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IDENTIFYING HORIZONTAL PRICE FIXING IN THE ELECTRONIC MARKETPLACE

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Advances in telecommunications technology increasingly allow firms and individuals located far apart to behave as though they were geographic neighbors. The resulting economic benefits have been widely discussed.¹ Today, firms increasingly communicate and transact business with their customers through networks of computers rather than in person or by telephone. Electronic commerce is likely to reduce some of the delay and other transaction costs now associated with the distribution of products and services. Yet, new ways of conducting business can also bring new ways for competing firms to reduce rivalry by fixing prices.

Wholesale and retail distribution of goods and services is evolving. Marketing and direct sales on the Internet may be the wave of the commercial future. In a world of electronic real-time marketing sellers hold themselves out to the entire globe, one PC at a time. Buyers can quickly and cheaply reach many sellers without leaving their homes or offices, and they may observe, download, and compare publicly posted prices. Indeed, buyers and sellers may interact with "intelligent agents," personalized software sidekicks searching the electronic marketplace for optimal choices and likely customers.

What could be more procompetitive than instant, universal exchange and evaluation of enormous amounts of market and product information? The electronic marketplace can dramatically reduce a buyer's transaction costs of search, and it can help firms make better production and

* Director, Bureau of Economics, Federal Trade Commission. The views expressed are not necessarily those of the Federal Trade Commission or any Commissioner. This article revises and extends the author's speech, *Horizontal Price-Fixing in Cyberspace*, Before The Conference Board's 1996 Antitrust Conference on Antitrust Issues in Today's Economy (Mar. 7, 1996). Although the author participated in the Antitrust Division's investigation of the *Airline Tariff Publishing Co.* matter, his views are not necessarily those of the Department of Justice. The author is grateful to Michael Wise, Mary Jean Moltenbrey, and Alan Frankel.

¹ E.g., Council of Economic Advisers, *Economic Benefits of the Administration's Legislative Proposals on Telecommunications* (June 14, 1994).

pricing decisions.² In addition, Internet access and advertising could reduce the sunk costs of entry, also making markets more competitive. In short, rapid information exchange can help buyers obtain better and cheaper products. Microsoft's Bill Gates makes some of these arguments in the chapter of his new book tellingly titled "Frictionless Competition."³ But information posted on the Internet goes to rivals as well as customers, and rapid information exchange among sellers may help sellers exercise market power.⁴

Part I of this article examines how the rapid information exchange characteristic of the electronic marketplace may facilitate what might be termed "frictionless coordination" among sellers, rather than generating frictionless competition. In particular, when competitive rivals have rapid access to information about each other's pricing and the ability to respond rapidly, they may improve their ability to reach and police anticompetitive coordination, thereby making coordination more likely or more effective. Part I also explains why such potential coordination among oligopolists properly concerns antitrust enforcers and courts.

Part II explores how electronic commerce presents a new opportunity for analytical paralysis over the continually perplexing "oligopoly problem"—the concern that the law cannot or should not prevent firms from using otherwise legal means to achieve anticompetitive marketplace outcomes.

Before the advent of computers, the best examples of the way rapid public information exchange challenged antitrust enforcers and courts involved price signaling by press release. For example, suppose that a leading newspaper reported that one firm told security analysts that prices will soon go up 4 percent. The next week, a rival told the trade press that its prices will rise 3 percent except for the high performance line, which will go up 5 percent. In reporting that story, one reporter queried a third firm, which stated that the 3 percent/5 percent split is consistent with its plans. The following week, the first firm issued new price books incorporating the differential 3 percent/5 percent price

² Robert Gertner, Testimony at FTC Hearings on Global and Innovation-Based Competition, Nov. 20, 1995. Moreover, under some circumstances sellers could use rapid and inexpensive communications technology to make secret discounts to selected buyers. This could discourage coordinated interaction, albeit by limiting or reversing the reduction in buyer search costs that communications advances promise.

³ BILL GATES, *THE ROAD AHEAD* 157 (1995).

⁴ Gertner, *supra* note 2, at Tr. 2771 (corrected version). Gertner emphasizes the "trade-off between the beneficial effects of sharing information about market costs and demands, which can lead firms to make more efficient production and pricing decisions, and the harmful effects of sharing information about prices, quantities, and customers, which can enable firms to charge a price above competitive levels." *Id.*

rise, and the other firms followed suit in the next few days. The tough question for antitrust is whether these firms agreed to fix their prices.⁵

In the press release scenario, price announcements were available to rivals and customers alike; they were communicated rapidly and revised cheaply and easily. These features are also likely to characterize information exchange in the electronic marketplace. With electronic commerce, firms may learn the plans and actions of their rivals merely by looking at what their competitors have posted on-line. Firms can and would monitor routinely the competitive moves of their rivals, regardless of whether they were coordinating or competing.⁶ If such monitoring is common, and prices rise after jockeying, again antitrust must ask whether the firms had agreed on price.

In evaluating oligopoly behavior under the conditions of rapid, extensive information exchange characteristic of electronic commerce, anti-trust enforcers and courts must determine whether competition has been harmed and, if so, whether enforcers can prove it and courts can frame a remedy. These legal issues are often discussed in terms of identifying when it would be appropriate to infer an agreement over price from circumstantial evidence (e.g. parallel pricing).⁷ Part II of this article explains that firms have reached what the law terms a horizontal agreement over price only if an oligopoly achieves a high price equilibrium through what may be termed the "forbidden process" of negotiation and exchange of assurances, rather than through leader-follower behavior. This section also highlights three economic indicators that could show that firms are selecting a high price by doing more than merely following the market moves of rivals.

The concern that rivals can exploit electronic information exchange to make coordination more effective has already proven itself more than theoretical. As will be examined in Part III of this article, the Department of Justice recently obtained consent orders from the major airlines settling allegations that the carriers negotiated a number of coordinated

⁵ This type of hypothetical problem is analyzed in Jonathan B. Baker, *Two Sherman Act Section 1 Dilemmas: Parallel Pricing, the Oligopoly Problem, and Contemporary Economic Theory*, 38 ANTITRUST BULL. 143, 165-68, 186-190 (1993).

⁶ Sellers of branded consumer products are already eager consumers of supermarket scanner data, which provides them with detailed information about the prices and sales shares of rivals. With the spread of electronic commerce, firms may employ software to compile and analyze similar data obtained from Internet postings and electronic transactions.

⁷ This article's discussion of when or whether a court should find an agreement puts aside the important legal issue of how an agreement should be reviewed once found: whether it is illegal per se; if reviewed under the rule of reason, whether that review should be truncated or full-blown; and how the "less restrictive alternative" issue should be analyzed.

fare increases using a signaling language developed from features of electronic fare records largely unavailable or valueless to ticket buyers. The airlines case illustrates how the three indicators may help identify a price-fixing agreement reached in the electronic marketplace. Part IV applies the lessons learned from the airlines case to the problem of identifying horizontal price fixing as commerce expands to the electronic marketplace.

I. "FRICTIONLESS COORDINATION" THROUGH RAPID INFORMATION EXCHANGE AMONG RIVALS

In the familiar economic model of perfect competition, information is an unqualified good. This observation suggests that more information, available faster and at lower cost, can make markets more transparent, enhance buyer choices, help firms make better and cheaper products, and improve competition. But while that may often be the case, achieving competitive results may depend on who is getting such high-quality information and what they can do with it. Indeed, the theory of coordinated oligopoly behavior shows how increased information can actually reduce welfare. Greater information exchange among sellers, as may result from the shift to electronic commerce, can facilitate coordination and lead to supracompetitive prices in two ways.

First, the rapid and inexpensive exchange of information among sellers may make it easier for sellers that want to coordinate to find a set of prices and outputs on which they can implicitly (or explicitly) agree. When it is difficult to identify a consensus high price outcome without making explicit interfirm commitments,⁸ rivals may be deterred from coordinating by the practical difficulty of keeping a coordinated agreement going and by the risk of criminal sanctions for engaging in overtly conspiratorial behavior. Under such circumstances rapid information exchange can reduce coordination difficulties by permitting firms to engage in complex discussions more easily and by making those conversations less obvious to customers and antitrust enforcers. Such communication can facilitate coordination even if it is what economists term "cheap talk"—that is, communication imposing little or no costs of commitment on the parties.⁹ This outcome is most likely when the primary impediment

⁸ In some cases leader-follower dynamics alone may enable parties to identify and settle on a scheme or set of prices that dampens competition without the kinds of surreptitious communication usually associated with criminal conspiracies.

⁹ See Joseph Farrell & Matthew Rabin, *Cheap Talk*, 10 J. ECON. PERSP., Summer 1996, at 103.

to successful coordination is identifying the terms of coordination, rather than policing such an arrangement once it is reached.¹⁰

Second, improved information exchange may also facilitate coordination by reducing any single firm's incentive to deviate from a coordinated, supracompetitive price once that is identified. Any firm's incentive to cut prices comes from the expectation of increased sales. But if rivals can detect and will match price reductions very quickly, as may occur when prices are posted in the electronic marketplace, this incentive can be greatly weakened. Few buyers will switch from rival sellers, and the price-cutting seller will gain only a fraction of any increase in aggregate buyer purchases. The result of more rapid information exchange among sellers thus may be that sellers will not cut prices in the first place, and any higher-than-competitive price, however initially reached, would persist.

The instant electronic marketplace will not necessarily attract new entry to solve this competitive problem. If an entrant's products are similar to those offered by the existing sellers, the new seller will need to undercut the coordinated price to be successful. But the potential for incumbent sellers to match the low price nearly instantaneously means the entrant must worry that it will make few sales and not recover the costs of entry. The new entrant into electronic commerce must also establish a reputation, not just for its products but also for its probity. In the anonymous expanses of electronic commerce, conventional deterrents against deception, low quality, and outright fraud are still weak. To convince wary buyers that they are legitimate, new entrants may need to make substantial fixed investments in reputation.¹¹ Yet, if entry turns out to require substantial investment, entry may not be sufficient to undermine supracompetitive pricing.¹²

The problem of anticompetitive coordination among oligopolists is more than a theoretical curiosity. There are four reasons to think it is

¹⁰ Firms that must identify the terms of coordination across several different product or geographic markets may find "cheap talk" a useful way to coordinate their strategies. Multimarket contact may also facilitate the disciplining of firms that would be tempted to cheat on the coordinated arrangement. See B. Douglas Bernheim & Michael Whinston, *Multimarket Contact and Collusive Behavior*, 21 RAND J. ECON. 1 (1990); William N. Evans & Ioannis N. Kessides, *Living by the "Golden Rule": Multimarket Contact in the U.S. Airline Industry*, 109 Q. J. ECON. 341 (1994).

¹¹ To be sure, certifying agencies may develop to assure buyers that sellers will actually send goods promised and deal with problems that arise. See Gertner, *supra* note 2. Another marketplace response to the quality assurance problem would be for a firm to post a bond backed by a well-known institution. Still another tactic would be to promote, buy, or extend "brand name" recognition. However, such marketplace responses would often be expensive.

¹² See JOHN SUTTON, *SUNK COSTS AND MARKET STRUCTURE* (1991).

a serious possibility that properly concerns antitrust enforcers and courts. First, the active criminal enforcement program of the Antitrust Division demonstrates that firms do indeed fix prices. Second, contemporary economic theory's study of "repeated games" shows that supracompetitive pricing through coordination is plausible in many oligopolies even if the firms do not reach that outcome by engaging in the process antitrust law deems an agreement.¹³ Third, recent empirical research suggests that there is a great deal of market power in some concentrated industries, and that anticompetitive conduct is a significant cause of high price-cost margins.¹⁴

Finally, academic business strategists teach firms actively to facilitate coordination. One common pedagogical device is a business school case¹⁵ based on the pricing strategies followed by General Electric and Westinghouse in the wake of their criminal price-fixing convictions in the government's famous *Electrical Equipment* cases of thirty-five years ago.¹⁶ No longer were bids assigned by the phases of the moon and a series of secret meetings. The firms, instead, introduced a number of practices unilaterally to improve their prospects of reaching consensus by simplifying their strategies and to discourage deviation. By standardizing product definitions, distributing price books, and committing to "most favored customer" protections, they succeeded in lifting prices back up toward where they had been when the firms were conspiring overtly.¹⁷ When they study this example, business students are taught explicitly how to raise prices to levels that they would achieve if they were conspiring with their competitors,¹⁸ but in a way that makes it difficult for courts to infer an agreement so they will not land in jail.

II. AGREEMENT AND THE "OLIGOPOLY PROBLEM"

Antitrust's long engagement with the "oligopoly problem"—the concern that prices will exceed competitive levels when sellers have few

¹³ See Baker, *supra* note 5, at 154–56 (discussing antitrust implications of the "folk theorem" for infinitely repeated games with observable actions).

¹⁴ Timothy F. Bresnahan, *Empirical Studies of Industries with Market Power*, in 2 HANDBOOK OF INDUSTRIAL ORGANIZATION 1011, 1052–53 (Richard Schmalensee & Robert D. Willig eds., 1989) (conclusions A and B).

¹⁵ MICHAEL PORTER, *CASES IN COMPETITIVE STRATEGY* 102–18 (1983).

¹⁶ *United States v. Westinghouse Elec. Corp.*, 1962 Trade Cas. (CCH) ¶ 70,487 (D. Pa. 1962).

¹⁷ See Proposed Modification of Existing Judgments, *United States v. General Elec.*, 42 Fed. Reg. 17,004 (1977). On the ways most-favored-customer protection can facilitate coordination, see Jonathan B. Baker, *Vertical Restraints with Horizontal Consequences: Competitive Effects of "Most-Favored-Customer" Clauses*, 64 ANTITRUST L.J. 517 (1996).

¹⁸ Cf. MICHAEL PORTER, *COMPETITIVE STRATEGY* 93–95 (1980) (encouraging unilateral signaling announcements, selective advertising to discipline recalcitrant rivals, and price

rivals—has generated a rich vein of cases and commentary available for mining for insight into the problem of identifying horizontal price fixing in the electronic marketplace.¹⁹ Though no summary can do justice to this literature, several threads are particularly relevant to addressing the problem posed by rapid information exchange through electronic commerce.

The common judicial definitions of agreement—a “meeting of the minds” or “conscious commitment to a common scheme”—are not the most useful tools to identify agreements from circumstantial evidence in parallel pricing cases.²⁰ The reason: a court conscientiously applying these definitions would be led to mistakenly infer an agreement merely from the consciously parallel interaction among oligopolists. When one firm in an oligopoly raises its price, and each of the others follows that lead, the definitions are satisfied: the first price increase is an offer; those that follow are acceptances; as each observes the other’s actions, they reach a common understanding. Accepting this result by inferring agreement whenever oligopolists price in parallel is a mistake: it would lead the law into a hopeless swamp by leaving the courts without a remedy.²¹ Assuming that parallel behavior alone were considered illegal, there would be nothing practical that a court could order the parties to do to correct it. If agreement is evidenced by something beyond merely parallel price behavior, then a court can, in principle, enjoin that extra “something.” But if that extra “something” is absent, the only remedy is judicial price regulation—a complete non-starter. That is why, to paraphrase the

leadership), 106 (advocating standardization to simplify industry decision variables and facilitate identifying a focal point).

¹⁹The oligopoly problem has generated several landmark Supreme Court decisions. *E.g.*, *Interstate Circuit, Inc. v. United States*, 306 U.S. 208 (1939); *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150 (1940); *Theatre Enters., Inc. v. Paramount Film Distrib. Corp.*, 346 U.S. 537 (1954). The most influential precedents from the last two decades have come from the circuit courts. *E.g.*, *United States v. Foley*, 598 F.2d 1323 (4th Cir. 1979), *cert. denied*, 444 U.S.1043 (1980); *Clamp-All Corp. v. Cast Iron Soil Pipe Inst.*, 851 F.2d 478, 484 (1st Cir. 1988) (Breyer, J.), *cert. denied*, 488 U.S. 1007 (1989); *In re Coordinated Pretrial Proceedings in Petroleum Prods. Antitrust Litig.*, 906 F.2d 432 (9th Cir. 1990), *cert. denied*, 500 U.S. 959 (1991). Moreover, antitrust’s leading commentators have written important articles on the subject. *E.g.*, Donald Turner, *The Definition of Agreement Under the Sherman Act: Conscious Parallelism and Refusals to Deal*, 75 HARV. L. REV. 655 (1962); Richard Posner, *Oligopoly and the Antitrust Laws: A Suggested Approach*, 21 STAN. L. REV. 1562, 1576 (1969). For recent commentary, see generally *Symposium on Tacit Collusion*, 38 ANTITRUST BULL. 1 (1993).

²⁰ See Posner, *supra* note 19, at 1576; see also Baker, *supra* note 5, at 178; *cf.* *Monsanto Co. v. Spray-Rite Serv. Corp.*, 465 U.S. 752, 764 n.9 (1984) (to show “a meeting of the minds” or “a common scheme” in a dealer-termination case “evidence must be presented both that the distributor communicated its acquiescence or agreement, and that this was sought by the manufacturer.”).

²¹ See Turner, *supra* note 19.

Supreme Court, conscious parallelism has not read “agreement” out of the Sherman Act.²²

The need to frame a satisfactory remedy generates other limits on the application of the antitrust laws. A firm or oligopoly that happens to charge prices above the competitive level does not for that reason alone violate Sherman Act Section 1. Moreover, mere leader-follower behavior is not illegal even if supracompetitive prices result.²³

An agreement under antitrust law is better defined by what the courts actually do in parallel pricing cases than by the words of the common definitions. Rather than deeming mere conscious parallelism an agreement, courts look for certain additional features of firm behavior called “plus factors” to support an inference of agreement.²⁴ The principal plus factors have historically been the kinds of things that suggest that there really was a secret agreement, such as secret direct communications just before prices rise.²⁵ Plus factors are evidence that the parties have gone through a process of negotiation and exchange of assurances in addition to, or as the reason for, their parallel price behavior. They support a conclusion based on the totality of the circumstantial evidence that the parties have done more than merely watch each other’s market behavior and respond to it independently, as leaders and followers.

This judicial methodology carries with it an important point: the 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.²⁶ 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.

As a predicate to clear thinking and wise enforcement of price fixing in the electronic marketplace, it is especially important for courts to focus on whether firms have engaged in the forbidden process and, concomitantly, on whether a remedy can successfully be framed. Under conditions of rapid information exchange, the antitrust laws seek to

²²Theatre Enters., Inc. v. Paramount Film Distrib. Corp., 346 U.S. 537, 541 (1954).

²³See, e.g., Clamp-All Corp. v. Cast Iron Soil Pipe Inst., 851 F.2d 478, 484 (1st Cir. 1988) (Breyer, J.), cert. denied, 488 U.S. 1007 (1989).

²⁴6 PHILLIP E. AREEDA, ANTITRUST LAW ¶1434a (1986); see William E. Kovacic, *The Identification and Proof of Horizontal Agreements Under the Antitrust Laws*, 38 ANTITRUST BULL. 5, 31–55 (1993).

²⁵Baker, *supra* note 5, at 175–77.

²⁶See *id.* at 179.

determine whether the close scrutiny firms give each other and the quick responses that firms make to competitive moves by their rivals have evolved into conversations that can be recognized as negotiations and the exchange of assurances. In policing electronic commerce, as with price signaling by press release, the question will be less often whether the firms met in secret and more often whether their interactions constituted the forbidden process of agreement.²⁷

The critical task of determining whether firms pricing in parallel have engaged in the forbidden process is in large part an economic question because the Supreme Court, in *Matsushita*, refused to permit an inference of conspiracy that did not make “economic sense.”²⁸ The economics of frictionless coordination suggest two situations where *Matsushita*’s “economic sense” requirement should shield firms from claims of conspiracy. First, if the industry structure is not conducive to coordination—perhaps because entry is easy or because a firm could cut prices in secret and steal business from rivals—then a court should recognize that it would be irrational for a firm to risk prosecution by engaging in the forbidden process without any hope of gaining market power.²⁹ Under such circumstances the inference of agreement from parallel pricing would not make economic sense.³⁰

Second, if instead entry is not easy and firms can discourage price cutting,³¹ a court should consider whether it was necessary for the firms to engage in the forbidden process to reach a coordinated, high-price equilibrium, or whether they could achieve the same outcome through

²⁷For an example of a court asking the latter question and finding a conspiracy in a setting not involving electronic commerce, see *United States v. Foley*, 598 F.2d 1323, 1331–35 (4th Cir. 1979), *cert. denied*, 444 U.S. 1043 (1980).

²⁸*Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587, 596, 598 (1986); *accord*, *Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 540 U.S. 451, 467–70 (1992). Though neither case involved the issue of inferring an agreement on price from parallel pricing among oligopolists, there is no reason to think that the Supreme Court intends to consider whether some classes of conspiracy allegations make economic sense but not others.

²⁹See, e.g., *Montana v. SuperAmerica*, 559 F. Supp. 298 (D. Mont. 1983) (declining to infer an agreement to fix price for retail gasoline in the absence of direct evidence in a market with competitive characteristics; decision predates *Matsushita*). This argument will be most persuasive in circumstantial evidence cases. If a court has reliable direct evidence of conspiracy, it may reasonably find an agreement notwithstanding arguments that such behavior would be irrational given market structure.

³⁰Baker, *supra* note 5, at 185 (with the *Matsushita* requirement, “the analytical stage has been set for courts to conclude that in an industry with an environment not conducive to coordination, an agreement among competitors to fix price is not plausible and should not be inferred from circumstantial evidence.”).

³¹Rapid identification and response to rival price cutting may discourage price reductions by competitors. Firms that raise their own costs of lowering price, as by adopting “most-favored-nations” clauses, can also create an industry environment inhospitable to price reductions.

leader-follower behavior that does not carry the risk of liability. In such a case, the firms can argue that “even if we are coordinating—which, of course, we do not admit—we did not need to agree in order to do so.” In a parallel pricing case, the firms might also contend: “We acknowledge that we each pay attention to our rival’s prices when we make our own pricing decisions—we often follow the leader. But we make our decisions independently, and neither negotiate with our competitors nor exchange assurances with them about our prices.” If the facts support this argument, here, too, the inference of agreement would not make economic sense.³²

Under other circumstances, however, the inference of conspiracy could make economic sense. In particular, a court should be willing to infer an agreement in a parallel pricing case in an industry where entry and discounting are discouraged if the firms appear to have been doing more than merely following each other’s market moves. Three economic indicators could help courts infer that firms have selected a coordinated equilibrium by engaging in the forbidden process of negotiation and exchange of assurances.³³ First, firm behavior might be more complex than would be plausible if the outcomes had been reached absent the forbidden process, as through mere leader-follower behavior. A focal point or rule that developed from historic precedent or clear business imperatives would be expected to be obvious and straightforward—such as “we raise all our prices by a common percentage,” or “we don’t solicit each other’s customers or in each other’s territories.” More complex relationships and rules might imply that the parties had engaged in active negotiation to reach an agreement.³⁴ Second, the inference of agreement would be strengthened if the explanations offered by the

³² Baker, *supra* note 5, at 190–91; *see also* Reserve Supply Corp. v. Owens-Corning Fiberglas Corp., 971 F.2d 37, 49–55 (7th Cir. 1992) (no inference of conspiracy where plaintiffs presented no direct evidence in highly concentrated market for a standardized product with inelastic demand); *cf.* United States v. Alex, Brown & Sons, Inc., Competitive Impact Statement, 61 Fed. Reg. 40,433, 40,441 (Aug. 2, 1996) (mere adherence by securities firms to quoting convention insufficient to infer an agreement; DOJ alleged that this practice “distilled or hardened over time” into an unlawful conspiracy).

³³ *E.g.*, *In re* Coordinated Pretrial Proceedings in Petroleum Prods. Antitrust Litig., 906 F.2d 432 (9th Cir. 1990), *cert. denied*, 500 U.S. 959 (1991) (agreement in a parallel pricing case could be demonstrated by evidence of direct contacts among defendants, advance price announcements, posting of prices in unusual detail, the absence of a business justification for advance price announcements, and the intention of the parties to use the practices to achieve higher prices); *see also* Petruzzi’s IGA Supermarkets Inc. v. Darling-Delaware Co., Inc., 998 F.2d 1224 (3d Cir. 1993) (market division agreement could be inferred from a pattern of refraining from competing on existing accounts, economic plausibility of the defendant’s incentive to collude, and some evidence of direct communications); *see generally* Baker, *supra* note 5, at 191–92.

³⁴ *See* Baker, *supra* note 5, at 162–69.

parties about the putative legitimate business purposes are weak or even pretextual. The most common efficiency justification for posting prices—to tell prospective customers what a firm charges—is very persuasive. For this reason mere price advertising to buyers does not raise antitrust concerns, even if rivals also pay attention or the prices are posted in the electronic marketplace. But other justifications may be less convincing or less related to a legitimate purpose. 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.”

III. AIRLINES PRICE FIXING

The Antitrust Division’s airlines price-fixing case highlights the anti-competitive potential of markets with rapid information exchange. The complaint alleged that over a multi-year period around the end of the last decade the leading U.S. air carriers employed a computer system run by an airline joint venture to fix prices. The computer system collected each airline’s actual and proposed price changes and sent them to the various computer reservation systems used by travel agents. The joint venture also processed the price information and gave the airlines detailed reports that were in practice unavailable to users of computer reservation systems. The Department of Justice alleged that the airlines were engaged in price fixing that was facilitated by the joint venture. The case was settled by consent agreements.³⁵

The airlines case shows what it takes to prove an agreement in the electronic commerce setting. The proof did not rest primarily on direct evidence, such as a memorialization or testimony of a participant. More precisely, the question of whether the electronic communications constituted direct evidence of an agreement was closely related to the question of whether the firms had reached an agreement.³⁶ It was not contended

³⁵ *United States v. Airline Tariff Publishing Co.*, 1994-2 Trade Cas. (CCH) ¶ 70,687, (D.D.C. 1994) (final consent decree); *United States v. Airline Tariff Publishing Co.*, 1993-2 Trade Cas. (CCH) ¶ 70,410 (D.D.C. 1993) (consent decree); *see also* *United States v. Airline Tariff Publishing Co.*, 58 Fed. Reg. 3,971 (Jan. 12, 1993) (competitive impact statement); *United States’ Response to Public Comments*, Civ. No. 92-2854 (D.D.C. filed Apr. 8, 1993); *United States’ Response to Questions in Appendix A of the Court’s Order Dated May 24, 1993*, Exhibit 1, Declaration of Jonathan B. Baker, Civ. No. 92-2854 (D.D.C. filed June 28, 1993); *United States v. Airline Tariff Publishing Co.*, 59 Fed. Reg. 15,225 (Mar. 31, 1994) (competitive impact statement); William Gillespie, *Cheap Talk, Price Announcements, and Collusive Coordination* (Economic Analysis Group Discussion Paper, EAG 95-3) (Sept. 25, 1995).

³⁶ That is, the DOJ alleged that the communications involving fares could be read by one who knew or had broken the code, as memorializing, as well as negotiating, the terms of an agreement.

that parallel pricing and high price levels alone would imply negotiation and exchange of assurances. Nonetheless, the Antitrust Division alleged that the course of conduct amounted to an illegal agreement—actually many illegal agreements over various fares and routes—and included elements that could and should be enjoined.

The three aspects of the evidence described above made the inference of agreement persuasive to the government. First, there was a great deal of communication among the airlines that they understood as such. The airlines created their own language using fare relationships and “footnote designators.” The communications were “cheap talk,” as they largely involved information about fares that were unavailable to ticket buyers until a consensus had been reached, or else were available only for short periods so were not widely purchased. The airlines probably conveyed more information through their computers than the prototypical conspirators meeting in a hotel room ever would. From the records of this communication, the Antitrust Division contended it could identify roughly fifty distinct agreements (i.e., offers, negotiations, and acceptances).³⁷

Second, the conduct was too complex to have been arrived at other than through the forbidden process of negotiation and exchange of assurances. One airline would post a rate change for its flights between cities *A* and *B* and relate that to a posting involving its flights between *C* and *D*. Other airlines would answer quickly, but echoing or revising some feature of the first posting and perhaps bringing in routes involving *X* and *Y*, too—none of these proposals were necessarily effective or binding on any of them yet. These city pairs were typically unrelated in cost or demand; rather they were connected in the communications by use of footnote designators or other fare codes that served as signals that the proposals were meant to be related to each other.³⁸ This process continued until the carriers reached a consensus on the adjustments to be made to the original fares. It is not hard to read these complex outcomes—particularly as they involve city pairs not naturally related—as resulting from a process of negotiation and agreement, albeit in a potentially public forum.

Third, claims of legitimate business justification were unconvincing. In practice the features of the computer-communicated price records

³⁷The “offers” typically proposed *quid pro quo* conduct: “if you do *X*, then, and only then, I will do *Y*.” When the carriers had reached a consistent set of proposals through “negotiations,” all offers were “accepted” and allowed to take effect.

³⁸The most attractive agreements for the carriers were probably those in which carrier *A* offered to increase fares on a route into carrier *B*’s hub in exchange for carrier *B*’s assent to increase fares on a route into carrier *A*’s hub. See Baker, *supra* note 35.

that conveyed offers and acceptances had little value to customers, and sometimes were not even available either to the ticket buying public or to travel agents, the most sophisticated non-airline users of the information. For example, the "last ticket date" that the carriers claimed was useful to customers trying to get the best price before it changed was not binding on the airlines and was inaccurate about half the time. The Antitrust Division contended that this information was used, not to benefit ticket buyers, but to negotiate prices with other airlines. The customer losses from higher prices potentially measured in the billions of dollars.³⁹

The consent order prevents the airlines from using "footnote designators" and other methods to engage in quasi-public negotiations about price levels without incurring risks or costs. It does not prevent the airlines from communicating their rate plans as long as the communications also go to customers and as long as the communication is not just "cheap talk." Thus, the consent order tries to strike a balance between the interests of promoting efficient conduct and preventing coordination. The behavior that most clearly failed to amount to legitimate communication to customers was enjoined, while the order permits behavior that promotes efficiency.

IV. IDENTIFYING AGREEMENTS REACHED IN THE ELECTRONIC MARKETPLACE

The airlines price-fixing case suggests that, as shopping increasingly moves to the electronic marketplace, it is likely to be easier in one

³⁹ *Id.* One recent Brookings study concludes that anticompetitive prices resulting from price leadership cost ticket buyers \$356 million per year during the 1980s. STEVEN A. MORRISON & CLIFFORD WINSTON, *THE EVOLUTION OF THE AIRLINE INDUSTRY* 77 (1995). Although the analysis was partly motivated by the DOJ's price-fixing complaint, the study was not designed to capture many of the harmful effects alleged and may have underestimated the annual customer injury resulting from the airlines' exercise of market power.

In particular, the Brookings study identified routes in which price leadership occurred by examining the impact of changes in each carrier's average fares during one quarter of the year on the average fares of rival carriers during the following quarter. This approach adapts the common econometric practice for testing "causality" to the available data, but data limitations likely led the researchers to omit most of the routes affected by the alleged price fixing for two reasons. First, most of the negotiations identified by the DOJ employed fares that were unavailable to ticket buyers until consensus was reached, or else were available only for short periods and not widely purchased. In either case, price leadership would not be observed in the fare data regardless of the duration of the supracompetitive prices: fare negotiations would have little or no effect on average fares, and successful negotiations would appear as simultaneous fare increases by all carriers serving a route. Second, most of the negotiations took place within quarters, while the study only includes routes where a carrier's fare changes typically preceded a rival's fare changes across quarters. Because the study mainly involved routes that would have been deemed unaffected by price leadership, its comparison of price-cost margins between leadership and non-leadership routes would be expected to understate the price elevation resulting from

respect, but harder in another, to infer price fixing from parallel pricing. The inference may become easier because the electronic marketplace enriches the opportunities for communication. According to the Department of Justice, the airline carriers did not resist the temptation offered by contemporary telecommunications technology to create a language to engage in detailed and extensive conversations and reach complex bargains. Given the incentive of oligopolists to make anticompetitive communication difficult to interpret by antitrust enforcers and courts, however, one would expect that rivals in other industries confronted with a similar opportunity to fix prices would be cagier.

On the other hand, it will likely become more difficult to infer an agreement from parallel prices as commerce moves to the electronic marketplace if the information shared among rivals, and allegedly used to negotiate price increases, is equally available and valuable to buyers. In general, the more the information goes to customers and is used by them, the better a defendant's claim of a legitimate business justification and the more difficult the inference of agreement.⁴⁰ It was fortunate for antitrust enforcement that the first alleged example of price fixing in electronic commerce occurred over a network more readily available to rivals than customers and was conducted through communications of little value to buyers; these features undermined the business justification for the information exchange.⁴¹ Because public communications potentially have a strong business justification (even if they also improve the

the interfirm fare coordination alleged by the DOJ. To the extent the study includes routes affected by the alleged conspiracy, the data employed by the Brookings researchers is imperfectly suited for isolating the effects of the alleged fare agreements because it dates fares by travel date rather than ticket purchase date.

⁴⁰This generalization will not always hold. For example, if firms negotiate a price-fixing agreement publicly by giving advance notice of anticompetitive price increases that rivals modify or match before a consensus is reached, then the price-fixing firms should not be allowed to evade prosecution by claiming that buyers want the advance notice in order to accelerate some purchases before the new, high price takes effect. Buyers would do even better if price fixing was no longer facilitated because advance notice was prohibited. See United States' Response to Public Comments, *United States v. Airline Tariff Publishing Co.*, *supra* note 35, at 29.

⁴¹From one perspective it may seem remarkable that a defendant's business justification plays any role in determining whether an agreement was reached. Firms can engage in the forbidden process of negotiation and exchange of assurances for good or ill and their purpose seems logically unrelated to their means. Moreover, efficiencies are already taken into account both in determining whether an agreement that nakedly restrains trade should be reviewed under the rule of reason and when an agreement's reasonableness is assessed. Yet, the law has evolved this way to ensure that when a court deems conduct to constitute an anticompetitive agreement, the court can frame an adequate remedy. The absence of a business justification for the suspect conduct (as with other factors, like communication and the complexity of the conduct relative to what leader-follower behavior might reasonably yield) suggests that the firms could and would behave differently if enjoined, and therefore that a judicial remedy short of price regulation is indeed available.

prospects for successful coordination among competitors), the difficulties of inferring an agreement among rivals in parallel pricing cases may become even greater with the growth of electronic commerce.

The airlines pricing-fixing case demonstrates that as commerce shifts to the electronic marketplace and courts confront the perennial question of whether parallel pricing by oligopolists constitutes an unlawful agreement on price, the critical inquiry shifts from whether the firms met in secret to whether their observed interactions constituted the forbidden process, and so can be enjoined under Sherman Act Section 1. Yet, as the business strategy field has already recognized in non-electronic commercial settings, some anticompetitive oligopolistic behavior cannot easily be reached under the antitrust laws. Competing sellers may sometimes be able to achieve high prices, while minimizing the risk that antitrust enforcers and courts would infer an anticompetitive agreement on price, by engaging in leader-follower conduct or by sharing the information required to implement such a strategy with customers as well as rivals. Antitrust has few good alternatives for addressing the "oligopoly problem" beyond inferring an agreement to fix prices in violation of Sherman Act Section 1, the approach the Department of Justice followed in the airlines price-fixing case.⁴² Thus, the growth of electronic commerce and the consequent spread of rapid information exchange to more markets may lead to renewed concern about the "oligopoly problem" in debates over antitrust policy.⁴³

⁴²In some cases enforcers will have direct evidence of an agreement that does not depend upon interpreting communications in the electronic marketplace. Even if the agreement is not memorialized, for example, a remorseful executive may testify to its terms. Another approach is to prevent structural conditions conducive to coordination through merger enforcement or through challenges to the "facilitating practices" by which firms commit themselves to high prices or to rapidly detect and respond to discounting by rivals. If facilitating practices are adopted by agreement, then the agreement may violate Sherman Act § 1. If they are adopted unilaterally, they cannot be reached under the Sherman Act, however, unless monopolization is threatened or achieved (thus permitting challenge under Sherman Act § 2). Moreover, the Second Circuit, in resolving the *Ethyl* litigation, *E.I. du Pont de Nemours & Co. v. FTC*, 729 F.2d 128 (2d Cir. 1984), discouraged the Commission from attacking unilateral facilitating practices under FTC Act § 5. For an argument that the Second Circuit was likely wrong, and that in any event the FTC retains the power to address such problems through informal competition rulemaking, see Baker, *supra* note 5, at 207-19.

⁴³See Baker, *supra* note 5, at 147.