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RECENT DEVELOPMENTS IN ECONOMICS THAT CHALLENGE CHICAGO SCHOOL VIEWS

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A powerful storm swept through antitrust law during the 1970s. Precedent after precedent was limited or overturned.¹ Now the skies have cleared and the landscape has changed. In every direction, the new world of antitrust looks remarkably like the south side of Chicago.²

Supporters of the new approach now seek to institutionalize Chicago School thinking, in order to foreclose the possibility of a return to the antitrust interpretation of the 1960s.³ But critical voices are also being heard. Some suggest that antitrust should prohibit transfers of wealth from consumers to producers,⁴ or otherwise inform antitrust interpreta-

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¹ The landmark decisions include *United States v. General Dynamics Corp.*, 415 U.S. 486 (1974) (relaxing the presumption of anticompetitive effect arising from high concentration); *Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36 (1967) (overruling the per se illegality standard applied in *United States v. Arnold, Schwinn & Co.*, 388 U.S. 365 (1977) and testing nonprice vertical restraints under the rule of reason); *Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc.*, 429 U.S. 477 (1977) (requiring a private plaintiff to demonstrate that his injury flowed from a practice proscribed under the antitrust laws); *Broadcast Music, Inc. v. CBS*, 441 U.S. 1 (1979) (testing a horizontal restraint under the rule of reason because efficiencies were large); *Telex Corp. v. IBM*, 510 F.2d 894 (10th Cir. 1975) (incorporating supply substitution into market definition), *cert. dismissed*, 423 U.S. 802 (1975).

Other important decisions in the Chicago School antitrust revolution were handed down in the 1980s. *E.g.*, *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574 (1986) (dismissing an economically irrational complaint on a motion for summary judgment); *Business Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717 (1988) (limiting the application of the longstanding per se prohibition against resale price maintenance); *United States v. Waste Mgt., Inc.*, 743 F.2d 976 (2d Cir. 1984) (market power cannot be exercised when entry is easy, regardless of concentration).

² Alternative explanations for the rise of the Chicago School are evaluated in Baker, *Book Review*, *ANTITRUST BULL.* (forthcoming) (reviewing *ECONOMICS AND ANTITRUST POLICY* (R. Lerner & J. Meehan 1989)).

³ See, *e.g.*, American Bar Association Section of Antitrust Law, *Report to the House of Delegates on Proposed Amendments to Section 7 of the Clayton Act*, 55 *ANTITRUST L.J.* 673 (1986) (evaluating the Reagan Administration's 1986 proposal to codify recent merger enforcement policy through legislation).

⁴ See *e.g.*, Lande, *Chicago's False Foundation: Wealth Transfers (Not Just Efficiency) Should Guide Antitrust*, *supra* this issue, at 631. Lande concedes a great deal to the Chicago School.

tion with values beyond the goal of economic efficiency emphasized in Chicago.⁵

Through the influence of the Chicago School, economics has become the essence of antitrust.⁶ But no one believes that economic knowledge was certified as complete on the day Professor Stigler was awarded the Nobel Prize. Accordingly, this article describes six new developments in economics that qualify or limit traditional Chicago School conclusions.⁷ These developments demonstrate that we need not reject the value of economic efficiency in order to question the Chicago School. These challenges to Chicago arise from within the efficiency paradigm.⁸

He employs economic concepts and terminology. He also frames his fundamental claim, that buyers have an entitlement to the consumers' surplus accruing under perfect competition, in terms that students of Ronald Coase will best appreciate: as a property right. That Lande would state his critique this way suggests the extent to which the Chicago School has come to dominate mainstream antitrust thinking.

An exclusive focus on consumers' surplus is particularly appealing in two situations. First, in some industries, the producers' surplus accrues mainly to foreign producers while the consumers' surplus accrues primarily to domestic buyers. (This might occur in markets for imported products in which a competitive domestic distribution sector acts largely as an order taker rather than as a supplier of point of sale services valued by consumers.) Second, if wealth transfers to producers are routinely dissipated in wasteful rent seeking, as some Chicago commentators argue, then there may be little difference in practical result between the suggestion that antitrust should seek to maximize consumers' surplus and the Chicago position that antitrust should seek to maximize aggregate surplus.

⁵ E.g., Fox & Sullivan, *Antitrust Retrospective and Perspective: Where Are We Coming From? Where Are We Going?*, 62 N.Y.U. L. REV. 936 (1987).

⁶ In the enforcement agencies and the courts, antitrust cases now turn almost exclusively on a detailed analysis of the efficiency consequences of firm behavior. Moreover, antitrust has largely adopted the conclusions about the economic effects of business practices reached by Judge Bork and Judge Posner over a decade ago. R. BORK, *THE ANTITRUST PARADOX* 1978 (drafted during 1968 and 1969); R. POSNER, *ANTITRUST LAW* (1976). *But see* Gellhorn, *The Practical Uses of Economic Analysis: Hope vs. Reality*, 56 *ANTITRUST L.J.* 933 (1988) (arguing that economics has to date been more influential in the enforcement agencies than in the courts).

⁷ Some new developments support rather than challenge Chicago positions. One example comes from the economics of non-price vertical restraints. For Richard Posner, following an argument originally made by Chicago economist Lester Telser, these restraints are efficient primarily because they limit the incentive of low service "discount" sellers to free ride on the reputational investments of full service dealers. R. POSNER, *supra* note 6, at 147-48 (1976); Telser, *Why Should Manufacturers Want Fair Trade?*, 3 *J.L. & ECON.* 86 (1960). But this interpretation has difficulty explaining why manufacturers of products not requiring substantial point of sale services desire vertical restraints. More recently, economists have pointed out that some vertical restraints have efficiency motivations other than limiting free riding by discounters. Manufacturers may choose not to sell through discounters in order to signal high quality to consumers, thereby remedying a potential adverse selection problem. *See, e.g.,* Oster, *Levi Strauss*, in *IMPACT EVALUATIONS OF FEDERAL TRADE COMMISSION VERTICAL RESTRAINT CASES* 48 (R. Lafferty, R. Lande, & J. Kirkwood 1984) (blue jeans manufacturer avoided distributing its product through discount stores in order to signal high quality).

⁸ Most of these challenges reflect insights gained through the application of game theory, the primary post-Chicago development in theoretical industrial organization economics. *See* Shapiro, *The Theory of Business Strategy*, 20 *RAND J. ECON.* 125 (1989).

I. VERTICAL FORECLOSURE THAT RAISES RIVALS' COSTS

The most widely publicized new development involves the economics of vertical foreclosure. Judge Bork insists that competition is never harmed when a firm asks its suppliers not to sell to its rivals; the rivals will merely shift their orders to competing suppliers. Hence whenever firms employ vertical foreclosure to pursue private advantage, whether through merger or contract, they are invariably pursuing social efficiencies as well, according to this view.⁹

The new economic literature on raising rivals' costs provides an anti-competitive explanation for the same practice.¹⁰ Suppose, for example, Crest bought the rights to be the only toothpaste sold by the leading supermarket chains in New England. The other toothpaste manufacturers would be unable to reach their customers except through convenience stores, drug stores, and small groceries. Suppose further that these alternative outlets are less convenient for most customers than supermarkets.

Colgate and other brands would now have higher distribution costs. Accordingly, they would be forced to reduce output, just as they would if they colluded with Crest voluntarily.¹¹ Even if Crest did not change its own output, industry output would decline, and the industry price would rise above competitive levels.¹²

⁹ Judge Bork concluded that the FTC can cure any competitive problem that may result from vertical foreclosure "by throwing an industry social mixer" at which rivals can meet competing suppliers. R. BORK, *supra* note 6, at 232 (1978).

¹⁰ See Krattenmaker & Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 YALE L.J. 209 (1986); Ordovery, Saloner & Salop, *Equilibrium Vertical Foreclosure*, AM. ECON. REV. (forthcoming); Salinger, *The Meaning of "Upstream" and "Downstream" and the Implications for Modeling Vertical Mergers*, 37 J. INDUS. ECON. 373 (1989); Baker, *Vertical Restraints Among Hospitals, Physicians and Health Insurers that Raise Rivals' Costs*, 14 AM. J.L. & MED. 147 (1988); Salop & Scheffman, *Cost-Raising Strategies*, 36 J. INDUS. ECON. 19 (1987); Williamson, *Wage Rates as a Barrier to Entry: The Pennington Case in Perspective*, 82 Q.J. ECON. 85 (1968).

While Bork recognizes one form of the raising rivals' costs logic, which he terms disruption of distribution patterns, he argues that anticompetitive outcomes are implausible and that courts cannot reliably distinguish between procompetitive and anticompetitive exclusionary practices. See R. BORK, *supra* note 6, at 49, 156, 242. Non-price predation can only be successful, in Bork's view, when the predator enlists the government. *Id.* at 159, 347-64. Accordingly, Bork concludes that vertical arrangements should be held legal *per se*. *Id.* at 29, 226.

¹¹ This description emphasizes that a raising rivals' costs case can be viewed as an "involuntary cartel." The predator would like to collude with its rivals, but fears that they will cheat on any voluntary agreement to reduce output. Instead, the predator uses vertical foreclosure to increase its competitors' costs. The cost increase forces the rival sellers to reduce their output, much as they would if they colluded voluntarily with the predator.

¹² Whether this strategy is profitable for Colgate depends upon its costs of obtaining the exclusionary right and upon the size of the resulting increase in the market price.

This anticompetitive explanation for foreclosure is as rigorous as the familiar efficiency explanations for vertical practices¹³ and has already begun to influence antitrust practice. The FTC included a raising rivals' costs count in its complaint challenging the Coke-Dr Pepper merger.¹⁴ Judge Frank Easterbrook, whose Chicago School orientation is well known, has taken the new theory seriously.¹⁵ Although raising rivals' costs claims fell on deaf ears at the Antitrust Division in the Reagan Administration,¹⁶ newly appointed officials at the Justice Department may come to have a different point of view.

II. THE NEW ECONOMICS OF PRICE PREDATION

The second new development is the new economics of predatory pricing. The Chicago view is that charging prices below cost is irrational, because a predator cannot reasonably expect to recoup its initial losses from price predation.¹⁷ Chicago commentators reason that the initial losses may persist for a long time and, even if a predator induces its rivals

¹³ Economists criticizing the Chicago School view of vertical restraints also have pointed out that there is no reason to expect competing firms selling differentiated products to select the welfare-maximizing balance between achieving scale economies (pushing toward a small number of brands or few retailer services) and serving consumers better through increased product variety (pushing toward a large number of brands or large variety of retailer services). The potential market failure arises because optimal product variety depends in part upon the strength of the preferences of inframarginal (brand loyal) consumers, but firms respond to the behavior of marginal (non-brand loyal) consumers. See, e.g., Comanor, *Vertical Price Fixing, Vertical Market Restrictions, and the New Antitrust Policy*, 98 HARV. L. REV. 983 (1985); cf. Mankiw & Whinston, *Free Entry and Social Inefficiency*, 17 RAND J. ECON. 48 (1986) (inefficiencies in competitive markets with fixed set-up costs).

Although this criticism is valid, it is difficult empirically to identify industries in which consumer welfare would be improved were firms to offer a different set of products (or, equivalently, a different set of point of sale services). Accordingly, it may be beyond our current economic competence to prosecute firms under the antitrust laws for, in effect, selling the wrong brands (or offering the wrong retailer services). But see Scherer, *The Economics of Vertical Restraints*, 52 ANTITRUST L.J. 687, 704 (1983) (vertical restraints are more likely to reduce social welfare when competitors cannibalize each others' sales rather than add to overall market demand, and when the resulting market equilibrium fails to give consumers the choice between high price/high service retailers and low price/low service retailers).

¹⁴ Complaint, *FTC v. Coca-Cola Co.*, No. 86-1764 ¶ 14(d) (D.D.C. filed June 24, 1986).

¹⁵ *Ball Memorial Hosp., Inc. v. Mutual Hosp. Ins., Inc.*, 784 F.2d 1325, 1339-40 (7th Cir. 1986) (Easterbrook, J.) (proof fails to support a raising rivals' costs argument).

¹⁶ Rule, *Merger Enforcement Policy: Protecting the Consumer*, 56 ANTITRUST L.J. 739, 752-53 (1988); see Krattenmaker & Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power Over Price*, 96 YALE L.J. 209, 283 n.231 (1986) (quoting former Assistant Attorney General Ginsburg); cf. U.S. Dep't of Justice, *Vertical Restraints Guidelines* (Feb. 14, 1985), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,105 (recognizing the possibility of anticompetitive foreclosure but establishing stringent criteria for its proof).

¹⁷ See McGee, *Predatory Price Cutting: The Standard Oil (N.J.) Case*, 1 J.L. & ECON. 137 (1958); R. BORK, *supra* note 6, at 144-55 (1978); but see R. POSNER, *supra* note 6, at 186 (predatory pricing is not inevitably irrational).

to exit or acquiesce to a takeover, the subsequent monopoly price will induce new competitors to enter. Thus, the later monopoly price will not be high enough for long enough to make the predation enterprise profitable.

The new economics of price predation answers the recoupment problem.¹⁸ When a firm predaes against a few rivals, it can create a reputation for irrationality.¹⁹ Other rivals who have not experienced predatory competition will now reasonably fear that if they compete strongly with the crazy firm, it will turn and predate against them. So they back off. They cooperate with the predator by charging a high price in their market. The original handful of predatory episodes may be costly to the predator, but that firm makes up its losses and more by intimidating other competitors in the many markets in which no predation has occurred.

This new theory has been successfully applied to explain how turn-of-the-century American Tobacco grew.²⁰ According to the empirical evidence, the firm developed a reputation as a predator and induced the shareholders who owned its small rivals to sell out to American Tobacco cheaply. Even after *Matsushita*,²¹ more stories of economically rational price predation will appear in the courts.

III. COLLUSION WITH OCCASIONAL PRICE WARS

The third new development involves inferences arising from episodes of price competition like price wars. Chicago-oriented antitrusters tend

¹⁸ Saloner, *Predation, Mergers, and Incomplete Information*, 18 RAND J. ECON. 165 (1987); Roberts, *Battles for Market Share: Incomplete Information, Aggressive Strategic Pricing, and Competitive Dynamics*, in ADVANCES IN ECONOMIC THEORY FIFTH WORLD CONGRESS 157 (T. Bewley 1987); Hilke & Nelson, *Diversification and Predation*, 37 J. INDUS. ECON. 107 (1988); Zerbe & Cooper, *An Empirical and Theoretical Comparison of Alternative Predation Rules*, 61 TEX. L. REV. 655 (1982); Milgrom & Roberts, *Predation, Reputation, and Entry Deterrence*, 27 J. ECON. THEORY 280 (1982); Kreps & Wilson, *Reputation and Imperfect Information*, 27 J. ECON. THEORY 253 (1982).

This criticism of the Chicago view was anticipated by Judge Posner, although his analysis appeared to have little influence on his Chicago School colleagues. R. POSNER, *supra* note 6, at 186 (the costs of predation in one market "may generate greater deterrence benefits in other markets").

¹⁹ In order for the predator to develop such a reputation, its rivals must be uncertain about the prospects for post-entry profitability. In many models, the rivals do not know the predator's costs. *E.g.*, Saloner, *supra* note 18, at 166.

²⁰ Burns, *Predatory Pricing and the Acquisition Cost of Competitors*, 94 J. POL. ECON. 266 (1986).

²¹ In this decision, the Supreme Court upheld the district court's grant of summary judgment for the defendants, reversing the appellate decision. The majority concluded, among other things, that the defendants lacked a motive to conspire because the alleged price predation scheme was not plausible. Summary judgment was upheld despite plaintiff's introduction of expert economic testimony in support of the predatory pricing allegation. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986).

to interpret an industry price war as demonstrating the inherent difficulty of enforcing collusion in that industry. But new economic models demonstrate that occasional competitive episodes are not inconsistent with long periods of collusive pricing.

These models presume that colluding firms have imperfect information about the explanation for price declines: they cannot initially tell the difference between a random decline in industry demand and a rival cheating on their cartel. In such an industry, collusive pricing can be maintained for a long time, punctuated by occasional episodes of increased competition whenever demand declines unexpectedly.²² Empirical studies have identified such behavior in the railroad industry in the nineteenth century and in the steel industry during the Great Depression.²³ Thus, while the Chicago School emphasizes that competition can appear in many guises,²⁴ these models teach that collusion, too, has many faces.

IV. MULTIMARKET CONTACT THAT FACILITATES COLLUSIVE FORBEARANCE

Economists today are rehabilitating the old antitrust theory of conglomerate forbearance. This theory maintains that when conglomerates face other conglomerate firms in a large number of markets, the conglomerates will compete less aggressively than single-product firms selling in the same markets. Although this argument was commonly made before the 1970s,²⁵ it fell out of favor when the Chicago School rejected all anticompetitive explanations for conglomerate mergers.²⁶ But econo-

²² Green & Porter, *Noncooperative Collusion Under Imperfect Price Information*, 52 *ECONOMETRICA* 87 (1984). In other models, the price wars are triggered by unexpected booms, Rotemberg & Saloner, *A Supergame-Theoretic Model of Price Wars During Booms*, 76 *AM. ECON. REV.* 390 (1986), or by random shocks, Abreu, Pearce & Stacchetti, *Optimal Cartel Equilibria with Imperfect Monitoring*, 39 *J. ECON. THEORY* 151 (1986). In all of these models, the equilibrium is technically a noncooperative one in which the collusive price is obtained in many periods. A contemporaneous observer might nevertheless describe industry behavior as generally collusive, with occasional competitive episodes.

²³ Porter, *On the Incidence and Duration of Price Wars*, 33 *J. INDUS. ECON.* 415 (1985) [hereinafter Porter, *Price Wars*]; Porter, *A Study of Cartel Stability: The Joint Executive Committee, 1880-1886*, 14 *BELL J. ECON.* 301 (1983) [hereinafter Porter, *Cartel Stability*]; Baker, *Identifying Cartel Policing Under Uncertainty: The U.S. Steel Industry 1933-1939*, *J.L. & ECON.* (forthcoming).

²⁴ One important Chicago School theme is that "it is virtually impossible to eliminate competition from economic life." G. STIGLER, *MEMOIRS OF AN UNREGULATED ECONOMIST* 164 (1985).

²⁵ See generally F. SCHERER, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 340-42 (2d ed. 1980).

²⁶ See R. BORK, *supra* note 6, at 246-50; *cf. id.* at 144-45 (a conglomerate cannot profitably lower prices below costs in one market while avoiding the costs of predation by raising its prices elsewhere).

mists have now formalized rigorously the logic by which multimarket contact may facilitate collusion.²⁷

The models involve firms that compete against each other in multiple markets. These could be firms that each sell laundry detergent, toothpaste, and shampoo. Or they may be airlines that each serve the same routes. These firms recognize that if they compete strongly in any one market, their rivals may retaliate in a large number of other markets.

This threat deters cheating on a cartel, whether the interfirm agreement is tacit or express. Multimarket contact induces the firms to cooperate rather than compete. Accordingly, the theory of conglomerate forbearance is likely to return as a "plus factor" in merger analysis.

V. ENTRY BARRIERS

The fifth new development concerns entry barriers. To Judge Bork, entry is easy unless the government creates barriers.²⁸ Yet economists have recently rehabilitated the old view, questioned in Chicago, that scale economies can create an entry barrier.²⁹ The new theory emphasizes the interaction between scale economies and irreversible investments.³⁰

A potential competitor usually undertakes new investments when it enters a market. Perhaps it must build a plant or create a brand name through advertising. These new investments are typically irreversible in large part. The production equipment or brand name commonly has little or no value in any other use.³¹ When investments are irreversible, expenditures on them are called sunk costs.

²⁷ P. Woodward, *Conglomerate Mergers and Tacit Collusion* (Sept. 14, 1989) (unpublished manuscript) (Dartmouth College); D. Bernheim & M. Whinston, *Multimarket Contact and Collusive Behavior*, Harvard Institute for Economic Research Discussion Paper No. 1317 (1987); Scott, *Purposive Diversification as a Motive for Merger*, 7 INT'L J. INDUS. ORG. 35 (1989).

²⁸ See R. BORK, *supra* note 6, at 195–96 (firms are unable to erect entry barriers absent government help, although a monopolist can raise price to the limit of the superiority of its efficiency); *see id.* at 178 (the market is self correcting through potential competition and fringe expansion).

²⁹ Compare J. BAIN, BARRIERS TO NEW COMPETITION 53–113 (1956) (scale economies may create an entry barrier) with *Echlin Mfg. Co.*, 105 F.T.C. 488–89 (1985) (Chicago School view that scale economies are not entry barriers).

³⁰ Salop, *Measuring Ease of Entry*, 31 ANTITRUST BULL. 551 (1986); Stiglitz, *Technological Change, Sunk Costs, and Competition*, 1987 BROOKINGS PAPERS ON ECON. ACTIVITY 883; Farrell, *How Effective is Potential Competition*, 9 ECON. LETTERS 67 (1986); Schwartz & Reynolds, *Contestable Markets: An Uprising in the Theory of Industry Structure: Comment*, 73 AM. ECON. REV. 488 (1983). This literature grew out of the research on contestable markets. *See* W. BAUMOL, J. PANZAR, & R. WILLIG, *CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE* (1982).

³¹ Hence these investments cannot be recovered in a liquidation sale if the new competitor later decides to exit.

A rational firm will not enter a market unless it expects the post-entry price to stay above its marginal cost long enough for it to recover its sunk costs. When scale economies are substantial, the firm must enter at a large scale in order to keep its marginal cost competitive with the costs of incumbents. And when an entrant chooses a large scale, the very fact of its entry depresses the market price,³² making it difficult or impossible for it to cover its sunk costs. Thus, no matter how high the pre-entry price, new entrants will avoid a market in which the minimum efficient scale of production is large relative to the size of the market.³³

Moreover, this theory has been generalized and extended in the economic literature on strategic entry deterrence.³⁴ If firms convince their potential rivals that entry will lead to a competitive marketplace with a low post-entry price, then potential competitors will refrain from entry no matter how high the pre-entry price charged by incumbents.

To set up this threat, incumbents must make irreversible investments in instruments of entry deterrence like excess low cost capacity, brand proliferation, high advertising, or contract provisions by which sellers agree to match good-faith offers by rivals. These investments are often costly, but their expense is less than the anticompetitive profits that arise from guaranteeing a high pre-entry price by deterring entry. Strategic entry deterrence provides an internally consistent theory of what Judge Bork calls an "artificial" barrier to entry.³⁵ The new theory shows how firms, through their own efforts, can deter entry and protect market power.³⁶

³² Only if the incumbent sellers completely accommodate the new entry (reducing their own output by the full amount that the entrant produces) will the new entrant's output not lead to a reduction in the market price. See Salop, *supra* note 30, at 551, 563

³³ See *id.* (demonstrating the calculation of the minimum efficient scale of entry relative to the size of the market). In a recent decision, the Federal Trade Commission concluded that it would be difficult for an entrant to secure 5.8% of one market or 11.7% of another market without provoking a price response from incumbent sellers. B.F. Goodrich, 5 Trade Reg. Rep. (CCH) ¶ 22,519 at 22,145 n.85, 22,146 (1988). Moreover, a very small amount of sunk costs could be sufficient to deter new entry. Stiglitz, *supra* note 30, at 883.

³⁴ Salop, *Strategic Entry Deterrence*, 69 AM. ECON. REV. 335 (Papers & Proceedings 1979); Smiley, *Empirical Evidence on Strategic Entry Deterrence*, 6 INT'L J. INDUS. ORG. 167 (1988) (surveyed firms report that these practices are prevalent).

³⁵ R. BORK, *supra* note 6, at 311.

³⁶ The main theme of the literature on strategic entry deterrence is that incumbent firms can convince prospective entrants that entry will be unprofitable by ensuring that incumbent marginal costs are low. (Low incumbent costs guarantee that the competitive, post-entry price will be low.) In some models of entry deterrence, however, incumbents convince potential competitors that entry will not be profitable through alternative routes: incumbents deceive entrants into believing that market demand is low or that entrant costs are high. Scharfstein, *A Policy to Prevent Rational Test-Market Predation*, 15 RAND J. ECON. 229 (1984); Fudenberg & Tirole, *A 'Signal-Jamming' Theory of Predation*, 17 RAND J. ECON. 366 (1986).

VI. NEW EMPIRICAL TOOLS

The "new empirical industrial organization" literature is the final new development. In the past decade, empirical economists have created innovative methodologies for asking a variety of questions related to whether individual firms are exercising market power.³⁷ Do firms act as though they expect their rivals to cooperate or to compete?³⁸ When firm-specific costs rise, forcing a seller to reduce output, is it able to raise price?³⁹ Does a firm selling a product line obtain as high a markup for those of its products with direct competition as for "orphan" products that its rivals do not sell?⁴⁰ How do firm revenues increase in proportion to an across-the-board rise in input prices?⁴¹ When demand declines unexpectedly, do firms respond by acting more competitively, as though they think they are policing a cartel?⁴² When the demand function it faces grows steeper, does a firm reduce output and increase price?⁴³

As a group, the recent studies demonstrate that a great deal of market power exists in some concentrated industries.⁴⁴ They support the view that a kinder, gentler nation needs a tougher, meaner antitrust law. Government enforcers will likely earn the biggest payoff from these new

³⁷ The older empirical tradition in industrial organization economics was primarily concerned with making broad cross-industry generalizations about the relationship between measures of industry structure (like concentration) and prices or profits. In contrast, the newer studies typically exploit recent advances in economic theory and econometric methodology to examine the behavior of individual firms or single industries. See generally, Bresnahan & Schmalensee, *The Empirical Renaissance in Industrial Economics: An Overview*, 35 J. INDUS. ECON. 371 (1987).

³⁸ E.g., Iwata, *Measurement of Conjectural Variations in Oligopoly*, 42 ECONOMETRICA 947 (1974); Gelfand & Spiller, *Entry Barriers and Multiproduct Oligopolies*, 5 INT'L J. INDUS. ORG. 101 (1987).

³⁹ Baker & Bresnahan, *Estimating the Residual Demand Curve Facing a Single Firm*, 6 INT'L J. INDUS. ORG. 283 (1988). This econometric technique for identifying the market power of a firm or group of firms has been applied to implement empirically the market definition algorithm of the current Department of Justice Merger Guidelines. Scheffman & Spiller, *Geographic Market Definition Under the DOJ Guidelines*, 30 J.L. & ECON. 123 (1987); J. Baker, *Why Price Correlations Do Not Define Antitrust Markets: On Econometric Algorithms for Market Definition* (Working Paper No. 149, FTC Bureau of Economics 1987).

⁴⁰ Bresnahan, *Competition and Collusion in the American Automobile Industry: The 1955 Price War*, 35 J. INDUS. ECON. 457 (1987).

⁴¹ Panzar & Rosse, *Testing for "Monopoly" Equilibrium*, 35 J. INDUS. ECON. 443 (1987).

⁴² Porter, *Price Wars*, *supra* note 23, at 415; Porter, *Cartel Stability*, *supra* note 23; Baker, *supra* note 23.

⁴³ Bresnahan, *The Oligopoly Solution Concept Is Identified*, 10 ECON. LETTERS 87 (1982); cf. Suslow, *Estimating Monopoly Behavior with Competitive Recycling: An Application to Alcoa*, 17 RAND J. ECON. 389 (1986) (inferring market power from estimates of the structural demand curve, the marginal cost function, and the competitive interaction).

⁴⁴ Bresnahan, *Empirical Studies of Industries with Market Power*, in HANDBOOK OF INDUSTRIAL ORGANIZATION (R. Schmalensee & R. Willig, forthcoming); Schmalensee, *Industrial Economics: An Overview*, 98 ECON. J. 643, 668 (1988).

econometric techniques. The new tools offer a new way to identify poorly performing industries and select good antitrust cases.⁴⁵

These new empirical tools emphasize that competition is localized in product-differentiated industries. For example, one study found that Budweiser could have obtained market power by merging with Pabst in the 1970s, without any cooperation from Miller, Stroh, or Coors.⁴⁶ The explanation for this result takes product differentiation seriously. Although many Budweiser drinkers would have switched to Miller if the Budweiser price rose, a substantial number of Budweiser drinkers apparently had Pabst as their second choice and no close third choice. These drinkers would have substituted Pabst if the Budweiser price rose. But they had no good alternative except to pay the higher Budweiser price if Budweiser first acquired Pabst and kept their second choice brand from increasing output.

If this study is correct, the Budweiser-Pabst brand pair formed a submarket during the 1970s. This small collection of products satisfied the market definition test of the Department of Justice Merger Guidelines.⁴⁷ But it is difficult to imagine a Chicago-oriented judge or enforcer including Budweiser and Pabst in a product market without Miller. However justified,⁴⁸ a Budweiser-Pabst submarket sounds like a bad dream from the 1960s, not a market defined in Chicago. To avoid narrow submarkets while still taking localized competition into account to some degree, judges and enforcers could treat econometric evidence that the merging brands lack close substitutes within a market as a "plus factor" making

⁴⁵ Because these techniques promise to improve the ability of courts and enforcers to distinguish anticompetitive practices from efficient ones, they address the Chicago School's concern that the government cannot reliably improve market functioning.

⁴⁶ Baker & Bresnahan, *The Gains from Merger or Collusion in Product-Differentiated Industries*, 33 J. INDUS. ECON. 427 (1985).

Another study found that a Coke-Dr Pepper merger would have allowed Coca-Cola to raise price regardless of competition from Pepsi. See Reinstadtler, *The Economics of Merger in Product-Differentiated Industries: A Framework for Analyzing Merger Activity in the Soft Drink Industry* (Master's Thesis, Sloan School of Management, Massachusetts Institute of Technology, May 1987); cf. Complaint, *FTC v. Coca-Cola Co.*, No. 86-1764 ¶ 14(a) (D.D.C. filed June 24, 1986) (proposed merger alleged likely to lessen competition by eliminating "direct competition" between Coca-Cola and Dr Pepper). The Federal Trade Commission and the Antitrust Division have reportedly undertaken similar studies to identify the elimination of localized competition in mergers involving branded consumer products.

⁴⁷ Anheuser-Busch would likely have been able to raise the price of Budweiser by more than 5% were it to merge with Pabst. See Baker & Bresnahan, *supra* note 46, at 440-41.

⁴⁸ Unless courts define narrow submarkets when competition is localized in product-differentiated industries, they run the risk of allowing anticompetitive mergers when broader markets are not concentrated. A brewing industry merger, for example, is more likely to generate close scrutiny if its competitive effects are assessed in a Budweiser-Pabst submarket than if they are examined within the less concentrated beer market.

challenges to mergers and prohibitions in product-differentiated industries more likely.⁴⁹

VII. CONCLUSION

Over the past fifteen years, the courts and enforcement agencies have created Robert Bork's antitrust paradise. Antitrust has adopted the Chicago School's efficiency analysis and the Chicago School's conclusions about the effects of business practices. But good economic analysis does not make all the old antitrust disappear. There are sound economic cases challenging vertical practices as well as horizontal ones. Predation, foreclosure, and conglomerate forbearance can be as harmful as bid-rigging and collusion.

The Chicago School has rebuilt antitrust on a foundation of economics. But antitrust can adopt an economic methodology without accepting the Chicago School's interpretation of every business practice. As economic theory develops and new empirical tools are created, antitrust interpretation will evolve beyond the Chicago School's views.

⁴⁹ This approach is suggested by the Department of Justice Merger Guidelines. U.S. Dep't of Justice, Merger Guidelines (1984), *reprinted in* 4 Trade Reg. Rep. (CCH) ¶ 13,103.