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Monsanto, Matsushita, and "Conscious Parallelism": Towards a Judicial Resolution of the "Oligopoly Problem"

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MONSANTO, *MATSUSHITA*, AND "CONSCIOUS PARALLELISM": TOWARDS A JUDICIAL RESOLUTION OF THE "OLIGOPOLY PROBLEM"

I. INTRODUCTION

The Third Circuit's recent opinion in *In re Flat Glass Antitrust Litigation*[1] is the latest installment in a series of U.S. Court of Appeals cases[2] dealing with the issue of "circumstantial evidence in cases involving allegations of horizontal price-fixing among oligopolists."[3] The issue, explained and confronted by the Third Circuit, involves determining the kinds of evidence or the combinations of evidence of price-fixing in an oligopolistic market that plaintiffs must present to survive summary judgment.[4] At first blush, this question may appear to be settled by the Federal Rules of Civil Procedure,[5] but in reality, the issue in these cases is much more complex.

The appropriate standard for summary judgment in these cases is a question that intersects with a famous scholarly debate, more than forty years running, involving two giants in the antitrust field, the now deceased Professor Donald Turner, and Seventh Circuit Judge Richard Posner. Beginning with Turner's seminal article in 1962,[6] the debate over whether firms in oligopolistic markets can avoid the kind of parallel pricing often achieved in less concentrated markets through agreements,[7] and whether

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1. 385 F.3d 350 (3d Cir. 2004).

2. *See, e.g.*, Williamson Oil Co. v. Philip Morris USA, 346 F.3d 1287 (11th Cir. 2003); Blomkest Fertilizer, Inc. v. Potash Corp. of Saskatchewan, 203 F.3d 1028 (8th Cir. 2000); *In re* Baby Food Antitrust Litig., 166 F.3d 112 (3d Cir. 1999); Petruzzi's IGA Supermarkets, Inc. v. Darling-Delaware Co., 998 F.2d 1224 (3d Cir. 1993); Clamp-All Corp. v. Cast Iron Soil Pipe Inst., 851 F.2d 478 (1st Cir. 1988).

3. *Flat Glass*, 385 F.3d at 358. For an explanation of some of the basic economic theory employed in the antitrust field and in this Note, see LOUIS KAPLOW & STEVEN SHAVELL, MICROECONOMICS (Foundation Press 2004). Kaplow & Shavell define an oligopoly as "usually refer[ing] to markets in which the number of firms is between two and some not very large number, say 10 . . . ." *Id.* at 57.

4. *Flat Glass*, 385 F.3d at 357.

5. FED. R. CIV. P. 56(c) ("[Summary] judgment . . . shall be rendered [when the evidence shows] that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law.").

6. Donald F. Turner, *The Definition of Agreement Under the Sherman Act: Conscious Parallelism and Refusals to Deal*, 75 HARV. L. REV. 655 (1962) [hereinafter Turner, *Conscious Parallelism*].

7. Such agreements would be unlawful under the Sherman Act. 15 U.S.C. § 1 (2000).

these firms should be prosecuted, has continued in the courts and among law professors and commentators working in the antitrust field.[8]

At the center of the debate lies contending views over the natural pricing tendencies of firms operating in highly concentrated or "oligopolistic" markets. Some commentators, Turner among them, have argued that supracompetitive parallel pricing is a natural outcome of a highly concentrated industry in which each seller is aware of the pricing and production decisions of its rivals because the market is easily monitored.[9] The courts have been largely persuaded by this view.[10] Increasingly, however, commentators including Judge Posner have begun to question the inevitability of "conscious parallelism," and the wisdom of the federal courts in relying on this doctrine in summary judgment rulings.[11]

Despite all of this discourse, which includes some rather sophisticated views of oligopolistic market structure and its effects on the efficacy of antitrust enforcement,[12] judicial approaches to the issue have varied, often tending towards a more orthodox view, skeptical in its approach to economic evidence in horizontal price-fixing cases.[13] The court in *Flat*

8. Judge Posner's latest comments on the problem are found in RICHARD A. POSNER, ANTITRUST LAW (2d ed. 2001) [hereinafter POSNER, ANTITRUST LAW], which presents Posner's latest thinking on the debate, and serves as the defining statement of Posner's views in this Note. It should be noted, however, that Judge Posner has been involved in this debate since the late 1960s, and that POSNER, ANTITRUST LAW, *supra*, is a revision of his influential book, RICHARD A. POSNER, ANTITRUST LAW: AN ECONOMIC PERSPECTIVE (1976). The change in title is due, as Judge Posner explains, to the antitrust community's recognition that the economic perspective belongs in the forefront in antitrust analysis; since the publication of the first edition, "other perspectives have largely fallen away." POSNER, ANTITRUST LAW, *supra* at vii (citing Michael S. Jacobs, *An Essay on the Normative Foundation of Antitrust Economics*, 74 N.C. L. REV. 219, 236–40 (1995)).

For a more historically informed understanding on Judge Posner's perspective of this issue, see Richard S. Markovits, *A Response to Professor Posner*, 28 STAN. L. REV. 919 (1976); Richard A. Posner, *Oligopolistic Pricing Suits, the Sherman Act, and Economic Welfare: A Reply to Professor Markovits*, 28 STAN. L. REV. 903 (1976); Richard A. Posner, *A Statistical Study of Antitrust Enforcement*, 13 J.L. & ECON. 365 (1970); Richard A. Posner, *Oligopoly and the Antitrust Laws: A Suggested Approach*, 21 STAN. L. REV. 1562 (1969); George J. Stigler, *A Theory of Oligopoly*, 72 J. POL. ECON. 44 (1964).

9. *See* discussion *infra* Part II.A.

10. *See* discussion *infra* Part II.D.

11. *See* discussion *infra* Parts II.B, II.C, II.D.

12. *See* Herbert Hovenkamp, *The Rationalization of Antitrust*, 116 HARV. L. REV. 917, 920 (2003) [hereinafter Hovenkamp, *Rationalization*] (reviewing POSNER, ANTITRUST LAW, *supra* note 8 and observing that "considerable dispute remains about whether any particular structure *necessarily* entails noncompetitive performance, with the Harvard School historically tending to emphasize a strong relationship between structure and performance, and the Chicago School emphasizing the degree to which firms are able to compete notwithstanding high concentration or the presence of dominant firms").

13. *Id.* at 925 (noting that "[t]he courts have not moved far from the traditional position requiring a reasonably orthodox common law 'agreement'").

Glass recognizes the debate in its reasoning, and presents an interesting synthesis in its approach toward the issues raised by the oligopoly problem.[14] Despite the *Flat Glass* court's awareness of the issue, its analysis does not differ much from that of most courts. The typical analysis in these cases combines several of the positions in the oligopoly debate in a poorly blended and contradictory version of the two positions, using a mixture of economic evidence of collusive behavior with more traditional evidence of conspiracy involving communication among competitors, which courts and commentators call "plus factors."[15] Courts are frequently skeptical towards the economic indicia of collusion, viewing the parallel behavior as unavoidable.[16] This skepticism unfortunately informs courts' generally dismissive view of the more traditional conspiracy evidence, as well.[17] As a result, the summary judgment burden is high, and plaintiffs rarely get the opportunity to try a case.[18]

This Note attempts to lay the groundwork for a judicial resolution of the inconsistency caused by the "oligopoly problem" and the courts' current approach in dealing with horizontal price-fixing among competitors in an oligopolistic market. Rather than substitute my own inexpert views on the economic analysis employed by proponents on both sides of the debate, this Note suggests a reorientation of the method by which the court system approaches these cases. I propose a new government policy under which the Department of Justice (DOJ) or the Federal Trade Commission (FTC) utilize their ability under section 4 of the Sherman Act[19] and section 15 of the Clayton Act[20] to bring suits in

14. *See In re* Flat Glass Antitrust Litig., 385 F.3d 350, 358–61 (3d Cir. 2004).

15. *See id.* at 360–62.

16. *See infra* Part II.D.1.

17. *Id.*

18. *Id.*

19. 15 U.S.C. § 4 (2000). Section 4 provides, in pertinent part: "The several district courts of the United States are invested with jurisdiction to prevent and restrain violations of sections 1 to 7 of this title; and it shall be the duty of the several United States attorneys . . . to institute proceedings in equity to prevent and restrain such violations."

20. 15 U.S.C. § 9 (2000). This section grants the same authority to proceed in equity for violations of the Clayton Act as section 4 of the Sherman Act provides. As Areeda explains, "[t]he Supreme Court has understood the power under this statute to embrace 'such orders and decrees as are necessary or appropriate' to enforce the statute." PHILLIP AREEDA, LOUIS KAPLOW, AARON EDLIN, ANTITRUST ANALYSIS 50 (6th ed. 2004) [hereinafter ANTITRUST ANALYSIS] (quoting Northern Sec. Co. v. United States, 193 U.S. 197, 344 (1904)). As Areeda explains, "the purpose of the decree is deemed not to be punitive, and it will not embody harsh measures when less severe ones will suffice." *Id*. at 50–51 (citation omitted). After fashioning injunctive relief, which may include disposal of subsidiary companies, the creation of competing enterprises, mandatory disclosure of patents or other trade secrets, and other injunctive remedies, the court retains jurisdiction to make modifications, and

equity, outside of the jury system,[21] to enjoin practices that may facilitate collusion in a concentrated market. This method avoids the current standard for summary judgment in such cases, allowing further inquiry into the allegedly collusive practices, while eliminating the risks associated with antitrust judgments, including the likelihood of private treble damage actions.[22]

In proposing this course of action, this Note examines some of the finer points of the debate from each side, as well as each perspective's proposed solution. Part II examines the historical background of the oligopoly problem in the academic literature and the courts. Part III analyzes the conflict, and explains the shortcomings extant in the courts' current treatment of these cases. Part IV offers a proposed solution that avoids the pitfalls of the current adjudicatory approach and provides an opportunity to gain further understanding of the market realities of oligopolies.

II. HISTORY

Section 1 of the Sherman Act provides that "[e]very contract, combination, . . . or conspiracy, in restraint of trade or commerce . . . is declared to be illegal."[23] Though courts have long read a reasonableness limitation into the Act,[24] agreements to fix or control prices by competitors at the same market level have long been considered *per se* unlawful.[25] It is frequently stated that the violation is the *agreement* fix to prices.[26] To win a treble damages award[27] in a civil case, the plaintiffs

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may require the defendants to submit reports and allow the Justice Department "visitorial rights" into the defendants' operations. *Id*. of 51. Of course, the Justice Department and the FTC may seek preliminary injunctions as well. *Id*.

21. ANTITRUST ANALYSIS, *supra* note 20, at 74. Areeda points out that while criminal defendants and defendants facing treble damage actions "may demand trial by jury," there is "no right to a jury trial in equity proceedings. *Id*. Further, "the availability of jury trial does not mean that everyone demands it. Many litigants recognize the relative unsuitability of juries for determining the complex issues of an antitrust case." *Id*.

22. *See infra* note 27 and accompanying text.

23. 15 U.S.C. § 1 (2000).

24. *See* Standard Oil Co. of New Jersey v. United States, 221 U.S. 1 (1911) (articulating the necessity for a "Rule of Reason" analysis in some antitrust cases, i.e., that though the Act proscribes all restraints of trade, Congress intended to reach only "unreasonable" restraints of trade); Chicago Bd. of Trade v. United States, 246 U.S. 231, 238 (1918).

25. United States v. Socony-Vacuum Oil Co., 310 U.S. 150, 224 n.59 (1940) ("Whatever economic justification particular price-fixing agreements may be thought to have, the law does not permit an inquiry into their reasonableness. They are all banned because of their actual or potential threat to the central nervous system of the economy.").

26. *Id*. *See also* Arizona v. Maricopa County Med. Soc'y, 457 U.S. 332, 348 (1982) ("The *per se* rule is grounded on faith in price competition as a market force [and not] on a policy of low selling prices at the price of eliminating competition.") (citation omitted); Broad. Music, Inc. v. Columbia

need only prove that defendants conspired or agreed to fix prices.[28] Courts have interpreted this requirement to include "some form of concerted action,"[29] or a "unity of purpose or a common design and understanding."[30]

When faced with a motion for summary judgment in an antitrust case, the courts apply the normal standards under the Federal Rules of Civil Procedure[31] with an important modification. When an antitrust case is brought based on circumstantial evidence, the "law limits the range of permissible inferences from ambiguous evidence."[32] Perhaps because such evidence is easily concealed or destroyed, or because competitors are aware of the highly sensitive nature of communications about price, claims alleging price-fixing between competitors in oligopolistic markets often lack clear and obvious evidence of direct agreement to fix prices. Plaintiffs instead often prosecute based on a blend of evidence involving

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Broad. Sys., Inc., 441 U.S. 1, 7–8 (1979) ("In construing and applying the Sherman's Act's ban against contracts, conspiracies, and combinations in restraint of trade, the Court has held that certain agreements or practices are so plainly anticompetitive, and so often lack . . . any redeeming virtue that they are conclusively presumed illegal. . . .") (citations omitted); United States v. Trenton Potteries Co., 273 U.S. 392 (1927); *In re* Flat Glass Antitrust Litig., 385 F.3d 350, 356 (3d Cir. 2004) ("The existence of an agreement is [t]he very essence of a section 1 claim.") (internal quotation and citation omitted). *See also* POSNER, ANTITRUST LAW, *supra* note 8, at 53 ("[T]he inquiry in a price-fixing case became focused on the question whether the defendants had agreed to limit competition."). Thus, in the analysis involved in horizontal price-fixing prosecuted under section 1, courts tend focus on proof of the actual agreement, rather than the effects or outcome of the proscribed conduct. To illustrate, a conspiracy to fix prices could be entirely ineffectual, and result in treble damage liability. *See* United States v. Rabinowich, 238 U.S. 78, 86 (1915) ("A Person may be guilty of conspiring although incapable of committing the objective offense.").

27. Successful plaintiffs in private actions suing under the Sherman Act and the Clayton Act are entitled to treble damages plus attorneys fees. Clayton Act, 15 U.S.C. § 15 (2000). *See also* ANTITRUST ANALYSIS, *supra* note 20, at 58.

28. *Flat Glass*, 385 F.3d at 356.

29. Alvord-Polk, Inc. v. Schumacher & Co., 37 F.3d 996, 999 (3d Cir. 1994).

30. Monsanto Co. v. Spray-Rite Serv. Corp., 465 U.S. 752, 764 (1984) (quoting American Tobacco Co. v. United States, 328 U.S. 781, 810 (1946)).

31. *See* Big Apple BMW, Inc. v. BMW of North America, Inc., 974 F.2d 1358, 1363 (3d Cir. 1992) ("A non-movant's burden in defending against summary judgment in an antitrust case is no different than in any other case."); *Flat Glass*, 385 F.3d at 357 (quoting Intervest Inc. v. Bloomberg, L.P., 340 F.3d 144, 160 (3d Cir. 2003)). As the court in *Flat Glass* explains,

> A court shall render summary judgment when the evidence shows "that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." In making this determination, a court must "view the facts and any reasonable inferences drawn therefrom in the light most favorable to the party opposing summary judgment."

Id. at 357 (quoting Fed. R. Civ. P. 56(c) and *Intervest*, 340 F.3d at 160).

32. *See Flat Glass*, 385 F.3d. at 357.

communication between competitors and economic evidence of collusion, often called "circumstantial evidence" by the courts.[33]

In *Monsanto Co. v. Spray-Rite Service Corp*.[34] and *Matsushita Electric Industrial Co. v. Zenith Radio Corp.*,[35] the Supreme Court established a stringent set of tests for plaintiffs to defeat a motion for summary judgment in a "circumstantial evidence" case.[36] *Monsanto* established that to survive a directed verdict motion in a concerted action case, plaintiffs must present "evidence that tends to exclude the possibility that the [defendants] were acting independently."[37] The Court revisited the summary judgment standard issue in *Matsushita*, explaining that "antitrust law limits the range of permissible inferences from ambiguous evidence in a § 1 case."[38] Further, the Court established an informal "sliding scale" for the acceptability of inferences from certain kinds of evidence in these cases: because an erroneous finding of liability could chill procompetitive conduct, "acceptable inferences which can be drawn from circumstantial evidence vary with the plausibility of the plaintiffs' theory and the dangers associated with such inferences."[39]

Courts, including the Third Circuit in *Flat Glass*, have recognized that the context of the *Monsanto* and *Matsushita* decisions informed the stringent standards established by the cases,[40] and the standard has been

33. S*ee generally supra* note 2.

34. 465 U.S. 752 (1984).

35. 475 U.S. 574 (1986).

36. *See* Gregory J. Werden, *Economic Evidence on the Existence of Collusion: Reconciling Antitrust Law with Oligopoly Theory*, 71 ANTITRUST L.J. 719, 751 (2004) ("In recent years, summary judgment has been a major hurdle for plaintiffs in cases involving the inference of agreement.") [hereinafter Werden, *Collusion*]; Thomas A. Piraino, Jr., *Regulating Oligopoly Conduct Under the Antitrust Laws*, 89 MINN. L. REV. 9, 27 (2004) ("The Supreme Court's 1984 decision in Monsanto Co. v. Spray-Rite Service Corp. erected a high hurdle for section 1 plaintiffs.") [hereinafter Piraino, *Oligopoly Conduct*]; Robert W. Doyle, Jr. & Andre P. Barlow, *Avoiding Summary Judgment in Antitrust Conspiracy Cases: Is the Seventh Circuit Pro-Enforcement?*, SJ054 ALI-ABA 581, 583 (2004) (noting that the standard for summary judgment in these cases is "a difficult one for plaintiffs to win").

37. 465 U.S. at 764.

38. 475 U.S. at 588.

39. Petruzzi's IGA Supermarkets, Inc. v. Darling-Delaware Co., 998 F.2d 1224, 1232 (3d Cir. 1993) (citing *Matsushita*, 475 U.S. at 587, 594).

40. *In re* Flat Glass Antitrust Litig., 385 F.3d. 350, 358 n.8 (3d Cir. 2004). In *Matsushita*, the plaintiffs relied on a theory that involved a predatory-pricing scheme. 475 U.S. 574. As then Judge Breyer explained, predatory pricing is a practice in which:

> [A] firm sets its prices temporarily below its costs, with the hope that the low price will drive a competitor out of business, after which the "predatory" firm will raise its prices so high that it will recoup its temporary losses and earn additional profit, all before new firms, attracted by the high prices, enter its market and force prices down.

Clamp-All Corp. v. Cast Iron Soil Pipe Inst., 851 F.2d 478, 483 (1st Cir. 1988). The Court and many commentators have long been suspicious of claims based on predatory pricing, in part because it results in low prices. *See Matsushita*, 475 U.S. at 594 ("[C]utting prices in order to increase business criticized by commentators.[41] Nevertheless, courts continue to maintain a high standard of the type of evidence required to defeat a summary judgment.[42] Compared with the way in which the government conducts enforcement in the merger area, this approach creates an all or nothing form of regulation. Either the defendants go to trial facing the prospect of treble damages or they win their motion for summary judgment.[43] By contrast, in a merger case, the government is given notice of the merger

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often is the very essence of competition."). As the Court explained in *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, "It would be ironic indeed if the standards for predatory pricing liability were so low that antitrust suits themselves became a tool for keeping prices high." 509 U.S. 209, 226–27 (1993).

Recent developments in game theory economics and antitrust analysis, however, find predatory pricing less implausible. *See* United States v. AMR Corp., 335 F.3d 1109, 1114–15 (10th Cir. 2003) (noting that, "[a]lthough this court approaches the matter with caution, we do not do so with the incredulity that once prevailed"). In *AMR*, the United States was unable to prove that AMR priced below an appropriate measure of cost, and the court ruled in favor of the defendants. *Id*. at 1120.

Monsanto was also decided in a separate context from many of the cases involving horizontal collusion. The standards established in *Monsanto* should be viewed in connection with the Supreme Court's decision in *Continental T.V., Inc. v. GTE Sylvania Inc*., 433 U.S. 36 (1977). In *Sylvania*, the Court departed from its restrictive view of all vertical restraints between manufacturers and distributors, holding that vertical restraints that did not affect price had persuasive pro-competitive justifications, and should be viewed under a Rule of Reason analysis. *Id*. at 57–59. The Court's decision in *Monsanto* relies heavily upon this new standard established for vertical restraints, and is tailored to maintain consistency with the Rule of Reason analysis established in *Sylvania*. The Court explains, "If an inference of such an agreement may be drawn from highly ambiguous evidence, there is a considerable danger that the doctrines enunciated in *Sylvania* and *Colgate* will be seriously eroded." *Monsanto*, 465 U.S. at 763.

41. *See* Hovenkamp, *Rationalization*, *supra* note 12, at 925 (arguing that the courts' current approach to summary judgment is "the result of an unfortunate misinterpretation" of *Matsushita*, and that *Matsushita* "never insisted that any particular kind of evidence of collusion was necessary"). Professor Hovenkamp also points out that *Matsushita* is an especially unfortunate case to create precedent because it "spoke in the context of a highly improbable twenty-year-long predatory pricing conspiracy and required high-quality evidence to permit such a conspiracy to be presented to a jury." *Id*.

Judge Posner is equally critical of the courts' handling of the *Monsanto* standard, arguing that

> [t]he development of the law in this area has been handicapped by an *unfortunate dictum* in *Monsanto Co. v. Spray-Rite Service Corp*. that to survive a motion for summary judgment the plaintiff in a price-fixing case must present evidence that "tends to exclude the possibility of independent action" by the defendants. It is unusual to require a plaintiff as part of his burden of proof to prove a sweeping negative . . . .

POSNER, ANTITRUST LAW, *supra* note 8, at 99–100 (emphasis added).

42. *See generally supra* note 2.

43. Defendants will have won their motion largely by showing that the plaintiff's evidence does not "tend to exclude" independent conduct. Thus, in cases where there are equal possibilities of illegal and legal conduct, defendants will win and that illegal conduct will go largely unregulated. This lack of regulation is likely explained by institutional skepticism within the courts and the government that "conscious parallelism" can be avoided. *See* Frank H. Easterbrook, Correspondence, *Workable Antitrust Policy*, 84 MICH. L. REV. 1696, 1701 (1986) ("Skepticism is why the Workable Antitrust Policy School seems to favor little other than prosecuting plain vanilla cartels and mergers to monopoly.").

and a minimum of thirty days under the Hart-Scott-Rodino Act[44] to negotiate with the merging parties to tailor their merger to avoid anticompetitive effects.[45]

For a plaintiff alleging a horizontal price-fixing conspiracy, to defeat this stringent summary judgment standard, it must show that the firms did more than merely price their goods in a similar or even identical fashion. Informed largely by the orthodox Turner view,[46] many courts seem to consider the phenomenon of identical price trends in a highly concentrated industry as unavoidable in many cases—a product of market structure, rather than evidence of collusion—therefore, as the Supreme Court in

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44. 15 U.S.C. § 18a (2000). The Hart-Scott-Rodino Act is also known as § 7A of the Clayton Act.

45. Areeda explains pre-merger notification requirements as follows:

> The government has an opportunity (even though not always the resources) to review all mergers above a moderate size, because before such mergers can actually take place, the Hart-Scott-Rodino Antitrust Improvements Act requires the parties to notify the government competition agencies—the FTC and the Justice Department. . . . In cases where there is any plausible prospect of a challenge, merging firms will typically commission economists . . . and lawyers to write white papers arguing that the merger will not lead to substantially higher concentration or prices in any relevant market. To the extent that the merger will lead to higher concentration or other competitive problems, the parties often will offer to spin off or sell certain assets where this is feasible. . . . After the Hart-Scott-Rodino notification, the merger cannot proceed until after a 30-day waiting period, during which the competition agencies decide whether they think the merger poses a competitive threat.

ANTITRUST ANALYSIS, *supra* note 20, at 685–86. The government is not required to approve the merger, but notification gives it the opportunity to examine the merger, and negotiate with the parties to tailor their mergers in such a way to avoid anticompetitive levels of market concentration. *Id*. This provides for a more robust and sophisticated regulatory environment that addresses the anticompetitive effects of concentrated industries while avoiding the chilling effects of treble damage suits or the impossible prospects of dismantling a merged firm.

Significantly, the government's policy towards mergers is informed by an aversion towards tacit collusion. Section 2.1 of the Department of Justice's Horizontal Merger Guidelines explains as follows:

> A merger may diminish competition by enabling the firms selling in the relevant market more likely, more successfully, or more completely to engage in coordinated interaction that harms consumers. Coordinated interaction is comprised of actions by a group of firms that are profitable for each of them only as a result of the accommodating reactions of the others. This behavior includes tacit or express collusion, and may or may not be lawful in and of itself.

Horizontal Merger Guidelines, § 2.1, issued by the Department of Justice and the Federal Trade Commission, April 2, 1992, revised April 8, 1997, *available at* http://www.usdoj.gov/atr/public/guidelines/hmg.htm.

46. *See* John E. Lopatka, *Solving the Oligopoly Problem: Turner's Try*, 41 ANTITRUST BULL. 843, 845 (1996) (stating that the Supreme Court's holding that "mere conscious price parallelism . . . does not violate the antitrust laws . . . . was no doubt reinforced by Turner's analysis and, so bolstered, became a bedrock principle, launching in subsequent cases innumerable searches for something more than simple parallelism, for plus factors that would transform the defendants' conduct into an actionable conspiracy") [hereinafter Lopatka, *Turner's Try*]. *See also infra* Part II.A.

Brooke Group explained, "not in itself unlawful."[47] This view is not entirely disputed by critics of Turner's theory; however, Posner and others, as discussed *infra*, suggest a more nuanced, less absolute view of the likelihood of parallel pricing.[48]

Thus, courts require that plaintiffs show (1) parallel behavior by the defendants; "(2) that the defendants were conscious of each other's conduct and that this awareness was an element in their decision making-process;" and (3) "certain plus factors."[49] In this analysis, a "plus factor" refers to "facts or factors" that tend to show that "parallel action amounts to a conspiracy."[50] The plus factors identified by the Third Circuit include (1) evidence of motive to enter into a conspiracy; (2) evidence that defendants displayed actions against self interest, absent an agreement among them; and (3) "evidence implying a traditional conspiracy."[51] However, depending on one's view of the "economic realities" of highly concentrated markets, the first two factors simply characterize the fact that sellers in a highly concentrated market will recognize the interdependent

47. Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 227 (1993). As the Court in *Brooke Group* explained:

> Tacit collusion, sometimes called oligopolistic price coordination or conscious parallelism, describes the process, not in itself unlawful, by which firms in a concentrated market might in effect share monopoly power, setting their prices at a profit-maximizing, supracompetitive level by recognizing their shared economic interests and their interdependence with respect to price and output decisions.

Id. See also infra Part II.D.

48. *See infra* Parts II.B, II.C.

49. Petruzzi's IGA Supermarkets, Inc. v. Darling-Delaware Co., 998 F.2d 1224, 1243 (3d Cir. 1993). *See also In re* Flat Glass Antitrust Litig., 385 F.3d 350, 358–61 (3d Cir. 2004); Williamson Oil Co. v. Philip Morris USA, 346 F.3d 1287, 1301 (11th Cir. 2003) ("[W]e have fashioned a test under which price fixing plaintiffs must demonstrate the existence of 'plus factors' that remove their evidence from the realm of equipoise and render that evidence more probative of conspiracy than of conscious parallelism."); Todd v. Exxon Corp., 275 F.3d 191, 198 (2d Cir. 2001) ("[A] horizontal price-fixing agreement may be inferred on the basis of conscious parallelism, when such interdependent conduct is accompanied by circumstantial evidence and plus factors . . . ."); Blomkest Fertilizer, Inc. v. Potash Corp. of Saskatchewan, 203 F.3d 1028, 1033 (8th Cir. 2000) (en banc) ("An agreement is properly inferred from conscious parallelism only when certain 'plus factors' exist."); *In re* Citric Acid Litig., 191 F.3d 1090, 1102 (9th Cir. 1999) ("Parallel pricing is a relevant factor to be considered along with the evidence as a whole; if there are sufficient other 'plus' factors, an inference of conspiracy can be reasonable."); *In re* Baby Food Antitrust Litig., 166 F.3d 112, 122 (3d Cir. 1999) (stating that courts "require that evidence of a defendant's parallel pricing be supplemented with 'plus factors'"); Wallace v. Bank of Bartlett, 55 F.3d 1166, 1168 (6th Cir. 1995) ("[P]arallel pricing, without more, does not itself establish a violation of the Sherman Act. Courts require additional evidence which they have described as 'plus factors.'") (citations omitted); Quality Auto Body, Inc. v. Allstate Ins. Co., 660 F.2d 1195, 1201 (7th Cir. 1981) ("Parallel behavior without more (a 'plus factor') is not enough to establish a Sherman Act violation.").

50. 6 Phillip E. Areeda, Antitrust Law ¶ 1433e, at 212 (1986).

51. *Flat Glass*, 385 F.3d at 360 (quoting *Petruzzi's*, 998 F.2d at 1244).

nature of their price and output decisions.[52] Courts will not view independent business decisions which take this interdependence into account as unlawful.[53] Results within the courts vary as to the level of clarity and sophistication with which they analyze this type of economic evidence.[54]

Due to judicial uncertainty regarding the economic evidence surrounding interdependence in oligopolistic markets, the third factor enunciated by the court in *Flat Glass*, "traditional evidence" or "smoking gun" type evidence of communication between competitors takes on the greatest importance in summary judgment rulings.[55] This evidence, however, is viewed skeptically through the lens of the *Matsushita* standard, which requires "evidence that tends to exclude the possibility" that defendants acted independently.[56] When, in the court's view, the evidence could be suggestive of either collusion or independence, summary judgment will be granted for the defendant.[57] This weighing of economic evidence and "traditional conspiracy" evidence may be legitimate in light of market realities (Turner's view) or an example of failed adaptation by the courts to accept a more nuanced and sophisticated understanding of the way in which oligopolistic markets function (Posner's view). This Note next considers each of these possibilities, examining several recent attempts to resolve the debate with the teachings of game theory, and then offers several illustrations of the treatment of the courts' treatment of the issue.

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52. *See id.* at 361 ("[S]ince these factors often restate interdependence (at least in the context of an alleged price-fixing conspiracy), they may not suffice—by themselves—to defeat summary judgment on a claim of horizontal price-fixing among oligopolists.").

53. *See id.* at 359–60 ("[I]nterdependent behavior is not an 'agreement' within the term's meaning under the Sherman Act.").

54. *See* discussion *infra* Part II.D.

55. *See id.*

56. *See supra* notes 34–48 and accompanying text.

57. *See* Piraino, *Oligopoly Conduct*, *supra* note 34, at 28 ("Lower federal courts have decided simply to grant summary judgment to defendants when the evidence of conspiracy is evenly balanced, or is ambiguous."). *See also* Re/Max Int'l v. Realty One, Inc., 173 F.3d 995, 1009 (6th Cir. 1999) ("[C]ircumstantial evidence alone cannot support a finding of conspiracy when the evidence is equally consistent with independent conduct."); Serfecz v. Jewel Food Stores, 67 F.3d 591, 599 (7th Cir. 1995) (concluding that plaintiff must prove evidence beyond that which is merely "compatible with the legitimate business activities of the [defendant]"); *but see* Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451, 468 (1992) ("The [*Matsushita*] Court did not hold that if the moving party enunciates *any* economic theory supporting its behavior, regardless of its accuracy in reflecting the actual market, it is entitled to summary judgment."); *In re* Coordinated Pretrial Proceedings in Petroleum Prods. Antitrust Litig., 906 F.2d 432, 439 (9th Cir. 1990) ("Nor do we think that *Matsushita* and *Monsanto* can be read as authorizing a court to award summary judgment to antitrust defendants whenever the evidence is plausibly consistent with both inferences of conspiracy and inferences of innocent conduct."), *cert. denied*, 500 U.S. 959 (1991).

A. Professor Turner and Conscious Parallelism

The thrust of Professor Turner's argument is that in highly concentrated or oligopolistic markets, price outcomes similar to those produced by unlawful price-fixing agreements are unavoidable.[58] Turner first points out that identical pricing in some instances, such as those where a large group of sellers produce an identical good (perfect competition), is to be expected.[59] Price stability is not expected in the case of declining demand, excess supply, or other shifts in the market that would give an advantage to a producer willing to decrease its price.[60] In these situations, suspicion that producers have agreed to maintain a price is well grounded because market conditions would create profitable outcomes for firms to lower prices.[61] Turner argues, however, that in oligopolistic markets, this kind of price stability can be maintained absent a verbal "agreement" among firms.[62]

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58. *See* Turner, *Conscious Parallelism*, *supra* note 6, at 666 (arguing that parallel conduct is the result of rational decision-making by oligopolists seeking to maximize profits). *See also* Hovenkamp, *Rationalization*, *supra* note 12, at 920 (explaining that employing structuralist economic techniques, as Turner and other Harvard School antitrust scholars did, led to the conclusion that "poor economic performance was inherent in certain industry structures").

59. Turner, *Conscious Parallelism*, *supra* note 6, at 659. A perfectly competitive market would produce identical prices as a means of meeting consumer demand. With many sellers, each would be forced towards the competitive price in order maximize sales.

60. *Id*.

61. *Id*. Turner explains this situation as follows:

> Suppose, for example, that two hundred producers selling in the same market maintain the same price despite a decline in demand that has left all of them operating at about sixty per cent of capacity. The decision of each producer to maintain the same price, instead of lowering his price in order to expand his sales and utilize more of his idle capacity, makes sense only on the following hypothesis—that a general lowering of price would lead to only a negligible increase in total sales for all producers (demand is highly "inelastic"); that therefore the current price will yield higher profits, or lower losses, for each producer than will the price which would be reached by competitive individual decisions; *and that practically all competitors refrain from shading the established price*. But the individual producer must have some grounds for knowing that his competitors will not cut price in order for him safely to refrain from cutting his own price. In this situation with such a larger number of producers, it is virtually inconceivable that the necessary assurance could be obtained without a prior actual agreement. With or without agreement, each producer is under great pressure to shade the price slightly, because even a large increase in his sales, if more or less evenly spread over his competitors, would reduce their sales so negligibly that they would not react. Without agreement, this pressure to cut is irresistible. Thus here, in the light of the additional facts, conscious parallelism would be virtually conclusive evidence of agreement.

Id. at 659–60.

62. *Id*. at 661.

In a market dominated by a few firms, pricing and output decisions by one firm affect the sales of competing firms.[63] Parallel pricing in such a market, Turner argues, can occur "without overt communication or agreement," but through a "rational calculation" of the consequences of the pricing decision on competitors and how they are likely to respond, and what effect that response will have on each firm's profits.[64] Briefly, under Turner's structuralist model, if Firm A reduces its price, it will take sales away from Firms B through F, causing those firms to match the price to recapture the lost sales.[65] Those sales are made at the newly-reduced price, however, so each firm, though making the same number of sales as before the price reduction, will make those sales at a reduced price, reaping lower profits.[66] Rational firms will foresee the negative outcome of such price reductions and avoid them.[67] In addition to these refusals to reduce prices, conscious parallelism can also explain parallel price raises through what is termed "price leadership."[68] All of this is achieved, Turner maintains, without any "actual agreement."[69]

Despite its anticompetitive effects, courts have viewed this behavior as lawful under the Sherman Act.[70] Turner contends that prosecution of firms

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63. *Id*.

64. *Id*. *See* AREEDA, *supra* note 50, at 207–08. The Areeda treatise explains the phenomenon as follows:

> The first firm in a five-firm oligopoly, Alpha, may be eager to lower its price somewhat in order to expand its sales. However, it knows that the other four firms would probably respond to a price cut by reducing their prices to maintain their previous market shares. Unless Alpha believes that it can conceal its price reduction for a time or otherwise gain a substantial advantage from being the first to move, the price reduction would merely reduce Alpha's profits and the profits of the other firms as well.

Id.

65. Turner, *Conscious Parallelism*, *supra* note 6, at 661.

66. *Id.*

67. *Id.*

68. *Id*. at 661–62. Professor Turner explains the facts of *American Tobacco v. United States*, 328 U.S. 781 (1946), as an example of "price leadership." *Id*. at 660–62. *See also* AREEDA, *supra* note 50, at 170–71. Areeda explains "price leadership" as follows:

> Oligopolistic rationality . . . can also provide for price increases through, for example, price leadership. If the price had for some reason been less than X [the price a monopolist would charge to maximize profits], firm Beta might announce its decision to raise its price to X effective immediately, or in several days, or next season. The other four firms may each choose to follow Beta's lead; if they do not increase their price to Beta's level, Beta may be forced to reduce its price to their level. Because each of the other firms know this, each will consider whether it is better off when all are charging the old price or price X. They will obviously choose price X when they believe that it will maximize industry profits.

Id. at 207–08.

69. Turner, *Conscious Parallelism*, *supra* note 6, at 661, 664–66.

70. *See In re* Flat Glass Antitrust Litig., 385 F.3d 350, 359–60 (3d Cir. 2004) (citing *In re* Babyfood Antitrust Litig., 166 F.3d 112, 121–22 (3d Cir. 1999)). Antitrust enforcement through

for "conscious parallelism" presents a difficulty in establishing a traditional "meeting of the minds" agreement,[71] as well as a significant enforcement problem.[72] "What specifically is to be enjoined?" Turner asks.[73] Under Turner's theory, the behavior of the competing firms is rational, and an injunction instructing them not to take the pricing behavior of their competitors into account when making their own decisions would result in poor business decisions, and would "force the sellers to endure competitive losses."[74] Turner proposed legislation permitting courts to deconcentrate oligopolistic markets to solve the problem,[75] but this proposal was never seriously enacted in the legislature or the courts.[76] Many courts, including the Third Circuit in *Flat Glass*,[77] continue to view conscious parallelism as a viable explanation of oligopolistic market behavior.[78]

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section 1 focuses on the actual agreement, rather than on regulating anticompetitive markets: the law focuses on the means rather than the anticompetitive outcome of firm behavior. If the appropriate means (agreement) are not evident, Section 1 provides no solution to an anticompetitive market. *See supra* note 26 and accompanying text. *See also* Turner, *Conscious Parallelism*, *supra* note 6, at 662 (noting that the outcomes of actual price-fixing agreements and conscious parallelism are often very similar: "Noncompetitive price levels are maintained, in some cases at or around what they would be if the various competitors actually agreed. . . .").

71. *Id*. at 664, 671 ("I conclude, then, that oligopolists who take into account the probable reactions of competitors in setting their basic prices, without more in the way of 'agreement' that is found in 'conscious parallelism,' should not be held unlawful conspirators under the Sherman Act even though, as in *American Tobacco*, they refrain from competing in price.").

72. *Id*. at 669–70. *See also Flat Glass*, 385 F.3d at 360 (noting that "judicial remedies are incapable of addressing the anticompetitive effects of consciously parallel pricing"). Turner also points out that whether one considers conscious parallelism to lack an agreement in any sense, or that there is a tacit agreement to price a certain way based on an understanding of the market conditions, this tacit form of agreement "cannot properly be called an unlawful agreement." Turner, *Conscious Parallelism*, *supra* note 6, at 671.

73. *Id*. at 669.

74. *Id*. at 669–70.

75. Donald F. Turner, *The Scope of Antitrust and Other Economic Regulatory Policies*, 82 HARV. L. REV. 1207, 1230–31 (1969).

76. For a discussion of the failure of proposals for deconcentration like Turner's, see William E. Kovacic, *Failed Expectations: The Troubled Past and Uncertain Future of the Sherman Act as a Tool for Deconcentration*, 74 IOWA L. REV. 1105 (1989). Posner explains as follows:

> These proposals have been abandoned, though less because of confidence that section 1 can prevent supracompetitive pricing in highly concentrated industries than because of the post-1970s skepticism about ambitious governmental intervention in the economy.
>
> . . . .
>
> Any proceeding to deconcentrate an industry by reorganizing the major firms into smaller units would be cumbersome, protracted, and unmanageable.

POSNER, ANTITRUST LAW, *supra* note 8, at 101–02.

77. 385 F.3d 350.

78. *Id.* at 359–61. *See also* discussion *infra* Part II.D.

B. Judge Posner and Tacit Collusion

For decades, Judge Posner has disputed both the economic underpinnings and legal conclusions drawn from Turner's "conscious parallelism" theory.[79] Posner challenges the assertion that anticompetitive effects are an unavoidable outcome of an oligopolistic market structure,[80] and criticizes Turner's explanation of parallel conduct as unreflective of actual market conditions.[81] The essence of Posner's argument is that Turner's structural portrait of an oligopolistic market is not reflected in the way firms actually behave, and tacit coordination is a much more difficult objective for a group of firms to achieve.[82]

Posner's first objection is that Turner's observation that sellers would hesitate to reduce prices in response to a downward trend in demand

79. Professor Turner and Judge Posner's debate is often viewed as a clash between two schools of antitrust, the Harvard School and the Chicago School. The perspective of the Chicago School largely won the day, though, as evidenced by Turner's continued influence on the courts in the issues discussed in this Note, the Harvard School's structuralist perspective still influences some aspects of antitrust policy. *See* Hovenkamp, *Rationalization*, *supra* note 12, at 919–20. As Professor Hovenkamp explains, "[o]ne important difference between the Harvard and Chicago theories of collusive behavior was the Harvard School's historical embrace of structuralism as a means of approaching antitrust analysis, and the Chicago School's historical rejection of it." *Id*. at 919. Pure structuralism, according to Professor Hovenkamp, is "the idea that the degree to which an industry deviates from the ideal of perfect competition is a relatively strict consequence of that industry's structure, as defined by the number of firms in the market and their relative sizes." *Id.* Judge Posner and other proponents of the Chicago School reject this analysis, "emphasizing the degree to which firms are able compete notwithstanding high concentration or the presence of dominant firms." *Id*. at 920. Professor Hovenkamp notes the following sources as relevant for inquiries into structuralism: James W. Meehan, Jr. & Robert J. Larner, *The Structural School, Its Critics, and Its Progeny: An Assessment*, *in* ECONOMICS AND ANTITRUST POLICY 182 (Robert J. Larner & James W. Meehan, Jr. eds., 1989); Walter Adams & James W. Brock, *Antitrust, Ideology, and the Arabesques of Economic Theory*, 66 U. COLO. L. REV. 257 (1995); COLUMBIA UNIV. CTR. FOR LAW & ECON. STUDIES, INDUSTRIAL CONCENTRATION: THE NEW LEARNING (Harvey J. Goldschmid et al. eds., 1974); Hovenkamp, *Rationalization*, *supra* note 12, at 919 n.11. *See also supra* note 8 and accompanying text.

80. See POSNER, ANTITRUST LAW, *supra* note 8, at 57.

81. *See id.* at 55–69. Posner bolsters his argument with a Stiglerian analysis of market conditions and further observations of the economics involved in concentrating a market. *See* Hovenkamp, R*ationalization*, *supra* note 12, at 921. As Hovenkamp explains,

> George Stigler's groundbreaking article, arguing that orthodox Cournot oligopoly had to give way to a more nuanced understanding of concentrated markets that took strategic possibilities into account, strongly influenced Posner. Stigler argued that markets differ in numerous ways that classic Cournot theory did not capture, a principal one being the means and speed by which information is communicated.

Id. at 921 (footnotes omitted). *See also* George J. Stigler, *A Theory of Oligopoly*, 72 J. POL. ECON. 44 (1964).

82. *See* POSNER, ANTITRUST LAW, *supra* note 8, at 55–69. Posner argues that Turner's distinction between the likely behavior of competitors in concentrated markets and those in competitive markets "depends on [the] artificial convention" that firms in concentrated markets will be able to predict the outcomes of price reductions by a group of sellers and tacitly coordinate their prices with that in mind. *Id*. at 58.

(because that price reduction would be swiftly met by his competitors) assumes that knowledge about pricing among competitors is immediately obtainable.[83] If a firm can profit in the interim by shading price, the firm has an incentive to do so.[84] One of Posner's more persuasive arguments is that the incentive for competing firms to reduce their prices is overstated in Turner's theory.[85] When one seller increases its output and reduces its prices, some of the existing consumers will shift from purchasing from the price-reducing seller's competitors to the price reducer, but that seller's new lower price will also reach consumers unwilling to buy the product at the previous price, i.e., new customers.[86] The other sellers in the market may not be alerted to the "chiseler's" price reduction because the competing firms may not lose sales in the way that Turner's model predicts because, "[d]epending on elasticity of demand, much of the price cutter's new business may come from outside the market rather than the former customers of his rivals [thus] reducing the likelihood of responding immediately."[87] In response to Turner's views on price leadership, Posner finds "price leadership" an oversimplification of likely firm behavior in an oligopolistic market.[88] Price leadership can work equally well in price raises as well as price reductions, Posner argues.[89]

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83. *See id.* at 57.

84. *See id.* (Posner argues that interdependence theory "assumes there will be no appreciable time lag between the initial price cut and the response; if there is, the price cutter may obtain substantial interim profits from his lower price."). Professor Hovenkamp noted that "Orthodox Cournot theory [on which Turner's theory of conscious parallelism relies heavily] may be an adequate explanatory model when each firm in a concentrated market has instant and reliable information about the output and pricing decisions of its rivals." Hovenkamp, *Rationalization*, *supra* note 12, at 921.

85. POSNER, ANTITRUST LAW, *supra* note 8, at 57.

86. *Id.*

87. *Id*. at 57–58.

88. *Id*. at 59.

89. *Id*. at 59. Posner explains that a thoughtful oligopolist has incentives to shade price, knowing that it will gain profits from its competitors, unless they match the lower price. *Id*. This same firm can then raise the price to the higher original level, and following the theory of "price leadership" the other firms will recognize the benefits of the higher price, and match the increase. *Id.* If each firm recognizes that it can benefit by raising price more slowly than the price-leading firm, parallel pricing is an even less likely phenomenon—absent collusion—than Turner's theory suggests. *Id*. If competing sellers are aware of the danger that other firms will follow price reductions more slowly, and reap extra profits on the way up, they may avoid such price raises out of fear that other firms will benefit during the interim period. *Id*. If firms do reason this way, then it will be difficult for a market to achieve supracompetitive price levels in the first place. *Id*. Posner explains the expected reasoning of the firms in a competing market after a price increase as follows: "If I raise my price more slowly than the others, I can increase my profits at their expense; should they come back down to my price, it will be time enough to raise my price then, and they will follow." *Id*. "If oligopolistic sellers reason this way," Posner explains, they may regard the tactics of price leadership as a dangerous business endeavor. *Id.*

In recent years, economists have expended a good deal of effort applying game theory principles to oligopolistic behavior in the market. Posner finds that these the "game-theoretic" models "do not yet

Posner concludes that behavior characterized as conscious parallelism is not as easily achieved without communication and agreement as Turner contends.[90] An oligopoly only makes this kind of coordination easier, not inevitable.[91] Posner argues that certain behavior within the market—"specific economic symptoms of effective collusion"—will indicate collusion by competitors.[92] Posner advocates a change in the way antitrust investigation proceeds, moving away from what he terms the "cops and robbers approach to price fixing" which focuses on hot documents.[93] Instead, Posner's approach integrates the tools of conspiracy law with antitrust economics to develop a more sophisticated analysis of market conditions and behavior indicative of collusion.[94]

Posner suggests a two step-approach, with each step involving a complex set of economic factors.[95] First, markets must be analyzed to determine whether market conditions are "propitious for the emergence of collusion."[96] Posner's second step involves "determining whether there

yield implications that differ from those of non-game theoretic approaches," and "[l]ong before game theory was a part of most economists' tool kits, they were well aware of the strategic character of competition in markets that had only a few sellers." *Id*. at 59–60. Posner points to DOUGLAS G. BAIRD, ROBERT H. GERTNER, AND RANDAL C. PICKER, GAME THEORY AND THE LAW 165–78 (1994), for a discussion of the implications of game theory to the issues presented here. POSNER, ANTITRUST LAW, *supra* note 8, at 59 n.10.

90. POSNER, ANTITRUST LAW, *supra* note 8, at 60–69. Posner explains, In order to maintain a cartel, the cartelists must agree on a price and output, limit competition over quality (rent-seeking behavior that would eliminate the profitable benefits of the supracompetitive price), detect and punish chiseling (cheating on the cartel), especially the chiseling in the interim discussed above. *Id*.; *see supra* note 89. All of this is more difficult to manage than Turner's model suggests, and involves significant transaction costs. As Posner explains, negotiating between two parties requires one line of communication; between three parties, three; four parties, six; and five parties, ten. *See* POSNER, ANTITRUST LAW, *supra* note 8, at 66 n.25. Posner gives the following formula for determining communication paths, where n is the number of group members $n(n\text{-}1)/2$. *Id*. This serves as a rough indicator of transaction costs: In a forty firm market, 780 different channels of communication are required. This can, of course, be simplified through the use of mass emails, or large industry meetings. Of course, those mediums produce physical evidence, the traditional basis for section 1 enforcement.

91. *Id*. at 66 (Posner notes: "It is unlikely that a large number of firms could accomplish the complex and delicate task of effectively coordinating their pricing without generating abundant evidence of conspiracy. Some degree of concentration thus appears to be a necessary condition of successful collusion in markets subject to the Sherman Act."

92. *Id*. at 61.

93. *Id*. at 61.

94. *Id*. at 79–93.

95. *See id*. at 69.

96. *Id*. According to Posner, markets susceptible to collusion usually include some of the following seventeen characteristics. These factors will help antitrust enforcers focus their efforts on markets with high potential for collusion.

(1) The "[m]arket is concentrated on the selling side." *Id*. at 69–70. The more concentrated a market, the fewer channels necessary for collusion, as discussed above. *See* s*upra* note 90 and accompanying text. Also, "[c]oncentration interacts with the other predisposing characteristics." POSNER, ANTITRUST LAW, *supra* note 8, at 70. Posner suggests using the Herfindahl-Hirschman Index

(HHI) as a better indicator of market concentration because it more aptly conveys the influence of each market participant. *Id*. For a further explanation of the HHI see *infra* note 174 and accompanying text.

(2) There is "[n]o fringe of small sellers" in the market. POSNER, ANTITRUST LAW, *supra* note 8, at 70–71. A fringe of smaller sellers may be able to raise output in response to a price raise by the larger firms, gaining profits away from the large firms, and ultimately inducing a price reduction. *Id.* As Posner explains, "If firms aggregating 20 percent of the market can expand their output by 25 percent, this will limit the price charged by and hence the profits of the cartel and therefore the likelihood that a cartel will be formed or endure." *Id.* at 71.

(3) The market displays "[i]nelastic demand at competitive price." *Id*. at 71–72. If consumers are relatively insensitive to price, a price increase will be profitable because the increased price yields greater profits, even with the lost quantity sold, demand is said to be inelastic at that point in the demand curve. *Id.* Posner explains this as follows:

> [U]ntil the elastic portion of the market demand curve is reached, raising price will increase the colluders' revenues without reducing the demand for their product proportionately, with the result that their total revenues will be rising at the same time that their total costs are falling because they are producing less.

Id. at 71. If this market condition exists, firms have greater incentives to raise prices, particularly if the increases are industry-wide. *Id.*

(4) "[E]ntry [into the market by new competing firms] takes a long time." *Id*. at 72. This factor is relatively simple: If entry takes a long time, or it is costly, then firms are free to raise prices to supracompetitive levels, knowing that it will take time for their profits to be chiseled away by entering firms excited by the possibility of profits at the current, supracompetitive level. *Id.* at 72–75.

(5) The "[b]uying side of the market is unconcentrated." *Id*. at 75. Unconcentrated buyers are less likely to have sufficient bargaining power to respond to price increases. *Id.* A large number of buyers, each with a small share of total purchases, have little power to dictate prices to suppliers. *Id.*

(6) The product is standardized. *Id*. at 75–76. Greater product variation leads to increasingly complicated negotiations and agreements over price. *Id*. The colluding firms will "have to agree on a complex schedule of prices for different grades and qualities and this may be impossible to do without overt negotiations of the sort likely to be detected by antitrust enforcers." *Id.* at 75. In addition, detection of "cheating" will be made more difficult by the complexity of the arrangement. *Id.* With a standard product, agreements can be much simpler, and more easily managed. *Id*. at 75–76.

(7) The product is nondurable. *Id*. at 76. With durable products, incentives to cheat are far greater, and such a market is harder to cartelize. *Id*. As Posner explains,

> The product's durability means that the seller, with nominally one sale, effectively obtains ten sales. And if the seller loses the sale, he loses 10 sales. The profit foregone by losing such a sales series is likely to increase the temptation to cheat on a cartel of durable-good manufacturers.

Id.

(8) "The principal firms in the market sell at the same level in the chain of distribution." *Id*. Simply, coordinating a cartel at multiple different levels involves complicated communication channels and arrangements. *Id*. At the same level of distribution, these concerns are less poignant. *Id.*

(9) "Price competition [is] more important than other forms of competition." *Id*. at 76–77. With fungible commodities on which the only form of competition is price, eliminating such competition surely leads to higher profits and provides cartelization incentives. *Id*. at 76. However, other forms of competition, such as "speed of delivery, quality control, warranties, prompt attention to customer complaints, and lavish showrooms," can erode the profits gained by a forming a cartel, and reduce the incentive to form the cartel. *Id.* at 76–77.

(10) There is a "[h]igh ratio of fixed to variable costs." *Id*. at 77. Firms facing high fixed costs in relation to variable costs will face an increased risk of bankruptcy as a result of economic downturns or other factors that cause it to reduce its output. *Id*. Posner explains:

> If bankruptcy is more costly to a firm's management than a simple failure to obtain the difference between a competitive and monopolistic rate of return would be, firms will rate the

really is collusive pricing in any of those markets" by examining market behavior through several factors indicative of collusion.[97] He would not

> benefits from monopoly pricing higher than they would in an industry in which competitive pricing would not endanger the firms' solvency.

Id. (footnote omitted).

(11) There are "[s]imilar cost structures and production processes." *Id*. "The more alike the firms in a market are with respect to the structure of their costs and . . . their production methods," Posner explains, "the easier it will be for them to collude." *Id.*

(12) "Demand [is] static or declining over time." *Id*. at 77. Growing demand makes collusion more difficult to police, because the new consumers in the market mask the chiseler's effect on the cartel. *Id*. At least some of the business gained by the chiseler will be new business, and that is tough for a cartel to monitor or punish. *Id*. Declining demand and heavy fixed costs "also make entry unattractive. . . ." *Id.*

(13) Market "prices can be changed quickly." *Id*. at 78. "The faster a seller can react to a competitor's price cut, the less profitable the price cut will be; it will be matched before the price cutter obtains much business from it." *Id.* Conversely, "[t]he less frequently it can be changed, the longer the period within which a price cutter can expect to profit from his lower price." *Id.*

(14) The industry has a practice of sealed bidding. *Id*. Sealed bidding is an excellent way to prevent chiseling. *Id*. If the winning bid for a contract is less than the agreed upon price, simply, the winner is cheating on the cartel. *Id.*

(15) The "[m]arket is local." *Id*. Local sellers in a local market can more easily communicate without detection, i.e. there are likely to be fewer people involved in management, and more opportunities for face-to-face communication. *Id.*

(16) There are "[c]ooperative practices." *Id*. at 78–79. Firms in regulated industries that cooperate in "lobbying Congress and the regulatory agencies," or firms that are "each others customers or suppliers as well as competitors" may have opportunities to get to become acquainted and form relationships which could foster a collusive business environment. *Id.*

(17) The "industry's antitrust record." *Id*. at 79. "In a market in which collusion is attractive we can expect a history of attempts at express collusion. . . ." *Id.*

97. *Id.* at 69. Posner identifies fourteen economic indicators that point towards collusive practices by firms in the same market.

(1) Market shares are fixed. *Id.* at 79. Maintaining identical or nearly identical market shares relative to each other is an unlikely phenomenon in markets where firms are actively competing. *Id*. If market shares remain stable relative to each other for a long period of time, it is usually because the firms have divided the market, "whether by fixing geographical zones or sales quotas or by an assignment of customers," or some other means. *Id.*

(2) There is a practice of "market-wide price discrimination." *Id.* at 77–86. Price discrimination, which means "selling the same product to different customers at different prices even though the cost of sale is the same to each of them," *Id.* at 79–80, is difficult to achieve without monopoly power, and firms in a competitive market will not be able to price discriminate. *Id.* at 77–86.

(3) Firms participate in formal "[e]xchanges of price information." *Id.* at 86–87. Price information exchanges by competitors in an oligopolistic market rarely serve the salutary function it serves in a market with many sellers. Although price exchanges can assist a large group of small sellers in understanding the market and pricing competitively, in a concentrated market "the problem of inadequate knowledge is less serious—it is easier to keep tabs on the pricing of a few rivals. . . ." *Id.* at 86. Large firms have the resources to understand the market, and monitor the pricing decisions of competing firms. *Id*. at 86–87. Price exchanges between firms in an oligopolistic market are more likely a facilitator for collusion. *Id.*

(4) Price varies from region to region. *Id.* at 87. Products sold at different prices in different regions, absent shipping or other relevant cost differences, may be evidence of collusive pricing in some of those markets. *Id.* "[M]ost price-fixing conspiracies are regional or local rather than national, because there tend to be fewer sellers. . . ." *Id.*

(5) Firms submit identical bids *Id.* This would be indicative of collusion unless the "item is standard, or composed of standard items," in which case "identical bids are consistent with competition because the bidders' costs may be identical." *Id.* Frequently, though, conspirators may have the good sense to rotate the low bid amongst each other to mask their agreement. *Id.*

(6) "Price, output, and capacity changes at the formation of the cartel." *Id.* at 88. When a cartel is formed, the joining firms will raise their prices, and reduce their outputs. *Id*. As Posner explains, "[s]imultaneous price increases and output reductions unexplained by any increases in cost may therefore be good evidence of the initiation of a price-fixing scheme." *Id.* This approach has the distinct advantage, according to Posner, of "enabl[ing] the court to avoid having to make a stab at determining what the firms' marginal costs are or what the competitive price and output would be." *Id.* This is a difficult task for courts to engage in with certainty. Instead, "[o]ne simply observes price and output changes and asks whether changes in costs or in demand explain them or whether the most plausible explanation is cartelization." *Id.*

(7) The market has an industry-wide practice of "resale price maintenance." *Id.* at 88–89. Resale price maintenance can be used to help a cartel deter chiseling. *Id.* "When the resale price of a product is fixed, it is more difficult for a member of a suppliers' cartel to cheat. He will gain no additional sales by granting a secret discount to a dealer . . . . The discount will be a pure windfall to the dealer." *Id.* There are procompetitive reasons for resale price maintenance as well, which make this a more difficult factor to employ. *Id.* For further discussion on the legality of resale price maintenance (in a vertical context), see *State Oil Co. v. Khan*, 522 U.S. 3 (1997); *Contintental T.V. v. GTE Sylvania, Inc.*, 433 U.S. 36 (1977); Richard A. Posner, *The Rule of Reason and the Economic Approach: Reflections on the Sylvania Decision*, 45 U. CHI. L. REV. 1 (1977).

(8) The market shares of industry leaders show decline. POSNER, ANTITRUST LAW, *supra* note 8, at 89. As Posner explains,

> The charging of a monopoly price will attract new competitors to a market who perceive opportunities for unusual profits by reason of the abnormally high price. The existing firms could seek to repeal entry by reducing their price to the competitive level, but this would defeat the purpose of the cartel; they will normally do better by maintaining a supracompetitive price and allowing their market share to decline gradually. . . .

Id. Though there may be other explanations, long term decline in the market shares of major firms can be a symptom of the entry of new firms attracted to the market by the supracompetitive price level fixed by the cartel. *Id.*

(9) The "[a]mplitude and fluctuation of price changes," can be tracked to check for collusion. *Id*. at 89–90. Cartel members may react to changes in demand with a smaller percentage change in price, and may change price less frequently than what would be expected in a competitive market because of the "difficulty and legal risk in renegotiating the cartel price." *Id*.

(10) "Demand [is] elastic at the market price." *Id.* at 90. Elastic demand at the market price is a sign of a monopoly price. *Id.* A monopolist (or a cartel) would not maintain a price at an inelastic demand level because greater profits could be made by reducing output to just below the level where demand would be inelastic. *Id.*

(11) The "[l]evel and pattern of profits," can also be tracked to identify collusion. *Id.* at 90–91. "[W]hen reliable profit data are obtainable, or, often a better alternative, when 'event studies' of stock prices demonstrate an inexplicable spike in the value of the particular sellers in question, this may be evidence of collusion." *Id.* at 90 (citation omitted).

(12) The "[m]arket price [is] inversely correlated with [the] number of firms or elasticity of demand." *Id.* at 91.

> Under competition, price tends to be bid down to marginal cost, irrespective of the number of firms or other features of the market that might affect the elasticity of demand facing each firm at the competitive market price. If the market price is found to vary in the predicted direction with changes in these features—for example, if it tends to be positively correlated with concentration—this is evidence that the market is not competitive.

Id. Though this evidence may be the result of other factors, if market price is positively correlated with concentration, Posner argues that this can be evidence of collusion. *Id.*

abandon the application of liability for those restraints proved by traditional agreement, but Posner maintains that in some cases the "existence of collusive pricing" can be proved through economic evidence alone.[98] Employing this approach, Posner would relax the current requirement of physical evidence of actual agreement, given sufficient economic indicators.[99] According to Posner, searching for direct evidence of agreements alone is misguided.[100] The method firms use to implement price-fixing schemes is irrelevant to their economic effects,[101] and antitrust enforcement in this area has been stifled by the specious economics of conscious parallelism.[102]

C. The Contribution of Game Theory: Recent Responses

Commentator responses to the problems addressed in the Turner / Posner debate have not led to much progress. Professor John Lopatka remarks that "experience has taught . . . that neither approach is wholly satisfying, likely because the oligopoly problem defies solving. . . . antitrust is part theater, and 'the oligopoly problem' is an act that can run forever."[103] Lopatka recognizes that Turner and Posner's models for oligopolistic competition differ because they make different assumptions about market information.[104] Lopatka's most poignant criticism asserts

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(13) The industry prices using a system of "[b]asing-point pricing." *Id.* at 91–92. A basing-point pricing system is almost always evidence of collusion, and is a modality frequently used to fix-prices. For a classic explanation of basing point pricing, see *Federal Trade Commission v. Cement Institute*, 333 U.S. 683 (1948).

(14) "Exclusionary practices" are common in the industry. POSNER, ANTITRUST LAW *supra* note 8, at 93. Posner includes the following exclusionary practices: tying arrangements, predatory pricing, vertical integration, exclusive dealing and bundling, and boycotts. *See id.* at 193–244. As Posner explains, these practices are "feasible only for firms that have monopoly power. If exclusionary practices are committed in a market with more than one significant firm, therefore, this is an indication that the market is cartelized." *Id*. at 93. Simultaneous exclusionary practices are rarely spontaneous, and usually arise out of a cartel agreement, or as a means of forming or maintaining a cartel. *Id.*

98. *Id*. at 79.

99. *See id.* at 60–94. He acknowledges that evidence of this kind already plays a role in price-fixing cases, but argues it is often handled poorly, and used in addition to proof of actual agreement. *See id.* at 93–94.

100. *Id*. Posner argues, "[i]f the economic evidence presented in a case warrants an inference of collusive pricing, there is neither legal nor practical justification fore requiring evidence that will support the further inference that the collusion was explicit rather than tacit." *Id*. at 94.

101. *Id*.

102. *See generally id.* at 51–99.

103. Lopatka, *Turner's Try, supra* note 46, at 908 (quoting a Letter from Donald Dewey to John E. Lopatka (Mar. 21, 1996) (on file with Lopatka)).

104. *Id.* at 895. According to Lopatka, Turner's view that firms in concentrated markets will quickly recognize the inevitable lost profits from price-cutting and choose to maintain the higher price, is countered by Posner's assertions about information asymmetries between the firms that make

that Posner's two-step, multifactor approach[105] will, without a doubt, confuse the courts more than the current plus factors analysis does.[106]

Further, Lopatka construes the game theory literature to support Turner's notion more than Posner's.[107] Posner and other commentators find the game theory literature less informative. they contend either that game theory adds nothing to the debate,[108] or that it simply confirms the notion that many outcomes, including parallel pricing, are possible in a concentrated market.[109] Some commentators find support in game theory for an approach opposed to the orthodox Turner view. Gregory Werden asserts that though prices may be inflated above the levels that would be dictated by perfect competition, monopoly pricing will not occur naturally unless the market is an actual monopoly.[110] He also asserts that self-

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temporary "chiseling" profitable and competitive. *Id*. at 895–96. The weakness in these arguments, Lopatka contends, is that Turner's may be overbroad and Posner's too dependent on the assumptions made about market structure and firm access to information. *Id*. Lopatka distills the argument in terms of assumptions: "Turner assumes that firms would take into account their rivals' swift reactions to any price cut and would therefore conclude that a price cut would be unprofitable." *Id.* at 895. Conversely,

> Posner adopts a different set of assumptions. . . . Posner does not assume that firms would ignore their rivals' reactions, but that they would anticipate different reactions; he assumes that rivals' price drops would neither be certain nor immediate. . . .[G]iven the right set of assumptions, firms acting unilaterally will maximize profit only when pricing competitively.

Id. at 895–96.

105. *See supra* notes 96, 97 and accompanying text.

106. *Id.* at 902. Lopatka argues that "[w]ere Posner's approach adopted, courts would confront different questions, but their task would not be appreciably simpler. They would have to decide whether defendants colluded, possibly explicitly but likely only tacitly, based on a welter of confusing, inconsistent, and ambiguous pieces of economic evidence." *Id.* Lopatka acknowledges, however, that Turner's proposal to attack concentration using section 2 of the Sherman Act has not been accepted in the legislature or courts. *Id* at 903.

107. *Id.* at 896. Lopatka observes that "game theory does suggest that interdependent pricing at supracompetitive levels is likely to be more prevalent . . . than perhaps Posner acknowledges." *Id*.

108. *See supra* note 89.

109. *See* F.M. SCHERER & DAVID ROSS, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 220 (3d ed. 1990) ("[G]ame theory has yet to yield compelling mechanistic solutions to oligopoly pricing problems. . . . It confirms the notion emerging from traditional theory that 'anything can happen' in oligopoly, depending upon firm conjectures about rival behavior, and it suggests that those conjectures depend crucially on past interactions in an uncertain environment."); Carl Shapiro, *The Theory of Business Strategy*, 20 RAND J. ECON. 125, 126 (1989) ("The fact of the matter is that competitive strategy in practice encompasses a wide variety of strategic and tactical decisionmaking . . . . There is no reason to expect or strive for a single unified oligopoly theory that would deliver unique predictions to armchair theorists, independent of the particulars of how competition is played out in a given industry.").

110. Werden, *Collusion*, *supra* note 36, at 760. Werden explains the teaching of the Nash non-cooperative equilibrium, one of several game theory models developed by Nobel Prize-winning mathematician and economist John F. Nash Jr.:

> Nash, non-cooperative equilibrium in one-shot game oligopoly models, is viewed by economists as depicting a best-case scenario (from society's perspective), in the sense that economists do not expect competition to be more intense than this over the long term. . . . Prices are not expected to equal the short-run marginal cost of production, as in the textbook

interest may dictate reducing prices, even if those price cuts are matched by competitors.[111] Thus, Werden argues, "[c]ourts can avoid the worst pitfalls simply by recognizing that, in the absence of an agreement, monopoly prices cannot be expected to emerge from oligopoly."[112]

Thomas Piraino presents a third response to the debate, attractive in its simplicity, proposing a "purpose-based" approach to regulating oligopoly conduct.[113] Piraino argues that game theory explains how firms can use signals within the market, such as announcements about future price increases, to communicate with the other members of the oligopolistic market, and thus move prices towards supracompetitive levels without coming under the purview of the Sherman Act.[114] Piraino directs courts to question the reason for practices like signaling in light of the industry in question. If legitimate, non-collusive reasons exist for the practice, the law should not enjoin them; and, if no legitimate purpose exists, then the practice should be enjoined.[115] This approach, Piraino maintains, will "play to the federal courts' analytical strengths," by focusing them on questions such as the defendant's purpose and motivation, which "they are well equipped to resolve."[116]

> model of perfect competition. . . . Prices well in excess of short-run marginal cost often may be required for the complete recovery of fixed costs and achievement of a competitive rate of return on investment.

Id. at 760–61.

111. *Id*. at 770. As Werden explains, "Game theory teaches that pursuit of self-interest may mean cutting price, even if others match price cuts immediately and with certainty." *Id*.

112. *Id* at 780. Werden proposes courts take more seriously economic literature when ruling on expert-testimony admissibility motions in complex antitrust cases. *Id*. at 798.

113. *See generally* Piraino, *Oligopoly Conduct supra* note 36. For further explication of Piraino's "purpose-based" approach to antitrust regulation, *see generally* Thomas A. Piraino Jr., *Identifying Monopolists' Illegal Conduct Under the Sherman Act*, 75 N.Y.U. L. REV. 809 (2000). Piraino asserts that the focus on economic analysis established by the Chicago School in the 1970s has created an unfortunate loophole for tacit colluders who can rely on subtle signals within the marketplace to maintain supracompetitive price levels without coming to any agreement that would be actionable under the antitrust laws. Piraino, *Oligopoly Conduct*, *supra* note 36, at 13–14. Piraino argues that Chicago School antitrust policy, though it protects many beneficial forms of competition, has also "given oligopolists free rein to engage in tacit price-fixing arrangements harmful to consumers." *Id.* at 14. Regarding the *Monsanto* / *Matsushita* summary judgment standard, Piraino contends that "lower federal courts have interpreted [*Monsanto* and *Matsushita*] to preclude fact finders from inferring a price-fixing conspiracy from circumstantial evidence." *Id.* This high standard, Piraino maintains, has "left such conduct completely unregulated." *Id.*

114. *Id.* at 19–20.

115. *Id.* at 32–39. Piraino contrasts price announcements by an airline, which may do so in order to inform customers about future prices and thus allowing customers to plan future for future expenses, with a gas station, which has no reason to announce future price increases, other than to seek the cooperation of its competitors. *Id.*

116. *Id.* at 39.

D. In the Courts: Smoking Guns and Plus Factors

Federal courts have analyzed the issues raised by the "oligopoly problem" with varying approaches.[117] Although all courts apply essentially the same test involving parallel behavior and plus factors, some circuit courts take disparate views of the probative value of both kinds of "plus factor" evidence, including economic evidence dealing with market behavior, as well as "traditional evidence of conspiracy."[118] The following cases illustrate this divergence.

1. Williamson Oil

The Eleventh Circuit's recent opinion in *Williamson Oil Co. v. Phillip Morris USA*[119] presents a perspective of plus factor analysis influenced entirely by the Turner position that parallel pricing is unavoidable in a highly concentrated market. Plaintiffs based much of their case on evidence of "signaling" between the companies about price changes after Phillip Morris drastically reduced prices in response to declining market shares for its premium brand, Marlboro.[120] This evidence of communication was dismissed out of hand by the court, informed largely by its view that the lockstep pricing moves were merely "rational, lawful, parallel pricing behavior that is typical of an oligopoly."[121] Thus, because the court viewed the pricing behavior as natural in a highly concentrated market, any communication was deemed irrelevant.[122]

117. *See id.* at 12 ("The split among antitrust commentators is reflected in the federal courts, which have delivered a series of confused and conflicting decisions on oligopoly conduct."); Werden, *Collusion*, *supra* note 36, at 719 ("In a spate of recent cases with divergent outcomes, courts of appeals have evaluated attempts to establish collusion largely on the basis of economic evidence.").

118. *See supra* notes 46–57 and accompanying text.

119. 346 F.3d 1287 (11th Cir. 2003).

120. *Id.* at 1293–96.

121. *Id.* at 1310.

122. *Id.* Pushed to its logical conclusion, defendants in this case could have agreed on price and avoided liability if the pricing moves they agreed to mirrored what the court believed to be natural oligopoly pricing. Indeed, the court characterized the outcome of the alleged "signaling" as follows: "[T]he ultimate outcome of all of the statements and actions that appellants label signals was to return the tobacco industry from the pricing chaos that followed Marlboro Friday to a 'traditional normal oligopoly,' which, of course, is perfectly legal." *Id.* at 1306 (citation omitted).

The court's choice of the phrase "pricing chaos" is a strange one, particularly considering the well-accepted goal of antitrust policy to serve consumer welfare by keeping prices at competitive levels. Pricing chaos could clearly be viewed as "competition." From the perspective of its statements about "pricing chaos," the court appears to view oligopoly pricing as not only unavoidable but also laudable. In this respect, the decision goes beyond Turner's view, which acknowledged the unavoidability of the conduct, but did not bless it in this manner.

The court was also quick to dismiss plaintiffs' economic evidence as mere "indicia that the tobacco industry is an oligopoly, which is perfectly legal."[123] Further, the court handicaps its ability to assess any assertions of economic evidence at the outset of its analysis, noting that it "must exercise prudence in labeling a given action as being contrary to the actor's economic interests, lest we be too quick to second-guess well-intentioned business judgments of all kinds."[124] In line with the *Matsushita* standard, the court also explains that "[e]quipoise is not enough to take the case to the jury."[125] None of the plaintiffs' assertions regarding economic evidence,[126] which in part mirror Posner's second set of factors[127] and may point towards collusion, are given serious weight by the court.[128] Much of the court's analysis is based on Turner's view of the economic realities of concentrated markets; indeed, reading only *Williamson Oil*, the uninitiated reader would have no sense that an opposing view exists.[129]

2. High Fructose Corn Syrup

In stark contrast to the Eleventh Circuit's approach in *Williamson Oil* stands Judge Posner's opinion in *In re High Fructose Corn Syrup Antitrust Litigation*.[130] In a "plus factors" analysis consistent with his view in *Antitrust Law*,[131] Posner asserts that two types of acceptable evidence

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123. *Id.* at 1317.

124. *Id.* at 1310 (citing *In re* Citric Acid Litig., 191 F.3d 1090, 1101 (9th Cir. 1999)).

125. *Id.*

126. According to the lower court, plaintiffs in *Williamson Oil* offered seven actions which it considered indicative of collusion:

> (1) non-initiating Defendants always followed price increases; (2) after Marlboro Friday, B&W and RJR turned away from discount cigarettes; (3) RJR led, and Philip Morris followed, a price increase despite planning documents which reflected they would not take increases; (4) each Defendant exchanged information through [MSA]; (5) each Defendant had permanent allocation programs; (6) Philip Morris based settlement payments on market capitalization and not market share; and (7) Defendants agreed to pay "excessive" settlement price increases.

Id. at 1310 (quoting Holiday Wholesale Grocery Co. v. Philip Morris, Inc., 231 F. Supp. 2d 1253, 1296 (N.D. Ga. 2002)).

127. *See supra* note 97 and accompanying text.

128. For a more in-depth criticism of *Williamson Oil*, see Daniel R. Shulman, Williamson Oil v. Phillip Morris*: Whatever Happened to Jury Trials?*, 5 SEDONA CONF. J. 81 (2004).

129. *Id*. at 88 ("What is significant in the Williamson Oil decision is its total acceptance and embrace of the Turner position, without any acknowledgement of the contrary views of Judge Posner.").

130. 295 F.3d 651 (7th Cir. 2002).

131. Posner as circuit judge takes the same perspective he advocates in the literature, employing the multi-factor approach. *See supra* notes 96, 97 and accompanying text. This approach is obviously

exist. First, relying on his seventeen factors to identify markets prone to collusion, Judge Posner recognizes as relevant "evidence that the structure of the market was such as to make secret price fixing feasible . . . ."[132] Secondly, Posner indicates the court will look to "evidence that the market behaved in a noncompetitive manner."[133]

Posner found legal significance in economic evidence that the price ratio of 9:10 between the prices of the two main high fructose corn syrups could not be explained by competitive forces.[134] Posner also found persuasive that market shares remained stable despite industry growth[135] and that a regression analysis showed defendants' prices were higher during the alleged conspiracy than market forces would explain.[136] Further, contrary to the court in *Williamson Oil*, Posner found evidentiary significance in numerous guilty-sounding statements by the defendants such as "[w]e have an understanding within the industry not to undercut each other's prices," and in the statement of the president of Archer Daniels Midland, involved in the alleged conspiracy at issue in this case, that "our competitors are our friends. Our customers are the enemy."[137]

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informed by his view that parallel pricing is not unavoidable and is likely a product of communication and cooperation among the firms in the industry. *See supra* Part II.B.

132. *High Fructose Corn Syrup*, 295 F.3d at 655. *See supra* note 96 and accompanying text.

133. *Id*. Judge Posner also cautions against three traps, which Posner says "the defendants in this case have cleverly laid in their brief." *Id*. at 655–56. These traps include (1) the temptation for the judge to weigh the evidence, (2) "suppos[ing] that if no single item of evidence presented by the plaintiff points unequivocally to conspiracy, the evidence as a whole cannot defeat summary judgment," and (3) "failing to distinguish between the existence of a conspiracy and its efficacy." *Id*. at 655–56. These "traps" are laid in an effort to utilize the limiting language involved in the *Monsanto* and *Matsushita* summary judgment standard requiring evidence that "tends to exclude the possibility" of independent conduct. *See id.* Posner observes that the defendants in this case assert that because they sold their product below list price levels alleged to be established by a conspiracy, "even a bald-faced agreement to fix list prices would not be illegal in this industry." *Id.* at 656.

134. *Id.* at 658–59. Werden points out, however, that Posner uses a perfectly competitive market as his benchmark for comparing the price ratio established in this case, "neglecting to address whether the same would be true in a non-cooperative oligopoly and evidently treating as irrelevant whether the observed pricing was more consistent with monopoly than with competition. Werden, *Collusion*, *supra* note 36, at 758.

135. *High Fructose Corn Syrup*, 295 F.3d at 659–60. Posner here relies on the first of his 14 factors that indicate collusion is occurring within a market. *See supra* note 97 and accompanying text.

136. *Id*. at 660–61. This observation is consistent with factor six in that price or output decisions changed during the alleged conspiracy and could not be explained by market forces. *See supra* note 97 and accompanying text.

137. *Id.* at 662.

3. Flat Glass

The Third Circuit's decision in *Flat Glass* attempts to strike a balance between Turner and Posner's approaches discussed above.[138] First, it recognizes the distinction between the circumstance in *Matsushita*—a highly speculative predatory pricing scheme—and the collusive agreement alleged by the plaintiffs in this case.[139] The court is also aware, however, that "despite the absence of the *Matsushita* Court's concerns," the Third Circuit and others have been "cautious in accepting inferences from circumstantial evidence in cases involving allegations of horizontal price-fixing among oligopolists."[140] The court then explains the debate from both perspectives and proceeds through a standard plus-factors analysis.

The court's analysis does not view the alleged conspiracy with the incredulity of the Eleventh Circuit and employs some of the analysis advocated and employed by Judge Posner in *High Fructose Corn Syrup*, without subscribing to his theory entirely. Rather, the court uses Posner's indicia of collusion as a way to examine the evidence, while comparing the evidence with that in precedent cases.[141] The court notes that the industry was highly concentrated, and represents a "text book example of an industry susceptible to efforts to maintain supracompetitive prices."[142] The court observes several economic indicators of collusion, but notes that the most significant evidence remains "non-economic evidence . . . involv[ing] customary indications of traditional conspiracy or proof that the defendants got together . . . ."[143] The facts in *Flat Glass* provide sufficient indicators of "traditional conspiracy evidence," which persuades the court to take a more receptive view of the economic indicators.[144] Were the physical evidence less persuasive,[145] however, the court may have been less receptive.[146]

138. *See In re* Flat Glass Antitrust Litig., 385 F.3d 350 (3d Cir. 2004).

139. *Id*. at 358.

140. *Id.* (citing Williamson Oil Co. v. Philip Morris USA, 346 F.3d 1287, 1300–01 (11th Cir. 2003); Blomkest Fertilizer, Inc. v. Potash Corp. of Saskatchewan, 203 F.3d 1028, 1042–43 (8th Cir. 2000); *In re* Baby Food Antitrust Litigation, 166 F.3d 112, 121–22 (3d Cir. 1999); Clamp-All Corp. v. Cast Iron Soil Pipe Institute, 851 F.2d 478, 484 (1st Cir. 1988); Apex Oil Co. v. DiMauro, 822 F.2d 246, 253–54 (2d Cir. 1987)).

141. *Flat Glass*, 385 F.3d at 361–69.

142. *Id.* at 361 (citing POSNER, ANTITRUST LAW, *supra* note 8, at 69–79).

143. *Id*. at 361 (internal quotations and citation omitted).

144. *See id.* at 361–69.

145. *Id*. at 368 (discussing *In re* Baby Food Antitrust Litig., 166 F.3d 112 (3d Cir. 1999), as a case with "far less compelling" traditional evidence).

146. *Id.* at 361–69.

III. ANALYSIS

At the heart of the debate surrounding parallel conduct in highly concentrated markets lies two interrelated issues. First, continuing uncertainty regarding the economics of oligopolistic markets leads to disparate judicial treatment. This seems in large part to depend on which theory a particular court is influenced by or which theory best fits that court's understanding of the evidence before it.[147] Courts familiar with Turner's model of conscious parallelism seem unwilling to engage plaintiffs' assertions that the conduct the court views as unavoidable may in fact be aided or facilitated by a form of communication or behavior that should be unlawful.[148]

Second, the standard for summary judgment established in *Monsanto* and *Matsushita* demands courts view skeptically both economic and traditional conspiracy evidence. Because plaintiffs must show evidence that "tends to exclude the possibility that defendants acted independently," plaintiffs presenting evidence that plausibly shows a fifty percent likelihood that defendants conspired will lose on a motion for summary judgment; that fifty percent likelihood will never be explored in most courts.[149] In part, this skepticism is informed by the context of *Monsanto* and *Matsushita*, each of which involved allegations less plausible than a price-fixing conspiracy.[150] However, the skepticism of *Monsanto* and *Matsushita* also reinforces the orthodox view that conscious parallelism is unavoidable: if judges are persuaded that such behavior occurs naturally, they are unlikely to view economic or even some traditional conspiracy evidence as "tending to exclude" the possibility that defendants acted independently.

There are, of course, good reasons to maintain faith in the more orthodox Turner view. A wrongly-decided section 1 case carries not only the threat of treble damages (and attorney's fees) for the defendants,[151] but also presumably deters rational, pro-competitive conduct.[152] If the defendants in a "tacit collusion" case did act independently, a wrongly decided case punishes them merely for running a business in a highly concentrated market. Further, the focus on *agreements* is a cornerstone of

147. *See supra* notes 119–46 and accompanying text.
148. *See supra* notes 119–29 and accompanying text.
149. *See supra* notes 36–50 and accompanying text.
150. *See supra* notes 40–41 and accompanying text.
151. *See supra* note 27 and accompanying text.
152. *Id.*

antitrust enforcement,[153] and, despite Posner's analogizing tacit colluders' parallel actions to the "meeting of the minds" that occurs in many enforceable non-verbal contracts,[154] extending the theory of agreements to include this type of agreement creates an illusive and malleable concept that is unlikely to gain much traction in the courts.[155] These concerns doubtlessly contribute to the current, rather complex, state of section 1 enforcement.

If Professor Turner is correct, the antitrust enforcement system has half-heartedly accepted his ideas. Though Turner asserts that conscious parallelism is an unavoidable byproduct of highly concentrated markets, he does not bless the concept.[156] Rather, Turner argues for legislation allowing the government to deconcentrate these markets, allowing for a more competitive market system.[157] Though the government's policy towards mergers attempts to deter the creation of monopolies, it does not go as far as Turner advocates.[158] Section 2 of the Sherman Act does attempt to deter firms from monopolizing a market; but section 2 is rarely, if ever in contemporary antitrust practice, used to deconcentrate oligopolistic markets.[159] Thus, Turner's theory that inefficiency is unavoidable in concentrated markets is employed to protect the oligopolists, but his solution to the problem is generally ignored.

On the other hand, if Posner's view is correct, then the courts are complicit in allowing oligopolists to maintain anticompetitive practices, damaging consumer welfare. These firms can escape accountability by concealing their agreement or understanding, or by having skilled attorneys able to present economic evidence in a way that colors the judge's view of it as evidence of independent action.[160] Posner doubts that there are many cases of purely tacit collusion,[161] and suggests that agreements could be found given the right tools, but he advocates a refocusing of the policy towards an in-depth look into the market data.[162]

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153. *See supra* notes 25–30 and accompanying text.

154. *See supra* notes 92–102 and accompanying text.

155. See Hovenkamp, *Rationalization*, *supra* note 12, at 922 ("In the paradigm oligopoly case, however, *both* the 'offer' and the 'acceptance' are implied; the common law rarely goes that far.").

156. *See supra* notes 74–75 and accompanying text.

157. *Id*.

158. *See generally* ANTITRUST ANALYSIS, *supra* note 20, at 680–87.

159. *See id.*

160. *See supra* Part II.B.

161. *See* POSNER, ANTITRUST LAW, *supra* note 8, at 97.

162. *See supra* notes 95–102 and accompanying text.

As commentator responses suggest, this problem is unlikely to be resolved in the academy any time soon.[163] Commentators disagree on the contributions of game theory to the debate. Some suggest that game theory merely acknowledges that markets can achieve the kind of supracompetitive equilibrium often seen in "conscious parallelism" cases,[164] while others maintain that game theory explains the subtle communication process used by firms in highly concentrated markets.[165] Professors Lopatka and Werden disagree about the teachings of game theory regarding whether "conscious parallelism" is a likely outcome in a concentrated market, while each acknowledge that Posner's use of "perfect competition" as a benchmark is unsupported by the literature.[166]

Professor Piraino suggests inquiring into the purpose behind the signals and then only enjoining those without a legitimate, competitive business purpose.[167] While attractive in its simplicity, Piraino's proposal would likely fall victim to the same analysis that condemns most plaintiffs' efforts in "conscious parallelism" cases: most businesses can articulate a reason why a particular pricing announcement had a legitimate business purpose. The court is again left to either substitute its own judgment for the legitimacy of the asserted business reason, or determine, presumably under the *Matsushita* standard, whether the evidence offered to prove that business purpose "tends to exclude" the possibility that the communication was intended for legitimate business purposes.

The current state of federal court treatment of the issue, however, demands further investigation. *Williamson Oil* and Judge Posner's opinion in *High Fructose Corn Syrup* represent two ends of a wide spectrum of court treatment of economic indicia of tacit collusion.[168] The Third Circuit in *Flat Glass* is refreshingly candid in its acknowledgement of the debate, and its reasoning evidences an open-minded attitude toward economic evidence.[169] *Flat Glass*, however, did not present the court with a difficult case involving these economic indicators of collusion: the "smoking gun" or "traditional conspiracy" evidence buttressed the economic data which suggested a collusive glass industry.[170]

163. *See supra* Part II.C.
164. *See supra* notes 109 and accompanying text.
165. *See supra* notes 113–16 and accompanying text.
166. *See supra* notes 107–12 and accompanying text.
167. *See supra* notes 113–16 and accompanying text.
168. *See supra* Parts II.D.1 & II.D.2.
169. *See supra* Part II.D.3.
170. *Id*.

The *High Fructose Corn Syrup* litigation arose out of a highly public conspiracy involving the lysine and corn syrup industries,[171] and Judge Posner chose a relatively safe case in which to advance his method. In many cases, the "traditional conspiracy" evidence is likely less compelling. Ironically, however, as *Williamson Oil* demonstrates, courts take a more skeptical view of the probative value of even "traditional conspiracy" evidence when the court subscribes to the Turner view that parallel behavior is unavoidable.[172] This is unacceptable. If defendants agree to fix prices, they have violated the Sherman Act. A consistently orthodox view of "conscious parallelism" doctrine, combined with a high threshold for plaintiffs to take cases to trial, however, prevents further judicial progress on the issue.

IV. PROPOSAL

This Note proposes a solution to guide the courts in better addressing the "oligopoly problem." First, the government, through the Department of Justice or the Federal Trade Commission should utilize its ability to bring suits in equity to enjoin the practices that allegedly facilitate tacit collusion, including the practices identified by Posner as indicative of collusion and the game-theoretic signaling discussed by Piraino.[173] Proceeding in equity provides several advantages: (1) wrongly-decided decisions no longer subject innocent defendants to the severe penalties of treble damages and attorneys fees (the risk of deterring pro-competitive behavior looms large in any antitrust decision); (2) equity provides for a bench trial, likely in front of a sophisticated judge (rather than a lay jury who might not be familiar with economics), who has the incentive and skill to familiarize himself or herself with both the economic literature and the way in which the economic data is represented in each case; (3) lastly, the heavy burden laid upon plaintiffs by *Matsushita* does not operate in these equity suits, thus providing for a more probing investigation of the issues.

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171. For a detailed account of the Archer Daniels Midland price-fixing conspiracy and the government's investigation of the case, see KURT EICHENWALD, THE INFORMANT (Broadway Books, 2000).

172. *See supra* Part II.D.1.

173. The focus here, however, departs from Piraino's purpose-based approach, instead focusing on the economic consequences of the signaling, rather than engaging in an intent-based investigation of the company's justification for the practice. *See supra* notes 113–16 and accompanying text.

The government may choose to seek aid from its well-developed and sophisticated approach to merger enforcement articulated in the Merger Guidelines, which instruct the government to proceed against mergers that produce certain levels of concentration, as indicated by Herfindahl-Hirschman Index.[174] If the government has reason to believe an industry is behaving in a suspiciously parallel fashion, and the industry is highly concentrated, it may seek to enjoin the practices possibly facilitating the collusion. If, as Turner suggests, there is nothing to enjoin, defendants can seek the injunction's termination by showing the inefficient and burdensome results caused by the injunction. If the practices do facilitate collusion, enjoining such practices will improve market performance and the judiciary will gain understanding of the way in which these markets operate, allowing it to form a more coherent view towards the doctrine of "conscious parallelism."

V. CONCLUSION

Solving the oligopoly problem is essential to an effective, coherent, and rational antitrust policy. If firms can avoid liability by masking their illegal conduct or by using the court's reluctance to consider economic evidence seriously, then the policy must be reassessed. This Note does not advocate wholesale acceptance of Judge Posner's proposals and assertions in the latest edition of *Antitrust Law*; rather, it urges courts to reconsider their stance towards economic evidence in price-fixing cases and proposes a means to probe the issue further, while avoiding many of the risks that

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174. *See* Horizontal Merger Guidelines, *supra* note 45. Section 1.5 of the Merger Guidelines explains concentration and market shares in terms of the Herfindahl-Hirschman Index:

> Market concentration is a function of the number of firms in a market and their respective market shares. As an aid to the interpretation of market data, the Agency will use the Herfindahl-Hirschman Index ("HHI") of market concentration. The HHI is calculated by summing the squares of the individual market shares of all the participants. Unlike the four-firm concentration ratio, the HHI reflects both the distribution of the market shares of the top four firms and the composition of the market outside the four firms. It also gives proportionately greater weight to the market shares of the larger firms, in accord with their relative importance in competitive interactions.
>
> The Agency divides the spectrum of market concentration as measured by the HHI into three regions that can be broadly characterized as unconcentrated (HHI below 1000), moderately concentrated (HHI between 1000 and 1800), and highly concentrated (HHI above 1800). Although the resulting regions provide a useful framework for merger analysis, the numerical divisions suggest greater precision than is possible with the available economic tools and information. Other things being equal, cases falling just above and just below a threshold present comparable competitive issues.

Utilizing the HHI index in this area will assist the government in aiming its efforts towards highly concentrated industries conducive towards tacitly collusive practices.

would accompany trying more of the cases under the current procedure. As Justice O'Connor recognized in *State Oil Co. v. Khan*,[175] antitrust law is a dynamic field, open to change when society's understanding of markets develops and requires metamorphosis.

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175. 522 U.S. 3 (1997) ("[I]n the area of antitrust law, . . . there is a competing interest in recognizing and adapting to changed circumstances and the lessons of accumulated experience. Accordingly, this Court has reconsidered its decision construing the Sherman Act where . . . the theoretical underpinnings of those decisions are called into serious question.").

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