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LIMIT PRICING AND PREDATION IN THE ANTITRUST LAWS: ECONOMIC AND LEGAL ASPECTS*

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I. INTRODUCTION

The overwhelming view in the economic literature is that limit pricing,[1] the practice of establishing a non-profit-maximizing price

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1. While many authors date the concept of "limit pricing" to a 1949 article by Joe S. Bain, *see* Bain, *A Note on Pricing in Monopoly and Oligopoly*, 39 AM. ECON. REV. 448 (1949), B.L. Johns quotes a 1919 passage from Alfred Marshall suggesting that monopolists may not exercise their full monopoly power when they consider the impact it may have on the entry of new firms, *see* Johns, *Barriers to Entry in a Dynamic Setting*, 11 J. INDUS. ECON. 48 (1962) (quoting INDUSTRY & TRADE (1919)). Richard Markovits traces the concept to a statement by Franklin Giddings in 1886. *See* Markovits, *Potential Competition, Limit Price Theory, and the Legality of Horizontal and Conglomerate Mergers Under the American Antitrust Laws*, 1975 WIS. L. REV. 658, 659 n.4 (1975). More direct contributions to the theory of limit pricing are noted in F. SCHERER, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 235 (1980), and include Kaldor, *Market Imperfection and Excess Capacity*, 2 ECONOMICA 35 (1935).

with the intention of deterring entry of others into the market,[2] either does not make economic sense or, in any event, does not have anticompetitive effects. The leading legal treatises on this subject share this view. Richard Posner states that limit pricing is

> a foolish policy since, if the long run marginal costs of [new entrants] are no higher than those of the existing firms, the usual case as we have seen, the effect of such a policy will be to constrain price to the competitive level, resulting in zero monopoly profits. The rational strategy . . . is to set a price higher than the cost of the new entrant, since as long as substantial entry takes some time to materialize this policy will enable some monopoly profits to be obtained.[3]

Areeda and Turner are only slightly more sympathetic. They state, without speculating on its probability, that, if successful, limit pricing prevents competition from arising—with the resulting loss of such benefits of competition as increased efficiency and greater innovation in the industry.[4] Nonetheless, they do not "believe that these arguments justify a prohibition against limit pricing."[5] They note that there are many forms of competition, including average cost pricing, that act to exclude some competitors.[6] Areeda and Turner, however, choose not to accept the "speculative possibilities"[7] that more competitors might enter the market "in exchange for the present benefits of superior competitive performance."[8] Instead, they assert that only the less efficient firms are kept out of the market and that "the lower prices, higher output, and fuller use of the monopolist's productive capacity are, of course, socially beneficial."[9]

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2. If a monopolist or price leader in an oligopoly market sets price and output in order to maximize profits in the current period (marginal cost equal to marginal revenue) and if this price is sufficiently high, the entry of new firms will be encouraged and profits will decline over the long run. Recognition of this prospect may cause the firm to abandon its shortrun profit-maximizing position in order to discourage or "limit" entry and maintain a dominant position in the market. The firm may adopt a multi-period, long run profit-maximizing objective, or some other objective that requires the maintenance of a dominant position, rather than a shortrun profit-maximizing objective.

3. R. Posner, Antitrust Law: An Economic Perspective 115 n.50 (1976).

4. P. Areeda & D. Turner, Antitrust: An Analysis of Antitrust Principles and Their Application § 714 (1978).

5. *Id.*

6. *Id.*

7. *Id.*

8. *Id.*

9. *Id.; see also* Zerbe & Cooper, *An Empirical and Theoretical Comparison of Alter-*

Lawrence Sullivan is apparently a lone dissenter. After citing Scherer[10] and Bain[11] for the proposition that limit pricing is practiced, Sullivan asserts:

> The basic argument for treating limit pricing as a violation is straightforward enough. Such pricing, unlike short run maximizing, has the explicit purpose and likely effect of inhibiting entry; it thereby extends and preserves the monopoly and partakes of that characteristic which imbues all other kinds of conduct which are treated as monopolizing. Though a monopoly may be lawful in its inception, a deliberate effort by the monopolist to frustrate the market forces which in the ordinary course of business could be expected to erode its power runs counter to the statutory tenets. It is exclusionary conduct in the strictest sense, not different in any important respect from conduct which raises entry barriers.[12]

Whereas Posner and Areeda and Turner focus on the likely effectiveness of limit pricing—and find it unlikely—Sullivan assumes its likelihood and effectiveness and furthermore determines that such an anticompetitive practice should be treated like other anticompetitive practices.

The limit pricing theory has not as yet received extensive treatment by the courts. However, since the 1975 Fifth Circuit decision in *International Air Industries v. American Excelsior Co.*,[13] the doctrine has taken on a life of its own through its development in several Ninth Circuit decisions.[14] This Article will take a sys-

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native Predation Rules, 61 TEX. L. REV. 655 (1982). Zerbe and Cooper demonstrate that under certain conditions limit pricing *may* increase social welfare (consumer surplus plus producer surplus). This result depends in part on the differential time required for the price to move to the competitive price due to new entry and on the assumption that the price *will* move to the competitive price. *Id.*

10. *See* F. SCHERER, *supra* note 1, at 231-33.

11. *See* J. BAIN, BARRIERS TO NEW COMPETITION: THEIR CHARACTER AND CONSEQUENCES IN MANUFACTURING INDUSTRIES 190-201 (1956).

12. L. SULLIVAN, HANDBOOK OF THE LAW OF ANTITRUST 120 (1977).

> The monopolist which practices limit pricing does not vary from the profit maximizing price to a degree calculated to be beneficial to the public, but precisely to that degree which the monopolist judges will be more beneficial to itself. . . . [S]urely the monopolist's judgment that its limit price policy will maximize its long run returns is a good first approximation of what pricing policy will do the maximum harm to the public.

Id. This apparent concern that business should be required to be motivated by the public interest no doubt generates shudders in economists from Adam Smith to the present.

13. 517 F.2d 714 (5th Cir. 1975), *cert. denied*, 424 U.S. 943 (1976).

14. *See infra* notes 36-76 and accompanying text.

tematic look at the legal status of the limit price doctrine and propose its proper role.

II. The Contexts in Which Limit Pricing May Occur

Limit pricing may occur in any of a number of market contexts. The market may be a monopoly market with the limit (entry deterring) price set by the monopolist. The market may also be an oligopoly market, in which case there may be an industry leader that, because of its size, position, cost structure, or historic position of price leadership, sets a price that is followed by others in the industry. In the absence of a price leader, oligopolists may collude to set a price. Finally, the market may be substantially competitive.

In an oligopoly market, in the presence of price leadership or collusion, those already in the market may decide to set a price (or array of prices) at which all will sell. Although other models, such as sales maximization, are available, the oligopolists may decide to maximize profits. If they choose to maximize their shortrun profits, others will be attracted into the market and profits consequently will fall. This case approaches the competitive case. As long as any monopoly profits are being made, new firms will enter the market, increase supply, and depress price and monopoly profit.

In a competitive market, the concepts of market and limit price merge. At any price above the competitive market price, monopoly—or excess normal—profits will cause other firms to enter the market. Thus, the price that can be "set" by a competitive firm to keep others from entering the market is the competitive price. In more traditional language, no firm can "set" a price; rather, one expects (and antitrust enforcers intend) market forces to produce the market price.

III. The Importance of Barriers to Entry

What may prevent the ascendance of a competitive price (other than thinness of the market) is the existence of barriers to entry. The presence of barriers to entry is an economic prerequisite to limit pricing. If they are weak or nonexistent, profits above a normal rate of return will encourage the entry of new firms, and prices will fall until they equal average cost. When there are no barriers to entry, there is little that the existing firm or firms can do to forestall this entry. When barriers to entry are moderate, profits *may* exceed a normal rate of return *without* attracting entry. Because these profits may not be the same as those that would result from shortrun profit maximization, the firm is faced with the choice of a shortrun profit-maximizing position, which encourages the entry of new firms, or lower profits, which limit the entry of new firms. The "height" of the barriers to entry determines the extent to which profits may exceed a normal rate of return without resulting in entry of new firms. Finally, barriers may be so high that entry is effectively "blockaded," and the only adjustment to the shortrun profit-maximizing position of the firm will be a long run scale of plant adjustment. It thus appears that the firm would have real options available for pricing below the shortrun profit-maximizing price in an effort to limit entry only when barriers to entry are "moderate."[15]

Although economists have given a great deal of attention to barriers to entry, including their role in determining the structure of markets,[16] the profitability of firms,[17] and the speed of entry,[18] a great deal of uncertainty remains regarding the nature of barriers, their measurement, and their economic significance.[19] Nonetheless, there are at least two general theories concerning how barriers may forestall entry and thus facilitate limit pricing. The traditional view argues that barriers to entry directly raise the costs to firms contemplating entry.[20] Product differentiation, scale economies, and absolute cost advantages of in-market firms are all argued to be barriers to entry and the bases for these cost differences. A recently developed, alternative view argues that new firms face greater risks than existing firms and that these risk differences

15. This of course covers virtually the entire range of barrier "heights."

16. *See, e.g.,* Bain, *Economies of Scale, Concentration and the Condition of Entry in Twenty Manufacturing Industries,* 44 AM. ECON. REV. 15 (1954).

17. *See, e.g.,* Orr, *The Determinants of Entry: A Study of the Canadian Manufacturing Industries,* 56 REV. ECON. & STATISTICS 58 (1974).

18. *See* Stonebraker, *Corporate Profits and the Risk of Entry,* 58 REV. ECON. & STATISTICS 33 (1976) (discussing the relationship between barriers to entry, risk, and the level of corporate profits); *see also* Mansfield, *Entry, Gibrat's Law, Innovation, and the Growth of Firms,* 52 AM. ECON. REV. 1023 (1962).

19. See J. BAIN, *supra* note 11, at 3-5, and J. STIGLER, THE ORGANIZATION OF INDUSTRY 67-70 (1958), for contrasting views of barriers to entry. As evidence that the controversy continues, see Demsetz, *Barriers to Entry,* 72 AM. ECON. REV. 47 (1982).

20. This "traditional" view is the one associated with Bain.

slow or prevent the entry of new firms into the market.[21] By focusing on the risks associated with entry, this theory allows behavioral characteristics such as limit pricing to be included within the definition of barriers to entry.[22] The concept of risk may also provide a means of measuring the extent, or "height," of barriers to entry.[23]

The courts have recognized the importance to limit pricing of barriers to entry. The seminal limit pricing case is *International Air Industries v. American Excelsior Co.*,[24] a Robinson-Patman Price Discrimination Act[25] case in which the court addressed the question of predatory price discrimination. In its consideration of this issue, the Fifth Circuit panel defined as "predatory" the practice of "sacrific[ing] present revenues for the purpose of driving [the competitor] out of the market with the hope of recouping the losses through subsequent higher prices."[26] Although it noted as a general proposition that a "monopolist," *i.e.*, a firm with monopoly power, might at times price at or above average cost in order to deter entry or to drive another existing firm out of the market,[27] the court stated that "a price above average cost [was] a fairly competitive price for it [was] profitable to the monopolist if not to its rivals; in effect, the price exclud[ed] only less efficient firms."[28]

It thus appears that a limit price, in order to avoid being condemned as a predatory price, must at least be above average, average variable, or marginal cost, depending on the test of predation ultimately adopted by the courts. Although this remains an unresolved issue, it is sufficient for present purposes simply to note that limit pricing that is not predatory by one of the recognized cost standards must fit within the preceding Fifth Circuit definition of "fairly competitive."[29] The Fifth Circuit panel adopted an average variable cost standard for predation, but, it continued: "We see no reason to depart from the average variable cost test for

21. *See* Stonebraker, *supra* note 18, at 37.

22. *See* Spence, *Entry, Capacity, Investment and Oligopoly Pricing*, 8 BELL J. ECONOMICS 534 (1977).

23. Note that, in the first approach discussed, limit pricing is based on the existence of barriers to entry, while in the second approach limit pricing can *be* a barrier to entry. *See infra* notes 127-31 and accompanying text.

24. 517 F.2d 714 (5th Cir. 1975), *cert. denied*, 424 U.S. 943 (1976).

25. 15 U.S.C. § 13(a) (1976).

26. *International Air Indus.*, 517 F.2d at 723.

27. *See id.*

28. *Id.* (citing P. AREEDA & D. TURNER, *supra* note 4, §§ 706-07).

29. *Id.* at 724; *see infra* note 36.

predation *unless it can be shown that there are significant barriers to entry* into the relevant market."[30] The court found that "the record indicat[ed] that barriers to entry in the cooler pad market were virtually non-existent."[31] Statements about what would be relevant if such barriers existed are thus dicta. Nonetheless, the court gave the following standard:

> In short, in order to prevail as a matter of law, a plaintiff must at least show that either (1) a competitor is charging a price below his average variable cost in the competitive market or (2) the competitor is charging a price below its short-run, profit-maximizing price and barriers to entry are great enough to enable the discriminator to reap the benefits of predation before new entry is possible.[32]

The court's opinion in *International Air Industries* recognizes that the existence of barriers to entry is a prerequisite to limit pricing. It also suggests that limit pricing, although not predatory in the sense of being below cost, may nevertheless be considered predatory.[33] A footnote in the opinion suggests that the Fifth Circuit certainly would adopt the limit price approach in a case in which new entry is practically blockaded.[34] A price above average cost, which could drive out competitors who could not re-enter, would give rise to a charge of predation. Even if re-entry or new entry were not blockaded, however, high barriers to entry might result in a significant period of time during which short term lost profits could be more than recouped.[35]

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30. *International Air Indus.*, 517 F.2d at 724 (emphasis added).
31. *Id.* at 725.
32. *Id.* at 724.
33. *See id.*
34. *See id.* at 724 n.31. The court stated:

> We employ the profit maximizing standard only because of our deference to a situation in which a monopolist could drive a slightly less efficient firm out of the market by charging a price above its own average cost, but then charge a very high price because of the difficulty of new entry. This standard should be applied only when the barriers to entry are extremely high. The lower the barriers to entry in a market, the closer to marginal cost a monopolist would have to set its price in order for a plaintiff to prevail as a matter of law, for we see no social utility in insuring the survival of inefficient firms where a new entry is possible.

Id.

35. The *International Air Industries* standard was supported, though not without equivocation, by the Ninth Circuit in Hanson v. Shell Oil Co., 541 F.2d 1352, 1358 (9th Cir. 1976), *cert. denied,* 429 U.S. 1074 (1977). The Ninth Circuit panel cautioned: "There is some question, however, whether pricing below a profit maximizing point which is still above marginal and average variable costs should be considered predatory; it only discour-

IV. Limit Pricing and Predation

The concepts of predatory pricing and limit pricing are closely related. Obviously, a predatory price limits the entry of new firms. In that sense, a predatory price is a limit price. Whether a limit price is predatory, however, apparently will depend on whether it is "for the purpose of driving [or keeping a competitor] out of the market with the hope of recouping the losses through subsequent higher prices."[36]

The Areeda-Turner rule[37] is one of the more widely espoused measures of predatory pricing. Under this rule, if the price is below average variable cost (a proxy for marginal cost), it is inferred to be predatory. This conclusion is drawn from the observation that a rational firm in the shortrun would shut down rather than produce if the price fell below average variable cost.[38] Stonebraker adds

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ages inefficient new entrants who must have higher prices to survive." *Id.* at 1358 n.5. The Ninth Circuit position was reiterated in dicta by Judge Conti of the United States District Court for the Northern District of California in ILC Peripherals Leasing Corp. v. International Business Machs. Corp., 458 F. Supp. 423, 431 (N.D. Cal. 1978), *aff'd per curiam sub nom.* Memorex Corp. v. International Business Machs. Corp., 636 F.2d 1188 (9th Cir. 1980), *cert. denied,* 452 U.S. 972 (1981).

36. International Air Indus. v. American Excelsior Co., 517 F.2d 714, 723 (5th Cir. 1975), *cert. denied,* 424 U.S. 943 (1976). If two firms are equally efficient, a price designed to "prey" on one of the firms must necessarily place both firms in a position of earning less than a normal rate of return. On the surface this would not appear to be a profit-maximizing strategy. *See* Koller, *The Myth of Predatory Pricing: An Empirical Study,* 4 Antitrust L. & Econ. Rev. 105 (1971); *see also* McGee, *Predatory Price Cutting: The Standard Oil (N.J.) Case,* 1 J.L. & Econ. 137 (1958). Several authors, however, have shown it possible for predatory pricing to be a rational, long run profit-maximizing strategy. *See* Telser, *Cutthroat Competition and the Long Purse,* 9 J.L. & Econ. 259 (1966); Williamson, *Predatory Pricingn: A Strategic and Welfare Analysis,* 87 Yale L.J. 284 (1977); Yamey, *Predatory Price Cutting: Notes and Comments,* 15 J.L. & Econ. 129 (1972).

37. Areeda & Turner, *Predatory Pricing and Related Practices Under Section 2 of the Sherman Act,* 88 Harv. L. Rev. 697 (1975).

38. While this Areeda-Turner view may be widely held, it is not without its critics. Williamson argues that the Areeda-Turner standard relies on an essentially static framework (price relative to average variable cost) in evaluating an essentially strategic or dynamic decision. *See* Williamson, *supra* note 36, at 285. Yamey notes that "there can be predatory intent in price cutting whether or not the aggressor sets its price above or below its costs . . . ." Yamey, *supra* note 36, at 134. Baumol, bypassing the cost-based rules of predatory pricing as essentially static in their premise, argues for a more dynamic approach. *See* Baumol, *Quasi-Permanence of Price Reductions: A Policy for Prevention of Predatory Pricing,* 89 Yale L.J. 1 (1979). He argues for a policy that would require that prices that are reduced by a dominant firm may not be increased "if the entrant [subsequently] leaves the market." *Id.* at 4. In essence, the prospect of having to make price cuts quasi-permanent would tend to eliminate shortrun price reductions aimed at eliminating competition. No

that the mere threat of predatory pricing could increase the risk of entry in the market and thus prevent the entry of new firms into a given market.[39] That is, it would raise barriers to entry. Telser notes that a "credible threat" of predatory intent can be conveyed by an aggressor if its reserves exceed what is needed to remove a competitor from a market.[40]

The attempt to reduce predatory pricing to a single cost-based test would be helpful in developing a uniform standard for the courts. Such a rule, however, would suggest that the practice could be considered predatory *only* if the price fell below some appropriate cost figure. A limit price may be above the average cost of the in-market firm yet exclude an equally efficient firm from the market *only because* the limit price itself artificially raises the perceived cost (risk) of entry—the barrier to entry—for the potential competitor.

Judge Schnacke of the Northern District of California, in the IBM Peripheral EDP Devices litigation,[41] apparently honored the Areeda-Turner rule and rejected the rule of *International Air Industries v. American Excelsior Co.*[42] He stated:

> The profit maximizing *International Air Industries* test originated in self-contradictory dicta . . . and has been perpetuated in dicta. . . . It will not be perpetuated here. The imposition of such a standard would be unmanageable, preclude a firm with monopoly power from competing on the merits, and harm consumers. It is rejected as a matter of law.[43]

In a later opinion Judge Schnacke elaborated:

> It would be all but impossible to distinguish between above cost limit pricing conduct and a monopolist's pro-competitive reaction to lower priced competitors. One external characteristic is common to both cases, a lowered price. Any attempt to attach liability to the

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reference is made to average, average variable, or marginal cost.

39. Stonebraker, *supra* note 18, at 35.

40. Telser, *supra* note 36, at 267.

41. *In re* IBM Peripheral EDP Devices Antitrust Litig., 459 F. Supp. 626 (N.D. Cal.), *aff'd sub nom.* Transamerica Computer Co. v. International Business Machs. Corp., 573 F.2d 646 (9th Cir. 1978); *see also In re* IBM Peripheral EDP Devices Antitrust Litig., 481 F. Supp. 965 (N.D. Cal. 1979), *aff'd sub nom.* Transamerica Computer Co. v. International Business Machs. Corp., 698 F.2d 1377 (9th Cir.), *cert. denied*, 104 S. Ct. 370 (1983).

42. 517 F.2d 714 (5th Cir. 1975), *cert. denied*, 424 U.S. 943 (1976); *see supra* notes 24-35 and accompanying text.

43. *In re IBM*, 459 F. Supp. at 632.

> one will surely inhibit the indistinguishable other.
>
> . . . This Court agrees with Areeda and Turner that price reductions which result in prices that exceed defendant's average cost should be conclusively presumed legal.[44]

Judge Schnacke thus rejected the notion that a limit price that was not below cost might still be considered predatory.

The Ninth Circuit has expressly rejected Judge Schnacke's per se rule of legality.[45] In addition to *Hanson v. Shell Oil Co.*,[46] which repeats the "barriers to entry" standard of *International Air Industries*,[47] there are four Ninth Circuit opinions, each by a different panel, that suggest what position the Ninth Circuit may ultimately take with regard to limit pricing.

Later in the same year as the *Hanson* decision, the Ninth Circuit decided *Knutson v. Daily Review, Inc.*[48] In a footnote, the court stated:

> Moreover, the specific offense of maximum resale price fixing could be used to destroy (or exclude) competition or build a monopoly. If the fixed maximum price is higher than cost but lower than a price that would permit new entrants or smaller scale competitors to operate *(i.e.*, a "limit price"), then, although not predatory, it could support other efforts to acquire a monopoly.[49]

In a similar vein, in commenting on the appropriate cost standard for predation, the Ninth Circuit commented as follows in *California Computer Products v. International Business Machines Corp.*:[50]

> For instance, limit pricing by a monopolist might, on a record which presented the issue, be held an impermissible predatory practice. . . . And we do not foreclose the possibility that a monopolist who reduces prices to some point above marginal or average variable costs might still be held to have engaged in a predatory act *because of other aspects of its conduct*.[51]

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44. *In re IBM*, 481 F. Supp. at 991.
45. *See, e.g.*, Arizona v. Maricopa County Medical Soc'y, 643 F.2d 553 (9th Cir. 1980), *rev'd on other grounds*, 457 U.S. 332 (1982); Hanson v. Shell Oil Co., 541 F.2d 1352 (9th Cir. 1976), *cert. denied*, 429 U.S. 1074 (1977).
46. 541 F.2d 1352 (9th Cir. 1976), *cert. denied*, 429 U.S. 1074 (1977).
47. *See id.* at 1358; *supra* note 35.
48. 548 F.2d 795 (9th Cir. 1976), *cert. denied*, 433 U.S. 910 (1977).
49. *Id.* at 814 n.21.
50. 613 F.2d 727 (9th Cir. 1979).
51. *Id.* at 743 (emphasis added).

The position toward which the Ninth Circuit appeared headed was one in which limit pricing itself was not considered predatory but in which it might be considered an aspect of a predatory scheme.

The Ninth Circuit took the first concrete step in this direction in its opinion in *Arizona v. Maricopa County Medical Society*:[52]

> The thought is that FMCs [foundations for medical care, which approve certain health insurance plans and establish rates they will charge for medical services under those plans], far from extracting the maximum profit possible, have set fees sufficiently low to discourage entry by potential competitors such as HMOs [health maintenance organizations, which provide pre-paid health care by member doctors].[53]

The court cited the language from *Knutson*[54] and then added that "[s]ome [had] questioned the theory on which the thought rest[ed]."[55] The reason given for this doubt was that the returns from limit pricing were "likely to be less over the long run."[56] Because profit-maximizing behavior will attract entry, "either policy over time yields approximately the same price level, the difference being that in the latter [profit maximization] case available monopoly profits were captured while in the former [limit pricing case] they were foregone."[57] The court concluded: "This so-called 'limit-price' theory, therefore, cannot be accepted as the foundation of a per se rule."[58]

One may read the *Maricopa County Medical Society* opinion as a weakening of the receptivity of the Ninth Circuit to the limit pricing theory of predation.[59] But the decision is in fact consistent with the view expressed by the Ninth Circuit since 1976 that limit pricing "although not predatory . . . could support other efforts to acquire a monopoly."[60] That is, it may be an element in a pattern of predatory behavior.

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52. 643 F.2d 553 (9th Cir. 1980), *rev'd on other grounds,* 457 U.S. 332 (1982).

53. *Id.* at 558.

54. *See id.* (citing *Knutson,* 548 F.2d at 814 n.21); *see also supra* text accompanying notes 48-49.

55. *Maricopa County Medical Soc'y,* 643 F.2d at 558.

56. *Id.*

57. *Id.*

58. *Id.*

59. In fact, in a note the court referred to its "skepticism about limit-pricing." *Id.* at 559 n.6.

60. *Knutson,* 548 F.2d at 814 n.21.

In 1983, the Circuit expressly addressed Judge Schnacke's holding that prices above average cost were pre se legal.[61] In *Transamerica Computer Co. v. International Business Machines Corp.*,[62] the Ninth Circuit, while affirming the decision below,[63] took the opportunity to elaborate on the significance of above-cost pricing.[64] The court first referred to *William Inglis & Sons Baking Co. v. ITT Continental Baking Co.*:[65]

> [P]rices are predatory when their justification rests, "not on their effectiveness in minimizing losses, but on their tendency to eliminate rivals and create a market structure enabling the seller to recoup his losses . . . and [does not depend on] rigid adherence to a particular cost-based rule . . . ."[66]

The significance of cost was stated as follows:

> [T]o establish predatory pricing a plaintiff must prove that the anticipated benefits of defendant's price depended on its tendency to discipline or eliminate competition and thereby enhance the firm's long-term ability to reap the benefits of monopoly power. If the defendant's prices were below average total cost but above average variable cost, the plaintiff bears the burden of showing defendant's pricing was predatory. If, however, the plaintiff proves that the defendant's prices were below average variable cost, the plaintiff has established a prima facie case of predatory pricing and the burden shifts to the defendant to prove that the prices were justified without regard to any anticipated destructive effect they might have on competitors.[67]

Thus, *William Inglis & Sons* establishes the significance of below average total cost pricing in terms of burden of proof. But *William Inglis & Sons* "says nothing about how to evaluate prices for antitrust purposes that exceed average total cost."[68] Judge Schnacke

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61. *See supra* note 44 and accompanying text.
62. 698 F.2d 1377 (9th Cir.), *cert. denied*, 104 S. Ct. 370 (1983).
63. *In re* IBM Peripheral EDP Devices Antitrust Litig., 481 F. Supp. 965 (N.D. Cal. 1979), *aff'd sub nom.* Transamerica Computer Co. v. International Business Machs. Corp., 698 F.2d 1377 (9th Cir.), *cert. denied*, 104 S. Ct. 370 (1983).
64. *Transamerica Computer Co.*, 698 F.2d at 1384-86.
65. 668 F.2d 1014 (9th Cir. 1981), *cert. denied*, 103 S. Ct. 57 (1982).
66. *Transamerica Computer Co.*, 698 F.2d at 1386 (quoting *William Inglis & Sons*, 668 F.2d at 1035).
67. *Id.* (quoting *William Inglis & Sons*, 668 F.2d at 1035-36).
68. *Id.*

held that they should be "conclusively presumed legal."[69] The Ninth Circuit disagreed for four reasons: (1) the possibility of limit pricing,[70] (2) the possibility of strategic pricing,[71] (3) "the uncertainty and imprecision inherent in determining 'costs',"[72] and (4) the danger of creating a "free zone" that would foreclose consideration of such important factors as intent, market power, market structure, and long run behavior.[73]

The court's conclusion was that cost should play the following role: first, if it is demonstrated that price is below average variable cost, a prima facie case of predatory pricing has been established;[74] second, if it is demonstrated that price is above average variable cost but below average total cost, "the plaintiff bears the burden of showing that the defendant's pricing was predatory;"[75] and, finally, if it is demonstrated that price is above average total cost, "the plaintiff must prove by clear and convincing evidence . . . that the defendant's pricing policy was predatory."[76] Such a test may place undue weight on the significance of price and cost in a predatory scheme that, for example, relies heavily on foreclosure of markets through long term contracts and other business practices.[76.1] None-

69. *In re* IBM Peripheral EDP Devices Antitrust Litig., 481 F. Supp. 965, 991 (N.D. Cal. 1979), *aff'd sub nom.* Transamerica Computer Co. v. International Business Machs. Corp., 698 F.2d 1377 (9th Cir.), *cert. denied,* 104 S. Ct. 370 (1983); *see supra* note 44 and accompanying text.

70. *Transamerica Computer Co.,* 698 F.2d at 1387.

71. *Id.*

72. *Id.*

73. *Id.*

74. *Id.* at 1386 (quoting *William Inglis & Sons,* 668 F.2d at 1035-36).

75. *Id.* (quoting *William Inglis & Sons,* 668 F.2d at 1035-36).

76. *Id.* at 1388.

76.1 This point is illustrated by a decision handed down as this Article was in the final stages of going to press. The First Circuit in Barry Wright Corp. v. ITT Grinnell Corp., 724 F.2d 227 (1st Cir. 1983), although finding for the defendant on the "clear and convincing evidence" test of the *Transamerica* case, *see supra* note 76 and accompanying text, nonetheless rejected that test. It concluded that "the Sherman Act [did] not make unlawful prices that exceed both incremental and average costs." *Barry Wright,* 724 F.2d at 236. Five reasons were enumerated by the court for this conclusion: (1) a price reduction to a price that remains above average total cost almost certainly moves price toward a competitive market; (2) the *Transamerica* rule would encourage litigation whenever price is lowered; (3) desired price reductions in concentrated industries would be discouraged; (4) the scope of the *Transamerica* test is vague; and (5) it is difficult to distinguish between "competitive" price reductions and "discipline." *Id.* at 234-35.

This suggests the danger of the *Transamerica* test's focus on price. Clearly, a price above average total cost is not, when considered in isolation, a violation of the Sherman Act. On the other hand, one should not be free to engage in any pricing behavior he chooses theless, it is clear that the Ninth Circuit recognizes that limit pricing at levels above average variable cost, while not alone constituting an antitrust violation, can be part of a scheme that is predatory.

V. The Effects of Limit Pricing

In the presence of barriers to entry, price may be set such that it is not attractive for other firms to enter the market even though monopoly profits are being made. In terms of price and level of output, however, one would expect that the result of such a collusive practice or of price leadership would be the same as would occur in the absence of collusion or price leadership. To demonstrate, assume a price (or array of prices) at which monopoly profits are being made and that is above the limit price (or array). Firms outside the market will be attracted into the market by the existence of monopoly profits. As they enter the market, supply will increase and price(s) and monopoly profits will fall. They will continue to fall until the barriers to entry make it undesirable for additional firms to enter the market. The price (or array) that emerges is, by definition, the limit price (or array). Stated differently, when viewed from outside, the price (or array) that will prevail in the long run will be that price (or array) that will deter entry; thus, it will *appear* to be a limit price. Whether collusion or price leadership is present or absent, price necessarily will fall to the limit price, and the limit price is determined by the nature and extent of barriers to entry, if any, or risk.

The same result obtains in the price leader and monopoly models. If the price leader or monopolist sets a price that is above the limit price, others will enter the market, increase supply, and thereby depress price and monopoly profit just as in the above situation. Price (and quantity) will be identical regardless of the na-

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simply because price remains above average total cost. The focus must be on the predatory scheme. The appropriate question to address is whether certain pricing behavior may be considered part of such a scheme. Price cutting to a price still above average total cost may be considered part of a scheme that, for example, relies heavily on foreclosure of markets through long term contracts and other business practices only if there is "clear and convincing evidence" that it is part of such a scheme. This defines the scope of the *Transamerica* test, distinguishes between competitive pricing and discipline, and minimizes the danger of discouraging desirable price reductions.

ture of the market.[77]

If the market will be the same regardless of the existence or nonexistence of limit pricing, why should one care about it at all? The presence or absence of intentional limit pricing will make one important difference in the market. In the absence of effective limit pricing, other firms will enter the market. In the presence of effective limit pricing, they will not. In other words, the significant difference caused by limit pricing is not a difference in price or quantity but a difference in the number of firms in the market.

VI. The Sherman Act and Limit Pricing

This understanding of the principles of limit pricing clarifies the legal roles it should play. Assume that a limit price is by some means found to prevail in a market. The fact that the prevailing price in the market is the price that is just sufficient to keep out other firms tells one nothing about the nature of the market or the practices obtaining in that market. In an otherwise competitive market with barriers to entry, one expects the market to produce the "limit price" as the equilibrium price. Similarly, in an oligopoly market with barriers to entry, in the absence of collusion, one expects the equilibrium price produced by competition (*i.e.*, by natural market forces) to be the "limit price" (or "limit price array"). The limit price will also be the price that will prevail in the presence of collusion. The colluders either will establish the limit price as the prevailing price, in which case it will be the shortrun market price, or they will establish a price above the limit price, in which case others will enter the market and over time force the price down to the limit price.[78]

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77. Actually, this may not quite be true. Because the firms outside the market may face greater risk when considering entry than they would once in the market, the limit price could be somewhat higher than the price that would result from actual entry. Also, in the presence of differing cost configurations, the limit price might be lower than the price that would result from entry of the most efficient outside firm. Because the limit price would be determined by the cost configuration of the most efficient outside firm, entry of that firm could raise the limit price based on the cost configuration of the next most efficient firm.

78. Two asides are appropriate. First, one may expect that the colluders will not set a price below the limit price unless it is the profit-maximizing price. (In that case, incidentally, the number of firms in the market would not be affected.) If they do so, they are acting against their own interests, and one should look for other explanations for that behavior. On the other hand, in the absence of collusion, there is no reason to believe that the price might not, in appropriate circumstances, fall below the limit price. Second, the method

A. *Concern with Collusion*

The natural ascendancy of limit prices poses no antitrust problems in competitive markets or noncollusive oligopoly markets. In collusive oligopoly markets, limit pricing does not (under ordinary conditions) alter the price or quantity of output. Nonetheless, a limit price that results from collusion is a matter of substantial antitrust concern. Antitrust laws are harsh on collusion because even innocent collusion with respect to price can facilitate improper conduct.

The Sherman Act[79] condemns "[e]very contract, combination . . . or conspiracy, in restraint of trade or commerce . . . ."[80] In *United States v. Trenton Potteries Co.*,[81] the Supreme Court stated: "The power to fix prices, whether reasonably exercised or not, involves power to control the market and to fix arbitrary and unreasonable prices. The reasonable price fixed today may through economic and business changes become the unreasonable price of tomorrow."[82] In *United States v. Socony-Vacuum Oil Co.*,[83] the Court stated:

> Any combination which tampers with price structures is engaged in an unlawful activity. Even though the members of the price-fixing group were in no position to control the market, to the extent that they raised, lowered, or stabilized prices they would be directly interfering with the free play of market forces. The Act places all such schemes beyond the pale and protects that vital part of our economy against any degree of interference.[84]

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used for setting price will involve control of output. Failure to control output results either in (1) a surplus, which would cause price to fall or which results in excess inventories to be financed, or (2) a shortage, which would cause the price to be bid above the agreed price, with the profit going to arbitragers.

79. 15 U.S.C. §§ 1-7 (1976).

80. *Id.* § 1.

81. 273 U.S. 392 (1927).

82. *Id.* at 397.

83. 310 U.S. 150 (1940).

84. *Id.* at 221. The *Socony-Vacuum* Court also stated:

> [P]rices are fixed within the meaning of the *Trenton Potteries* case if the range within which purchases or sales will be made is agreed upon, if the prices paid or charged are to be at a certain level or on ascending or descending scales, if they are to be uniform, or if by various formulae they are related to the market prices. They are fixed because they are agreed upon. And the fact that, as here, they are fixed at the fair going market price is immaterial.

Id. at 222-23. These doctrines have been reaffirmed by the Supreme Court as recently as two years ago. *See* Arizona v. Maricopa County Medical Soc'y, 457 U.S. 332, 344-48 (1982).

It is important to recall that the existence of a limit price tells one nothing. The limit price is the long run market price in the presence of barriers to entry. What is important is the manner in which the limit price was achieved. In other words, the existence of a limit price is not appropriate evidence of price-fixing, but if other available evidence suggests that a price was *set,* the exclusionary effect is no less serious simply because the label "limit price" is attached to it.

Limit pricing may be price-fixing and therefore illegal per se. If, however, it is practiced by a price leader in the absence of agreement, it raises the issue of "conscious parallelism." In *Interstate Circuit, Inc. v. United States,*[85] the Supreme Court did not require an express agreement among the conspirators but concluded that "[i]t was enough that, knowing that concerted action was contemplated and invited, the distributors gave their adherence to the scheme and participated in it."[86] However, in 1954, in its decision in *Theater Enterprises v. Paramount Film Distributing Corp.,*[87] the Court stated:

> The crucial question is whether respondents' conduct toward petitioner stemmed from independent decision or from an agreement, tacit or express. . . . Circumstantial evidence of consciously parallel behavior may have made heavy inroads into the traditional judicial attitude toward conspiracy; but "conscious parallelism" has not yet read conspiracy out of the Sherman Act entirely.[88]

The significance of "consciously parallel" behavior has not yet been resolved by the Supreme Court,[89] but one should note that at least one court has found that an allegation of consciously parallel behavior, in conjunction with allegations that such parallel behavior was coerced, was sufficient to send the case to a jury.[90] It is also

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85. 306 U.S. 208 (1939).
86. *Id.* at 226.
87. 346 U.S. 537 (1954).
88. *Id.* at 540-41.
89. *Compare* Delaware Valley Marine Supply Co. v. American Tobacco Co., 297 F.2d 199, 202-03 (3d Cir. 1961) (Conscious parallelism is "not yet a legal substitute for proof of conspiracy. It is circumstantial evidence the probative value of which necessarily varies with the kind of parallelism and the factual setting where it is found."), *cert. denied,* 369 U.S. 839 (1962) *with* Bogosian v. Gulf Oil Corp., 561 F.2d 434, 444-47 (3d Cir. 1977) (vacating the district court's "ruling that the specific allegation of interdependent consciously parallel activity . . . fails to state a claim."), *cert. denied,* 434 U.S. 1086 (1978).
90. Ambook Enter. v. Time, Inc., 612 F.2d 604, 618 (2d Cir. 1979), *cert. denied,* 448

noteworthy that the Federal Trade Commission recently held that the simultaneous, though nonconspiratorial, practice in a concentrated industry of offering only uniform delivered prices, usually guaranteeing each buyer the lowest price charged any buyer, and announcing price changes in advance of the thirty day notice of price changes given to buyers was a violation of the Federal Trade Commission Act[91] when it promoted uniform supracompetitive prices with no countervailing procompetitive justification.[92]

B. Concern with Exclusion

The second antitrust concern with collusive limit pricing is that it results in fewer firms in the market than would have resulted in the absence of limit pricing. In fact, whether the limit price is set through collusion, price leadership, or by a monopolist, the result is that existing firms produce the entire output of the industry. In the absence of such a practice, the limit price may come about as a result, at least in part, of new entrants to the market. Congress and the courts have long recognized that the concentration of economic power is as great a concern as the maintenance of competitive price and quantity levels.[93]

If practiced by a monopolist, effective limit pricing results in the maintenance of monopoly. This issue was addressed in *United*

U.S. 914 (1980).

91. 15 U.S.C. § 14 (1976).

92. *In re* Ethyl Corp., F.T.C. No. 9128 (March 22, 1983).

93. *See* United States v. American Can Co., 230 F. 859 (D. Md. 1916), *appeal dismissed,* 256 U.S. 706 (1921).

> If it be true that size and power, apart from the way in which they were acquired, or the purpose with which they are used, do not offend against the law, it is equally true that one of the designs of the framers of the Anti-Trust Act was to prevent the concentration in a few hands of control over great industries. They preferred a social and industrial state in which there should be many independent producers. Size and power are themselves facts some of whose consequences do not depend upon the way in which they were created or in which they are used.

Id. at 901. *But see* P. AREEDA & D. TURNER, *supra* note 4, §§ 701(c)-703(b); R. BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF 90-91 (1978); R. POSNER, *supra* note 3, at 4; Posner, *The Chicago School of Antitrust Analysis,* 127 U. PA. L. REV. 925, 933-34 (1979); Posner, *Exclusionary Practices and the Antitrust Laws,* 41 U. CHI. L. REV. 506, 506-07 (1974). For a recent discussion of the controversy over the goals of antitrust law see Hovenkamp, *Distributive Justice and the Antitrust Laws,* 51 GEO. WASH. L. REV. 1 (1982); and Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged,* 34 HASTINGS L.J. 65 (1982).

States v. Aluminum Co. of America (Alcoa)[94] and was later endorsed in relevant part in *American Tobacco Co. v. United States.*[95] The *Alcoa* court stated that "among the purposes of Congress in 1890 was a desire to put an end to great aggregations of capital because of the helplessness of the individual before them."[96] Nonetheless, the mere possession by an enterprise of a monopoly position is not, in itself, a violation of the Sherman Act[97] because the monopoly may have been "thrust upon it."[98] Noting that "it [could] make no difference whether an existing competition [was] put an end to, or whether prospective competition [was] prevented," the *Alcoa* court stated that there must nonetheless be something more than size and that this something more has been called, *inter alia,* "exclusion."[99] Alcoa violated section 2 of the Sherman Act because it "effectively anticipated and forestalled all competition."[100] Because the only way effectively to set a limit price is by control of the quantity supplied,[101] the limit pricing monopolist faces two serious antitrust challenges based on *Alcoa.* First, the setting of a limit price is designed to "exclude."[102] Second, in order to maintain the limit price, the monopolist must anticipate and "progressively . . . embrace each new opportunity" and meet it "with new capacity."[103]

The Second Circuit in *Berkey Photo, Inc. v. Eastman Kodak Co.*[104] may have cut back on *Alcoa.* Eastman Kodak introduced the 110 Instamatic Camera. At the same time, it introduced a new film

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94. 148 F.2d 416, 428-29 (2d Cir. 1945).

95. 328 U.S. 781, 812-14 (1946).

96. *Alcoa,* 148 F.2d at 428.

97. 15 U.S.C. §§ 1-7 (1976).

98. *Alcoa,* 148 F.2d at 429.

99. *Id.; see, e.g.,* United States v. Grinnell Corp., 384 U.S. 563, 571-76 (1966).

100. *Alcoa,* 148 F.2d at 430. The court stated:

> We need charge it with no moral derelictions after 1912; we may assume that all it claims for itself is true. The only question is whether it falls within the exception established in favor of those who do not seek, but cannot avoid, the control of a market. . . . [W]e can think of no more effective exclusion than progressively to embrace each new opportunity as it opened, and to face every newcomer with new capacity already geared into a great organization, having the advantage of experience, trade connections and the elite of personnel.

Id. at 431.

101. *See supra* note 78.

102. *See Alcoa,* 148 F.2d at 424.

103. *Id.* at 431.

104. 603 F.2d 263 (2d Cir. 1979), *cert. denied,* 444 U.S. 1093 (1980).

compatible with the new camera. Berkey alleged that Kodak attempted to monopolize or did monopolize the camera market, the photo finishing and photo finishing equipment markets, and the film and color paper markets. The court recognized Kodak's monopoly power[105] but stated:

> [A] large firm does not violate § 2 simply by reaping the competitive rewards attributable to its efficient size, nor does an integrated business offend the Sherman Act whenever one of its departments benefits from association with a division possessing a monopoly in its own market.[106]

Kodak did not predisclose the details of the 110 Camera. Competitors in auxilliary markets were thus at a disadvantage when the new camera was introduced. District Court Judge Frankel instructed as follows:

> Standing alone, the fact that Kodak did not give advance warning of its new products to competitors would not entitle you to find that this conduct was exclusionary. Ordinarily a manufacturer has no duty to [predisclose] its new products in this fashion. It is an ordinary and acceptable business practice to keep one's new developments a secret. However, if you find that Kodak had monopoly power in cameras or in film, and if you find that this power was so great as to make it impossible for a competitor to compete with Kodak in the camera market unless it could offer products similar to Kodak's, you may decide whether in the light of other conduct you determine to be anticompetitive, Kodak's failure to predisclose was on balance an exclusionary course of conduct.[107]

The Second Circuit held that this instruction was erroneous and that "as a matter of law, Kodak did not have a duty to predisclose":[108]

> It is the possibility of success in the marketplace, attributable to superior performance, that provides the incentives on which the proper functioning of our competitive economy rests. If a firm that has engaged in the risks and expenses of research and development were required in all circumstances to share with its rivals the benefits of those endeavors, this incentive would very likely be

105. *See id.* at 269.
106. *Id.* at 276.
107. *Id.* at 281.
108. *Id.*

vitiated.[109]

An expansive reading of *Berkey Photo* would suggest that it invalidates *Alcoa.* It grants to the innovator of a camera the right to take advantage of the lead time gained by innovation and an integrated business. This is a far cry from the right to preempt all opportunities in the market and certainly a far cry from maintaining an entry limiting price by expansion of capacity.

Close to the point is the recent *E.I. DuPont de Nemours & Co.*[110] decision by the Federal Trade Commission (FTC). DuPont was charged with an attempt to monopolize the titanium dioxide (TiO_2) market through

> a) expansion of capacity by construction of a large-scale plant; b) exploitation of its cost advantage by pricing its products high enough to finance its own expanded capacity, yet low enough to discourage rivals from expanding; and c) refusal to license its cost-saving ilmenite chloride technology with which rivals could learn to take advantage of the economies of scale inherent in the low grade ore technology. In addition, the allegedly strategic behavior of DuPont consisted of premature expansion of its TiO_2 capacity and exaggerated announcements of its expansion intentions, all for the primary purpose of preempting competitors' expansion plans.[111]

Whereas its competitors alleged market foreclosure much like that in *Alcoa,* but including limit pricing, DuPont argued that it simply sought to capitalize on the cost advantage that was the result of its innovations (like *Berkey Photo*).[112]

There are marked differences between *DuPont* and *Alcoa. Alcoa* was a monopolization case,[113] while *DuPont* was an attempt case involving the requirement of specific intent.[114] Alcoa had over a ninety percent market share,[115] while DuPont had only a forty-three percent market share.[116] Alcoa engaged in repeated expansions, not just one expansion.[117] The Federal Trade Commission,

109. *Id.*
110. 96 F.T.C. 653 (1980).
111. *Id.* at 707-08.
112. *Id.* at 708.
113. *See Alcoa,* 148 F.2d at 421.
114. *See DuPont,* 96 F.T.C. at 724-27.
115. *Alcoa,* 148 F.2d at 423.
116. *DuPont,* 96 F.T.C. at 718 (1978 market shares).
117. *Alcoa,* 148 F.2d at 432, 434; *see DuPont,* 96 F.T.C. at 731, 750.

unlike the court in *Alcoa*,[118] found that if DuPont were to compete at all for the new growth in the market, it was necessary to capture substantially all of that new growth in order to take advantage of available economies of scale.[119] Even conceding the similarity of *Alcoa* and *DuPont*, the FTC found no exclusionary intent in DuPont's expansion decision[120] or in its announcements,[121] and it found no legal obligation to license.[122]

In addition, with respect to DuPont's pricing practices, the FTC expressly considered limit pricing.[123] The Commission recognized that "the literature discussed previously suggest[ed] that predation may occur even in circumstances where prices [were] above the dominant firm's costs (whether measured by average variable or average total costs)."[124] The Commission made it clear, however, that a limit price alone was not proof of predation:

> Even complaint counsel do not attack respondent's pricing as an independent violation; rather they argue that it is unlawful as part of a broader pattern of behavior. For our part, even if DuPont's pricing can be characterized as a form of limit pricing, we do not find it to be unreasonable, absent at least some evidence of below-cost pricing, in view of the firm's cost advantage, its market position and its legitimate expansion efforts. While there may be circumstances where above cost pricing is unjustifiably exclusionary, those circumstances clearly are not present here.[125]

In other words, the court found no overall exclusionary scheme. As with *Berkey Photo*, *DuPont* did not vitiate *Alcoa* or the implications of *Alcoa* for the practice of limit pricing. Even if it did, one should remain cognizant that neither the doctrine of *Berkey Photo* nor the FTC's view that DuPont's program was consistent with the *Alcoa* exception for "superior skill, foresight and industry"[126] has yet been adopted by the Supreme Court.

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118. *See supra* notes 94-103 and accompanying text.
119. *See DuPont*, 96 F.T.C. at 748.
120. *See id.* at 747.
121. *See id.* at 749.
122. *See id.* at 748.
123. *Id.*
124. *Id.*
125. *Id.* at 749.
126. *Id.* at 751.

VII. Conjectural Variations

An interesting question emerges from the above discussion. Is limit pricing the natural result of the existence of moderate barriers to entry, or is *it* a barrier to entry? In order to resolve this question, one must consider the possible conjectural variations that the in-market firm has as well as the behavioral interrelationships among potential competitors. When this is done, one can see that it is possible for limit pricing to be the *result* of barriers to entry in one situation and to *be* a barrier to entry in another.

The traditional model of limit pricing described earlier is essentially a static analysis. Little is said about the effects of growth in the market for the product, the number of potential competitors, or the possible conjectural variations between and among firms (both in-market and potential). Gaskins was one of the first to introduce time into the analysis of the determination of the limit price. He has noted that an optimal time path of limit prices would emerge and that growth in the product market would fail to eliminate economic profits derived from this dynamic limit pricing strategy.[127] Flaherty has also shown that limit pricing can be an effective long run pricing strategy even with the traditional assumption of the dominant firm's maintaining output in the face of entry.[128] Sherman and Willett have demonstrated that it is possible for an increase in the number of potential competitors to result in an *increase* in the limit price, rather than a reduction in prices as intuition would suggest.[129] Kalish, Cassidy, and Hertzog argue, however, that whether the limit price increases or decreases as a result of an increase in the number of potential competitors depends on the specific nature and level of awareness assumed for the potential competitors.[130]

It is apparently possible for a limit price to have a feedback effect in which the firm utilizes a limit pricing strategy to raise entry barriers that in turn facilitate an even higher limit price.

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127. *See* Gaskins, *Dynamic Limit Pricing: Optimal Pricing Under Threat of Entry,* 3 J. Econ. Theory 306 (1971).

128. *See* Flaherty, *Dynamic Limit Pricing, Barriers to Entry, and Rational Firms,* 23 J. Econ. Theory 160 (1980).

129. *See* Sherman & Willett, *Potential Entrants Discourage Entry,* 75 J. Pol. Econ. 400 (1967).

130. *See* Kalish, Cassidy & Hertzog, *Potential Competition: The Probability of Entry with Mutually Aware Potential Entrants,* 44 S. Econ. J. 542 (1978).

This suggests that a limit price may not yield the best available economic results in a concentrated market.[131] A "strategic" limit price may result in prices that have long run implications with respect to the efficient operations of markets. For example, limit pricing may convey information to the potential entrants that causes them to think the barriers to entry are higher than they actually are. To the extent that this happens, the strategy of limit pricing has the anticompetitive effect of raising prices and allowing the dominant firm to enjoy higher prices and extend the time it takes for long run market adjustments to occur.

VIII. Potential Competition

The Sherman Act's[132] concern with future competition is also present in the Clayton Act's[133] antimerger concern with potential competition. The notion of a potential competitor's "waiting in the wings" to enter a lucrative market should such an opportunity present itself is simple enough in theory; however, as Steiner notes, it may prove to be an elusive concept in practice.[134] Steiner actually identifies three different implications of potential competition with respect to competition,[135] but this Article will consider only those related to limit pricing.

Steiner's argument regarding how the existence of potential competitors may impact the limit price selected by the in-market firm is illustrated with the help of Figure 1. Each of the cost functions represents alternative arrays of post-entry costs of potential entrants, from the most to the least efficient. For example, cost function C1 shows equal costs for all potential entrants, while C2 shows the cost conditions when potential entrants have differing costs. The most efficient potential entrant has a cost of C2, while other potential entrants would follow with higher costs in relation

131. *See* Note, *Telex v. IBM: Monopoly Pricing Under Section 2 of the Sherman Act*, 84 Yale L.J. 558, 562-63 (1975).

132. 15 U.S.C. §§ 1-7 (1976).

133. 15 U.S.C. §§ 12-27 (1976).

134. *See* Steiner, *Economic and Legal Theories of the Effect on Competition of Potential Competition*, in Economic Analysis and Antitrust Law 273 (T. Calvani & J. Siegfried eds. 1979) (discussing the many faces of potential competition).

135. *Id.* at 275. These are (1) limit pricing, (2) the theory of oligopoly behavior with reference to tight versus loose oligopoly markets, and (3) the relationship of potential competition to barriers to entry. *Id.*

to the shape of their own cost functions. These cost differences constitute the barriers to entry.

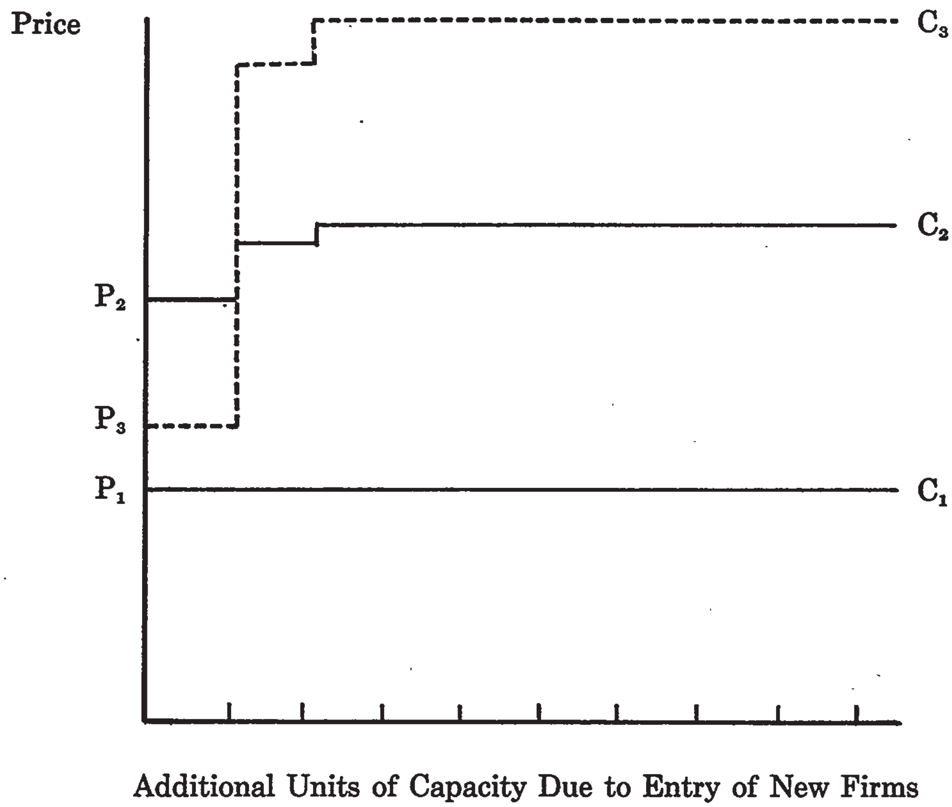

FIGURE 1

In the first instance, with cost function C1, the in-market firm would be unable to foreclose entry because at any price above C1 other firms would enter the market. Therefore, the limit price would be at the existing firm's long run average cost, which would approximate the level of the competitive price.[136] In the second situation, the presence of a potential competitor with costs higher than those of the in-market firm would raise the "limit price" from P1 to P2. In other words, the presence of potential competitors

136. This is not to suggest that the welfare implications are the same. *See* Shaanan, *The Adoption of Limit Pricing by the Courts: Paradoxical Inferences*, 26 ANTITRUST BULL. 541, 559 (1981). *See generally* Scherer, *Predatory Pricing and the Sherman Act: A Comment*, 89 HARV. L. REV. 869, 885-87 (1976).

with differing costs is what allows the existing firm to practice limit pricing.

Now consider C3, in which one of the potential entrants is projected to have costs only slightly higher than the in-market firm. The limit price falls to P3 and approximates the result that would obtain in a more competitive situation (P1). It is apparent that it is not simply the presence of potential competition that determines the level of the limit price but also the nature of the costs faced by the most efficient potential competitor. It is not at all clear whether it is a *perceived* potential entrant that exerts those pressures or an *actual* potential entrant.[137]

The point of Steiner's argument is that *if* potential competitors exert a procompetitive force on the market, the limit price will be driven to the level of the most efficient potential entrant's post-entry cost. If this occurs, the limit price would be tantamount to the price that would result from the actual entry of the firm into the market. In other words, potential competition substitutes for actual competition. This limit price could be termed an "innocent" entry barrier because it appears to be the result of "market forces" and approaches the price that would result from the actual entry of firms into the market. If, however, the costs of potential entrants reflect not only "natural" barriers (scale economics, advertising, and absolute cost advantages) but also the additional costs associated with the perceived risks of entering a market in which the in-market firm demonstrates an aggressive price policy, the potential competitor would have a greater cost and the limit price would be higher than it would have been in the absence of this increased risk. This limit price may be called "strategic" rather than "innocent."

The 1968 Department of Justice Merger Guidelines[138] established, *inter alia,* guidelines for the Department's challenge of certain conglomerate mergers. These guidelines state that "potential competition (*i.e.,* the threat of entry . . .) may often be the most significant competitive limitation on the exercise of market power of leading firms, as well as the most likely source of additional ac-

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137. Reynolds & Reeves, *The Economics of Potential Competition,* in ESSAYS ON INDUSTRIAL ORGANIZATION IN HONOR OF JOE S. BAIN 207, 208-12 (R.T. Masson & P.D. Qualls eds. 1976).

138. Department of Justice Merger Guidelines, 2 TRADE REG. REP. (CCH) ¶ 4510 (1968).

tual competition."[139] The 1982 Guidelines[140] elaborate on this distinction between the present effect of potential competition and the likely future effect:

> If the merger effectively removes the acquiring firm from the edge of the market, it could have either of the following effects:
>
> (a) *Harm to "Perceived Potential Competition."* By eliminating a significant present competitive threat that constrains the behavior of the firms already in the market, the merger could result in an immediate deterioration in market performance. The economic theory of limit pricing suggests that monopolists and groups of colluding firms may find it profitable to restrain their pricing in order to deter new entry. . . .
>
> (b) *Harm to "Actual Potential Competition."* By eliminating the possibility of entry by the acquiring firm in a more pro-competitive manner, the merger could result in a lost opportunity for improvement in market performance resulting from the addition of a significant competitor.[141]

The Department of Justice identifies as procompetitive both "perceived potential competition," because it may result in limit pricing, and "actual potential competition," because it may result in future competitive improvement.[142]

The Supreme Court has not resolved whether the elimination through merger of an actual potential competitor is a violation of section 7 of the Clayton Act.[143] Suffice it to say that this reticence seems peculiar in light of the Sherman Act's concern with the preservation of future competition expressed in *United States v. Aluminum Co. of America (Alcoa).*[144]

The "perceived potential competition" doctrine, however, is on firmer judicial ground.[145] Some have criticized the potential competition doctrine at much greater length than will be attempted here,[146] but it is apparent that the ostensible benefit of

139. *Id.* ¶ 4510.18.

140. *Id.* ¶¶ 4500-4505 (1982).

141. *Id.* ¶ 4504.101.

142. *Id.*

143. *See, e.g.*, United States v. Marine Bancorp., 418 U.S. 602, 639 (1974); United States v. Falstaff Brewing Corp., 410 U.S. 526, 537 (1973).

144. 148 F.2d 416, 428 (2d Cir. 1945).

145. *See* Ford Motor Co. v. United States, 405 U.S. 562, 567 (1972); *see also* United States v. Falstaff Brewing Corp., 410 U.S. 526, 559 (1973) (Marshall, J., concurring in the result).

146. *See, e.g.*, P. AREEDA & D. TURNER, *supra* note 4, ch. V ¶¶ 1116-1126; R. POSNER,

perceived potential competition is limit pricing. This is expressly recognized by the 1982 Merger Guidelines: "The economic theory of limit pricing suggests that monopolists and groups of colluding firms may find it profitable to restrain their pricing in order to deter new entry . . . ."[147] That is, the "benefit" of perceived potential competition is that it will encourage limit pricing. The ostensible benefit of such behavior is that price will be reduced and quantity increased.

As noted above, limit pricing may be "strategic" as well as "innocent."[148] Such strategic limit pricing has the effect of increasing barriers to entry and thus increasing price while decreasing output. Even "innocent" limit pricing has the effect of preventing actual entry.[149] That is, perceived potential entry and actual potential entry are antithetical. To the extent that perceived potential entry is effective, actual potential entry is discouraged. One may reasonably ask which policy should be encouraged as more consistent with the objectives of the antitrust laws. The answer to this question, in light of the substantial Sherman Act problems posed by limit pricing, is that actual potential competition should be encouraged while perceived potential competition should be considered, at best, of no particular concern and at worst the result of exclusionary practices.[150]

IX. Summary and Conclusion

Limit pricing, the practice of setting an entry-deterring price, may be the result of natural market forces in an oligopoly market with barriers to entry (including risk), or it may be the result of price leadership or collusion. As a general proposition, price and quantity will be the same whether or not a conscious policy of limit

supra note 3, at 113-25; *see also* Brodley, *Potential Competition Mergers: A Structural Synthesis*, 87 Yale L.J. 1, 26-27 (1977).

147. Department of Justice Merger Guidelines, 2 Trade Reg. Rep. (CCH) ¶ 4504.101 (1982).

148. *See supra* notes 134-37 and accompanying text.

149. *See supra* notes 60-126 and accompanying text.

150. *See* Reynolds & Reeves, *supra* note 137, at 213-14 (proposing that the Supreme Court's concern under Section 7 of the Clayton Act with the probable future effect on competition of a horizontal merger supports a policy against mergers involving actual potential competitors). The theoretical foundation of the actual potential competition doctrine is the same as that of the doctrine against horizontal mergers. *See* Brodley, *supra* note 146, at 26-27; *see also id.* at 40-52 (discussing the purpose of Section 7).

pricing is pursued. A significant exception to this general proposition is the practice of "strategic limit pricing," which actually may increase barriers to entry and raise the prevailing limit price. Limit pricing, even if it does not increase price or decrease output does limit entry into the market. It thus "decreases" future competition.

A limit price may be the result either of collusion (or "conscious parallelism") or of natural market forces and may be either "innocent" or "strategic." Therefore, the Ninth Circuit's view that the existence of a limit price, by itself, is not a per se violation of the Sherman Act is a reasonable view—the only reasonable view. It is also reasonable, however, to consider limit pricing as part of a scheme that may be condemned. Collusive fixing of a limit price is no less price-fixing than the fixing of any other price. The setting of a limit price by a monopolist and the expansion of capacity to maintain that limit price raise the *Alcoa* issue of "embrac[ing] each new opportunity"[151] as an exclusionary practice. It also seems clear that limit pricing to prevent entry—as opposed to limit pricing that results from competition—is by its terms exclusionary.

Finally, the Justice Department's 1982 Merger Guidelines embrace the doctrine of limit pricing as a procompetitive force that contains price. This is the "perceived potential competition" doctrine. Endorsement of the perceived potential competition doctrine in the Clayton Act context is antithetical to the Sherman Act's concern with exclusionary behavior.[152] The doctrine of "actual potential competition," on the other hand, *is* consistent with the Sherman Act's concern.

151. United States v. Aluminum Co. of America, 148 F.2d 416, 431 (2d Cir. 1945).

152. *Cf.* Shaanan, *The Adoption of Limit Pricing by the Courts: Paradoxical Inferences*, 26 ANTITRUST BULL. 541 (1981) (similar conclusions based on the premise that limit pricing *must* involve collusion).