representations about the quality of dental services (such as "special treatment for nervous patients").[9] The case eventually went to the U.S. Supreme Court on the issue of the proper application of the rule of reason; the Court remanded the case to the Ninth Circuit Court of Appeals. The Court of Appeals ultimately ruled against the Commission, finding, from the existing record, that procompetitive benefits of the rules outweighed their anticompetitive harm. In 2001, the Commission decided, for various reasons, not to seek further review in the Supreme Court and dismissed the complaint.[10]

13. The Commission also has brought a number of cases against state boards that maintained various rules against truthful, non-deceptive advertisements about fees and services. The most recent such complaint was against the Texas Board of Chiropractic Examiners in 1992. The Board was the sole licensing authority under Texas law for the approximately 1,600 licensed chiropractors in Texas. The complaint charged the Board with preventing consumers from obtaining information about the chiropractors' fees, services, and products, thereby depriving consumers of the benefits of vigorous competition among chiropractors.[11] The Board agreed to a consent order against the practices.[12] The Commission issued similar complaints against the Massachusetts Board of Registration in Optometry[13] and the Wyoming State Board of Chiropractic Examiners.[14]

Boycotts of organizations publicizing low prices

14. The Commission has brought several cases against trade associations for boycotting organizations that were publishing low prices. In these cases, the Commission has alleged that the restricted advertising and resultant decrease in price transparency were harmful to consumers. In 1995, the Commission issued a complaint against the Santa Clara County Motor Car Dealers Association. The Association had approximately 47 members, constituting about 50 percent of the new automobile and truck dealers in Santa Clara County. In May 1994, the San Jose Mercury News published an article telling consumers how to analyze new car factory invoices so that they could be better negotiators when buying cars. The complaint alleges that after the article was published, Association members agreed to cancel and withhold their advertising from the paper. A consent agreement was reached prohibiting the Association from carrying out, participating in, inducing, or assisting any boycott.[15]

15. In 1998, the Commission issued a complaint against Fair Allocation System, Incorporated (FAS). FAS was an organization of twenty-five automobile dealerships from five Northwest states that was formed to address dealer concerns about an automobile dealership, Dave Smith Motors, which was attracting customers from around the Northwest. Dave Smith Motors offered "no-haggle" pricing, a system that offered new automobiles to all customers at firm, but low, predetermined prices. In addition, Smith was among the first dealers to market automobiles on the Internet. According to the complaint, because of their concerns, the members of FAS collectively threatened to boycott Chrysler to force it to limit sales to car dealers that sell cars at low prices and via a new and innovative channel–the Internet.[16] A consent agreement was reached with FAS prohibiting the alleged practices.[17]

16. In 1998, the Commission accepted a consent agreement from Fastline Publications, Inc. and Mid-America Equipment Retailers Association. Fastline publishes picture buying guides for new and used farm equipment which are mailed free to farmers and ranchers in over 40 states. Mid-America is a trade association whose membership comprises about 90 percent of the farm equipment dealers in Kentucky and Indiana. In early 1991, several Kentucky farm equipment dealers complained to Fastline about dealers advertising prices, including discount prices, for new farm equipment in the Fastline Kentucky Farm Edition. In protest, several dealers withheld their advertising from this guide until Fastline agreed not to publish advertisements that included prices for new farm equipment. In early 1992, Fastline was invited to the annual meeting of the Kentucky Retailers Association, during which several retailers expressed their dislike for renewed price advertising and threatened to withdraw or otherwise cancel their advertisements

in the Fastline Kentucky Farm Edition if Fastline continued to publish advertisements that included prices for new equipment. Fastline acquiesced again and stopped accepting advertisements that included prices for new equipment. A consent agreement was reached prohibiting the advertising restrictions.[18]

Minimum advertised price agreements

17. Minimum advertised price (MAP) agreements serve to increase price transparency since each firm knows that no other firm will be advertising a price lower than the agreed upon minimum price. However, MAP agreements also decrease price transparency to consumers to the extent that a firm might be willing to accept a price lower than the minimum advertised price but is not allowed to publicize the lower price. In 2000, the Commission accepted consent orders from the five largest distributors of prerecorded music in the United States accounting for approximately 85% of the industry's $13.7 billion in domestic sales.[19] The complaints allege that the five companies adopted significantly stricter MAP provisions for their cooperative advertising programs between late 1995 and 1996. Under the new MAP provisions, retailers seeking any cooperative advertising funds were required to observe the distributors' minimum advertised prices in all media advertisements, even in advertisements funded solely by the retailers. Retailers seeking any cooperative funds were also required to adhere to the distributors' minimum advertised prices on all in-store signs and displays, regardless of whether the distributor had contributed anything to their cost. The complaints further alleged that by defining advertising broadly enough to include all in-store displays and signs, the MAP policies effectively precluded many retailers from communicating prices below MAP to their customers. The consent orders require all of the distributors to discontinue their MAP programs in their entirety for a period of seven years. [20]

Trade associations and prices based on some reference schedule

18. In addition to advertising restrictions, trade associations may also attempt to reduce competition among their members by attempting to fix prices around some reference schedule. Prices based on a trade association's fee schedules or codes may serve to make prices more transparent. However, in some circumstances the Commission has challenged such practices as facilitating collusion, arguing that the risk of anticompetitive effects outweighed any procompetitive benefits. In challenging trade associations' attempts to enforce collusive reference pricing arrangements, the Commission has acted to benefit consumers by decreasing price transparency.[21]

19. In 2000, the Commission accepted a consent to settle a complaint against the Wisconsin Chiropractic Association, (WCA), whose members comprise a substantial majority of the licensed chiropractors in Wisconsin. In 1997, the federal government and private insurance companies began accepting four new codes for chiropractic manipulations. The new chiropractic manipulative treatment (CMT) codes reflected more detailed or precise descriptions of the manipulation services and allowed chiropractors, like osteopathic physicians, to bill based on the number of body regions adjusted. According to the complaint, shortly after the new CMT codes were announced, the WCA and its executive director, Mr. Leonard, conducted training seminars on the new codes for members and urged chiropractors not to make any decisions on their fees under the new codes before attending one of these meetings. During the meetings, Mr. Leonard told the chiropractors that the new CMT codes provided them with a unique opportunity to increase their fees.[22] After the new codes took effect, Mr. Leonard surveyed member pricing in certain localities, and reported back to members that chiropractors in these areas had succeeded in raising reimbursement levels.[23] The consent order was designed to prevent the illegal concerted action alleged in the complaint.[24]

20. In 1994, the Commission issued a complaint against the International Association of Conference Interpreters (known by its French acronym, AIIC). AIIC is a voluntary professional association of interpreters with 2,500 members from 68 countries who perform interpretation services at multi-lingual conferences or other high-level meetings. The complaint alleges that AIIC's fee schedules, work rules, and other restrictions violated federal antitrust laws. Administrative Law Judge Timony upheld the charges in a July 1996 decision.[25] Judge Timony noted that members were paid AIIC's minimum daily rate 90 percent of the time from 1988 to 1991. Judge Timony found that the effect of many of the rules was to make price undercutting easier to detect. For example, rules requiring that travel expenses and per diem payments be stated separately on contracts for interpretation would make cheating on them and on the minimum daily price easier to see, as would the requirement that fees be paid on an indivisible daily basis because it makes rates more standardized and comparable.[26] AIIC appealed Judge Timony's decision to the full Commission which upheld most of these charges in 1997 but dismissed certain charges against Association rules governing work-day length, interpreter team size, and other non-price-related factors.[27]

21. The Commission's views on relative value scales have evolved over time. Relative value scales are lists of assigned numerical values for various medical and surgical services for the purpose of comparing the value of different services. One potential use of these scales is to construct fee schedules. In the 1970's, the Commission issued a number of consent orders regarding relative value scales. Although relative values scales can increase price transparency, the Commission issued an advisory opinion to the American Society of Internal Medicine in 1985 stating that its proposal to develop and distribute a relative value scale would likely have anticompetitive effects if implemented.[28] With the growth of managed care, however, and the increased use of relative value scales by such managers, the Commission has modified or set aside some of these orders so as to give associations more freedom in discussing relative value scales with third-party payers, governmental entities, and their own members, while continuing to caution against entering horizontal price agreements on the basis of such scales.[29]

Most favored nation clauses

22. A "most-favored-nation" (MFN) clause may serve to increase price transparency by increasing buyers' incentives to monitor prices paid by other buyers.[30] However, it may also decrease competition by reducing a seller's incentive to offer selective discounts. In 1996, the Commission challenged the use of an MFN clause by RxCare of Tennessee, Inc. RxCare was the leading pharmacy network in Tennessee, including over 95 percent of all chain and independent pharmacies in the state. RxCare pharmacies filled prescriptions for patients covered by managed care organizations and were reimbursed for the medications at agreed-upon rates. The MFN clause at issue required that, if a pharmacy in the RxCare network accepted a reimbursement rate from any other third-party payer that was lower than the RxCare rate, the pharmacy had to accept that lower rate for all RxCare care business in which it participated. Because RxCare represented such a large portion of their business, most pharmacies in Tennessee would have found it unprofitable to offer any discounts below the RxCare rate if the MFN clause forced them to accept the lower rates on all of their RxCare business. The consent agreement prohibited RxCare from maintaining or enforcing an MFN clause and allowed the Commission to monitor compliance.[31, 32]

23. The FTC also challenged the use of an MFN clause in the *Ethyl* case (1979-1985)[33] against four manufacturers of lead-based antiknock compounds.[34] Ethyl and Dupont were the primary users of MFN clauses that specified that any discount offered off the uniform delivered list price must to be granted to any customer. The MFN clauses allegedly reduced competition between the four manufacturers since any discount offered to any customer would have to be offered to all customers and would therefore be less profitable and would also be more likely to be observed by the other three competitors. The FTC ultimately lost the case in the Second Circuit where the complaint and order were vacated because the Court found that the Commission did not meet the heavy evidentiary standard.[35]

24. Recently, however, the Commission required an MFN clause as part of the AOL Time Warner consent agreement. AOL is the nation's largest internet service provider (ISP) and Time Warner controls a cable television system servicing about 20 percent of U.S. cable households. The consent agreement contained provisions designed to ensure access to Time Warner's cable system by requiring AOL Time Warner to make available eventually at least three non-affiliated cable broadband ISP service on Time Warner's cable system. Time Warner is required to include in alternative cable broadband ISP service agreements an MFN clause designed to prevent discrimination by AOL Time Warner against non-affiliated ISP's.[36,37]

Invitation to collude through price sharing

25. Sharing of price information can make prices more transparent. However, the Commission has become concerned when the sharing of price information may have been used as an invitation to collude. In 1998, the Commission issued a complaint against Stone Container Corporation, the largest manufacturer of linerboard in the United States. The complaint alleges that during 1993 Stone Container announced a $30 per ton price increase for all grades of linerboard, to take effect the following March. As of March 1993, several major linerboard manufacturers had failed to announce an equivalent price move, and Stone Container was forced to withdraw its price increase. Stone Container concluded that its proposed price increase had failed to garner the requisite competitor support because Stone Container and other firms in the industry held excess inventory. Stone Container tried to reduce excess inventory by suspending production (taking costly "downtime") at its mills, and simultaneously arranging to purchase excess inventory from several of its competitors. Stone Container then conducted a telephone survey of major U.S. linerboard manufacturers, asking competitors how much linerboard was available for purchase and at what price. Stone Container also communicated a desire for higher prices to competitors through public statements and direct private conversations. Stone Container entered into a consent agreement prohibiting the alleged conduct.[38,39]

26. In 1993, the Commission charged AE Clevite, Inc., an Ann Arbor, Michigan manufacturer of locomotive engine bearings, with inviting a competitor to fix prices. J.P. Industries (Clevite) and the Austrian firm Miba Gleitlager AG together manufactured more than 95 percent of the locomotive engine bearings sold in the U.S. During a conversation, a J.P. Industries official allegedly told a Miba executive that the prices at which Miba sold locomotive engine bearings in the United States aftermarket were lower than those of J.P. Industries, and "as a result, they were ruining the marketplace." Miba allegedly responded that it was not the

27. firm's intention to undercut J.P. Industries' prices, and J.P. Industries followed up by faxing to Miba comparative price lists for locomotive engine bearings it sold in the United States aftermarket. The FTC charged that this conduct constituted an implicit invitation for Miba to refrain from competition. The complaint was settled with a consent agreement prohibiting the alleged conduct.[40]

28. In 1993, the Commission issued a complaint against YKK (U.S.A.) Inc., the country's largest zipper manufacturer, after an attorney for YKK sent letters to its chief competitor, Talon, Inc., accusing Talon of unfair and predatory sales tactics in its sales of zippers and related products and urging Talon to cease offering free zipper-installation equipment to its customers.[41] Also in 1992, the Commission charged Quality Trailer Products Corporation, which manufactures, sells, and distributes axles and products used in making them, with inviting American Marine Industries (AMI), a competitor, to fix prices. During a visit, Quality Trailer representatives allegedly told AMI that AMI's prices for certain axle products were too low and promised not to sell certain axle products below a certain price.[42]

Bid depositories

29. A bid depository is a mechanism whereby subcontractors all submit bids to a depository from which general contractors then select subcontractors when preparing a bid for a prime contract. Bid depositories reduce search costs for a general contractor and increase price transparency since each subcontractor is quoting a single price for the project. However, bid depositories also can serve to reduce competition among subcontractors. In 1984, the Commission issued a complaint against a bid depository, Electrical Bid Registration Service of Memphis Inc., set up by electrical subcontractors. According to the complaint, the registry had a deadline for electrical subcontractors' registering of bids and prohibited electrical subcontractors from offering a lower price after the deadline both before and after the award of the prime contract. The registry then required general contractors who accepted the delivery of registered bids to agree that they would not award an electrical subcontract to any firm that did not have a bid registered with the Registry, and that all such awards would be at the price contained in the registered bid. An administrative law judge issued an order banning these practices and the Commission accepted the decision on appeal.[43]

Price discovery, and reference prices

30. In industries subject to much price volatility, contracts often refer to some readily observable benchmark price, e.g., a NYMEX futures contract price or a posted gasoline rack price. If these reference prices become subject to manipulation, their transparency is reduced and the markets relying upon them function less efficiently. In 2000, the Commission issued a complaint against two merging oil companies: BP Amoco and the Atlantic Richfield Company (ARCO). According to the complaint, the proposed merger would concentrate control of over 43% of storage capacity, 49% of pipeline delivery capacity, and 95% of the trading services in Cushing, Oklahoma. Since Cushing is the specified delivery point for the NYMEX crude oil futures contract, a firm that controls such substantial assets in Cushing would be able to manipulate the NYMEX crude oil futures market and hence to manipulate this important reference price. This threat of manipulation would have ripple effects throughout the oil industry. The Commission's concern was remedied by a divestiture of assets in Cushing.[44]

Regulatory Evasion

31. Regulators rely upon the transparency of prices to evaluate the prudence of input purchases. When prices are highly volatile and there are no reliable benchmark prices, regulators must rely upon the efforts of the regulated company to ensure that costs are prudently incurred. In 2001, the Commission issued a complaint about a joint venture called Entergy-Koch, LP between Entergy Corporation and Koch Industries, Inc. Entergy is engaged in the generation, transmission, and distribution of electricity, and Koch markets natural gas, natural gas transportation, chemicals, petroleum products, minerals, and financial services. According to the complaint, Entergy is permitted, subject to review, to recover 100 percent of the cost of natural gas transportation purchased for its natural gas and electric utilities by passing on this cost directly to ratepayers. The complaint alleges that once Entergy shares in the profits of Koch's Gulf South natural gas pipeline, it will become willing to pay inflated gas costs to its subsidiary, thereby evading regulation. The consent agreement increased the transparency of the market by requiring Entergy to post on its website every request for proposal (RFP) for gas purchases.[45]

Department of Justice: Illustrative Price Transparency Cases [46]

32. DOJ has encountered price transparency issues in a number of cases. Price transparency can be especially important in price-fixing cases since it can facilitate a collusive agreement. Two price-fixing cases brought by the DOJ–one involving the Airline Tariff Publishing Company (ATP) and eight major domestic U.S. airlines, and the other against the Ivy League universities and MIT–are discussed below. The discussion was prepared by a DOJ economist and contains a general discussion of a broad range of issues encountered in these cases, his opinions on the cases and citations to the relevant literatures.

U.S. v. Airline Tariff Publishing Company (ATP)

Conscious Parallelism or Collusive Information Exchange?

33. Collusive information exchange presents challenges for analyzing liability and designing relief. The difficulty is that any consciously parallel conduct by an oligopoly looks like an agreement: one firm raises price, the others respond with greater or lesser price increases, and eventually the industry reaches a common understanding. How is that different from an explicit agreement to fix prices reached through a conversation in a smoke-filled room?

34. The courts' resolution of this dilemma has been to look for "plus factors" such as secret communications between the firms, before concluding that consciously parallel conduct constitutes an unlawful agreement to fix prices.[47] Then-FTC Bureau of Economics Director Jonathan Baker interprets this as a screen that prohibits a particular process of reaching agreement -- namely, negotiation and exchange of assurances:

> [T]he legal idea of "agreement" does not describe a result or equilibrium, but one particular process of reaching supracompetitive marketplace outcomes -- what may be termed the "forbidden process" of negotiation and exchange of assurances. The forbidden process consists of behavior that can be enjoined. Thus, if the oligopoly reaches a high price equilibrium through the forbidden process that the law calls an agreement, Sherman Act Section 1 has been violated. If the same result were reached through leader-follower behavior, no agreement on price will be found.[48]

35. Baker identifies three economic indicators that could help courts infer the forbidden process of negotiation and exchange of assurances:

> First, firm behavior might be more complex than would be plausible if the outcomes had been reached absent the forbidden process . . . . Second, the inference of agreement would be strengthened if the explanations offered by the parties about the putative legitimate business purposes are weak or even pretextual . . . . Third, the inference of agreement would be strengthened if the rivals had an opportunity to communicate, and strengthened even more if their conduct includes overt communications spurring immediate responses even if those communications constitute "cheap talk."[49]

Cheap Talk in U.S. v. (ATP)

36. "Cheap talk" is communication that doesn't commit firms to a course of action -- for example, announcing a future price increase, but leaving open the option to rescind or revise it before it takes

effect.[50] If the terms of agreement are complex (e.g., specifying prices in numerous markets) but there is a common desire to reach agreement, cheap talk can help firms reach a collusive equilibrium.

37. Cheap talk figured prominently in U.S. v. ATP.[51] ATP, a joint venture owned by the major airlines, collects fare information from the airlines, and distributes it daily to all the airlines and to the major computer reservation systems (CRSs) that serve travel agents. This arrangement is an efficient instrument for cheap talk:

> Airlines are charged a fee for each change, so that changes are not absolutely costless, but the fees for any change are very small relative to the revenues involved. Since ATP updates all CRSs once a day, airlines can quickly observe and respond to each other's fares using this system, with (at most) a one day lag. Since any significant price movement can be quickly matched by competitors, the potential benefits from cheating on any collusive price are usually small relative to the advantages of maintaining a high price.[52]

38. For example, to eliminate an unwanted discount fare, an airline could tell ATP that the fare will terminate next Tuesday. If the other airlines do the same with their competing discount fares, all the changes take effect as announced. If some airlines fail to respond, the last date of availability (Last Ticket Date, or LTD) can be moved to a later date to give the laggards more time, or the changes can be withdrawn. Because a proposed fare increase doesn't take effect until the airline can observe whether it is being matched or not, there is minimal risk that it would lose a sale to a lower-priced rival before a price consensus is reached. Airlines may also use a First Ticket Date to signal when they want a new fare to take effect, and they may impose "punishment fares" effective immediately, with a Last Ticket Date signaling an offer to remove it if the offending airline changes its behavior.

39. In more complex (and more typical) examples, airlines have differing preferences over price, depending on market concentration and the hub locations, and the "cheap talk" negotiations occur simultaneously over numerous markets. One alleged instance, in September 1989, started with a proposal to eliminate discount one-way fares (known as "junk" fares in the industry) in hundreds of city-pair markets:

> Several airlines communicated their agreement to this proposal by also filing to eliminate the fares altogether, but one dissenting airline proposed instead to increase the junk fares by ten dollars each way. One of the airlines supporting the first proposal expressed its dissatisfaction with this counterproposal by briefly lowering the junk fares by ten dollars each way in the markets very important to the dissenting airline, using a last ticket date only a few days away. However, when some of the other airlines began to match the counterproposal to increase fares by ten dollars (instead of eliminate them), the punishing airline withdrew the lower fares immediately (before the last ticket date on the fares) and also filed to increase fares by ten dollars. At that point, another airline proposed yet a third alternative -- to increase the junk fares by twenty dollars each way. Throughout the negotiation process, the airlines continuously altered first ticket dates [the first date of sale for a fare] of the proposed increases, and kept scorecards of which airlines were supporting which proposal, with what first ticket date, until they had reached a consensus. Eventually, all the airlines agreed to the third proposal, and the twenty dollar increase went into effect. (One airline estimated that the increase would generate an additional $7 million/month for that airline alone.)[53]

Remedies in **U.S. v. ATP**

40. Complex negotiations like this satisfy the courts' test for an illegal agreement to fix prices. The Justice Department obtained consent decrees from all airlines and ATP. The basic provisions in the consent decree prohibit the use of first ticket dates and (except for advertised promotions) last ticket dates on any of their fares:

> Without first ticket dates, airline fares will become available for sale immediately. An airline wanting to increase its fares will have to take some risk that the other airlines will not follow a price increase, and this change will increase the cost of negotiating a multimarket trade. . . .
>
> With the exception of last ticket dates used in advertised promotions, the airlines are not permitted to use last ticket dates in ATP. . . . An airline can still match a discount fare placed in its own markets, and can still add discount fares in other markets. Unlike before, however, that airline will not be able to costlessly indicate that the discounts should be removed by a certain date, or that its own discount fares are not part of an attempt to lower fares in general.[54]

41. These provisions were not expected to eliminate tacit collusion in the airline industry.[55] But without this instrument for communication, collusion should be considerably more difficult and less effective:

> By limiting the ability of the airlines to engage in extensive price negotiations, the government contends that the airlines will find it more difficult to coordinate on more collusive outcomes in the future. Whether the decree actually will have this effect remains to be seen, but as coordination becomes more costly, it seems unlikely that the airlines will be able to engage in extensive negotiations that link together dozens or hundreds of markets. Multimarket contact may still be present, but without the ability to easily define the terms of an agreement, firms may not be able to exploit their cross-market linkages as fully as before the entry of the consent decree.[56]

U.S. v. Brown University, et al.[57]

The Ivy League Presidents Share Prospective Tuition Increases

42. Colleges and universities announce their tuition increases once a year, during the first quarter of the calendar year. In the course of an investigation by DOJ, it was learned that the college presidents of MIT and the Ivy League were exchanging prospective tuition increases during their winter budget-planning process, before the public announcements. One remarkable document spells out the collusive intent behind these exchanges:

> Brown administrators are offhand about the process that leads to this similarity in charges among close competitors. Vice President Bohen describes it as "an informal swapping of intentions" among Ivy officials involved with budget and financial matters. "Our desire is to keep the price close to our competition so that applicants don't have to decide between schools on the basis of finances."[58]

43. Other documents, containing tables of projected tuition and salary increases for MIT and the Ivies, confirm the collective decision-making, and even the awareness of suspect dealings:

44. Below are the notes I didn't take on the financial expectations at each of our institutions:[59]

> It is, I think, useful to look at the proposed tuition and salary levels in the light of our own tentative decisions.[60]
>
> When I told them that we were considering salary heights of 8%-8½% and tuition increases not far off from that number, there was an audible gasp. The other Presidents felt that it was not possible to increase tuition at a rate that far above the CPI and that some of the pressure on faculty salaries was self-induced to serve the faculty's interest. . . . In view of the above information, we will need to rethink our proposed salary and tuition scheduled increases and to do so rather promptly.[61]

45. Might it be that the only effect of sharing prospective prices is to make prices more uniform and transparent, but not any higher on average? That seems implausible. Our normal, instinctive assumption is that eliminating price competition raises price. The purpose of this discussion is to identify several strands of economic literature that support this assumption. In our view, sharing prospective price does help firms achieve a collusive price level.[62]

Swift Detection Fosters Collusion

46. Illegal cartels cannot enforce their agreements in court. Consequently, the agreements must be self-enforcing: each cartel member, acting in its independent self-interest, must choose to abide by the terms of the agreement. Cheating is deterred by the fear of detection and swift retaliation, since prospective cheaters have to trade off the short-term gains from cheating against the long-term loss of cartel profits:

> This leads us to one of the most important conclusions with genuine policy implications that comes out of oligopoly theory . . . . If industry behavior permits each oligopolist to rapidly and surely observe rival defections, the scope for . . . collusion is great.[63]

47. By reporting their prospective prices, the colleges assured *instant retaliation*. Bhaskar models this by letting Firm A and Firm B take turns announcing and revising their prospective price.[64] When one firm chooses not to change its price, the sequence of price announcements stops, and the product is sold at the prices finally announced. Given these assumptions, Bhaskar shows that the unique equilibrium outcome is collusion: one firm announces the price that maximizes joint profits, and the other firm matches.

48. Models like this have two important implications for analysis of the colleges' tuition-sharing activities: 1) iterated exchange of prospective tuition is likely to lead to a collusive outcome; and 2) both downward and upward revision of prospective tuition estimates are consistent with a collusive outcome. In summary, when Harvard reports its intention to charge $17,100 for tuition, fees, and room and board in 1987-88, and Yale reports its intention to charge $17,020, it is superfluous to add, "I'll charge $17,100 if you'll charge $17,020" or "I'll agree to charge $17,100 if you'll agree to charge $17,020." Their actions say this already. Their actions pronounce the agreement.

49. The swapping of intentions on tuition increases is "cheap talk" -- nonbinding, nonverifiable communication that helps consensus-minded individuals achieve a profitable equilibrium.[65] Its effectiveness relies on colluding participants wanting to cooperate rather than cheat. Reputation models offer some support for this commonplace assumption; in these models, honesty pays if participants foresee the possibility of a long, profitable relationship, and the Ivy overlap agreement had operated for 35 years.[66,]

[67] Additional support comes from "the many experiments that show that collusion is likely to be sustained in long but finite games."[68]

50. To avoid relying too heavily on relationships, longstanding cartels may develop detailed rules and procedures to prevent misunderstanding, resolve disputes, and ensure rapid detection.[69] In the Ivy cartel, these transparency-enhancing rules and procedures were aimed at tuition discounts -- i.e., financial aid.

Financial Aid Agreements Enhance Cartel Profit and Stability

51. Price discrimination on the basis of income and wealth ("need-based financial aid") enhances cartel profits, but imposes extra demands on transparency to ensure uniformity and deter cheating. The cartel established a "needs analysis methodology" for calculating the tuition discount.[70] Then, before aid offers went out, they shared information on proposed offers to individual students, identified those for whom differing interpretations led to substantial disparities, and met to resolve the differences.

52. Cartel profits could be enhanced further by discriminating on the basis of other attributes ("merit aid") -- for example, by academic ability and talent (top students have competing options and enhance university prestige), applicants' residence (students prefer less distant colleges), and ethnic background (competition is intense for high-ability African-American students) -- but this would have added another layer of complexity to the Ivy Methodology and procedures for ensuring transparency, and thus they decided to prohibit merit aid.

53. Moreover, there was another compelling reason for the Ivies' decision to prohibit merit aid. Cartel stability is greatly enhanced if fringe competitors adopt similar pricing strategies, and if financial aid administrators are motivated to comply willingly with the cartel rules. This was allegedly accomplished by nurturing a value system in which price discrimination is not just profitable, but it is the right and moral thing to do. The vocabulary of college pricing is strongly colored to support that: tuition discounts are "financial aid," net price is "family contribution," discrimination on the basis of income and wealth is "need-based aid," etc.[71]

54. But what is the moral justification for a ban on merit aid -- especially the agreement not to compete for minority students? Relying on the image of tuition discounts as charitable aid, college administrators claim that there is a fixed pool of financial aid, so that more aid for non-needy students means less aid for needy students. This has a superficial plausibility, since most people are accustomed to thinking of scholarships endowed through private contributions. But college administrators know that private contributions fall well short of the total amount budgeted for tuition discounts, and the difference is just a line item in the general university budget:

> Included in the [MIT] General budget are three major categories of expense: instruction and unsponsored research expense, joint expenses (those that support both instruction and research, and the unrestricted portion of scholarships).[72]

55. For MIT in Fiscal 1990, undergraduate student financial aid totaled $13.9 million from gifts or income on gifts, and $9.5 million from the General budget. The $9.5 million from the General budget is less than 1 percent of the Fiscal 1990 MIT operating budget of $1.1 billion.[73]

56. This argument against merit aid still persists today. However, its force has been undermined by public acceptance of the vocabulary of "tuition discounts" in the wake of the DOJ case, and unsystematic discounting in the form of merit aid has expanded greatly among non-Ivy colleges (with no diminution of need-based aid).

57. These complex arrangements -- the Ivy Methodology, the spring meetings to negotiate uniform offers to individual students, the moral exhortations to nurture compliance from cartel members and even non-cartel members -- illustrate the role that price transparency plays in a complex, longstanding cartel. It is one of an array of strategies that economize on trust, so that cartel members don't act selfishly in their own self-interest. Complex conspiracies impose great demands for price transparency; and legal constraints on price transparency make it more difficult to sustain complex conspiracies.

Conclusion

58. Price transparency can increase competition by reducing consumers' search costs, allowing better comparisons among diverse products, facilitating entry, or spurring innovation. In other situations, price transparency may decrease competition by helping firms monitor defections from a collusive agreement and punish defectors. In addition, price transparency may decrease production costs, foster beneficial collaboration, facilitate "benchmarking" or lead to other efficiencies. In enforcing the antitrust laws, the United States antitrust agencies' actions will thus have various effects on price transparency depending on the context. The agencies' actions have served both to increase and to decrease price transparency. Price transparency has been increased by the agencies' actions when transparency served to increase competition and benefit consumers. However, price transparency has been decreased by the agencies' actions when its benefits were outweighed by the risk that transparency would threaten competition by facilitating collusion.

NOTES

1. See James L. Langenfeld and Louis Silvia "The Federal Trade Commission's Horizontal Restraint Cases: An Economic Perspective," *Antitrust Law Journal* 61:3 (1993) pp. 653-697, for a complete survey of earlier cases involving horizontal restraints.

2. Materials from the workshop are available at www.ftc.gov/bc/b2b/index.htm.

3. "Entering the 21st Century: Competition Policy in the World of B2B Electronic Marketplaces," October 2000.

4. An additional consideration is whether the shared information is received by competitors before it is received by buyers.

5. The five automotive manufacturers are General Motors Corp., Ford Motor Co., DaimlerChrysler AG, Renault SA, and Nissan Motor Co. Ltd.; the two information technology firms are Commerce One, Inc. and Oracle Corporation. The five auto manufacturers account for roughly one-half of worldwide auto production.

6. Commission letter to parties closing the Covisint investigation Sept. 11, 2000.

7. *Covisint, Inc.,* FTC File No. 001 0127 (Sept. 11, 2000) (press release).

8. *Arizona Automobile Dealers Association*, C-3497 (Feb. 25, 1994) (press release).

9. *California Dental Association*, C-9259 (July 25, 1995) (press release).

10. *California Dental Association*, C-9259 (Feb. 15, 2001) (press release).

11. *Texas Board of Chiropractic Examiners*, C-3379 (April 29, 1992) (press release).

12. See 115 F.T.C. 470 (1992).

13. *Massachusetts Board of Registration in Optometry*, FTC File No. D. 9195 (July 2, 1986) (press release), litigated, order issued, 110 F.T.C. 549 (1988).

14. *Wyoming State Board of Registration in Podiatry*, C-3176, 107 F.T.C. 19 (1986) (consent order).

15. *Santa Clara County Motor Car Dealers Association*, C-3630 (Aug. 1, 1995) (press release).

16. Specifically, FAS threatened to refuse to sell certain Chrysler vehicles and to limit the warranty service they would provide to particular customers unless Chrysler changed its allocation system so as to disadvantage dealers that sold large quantities of vehicles outside of their local geographic areas.

17. *Fair Allocation System, Incorporated*, C-3832 (Aug. 5, 1998) (press release).

18. *Fastline Publications, Inc.*, C-3819 (May 11, 1998) (press release).

19. The five distributors are Sony Music Distribution, Universal Music & Video Distribution, BMG Distribution, Warner-Elektra-Atlantic Corporation and EMI Music Distribution.

[20] *Concerning the Market for Prerecorded Music in the United States*, FTC File No. 971 0070 (C-3971 to C-3975) (May 10, 2000) (Analysis to Aid Public Comment).

[21] The Commission has successfully demonstrated that the trade associations have raised prices by using these techniques even though most of the industries in question would not seem susceptible to collusion, i.e., the industries are not concentrated and are not characterized by repeated interactions.

[22] Mr. Leonard advised members that it was important that the new codes for chiropractic manipulation were priced properly, and that the WCA's view was that proper pricing was at the same level that osteopathic physicians billed for spinal manipulation services. He provided detailed data on current osteopathic pricing, and encouraged chiropractors to raise their prices to the osteopathic levels.

[23] Mr. Leonard regularly provided fee surveys to the WCA's members. At times, these fee surveys reflected insufficiently aggregated data, thus effectively identifying current prices by individual chiropractic offices.

[24] *Wisconsin Chiropractic Association* C-3943 (March 7, 2000) (Analysis to Aid Public Comment).

[25] According to Judge Timony, AIIC set minimum daily rates to be charged by members, required that all interpreters at a conference be paid the same daily rate regardless of skill or experience differences, specified the length of the working day and the number of interpreters to be hired at a conference, and required payment for travel expenses, per diem, canceled events, rest days and non-working days when the interpreter was away from his or her mandated professional address. AIIC rules also have restricted members' use of portable equipment; barred commissions to intermediaries, package fees, exclusive arrangements, moonlighting for permanently-employed interpreters, and the use of comparative advertising and trade names; required members to have a professional address and to give three months' notice before changing it; required charges for the recording of interpretation services and imposed limits on charitable work.

[26] *International Association of Conference Interpreters*, FTC Docket No. 9270 (July 31, 1996) (press release).

[27] *International Association of Conference Interpreters*, FTC Docket No. 9270 (March 14, 1997) (press release).

[28] *American Society of Internal Medicine*, 105 F.T.C. 505 (April 24, 1985) (press release).

[29] Consent orders were issued in *American College of Obstetricians & Gynecologists,* 88 F.T.C. 955 (1976) (consent order), *modified*, 104 F.T.C. 524 (1984); *American Academy of Orthopaedic Surgeons,* 88 F.T.C. 968 (1976) (consent order), *modified*, 105 F.T.C. 248 (1985), *order set aside*, 119 F.T.C. 609 (1995); *American College of Radiology,* 89 F.T.C. 144 (1977) (consent order), *modified*, 113 F.T.C. 280 (1990); *Minnesota Medical Association,* 90 F.T.C. 337 (1977) (consent order); and *California Medical Association,* 93 F.T.C. 519 (1979) (consent order), *modified* 105 F.T.C. 277 (1985), *order set aside*, 120 F.T.C. 858 (1995).

[30] MFN clauses are contract provisions that specify that a seller will not make an offer to a third party without also making at least as favorable an offer available to the holder of the MFN clause.

[31] *RxCare of Tennessee, Inc.* C-3664 (Jan. 19, 1996) (press release).

[32] Commissioner Azcuenaga issued a concurring statement "to emphasize that this order does not call into question the general lawfulness of most favored nation clauses."

[33] For discussions of this case see George Hay "Practices That Facilitate Cooperation: The *Ethyl* Case," in Kwoka and White, *The Antitrust Revolution* (1989), and Michael Vita, "Fifteen Years After Ethyl: The Past and Future of Facilitating Practices," Antitrust Law Journal 68:991-1005 (2001).

[34] The four manufacturers were Ethyl Corporation, E.I. du Pont de Nemours, and Company, PPG Industrices, Inc., and Nalco Chemical Company.

[35] Two other aspects of this case, advance price notices and uniform delivered pricing, also raise important price transparency issues. See Hay (1989) and Vita (2001), *supra* n. 33.

[36] The MFN clause requires that if AOL executes a cable broadband ISP service agreement with another cable company, AOL Time Warner must provide the FTC's monitor trustee with a copy of the cable company agreement, give notice of the execution of the cable company agreement to each non-affiliated ISP that is a party to an alternative cable broadband ISP service agreement, and give the non-affiliated ISP's an opportunity to opt in to the same rates and terms secured by AOL in the cable company agreement.

[37] *America Online, Inc., and Time Warner Inc.* C-3989 (Dec. 14, 2000) (press release).

[38] The agreement prohibits Stone Container from requesting, suggesting, urging, or advocating that any manufacturer or seller of linerboard raise, fix, or stabilize prices or price levels. The agreement also prohibits Stone Container from entering into, adhering to, or maintaining any combination, conspiracy, agreement, understanding, plan or program with any manufacturer or seller of linerboard to fix, raise, establish, maintain, or stabilize prices or price levels.

[39] *Stone Container Corporation*, C-3806 (Feb. 25, 1998) (Analysis to Aid Public Comment).

[40] *AE Clevite, Inc.*, C-3429 (March 24, 1993) (press release).

[41] *YKK (U.S.A.) Inc.*, C-3445 (March 25, 1993) (press release).

[42] *Quality Trailer Products Corporation*, C-3403 (Aug. 11, 1992) (press release).

[43] *Electrical Bid Registration Service of Memphis Inc.*, FTC Docket No. 9183 (Feb. 20, 1986) (press release).

[44] *BP Amoco p.l.c. and Atlantic Richfield Company,* C-3938 (April 13, 2000) (Analysis to Aid Public Comment).

[45] *Entergy Corporation and Entergy-Koch LP*, C-3998, (Jan. 31, 2001) (Analysis to Aid Public Comment).

[46] All information reported in this section is in the public record.

[47] "With rare exception, the courts have been very clear that mere parallelism, including interdependent conscious parallelism cannot support a conspiracy finding unless there are additional or 'plus' factors." Phillip E. Areeda, *Antitrust Law: An Analysis of Antitrust Principles and Their Application,* ¶1434a. Boston: Little, Brown and Company (1986).

[48] Jonathan Baker, "Identifying Horizontal Price Fixing in the Marketplace," 65 *Antitrust Law Journal* 41 at 48 (1996). Carlton *et al.* argue that information exchanges should not be subject to a rule of per se illegality "because communication can have ambiguous effects, and because our experience with certain forms of communication is limited." Dennis W. Carlton, Robert H. Gertner, and Andrew M. Rosenfield, "Communication Among Competitors: Game Theory and Antitrust," 5 *George Mason Law Review* 423 at 439 (Spring 1997).

[49] *Ibid.*, pp. 50-51.

[50] Joseph Farrell and Matthew Rabin, "Cheap Talk," 10 *Journal of Economic Perspectives* 103 (Summer 1996).

[51] *United States v. Airline Tariff Publishing*, Civil Action No. 92-2854, (D.D.C. filed Dec. 21, 1992).

[52] William Gillespie, "Cheap Talk, Price Announcement, and Collusive Coordination," EAG 95-3, Discussion Paper, Economic Analysis Group, Antitrust Division, U.S. Department of Justice (9/25/95). See also Severin Borenstein, "Rapid Price Communication and coordination: The Airline Tariff Publishing Case (1994)," chapter 13 in John E. Kwoka, Jr. and Lawrence J. White (eds.), *The Antitrust Revolution: Economics, Competition, and Policy*, 3rd ed. (1999).

[53] U.S. v. ATP, United States' Response to Public Comments, April 8, 1993, p. 17, quoted in Gillespie, *op. cit.*, p. 11.

[54] Gillespie, *op. cit.*, p. 14.

[55] "For example, future fares could be tested out on a few seats. The fares could go into effect immediately, but be limited to only a few seats. The fares would be extended to all seats only if rivals signal that they will go along with such a general fare increase by matching their rival's fare on the few seat basket. Because this alternative is so good a substitute (from a cooperative pricing perspective) for preannouncement, a ban on preannouncement would only be effective if this alternative were also banned. however, a ban on this alternative may be very costly, because fares limited to a few seats are often efficient and the regulatory costs to enforce the ban may be large. Furthermore, there may be other alternatives, which allow the initial equilibrium to be reestablished." Carlton *et al., op. cit.*, 439.

[56] Gillespie, *op. cit.*, p. 16.

[57] The major focus of the Ivy League investigation was on collusive arrangements for the discounted price (tuition minus financial aid). It resulted in consent decrees from the eight Ivy League Universities (U.S. v. Brown University, *et al.*, 1991 WL 536896 (E.D. Pa.)), a favorable verdict against MIT in district court (805 F. Supp. 288 (E.D. Pa. 1992)), an appeals court remand to the district court to consider procompetitive and social welfare justifications for price-fixing (5 F.3d 658 (3d Cir. 1993)), and a final settlement with MIT in December 1993.

[58] Trial Exh. #197: Anne Diffily, "The Higher and Higher Cost of Higher Education," 88 *Brown Alumni Monthly* 26 (October 1987).

[59] Trial Exh. #14: 1980 Ivy Presidents' Meeting (12/16/80).

[60] Trial Exh. #20: November 1985 Ivy Presidents' Meeting (11/27/85).

[61] Trial Exh. #21: November 1986 Ivy Presidents' Meeting (12/5/86).

[62] The models cited in this section all assume profit maximization. This is a reasonable assumption for nonprofit colleges and universities, for these reasons:

(1) "Nonprofits" may legally make profits, and may accumulate wealth in physical assets and endowments. Their nonprofit status means only that they may not distribute profits to individuals who exercise control, such as directors and trustees.
(2) Trial evidence and economic theory suggest that colleges maximize profits on undergraduate education in order to subsidize graduate education and research: "There was unanimous agreement that tuition is subsidizing research. . . . However, some participants felt that we should not be concerned with controlling tuition, since the higher the rates, the more applications seem to increase." [Trial Exh. 128: Harvard University letter describing a July 1988 meeting of the Little Eleven colleges (attendees included Harvard, Yale, Princeton, Cornell, Columbia, Brown, Penn, MIT, Chicago, USC, MIT, Stanford, Johns Hopkins, Rochester) (7/19/88)]. Similarly, in support of a profit-maximization model of university behavior, Estelle James concludes: "Contrary to the popular belief that all students are being subsidized to an ever-increasing degree -- a belief that is based on cost data unadjusted for product mix [graduate/undergraduate

and research/teaching] -- it turns out that the teaching of undergraduates is currently a highly profitable activity at private universities." [Estelle James, "Product Mix and Cost Disaggregation: A Reinterpretation of the Economics of Higher Education," 13 *The Journal of Human Resources* 157 at 179 (Spring 1978); cf. Estelle James and Susan Rose Ackerman, *The Nonprofit Enterprise in Market Economics*, p. 46 (1986)].

63 Carl Shapiro, "Theories of Oligopoly Behavior," in R. Schmalensee and R.D. Willig (eds.), *Handbook of Industrial Organization*, vol. I, p. 364 (1989).

64 V. Bhaskar, "Quick Responses in Duopoly Ensure Monopoly Pricing," 29 *Economic Letters* 103 (1989). See also V. Bhaskar, "The Kinked Demand Curve: A Game-Theoretic Approach," 6 *International Journal of Industrial Organization* 373 (1988); Robert H. Gertner, "The Role of Firm Asymmetries for Tacit Collusion in Markets with Immediate Competitive Responses," working paper, Graduate School of Business, University of Chicago (April 1993); Robert M. Anderson, "Quick-Response Equilibrium," IP-323, Center for Research in Management, University of California at Berkeley (May 1984); Ehud Kalai and Mark A. Satterthwaite, "The Kinked Demand Curve, Facilitating Practices, and Oligopolistic Competition," Discussion Paper No. 677, The Center for Mathematical Studies in Economics and Management Science, Northwestern University (February 1986).

65 Joseph Farrell and Matthew Rabin, "Cheap Talk," 10 *Journal of Economic Perspectives* 103 (Summer 1996).

66 Robert J. Aumann and Sylvain Sorin, "Cooperation and Bounded Recall," 1 *Games and Economic Behavior* 5 (1989); Robert Wilson, "Reputations in Games and markets," in Alvin Roth (ed.), *Game Theoretic Models of Bargaining with Incomplete Information* (1985).

67 According to Trial Exh. #44a, "The overlap agreement began in 1955 when the Financial Aid Directors of Amherst, Bowdoin, Dartmouth, Harvard, Wesleyan and Williams began meeting prior to the mid-April notification deadline in an effort to agree on family contributions to be expected and the consequent aid awards. The purpose of this effort has been to ensure that students who are admitted to two or more of the institutions can make their choice independent of the financial consequences; in other words, we agree not to compete with each other on the basis of differential cost of attending a given institution. Later in the 1950s a separate Ivy League overlap was formed, though Harvard and Dartmouth generously agreed to be full partners in both groups. . . . On the average, the overlap group's expectations of parental contribution are at least $1,000 greater than the CSS [College Scholarship Service, the financial aid arm of the College Entrance Examination Board]."

68 Jean Tirole, *The Theory of Industrial Organization*, p. 260 (1989).

69 The Sugar Institute cartel (1927-36) is an excellent example. See David Genesove and Wallace P. Mullin, "Rules, Communication and Collusion: Narrative Evidence from the Sugar Institute Case," http://web.mit.edu/levitsky/www/mulllinupdate.pdf, undated (C. 2001)

70 805 F. Supp. 288 at 293 (E.D.Pa.1992).

71 The Sugar Institute cartel, facing a similar principal-agent problem, embraced a legalistic imagery of evidence and precedents. (Genesove and Mullin, *op.cit.*). The Ivies' moralistic approach had the compelling advantage of securing willing cooperation even from non-cartel colleges and universities, who would otherwise have been strongly motivated to undercut the cartel.

72 Trial Exh. 138: Report to the MIT Executive Committee on the Financial Results of operations for Fiscal 1990, p. 10 (8/29/90).

73 Trial Exh. 138, pp. 4,10,15.