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Behavioral Economists at the Gate: Antitrust in the Twenty-First Century

*Maurice E. Stucke**

INTRODUCTION

The Law and Economics movement has been attacked from different directions. Words such as “dead,” “sick,” and “peaked out” have recently characterized its rational choice theories.¹ One assault has come from economists who question these neoclassical economic theories’ unrealistic and simplifying assumptions about human nature. Over the past few decades, behavioral economists have empirically tested rational choice theory to assess the degree to which it accurately predicts outcomes.² Under certain scenarios, rational choice theory gets it wrong. The majority of individuals, for example, acted generously by sharing a fair amount of money in contrast to the rational profit-maximizer’s sharing only the nominal amount, a penny, or spitefully by sacrificing money to punish unfair behavior whereas the rational profit-maximizer would reject the insult, and keep the money. At times, test subjects performed better without financial incentives and behaved worse with financial penalties.³ Rational choice theory would predict

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1. Anita Bernstein, *Whatever Happened to Law and Economics?*, 64 MD. L. REV. 303, 303–04 (2005); Russell B. Korobkin & Thomas S. Ulen, *Law & Behavioral Science: Removing the Rationality Assumption from Law & Economics*, 88 CAL. L. REV. 1051, 1053 (2000); Paul Ormerod, *Shun the Rational Agent to Rebuild Economics*, FIN. TIMES, Nov. 6, 2006, at 17.

2. For interesting surveys of the many areas of research by the behavioral economists, see Robert A. Prentice, *Chicago Man, K-T Man, and the Future of Behavioral Law and Economics*, 56 VAND. L. REV. 1663, 1666 n.7 (2003); Christine Jolls et al., *A Behavioral Approach to Law & Economics*, 50 STAN. L. REV. 1471, 1487 (1998). For a broader survey of literature attacking the conventional economic theories, see ERIC D. BEINHOCKER, *THE ORIGIN OF WEALTH* (2006). At the recent annual meeting of the American Economic Association, the Nobel laureate George A. Akerlof also questioned the assumptions of human behavior underlying neoclassical economic theory, and called for a greater focus on actual human nature and the detailed facts of experience. Louis Uchitelle, *Encouraging More Reality in Economics*, N.Y. TIMES, Jan. 6, 2007, at C1.

3. Uri Gneezy & Aldo Rustichini, *Incentives, Punishment, and Behavior*, in ADVANCES IN

the opposite. This has led some to conclude from Amos Tversky and Nobel laureate Daniel Kahneman's behavioral economics research that "the rational choice model of human motivation was at best grossly incomplete, and at worst, simply wrong."⁴

While tossed against the rocks elsewhere, within the quiet waters of antitrust these rational choice theories stand largely unchallenged. Antitrust's economic theory, premised on "rational" (i.e., profit-maximizing) behavior enjoys "the deep slumber of a decided opinion."⁵ "Almost everyone professionally involved in antitrust today—whether as litigator, prosecutor, judge, academic, or informed observers," observed Richard Posner, "not only agrees that the only goal of the antitrust laws should be to promote economic welfare, but also agrees on the essential tenets of economic theory that should be used to determine the consistency of specific business practices with that goal."⁶ One uniformly accepted tenet, according to Posner, is that business firms are profit-maximizers, so that "the issue in evaluating the antitrust significance of a particular business practice should be whether it is a means by which a rational profit maximizer can increase its profits at the expense of efficiency."⁷ In honoring Richard Posner and Robert Bork, the Department of Justice acknowledged the Chicago School's continuing influence on antitrust analysis.⁸ Antitrust economists continue to rely on Posner's and Bork's rational choice theories premised on a hypothetical profit-maximizer. Likewise, the federal courts regularly grant summary judgment if private plaintiffs' theories do not make "economic sense," such as alleging economically

BEHAVIORAL ECONOMICS 572, 573 (Camerer ed., 2004); Prentice, *supra* note 2, at 1751–52 n.463.

4. Charles R.P. Pouncy, *The Rational Rogue: Neoclassical Economic Ideology in the Regulation of the Financial Professional*, 26 VT. L. REV. 263, 302 (2002).

5. JOHN STUART MILL, ON LIBERTY 41 (Hackett Pub. Co. 1978).

6. RICHARD A. POSNER, ANTITRUST LAW ix (2d ed. 2001). The basis for that assertion is not attributed to any survey or other empirical research.

7. *Id.*

8. Press Release, U.S. Dep't of Justice, Antitrust Div. (Oct. 30, 2003), available at http://www.usdoj.gov/opa/pr/2003/October/03_at_596.htm (statement by R. Hewitt Pate, Assistant Attorney General, Antitrust Div.) ("Judge Posner's work has been critical to promoting a sounder understanding of antitrust law. The Antitrust Division and antitrust practitioners worldwide are tremendously grateful for the time and energy he has devoted to antitrust issues, including his valuable writings, thoughtful analyses, and dedication to providing an intellectually rigorous foundation for antitrust enforcement."); Press Release, U.S. Dep't of Justice, Antitrust Div. (May 17, 2005), available at http://www.usdoj.gov/atr/public/press_releases/2005/209051.htm. (statement by R. Hewitt Pate, Assistant Attorney General, Antitrust Div.) ("Judge Bork has played a critical role in the advancement of sound antitrust enforcement, and it is a privilege for the Division to recognize his outstanding antitrust career with this award.").

irrational (non-profit-maximizing) behavior.⁹ A Westlaw search did not identify any federal court citing behavioral economics in any antitrust decision.

Although behavioral law and economics has become “the hottest area of legal scholarship,”¹⁰ few behavioral economics articles relate to, or even discuss, antitrust.¹¹ Even some of the behavioral economics literature assumes that the rational choice theories may be better suited to predict corporate behavior in the marketplace, since irrational companies (i.e., those that do not maximize profits) presumably are driven out by their rational profit-maximizing competitors.¹²

But companies are ultimately a collection of individuals. If the public is an abstraction,¹³ then how is the corporation (divorced from its employees) any more definite? If many individuals systemically deviate from rational choice theory’s predicted outcomes under certain scenarios, why shouldn’t corporate behavior deviate under similar scenarios? Companies reflect their employees. They can vary by purpose (non-profit versus profit), structure (partnership, family concern, conglomerate), national identity and cultural norms (local firm, multinational), regulatory environment (utility versus unregulated concern), and size (large versus small). A few dozen employees in a small office, for example, may behave differently than a few hundred

9. Posner, among others, noted that summary judgment for the defendants is proper even if there is some evidence of an antitrust violation, if plaintiff’s theory of violation makes no economic sense. *In re Brand Name Prescription Drugs Antitrust Litig.*, 123 F.3d 599, 614 (7th Cir. 1997); see also *Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451, 467 (1992) (summary judgment is appropriate where antitrust claim “simply makes no economic sense”) (citing *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587, 594 n.19, 596–97 (1986)). On the other hand, courts have used such irrationality as evidence of a price-fixing conspiracy. See *Blomkest Fertilizer, Inc. v. Potash Corp. of Sask.*, 203 F.3d 1028, 1044 (8th Cir. 2000) (“[A]cts that would be irrational or contrary to the defendant’s economic interest if no conspiracy existed, but which would be rational if the alleged agreement existed, do tend to exclude the possibility of innocence.”) (citing *Admiral Theatre Corp. v. Douglas Theatre Co.*, 585 F.2d 877, 884 (8th Cir. 1978); *Re/Max Int’l, Inc. v. Realty One, Inc.*, 173 F.3d 995, 1009–11 (6th Cir. 1999); *City of Tuscaloosa v. Harcros Chems., Inc.*, 158 F.3d 548, 570–71 & n.35 (11th Cir. 1998)).

10. Kent Greenfield, *Using Behavioral Economics to Show the Power & Efficiency of Corporate Law as Regulatory Tool*, 35 U.C. DAVIS L. REV. 581, 583 (2002).

11. As the President of the American Antitrust Institute commented, “I had to search for over a year to find one student of behavioral economics who is paying special attention to antitrust.” Albert A. Foer, *The Third Leg of the Antitrust Stool: What the Business Schools Have to Offer to Antitrust*, 47 N.Y.L. SCH. L. REV. 21, 33 (2003); see also Susan DeSanti, *Antitrust in the Information Economy*, 68 ANTITRUST L.J. 565, 569 (2001) (noting Thaler’s predictions suggest ways in which economics may modify itself to enable better predictions of human behavior).

12. Jolls et al., *supra* note 2, at 1487; but see Korobkin & Ulen, *supra* note 1, at 1070–71.

13. Søren Kierkegaard, *The Present Age*, in *THE LIVING THOUGHTS OF KIERKEGAARD* 40–41 (W.H. Auden ed., 1952).

employees in a large office in terms of free-riding.¹⁴ Given companies' heterogeneity, leveling to some mean (the average company) would create a meaningless abstraction, like the term "public."

Antitrust analysis now stands at an exciting threshold. Spurred by the findings of behavioral economics, antitrust policy makers should critically assess their rational choice theories. In particular, the Federal Trade Commission and Department of Justice should test empirically the predictive value of their Horizontal Merger Guidelines, upon which they rely, to assess *ex ante* whether a potential merger may substantially lessen competition or tend to create a monopoly.¹⁵

Merger policy plays a critical role in promoting open and competitive markets. Each year, the federal antitrust agencies review over a thousand mergers, of which only a small percentage are investigated, and even a smaller percentage are challenged.¹⁶ These mergers touch upon billions of dollars in commerce involving all types of products and services. Entrusted with the critical role of merger review, the federal antitrust agencies, however, are still tinkering with dated economic theory built upon unrealistic assumptions of human behavior. Unlike the weather forecaster, the federal antitrust agencies today cannot state with any empirical basis how often they and their dated economic models actually got it right in predicting a merger's anti-competitiveness. Thus to better understand the real state of competition in complex dynamic markets, one cannot simply ask what rational profit-maximizers would do post-merger. Instead, one must determine what actually happened post-merger. Despite the significant benefits from such empirical testing, the main obstacle is complacency, namely relying uncritically on the assumptions underlying rational choice theory. The behavioral economics literature will eventually carry antitrust into the twenty-first century. Enterprising antitrust lawyers in *Daubert* motions, relying on the findings of behavioral economics, will challenge these rational choice theories. But rather than being tugged

14. One study concerned the rate office workers paid for bagels under a honor system, by leaving the amount owed in a box. The data showed that smaller offices with a few dozen employees outpaid by 3 to 5 percent an office with a few hundred employees. STEVEN D. LEVITT & STEPHEN J. DUBNER, *FREAKONOMICS* 48–49 (2005); *see also* Ernst Fehr & Simon Gächter, *Reciprocity and Economics: The Economic Implications of Homo Reciprocans*, 42 *EUR. ECON. REV.* 845, 854–57 (1998).

15. U.S. Dep't of Justice & Federal Trade Comm'n, Horizontal Merger Guidelines (1992, revised 1997), *reprinted in* 4 *TRADE REG. REP.* (CCH) ¶13,104 [hereinafter "Horizontal Merger Guidelines"].

16. U.S. DEP'T OF JUSTICE, ANTITRUST DIV., WORKLOAD STATISTICS FISCAL YEARS 1996–2005, *available at* <http://www.usdoj.gov/atr/public/workstats.htm> [hereinafter ANTITRUST DIV. WORKLOAD STATISTICS].

along, policy makers can significantly advance the current state of antitrust law.

Part I of this article summarizes the contribution of behavioral economics in testing predictions resulting from rational choice theory. Part II describes the current grip of the Chicago School's rational choice theories on the federal antitrust agencies and antitrust generally. Post-Chicago School antitrust theories have developed, but, while important, have been limited in scope, and have had varying success in gaining traction with the antitrust agencies. More importantly, the antitrust literature to date has neither incorporated the findings from the behavioral economics literature, nor has there been any unified movement to reexamine the agencies' primary framework for reviewing mergers, the Horizontal Merger Guidelines.

Borrowing from the behavioral economics literature, Part II.D identifies some possible paradoxes and anomalies with respect to antitrust's merger theories. It appears anecdotally that some corporate behavior is (or is not) occurring that is not readily explainable under antitrust's rational choice theories. Viewing the disjunction between civil and criminal antitrust enforcement, it is an empirical question as to the degree the federal antitrust agencies, relying upon their Merger Guidelines, are indeed accurately forecasting the likely competitive effects of mergers today.

Part III recommends specific legislation for improving the current state of antitrust policy. In predicting whether a proposed merger may substantially lessen competition or tend to create a monopoly, the federal agencies devote considerable resources investigating ex ante the merger. But the agencies examine only half of the picture, namely the state of competition in the few years leading up to the merger. Now it is time for the agencies to systematically review what actually happens post-merger. Close-call mergers would be revisited to determine if the agencies got it right.

Part IV weighs the benefits and concerns of conducting such post-merger review. Empirically validating or refining these antitrust theories may reduce the likelihood of false negatives and positives in merger review, lead to more effective antitrust enforcement, increase transparency of the merger review process, make the agencies and their officials more accountable for their decisions, and perhaps temper the claims of partisanship in antitrust enforcement, which have increased over the past quarter century.

I. BEHAVIORAL ECONOMICS' CONTRIBUTION

A. *What Is Rational?*

Although no uniform definition has coalesced, rational choice theory generally posits that people, either individually or collectively, "maximize their utility from a stable set of preferences and accumulate an optimal amount of information and other inputs in a variety of markets."¹⁷ The theory assumes that actors are rational, have willpower, and will act in their own self-interest.

A threshold issue is the definition of rational. This is important because labeling conduct as "rational" or "irrational" implicates normative ideals. Posner, among others, equates rationality with means-end reasoning, namely "choosing the best means to the chooser's end."¹⁸ Means-end reasoning is akin to the computer program, Mapquest: one determines the most direct route to one's destination. In defining rationality "as achieving one's ends . . . at least cost," Posner can conclude that rats are "at least as rational as human beings."¹⁹

But rationality, as historically defined, went beyond such means-end reasoning, and reflected normative values. Foremost, rationality involved the choice of the end destination. Among the many destinations (such as fame, fortune, or power), rationality was choosing the proper end (such as happiness), which represented the highest and most complete end, and the means of attaining that end (virtuous life).²⁰

17. GARY S. BECKER, *THE ECONOMIC APPROACH TO HUMAN BEHAVIOR* 14 (1976).

18. Posner concedes this definition lacks precision and rigor. Richard A. Posner, *Rational Choice, Behavioral Economics, and the Law*, 50 *STAN. L. REV.* 1551, 1551 (1998). Posner's definition of rationality with respect to business firms incorporates, as this article later discusses, the assumption of profit-maximization. POSNER, *supra* note 6, at ix.

19. Posner, *Rational Choice, supra* note 18, at 1551.

20. Aristotle, for example, viewed rationality to be the exercise of reason, which was in accord with living a virtuous life. ARISTOTLE, *NICOMACHEAN ETHICS, BOOK ONE* (Martin Oswald trans., 1962). Thus, for Aristotle, rationality extended beyond best-means-to-idiosyncratic-end determinations, but reflected deliberations on the end (happiness), and the means to attain that end (virtuous life). Behavior motivated by wealth maximization was neither rational, in accord with a virtuous life, nor likely to lead to happiness, but rather an appetite devoid of rationality. *Id.* at 60–65. As the Archangel Michael said in JOHN MILTON, *PARADISE LOST*, book xi, lines 530–34 (Merritt Y. Hughes ed., 1935):

There is . . . if thou well observe
The rule of *Not too much*, by temperance taught
In what thou eat'st and drink'st, seeking from thence
Due nourishment, not gluttonous delight,
Till many years over thy head return.

This maxim "not too much" was carved in Apollo's temple at Delphi alongside the inscription "Know thyself." *Id.* at 439 (notes to *Paradise Lost*). See also PLUTARCH, *ON SPARTA* 150 (Richard S.A. Talbert trans., Penguin Books 1988) (Eighth-century Agiad King Alcmenes son of

Rationality was more than the mental perception “to change and shift with the greatest ease to what he shall himself judge desirable.”²¹ Our duty was not simply in employing such means-end reasoning, but using reason to improve ourselves, namely to create a “moral purpose.”²²

Likewise, to the early economists means-end reasoning or utility (wealth) maximization is not synonymous with rational behavior. Adam Smith, for example, defined prudence as “[w]ise and judicious conduct, when directed to greater and nobler purposes than the care of the health, the fortune, the rank and reputation of the individual.”²³ Prudence should be combined with “many greater and more splendid virtues” such as “extensive and strong benevolence, with a sacred regard to the rules of justice, and all these supported by a proper degree of self-command.”²⁴ Benevolence was not simply a normative ideal for Smith; individuals acted, at times, out of goodness, even when they derived nothing financially from it.²⁵

Some of the later economists, however, abandoned such normative theories implicating moral values for the scientific aura of positive economics. “It is not the province of the Political Economist to advise,” stated David Ricardo. “He is to tell you how to become rich, but he is not to advise you to prefer riches to indolence, or indolence to riches.”²⁶

Teleclus offered two rebuttals to today’s profit-maximizer. When somebody asked how one might best maintain the position of king, he said: “By not attaching undue importance to self-advantage.” When someone was remarking that he lived modestly although possessing adequate means, he said: “Yes, for it is well that reason, not passion, should govern the life of a man who is well-off.”; SENECA, LETTERS FROM A STOIC 65 (Penguin ed. 2004).

21. PLUTARCH’S LIVES (Dryden trans., Arthur Hugh Clough ed. 1909).

22. *Id.* at 36–37.

23. ADAM SMITH, THE THEORY OF MORAL SENTIMENTS, part VI, section 1, line 15 (1759); *see also id.* at VI.III.1:

The man who acts according to the rules of perfect prudence, of strict justice, and of proper benevolence, may be said to be perfectly virtuous. But the most perfect knowledge of those rules will not alone enable him to act in this manner: his own passions are very apt to mislead him; sometimes to drive him and sometimes to seduce him to violate all the rules which he himself, in all his sober and cool hours, approves of. The most perfect knowledge, if it is not supported by the most perfect self-command, will not always enable him to do his duty.

24. *Id.* at VI.1.15.

25. *Id.* at I.I.1 (“How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it.”).

26. 2 DAVID RICARDO, THE WORKS AND CORRESPONDENCE OF DAVID RICARDO 338 (Piero Sraffa & M. H. Dobb eds., Cambridge Univ. Press 1951–1973) (volume two of eleven volumes). For an interesting overview of economics slippage from a moral philosophy to behavioral science, see James E. Alvey, *A Short History of Economics as a Moral Science*, 2 J. MARKETS & MORALITY (Spring 1999); *see also* Colin F. Camerer & George Loewenstein, *Behavioral Economics: Past, Present, Future*, in ADVANCES IN BEHAVIORAL ECONOMICS 3, 5–6 (Camerer

What individuals believe they *should* do versus what they *actually* did can diverge. Rather than opining on what individuals should do, these economists sought to study actual human behavior, which more accurately reveals individual preferences. By focusing on individuals' actual choices, economists could improve their theories' predictive value, thereby making their craft more scientific.

In divorcing rationality from normative ideals, these economists were left to determine and articulate from the empirical data what causes individuals to act across myriad situations. If from the myriad manifestations of human behavior one could induce a general and dominant characteristic of human behavior, then "neoclassical economics can also be used to explain a wide array of nonmarket and social phenomena."²⁷ The first assumption, and "[o]ne of the hallmarks of rational decision making, is the notion that preferences, whatever they may be, are stable."²⁸ If the majority of individuals' preferences gyrated unpredictably, then predicting their behavior would be difficult. Next, the economists must identify (preferably empirically) these stable preferences. The Law and Economics movement has not uniformly accepted what this stable preference is, and it can range from expected utility, to self-interest, to wealth maximization.²⁹ With a vague stable preference (such as utility maximization), the economic theory can explain more easily behavior *ex post* (e.g., people acted in such manner since it was the best means to maximize their utility). But the theory's predictive value diminishes.³⁰ Similarly, in defining self-interest, for example, to encompass everything from parsimony to benevolence, the theory cannot accurately predict which specific behavior (parsimony or benevolence) will likely dominate.³¹

To bolster their theories' predictive abilities, certain economists began incorporating assumptions that wealth motivates human behavior. "The simple logic is that if humans are rational maximizers of their wealth or self-interest in all their activities, they will respond to changes in exogenous constraints, such as laws and sanctions, in a way that can

ed., 2004); BEINHOCKER, *supra* note 2, at 21–43.

27. Francesco Parisi, *Introduction: The Legacy of Richard A. Posner and the Methodology of Law and Economics*, in *THE ECONOMIC STRUCTURE OF THE LAW* xii (Francesco Parisi ed., 2000).

28. Terrence Chorvat & Kevin McCabe, *Neuroeconomics and Rationality*, 80 *CHI.-KENT L. REV.* 1235, 1238 (2005).

29. Korobkin & Ulen, *supra* note 1, at 1060–67 (outlining spectrum of rational choice theory).

30. *Id.* at 1061–66.

31. *Id.* at 1065.

be measured and predicted.”³² Thus many Chicago School adherents adopted as the stable universal preference for their descriptive theories (particularly those pertaining to business organizations) the maximization of wealth and other personal material goals.³³ The assumption is that people respond predictably and uniformly to financial incentives and disincentives across myriad situations. Thus, for Robert Bork and others, the profit-maximization assumption was “crucial” to the Chicago School’s rational choice theories.³⁴ This represented a departure from the Harvard school, which Posner characterized as “so fond of doing studies of competition in particular industries”; these “microscopic examinations,” to Posner “exemplified the particularistic and non-theoretical character of the field.”³⁵ In contrast, the Chicago School’s theory offered “powerful simplifications,” such as “rationality, profit maximization, the downward sloping demand curve.”³⁶ It is also easier on a superficial level to measure wealth than utility.³⁷

Today “[a]most all economic models assume that *all* people are *exclusively* pursuing their material self-interest and do not care about ‘social’ goals per se.”³⁸ As George Stigler wrote, when “self-interest and ethical values with wide verbal allegiance are in conflict, much of the time, most of the time in fact, self-interest theory . . . will win.”³⁹ Karl Marx and Friedrich Engels agreed.⁴⁰

32. Parisi, *supra* note 27, at xii.

33. Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925, 928 (1979) (discussing how each of the ideas of one of movement’s founders, Aaron Director, was deducible from his assumption that businessmen are rational profit-maximizers); Korobkin & Ulen, *supra* note 1, at 1066.

34. ROBERT H. BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* 119 (1978); *see also* 1 PHILLIP E. AREEDA & HERBERT J. HOVENKAMP, *ANTITRUST LAW* ¶ 113, at 134 (2d ed. 2000) (“Business firms are (or must be assumed to be) profit maximizers”); George J. Stigler, *A Theory of Oligopoly*, 72 J. POL. ECON. 44 (1964) (“[S]atisfactory theory of oligopoly cannot begin with assumptions concerning the way in which each firm views its interdependence with its rivals. If we adhere to the traditional theory of profit-maximizing enterprises, then behavior is no longer something to be assumed but rather something to be deduced.”).

35. Posner, *supra* note 33, at 931.

36. *Id.*

37. Richard A. Posner, *The Value of Wealth: A Comment on Dworkin & Kronman*, 9 J. LEGAL STUD. 243, 247 (1980) (“Partly because there is no common currency in which to compare happiness, sharing, and protection of rights, it is unclear how to make the necessary trade-offs among these things in the design of a social system. Wealth maximization makes the trade-offs automatically.”). For criticisms of this notion that wealth maximization does not suffer the same infirmities of measurement as utilitarianism, see Jules L. Coleman, *Efficiency, Utility and Wealth Maximization*, 8 HOFSTRA L. REV. 509, 521 (1980); Jeanne L. Schroeder, *The Midas Touch: The Lethal Effect of Wealth Maximization*, 1999 WIS. L. REV. 687, 754–60.

38. Ernst Fehr & Klaus M. Schmidt, *A Theory of Fairness, Competition, and Cooperation*, in *ADVANCES IN BEHAVIORAL ECONOMICS* 271, 271 (Camerer ed., 2004).

39. Ernst Fehr & Simon Gächter, *Fairness and Retaliation: The Economics of Reciprocity*, in

But herein lies the trap. When rational choice theory's adherents (or its detractors) characterize behavior as "irrational" because it deviates from their theory's predicted outcome, then they have reverted from a descriptive to a normative theory. They are not predicting how we would act, but telling us how we *ought* to act. This raises several complications.

First, wealth maximization must be defended as an ideal that captures all the relevant normative ideals important to society.⁴¹ Perhaps maximizing incentives for wealth accumulation will promote allocative efficiency, which presumably will increase total welfare, which presumably will generate the greatest amount of happiness, which presumably will lead to the best of all possible worlds. Or perhaps not. Economists would debate theologians, philosophers, political scientists, and others in espousing how people either individually or collectively ought to act, and should be prepared to answer what gives them greater authority to proclaim that wealth maximization is an end itself, or the principal means to some higher end, such as happiness.⁴² Do we as a society want to promote "self-interest seeking with guile [which] includes . . . more blatant forms, such as lying, stealing, and cheating

ADVANCES IN BEHAVIORAL ECONOMICS 510, 510–11 (Camerer ed., 2004) (quoting George Stigler, *Economics or Ethics?*, in TANNER LECTURES ON HUMAN VALUES (S. McMurrin ed., 1981)).

40. KARL MARX & FRIEDRICH ENGELS, *Manifesto of the Communist Party*, in BASIC WRITINGS ON POLITICS & PHILOSOPHY 9 (Lewis S. Feuer ed. 1959), arguing that the bourgeoisie:

has pitilessly torn asunder the motley feudal ties that bound man to his "natural superiors," and has left no other bond between man and man than naked self-interest, than callous "cash payment." It has drowned the most heavenly ecstasies of religious fervor, of chivalrous enthusiasm, of Philistine sentimentalism, in the icy water of egotistical calculation.

41. Kenneth G. Dau-Schmidt, *Models in Social Science: A Review of Law and Public Policy: A Socioeconomic Approach by Lynne L. Dallas*, 41 SAN DIEGO L. REV. 441, 442–43 (2004).

42. One normative view on monopolies is by the Roman Catholic Church, where "the motive of the monopoly is, as a rule, not merely lacking in reasonableness, but positively unjust; for its ultimate aim is not simply to acquire the patronage that now goes to its rivals, but in addition to raise prices to the consumer after its rivals have been eliminated." NEW ADVENT ROMAN CATHOLIC ENCYCLOPEDIA, available at <http://www.newadvent.org/cathen/10497b.htm> (discussing monopoly). Thus,

[w]hile monopoly is not necessarily unjust, and while any particular monopoly may be free from unjust practices, experience shows that the power to commit injustice which is included in monopoly cannot be unreservedly entrusted to the average human being or group of human beings. Consequently, it is the duty of public authority to prevent the existence of unnecessary monopolies, and to exercise such supervision over necessary monopolies as to render impossible monopolistic injustice, whether against the independent business man through unjust methods, or the consumer through unjust prices.

Id.

... [but] more often involves subtle forms of deceit”⁴³ Is this our moral purpose? Further, what are the moral boundaries of wealth maximization theory?

A second complication is tyranny. Here, I deviate from some who would foster government paternalism by rectifying individuals’ so-called irrational behavior. Given that human nature is indeed mutable, a great temptation exists to pressure so-called irrational (non-profit-maximizing) behavior until it conforms to the normative ideal of rational (such as profit-maximizing) behavior. Often this is done with noble intentions. Sunstein and Thaler suggested a “libertarian paternalism,” whereby the government can maximize efficiency by choosing an efficiency-enhancing default option, while allowing citizens to opt out.⁴⁴ But I am skeptical that this desire to correct human behavior would be limited to these narrow instances. It is true that the government, at times, bends the will of its citizens to attain a normative self-contained ideal, such as justice or even efficiency. But efficiency, like other normative ideals, is a matter of degree, and is rarely perfected. Policy makers would follow the rational choice theorists into the fog in determining: (i) how to achieve such conformity (by criminal or civil law, financial incentives or disincentives, deception, or encouragement); (ii) to what degree such deviant behavior must be altered to achieve the minimum efficient scale; (iii) the incremental gain from such enhanced efficiency; and (iv) the amount, to the extent quantifiable, these incremental gains exceed the incremental costs to society (including the impact on other normative ideals, such as the exercise of religious or moral beliefs, freedom, self-governance, and justice). Moreover, what moral values would underlie such paternalism? Some examples of libertarian paternalism may engender little dispute (such as creating as the default option organ donation as many European nations’ “presumed consent” policies do).⁴⁵ But what if the default rules comport with a deterministic view of individuals as self-centered liars, thieves, and

43. Fehr & Gächter, *supra* note 39, at 510 (quoting OLIVER WILLIAMSON, *THE ECONOMIC INSTITUTIONS OF CAPITALISM* (1985)). Indeed one series of experiments found that subconscious reminders of money prompted those studied to become more independent in their work, less likely to seek help from others or to provide it, more reluctant to volunteer their time, and stingy when asked to donate to a worthy cause. Benedict Carey, *Just Thinking About Money Can Turn the Mind Stingy*, N.Y. TIMES, Nov. 21, 2006, at F6. For other morality-based criticisms of Law and Economics, see Prentice, *supra* note 2, at 1671 n.27. For a discussion of the morality of antitrust violations, see Maurice E. Stucke, *Morality and Antitrust*, 2006 COL. BUS. L. REV. 443 (2007).

44. Cass R. Sunstein & Richard H. Thaler, *Libertarian Paternalism Is Not an Oxymoron*, AEI-Brookings Joint Center for Regulatory Studies Working Paper No. 03-2, 1–2 (April 2003).

45. *Id.* at 39–40.

cheaters (such as presuming that gifts to charities were made in material self-interest, unless the contributor can establish, by a preponderance of evidence, the contrary)? Moreover, if few humans opt out of the default option, is it possible to steer behavior toward a life with little purpose other than wealth maximization?

Finally, this dilemma cannot be easily circumvented by distinguishing between private and governmental measures, as that line is rarely clear. The rational choice theorists may wave off the notion of bending the private citizens' will as a condition precedent for attaining minimum efficient scale; market forces will reward the profit-maximizers, and punish the non-maximizers. But for that to happen, the government cannot inhibit such market forces (such as through high trade tariffs or overzealous antitrust enforcement). But this argument assumes that market forces preexist (and exist independently of) government and institutional norms. It would be foolish to look solely at the behavior of the market actors, as though they were unaffected by the industry's legal and ethical norms. As R.H. Coase noted, the stock market, the example often used of perfect or near-perfect competition, is heavily regulated.⁴⁶ At times, government regulation creates the market itself (such as the market for pollution rights)⁴⁷ or is necessary for its development, such as laws to define, protect, and transfer property rights, to promote banking systems and savings, to encourage cooperative efficiency-generating arrangements (such as contract law).⁴⁸ Although some may characterize the antitrust laws as an exogenous force to be used sparingly in a free-market system, the competition laws are no different than many other areas of contract and property law. They seek to promote some types of cooperation that promotes overall welfare (such as non-zero-sum games, whereby joint

46. R.H. Coase, *The Institutional Structure of Production*, 82 AM. ECON. REV. 713, 718 (1992).

47. Among the emission trading systems are the SO₂ trading system under the "Acid Rain Program" framework created by the 1990 Amendments to the Clean Air Act. See EPA Acid Rain Program Allowance Auctions Fact Sheet, <http://www.epa.gov/airmarkets/auctions/factsheet.html>; see also Illinois's Emissions Reduction Market System, <http://www.epa.state.il.us/air/erms/overview.html> (highlighting a trading program for volatile organic compounds in the Chicago area); European Union Greenhouse Gas Emission Trading Scheme, <http://ec.europa.eu/environment/climat/emission.htm> (in which all twenty-five member states of the European Union participate).

48. BEINHOCKER, *supra* note 2, at 261 (discussing William Easterly & Ross Levine, *Tropics, Germs & Crops: How Endowments Influence Economic Development*, National Bureau of Economic Research Working Paper 9106 (2002)) ("The rule of law, the existence of property rights, a well-organized banking system, economic transparency, a lack of corruption, and other social and institutional factors played a far greater role in determining national economic success than did any other category of factors.").

venturers pool resources and labor to develop new products or technologies), while deterring cooperation that harms welfare (such as zero-sum games, whereby competitors collude to fix prices and transfer wealth from the consumer to themselves).⁴⁹ Absent the evolution of the rule of law and other social technologies, the free market would be fairly primitive: with club in hand, we would be guarding our caves, until someone cleverer or stronger displaced us.

Thus, antitrust policy makers must navigate between the Scylla of neoclassical economic theory with its faith in market forces and Charybdis of socialism with its faith in government forces. They must accept market and government forces as necessarily interrelated, but must not steer too close to either hazard. Because the “legal system will have a profound effect on the working of the economic system and may in certain respects be said to control it,”⁵⁰ distinguishing between efficiency-enhancing and inefficient government actions may be difficult. Further, it may not always be clear when a regulation would assist “irrational” agents while doing little harm to rational agents.⁵¹

Two caveats are in order. Economists are not precluded from normative theories generally. Discussions on the appropriate rate of inflation, subsidies to different interest groups, or rules on insider trading may all implicate normative ideals. Indeed, as Sunstein and Thaler recognize, such paternalism is unavoidable when policy makers determine many default options, such as the basic state insurance program for motorists.⁵²

Second, economics need not be in opposition to theologians, philosophers, or political scientists. For example, a nation’s productivity may be positively correlated with attributes of a moral society,⁵³ and indeed Aristotle recognized that a minimum amount of wealth would help in attaining happiness. A more constructive role for economists is to help develop norms to foster welfare enhancing cooperative behavior. Life need not be a zero-sum game, where we suspect that others’ advancement comes at our expense. As Benjamin Friedman nicely chronicles, whenever America was mired in economic

49. *Id.* at 274.

50. Coase, *supra* note 46, at 717–18.

51. *But see* Camerer & Loewenstein, *supra* note 26, at 36 (“[A] regulation should be irresistible if it can help some irrational agents, and does little harm to rational ones.”).

52. Sunstein & Thaler, *supra* note 44, at 17, 40 (noting state’s choice of default option [either low premium/no-right-to-sue versus high premium/right-to-sue] has significant impact on most motorists’ ultimate choice).

53. *See* BENJAMIN M. FRIEDMAN, THE MORAL CONSEQUENCES OF ECONOMIC GROWTH 108–09 (2005).

stagnation its democratic values stagnated as well. Hostility toward immigrants, the poor, and other competing groups (whether by nationality, religion, race, or gender) increased as these groups were seemingly threatened by others stealing their fixed (or dwindling) share of the pie. In contrast, during periods of economic growth, our society slowly shed this zero-sum mentality, and progressed toward openness, mobility, and democracy.⁵⁴ Thus, to gauge America's economic health, one could look at our nation's borders: are we building walls or factories?

Consequently, rational choice theorists (or behavioral economists for that matter) navigate rougher waters when characterizing actual behavior as "irrational," as they are implicitly opining on a normative ideal of rationality that includes wealth maximization as a stable uniform preference. Given that rational choice theory long ago abandoned any pretensions of being a normative theory (such as telling people how they ought to act to obtain happiness), the Law and Economics' remaining currency is as a descriptive theory (accurately explaining why many people act the way they do, and in predicting how they likely will act when responding to various financial incentives or disincentives).⁵⁵ The legitimacy of any descriptive theory rests neither in its simplicity nor its elegance, but rather in the quality of its predictions.⁵⁶ And it is here that the behavioral economists have played an important role.

54. *Id.* at 79–102. Friedman identifies several historical time periods where society, in response to economic growth, moved toward greater openness, tolerance, mobility, fairness, and democracy: (i) the Horatio Alger era (1865–80); (ii) the Progressive era (1895–1919); (iii) the Civil Rights era (1945–73); and (iv) tentatively the New beginnings (1993 onward, which early on had widely distributed rising incomes, but is questionable today). *Id.* at 105–215. In contrast, American society moved away from these Enlightenment ideals in response to periods of economic stagnation, such as the (i) Populist era (1880–95); (ii) Klan era (1920–29); and (iii) Backlash era (1973–93). *Id.* The one great exception, as Friedman describes, was the New Deal era (1929–39). Not only did this economic disaster have an extraordinarily widespread impact, but "the socially corrosive power of a more ordinary economic distress [was] overwhelmed by still stronger forces of a different kind if the distress [was] so great as to constitute an out-and-out crisis." *Id.* at 178. If America can no longer sustain its rising standard of living for its citizens, then our democratic ideals are under greater risk as we move toward a zero-sum game mentality. As Friedman concludes, "Only with sustained economic growth, and the sense of confident progress that follows from the advance of living standards for most of its citizens, can even a great nation find the energy, the wherewithal, and most importantly the human attitudes that together sustain an open, tolerant, and democratic society." *Id.* at 436.

55. BORK, *supra* note 34, at 120 (validity of Chicago School's tenets "depends upon their success in predicting behavior").

56. MILTON FRIEDMAN, *ESSAYS IN POSITIVE ECONOMICS* 14–16 (1953).

B. *Lessons from Behavioral Economics*

Behavioral economists note that individuals do not always act in ways the rational choice theories predict. Drawing from the findings of other disciplines, such as psychology, neuroscience, and sociology, behavioral economists note that a sizeable percentage of their test subjects systemically deviate from these rational choice theories' predicted outcome in several important ways: (1) bounded rationality; (2) bounded willpower; and (3) bounded self-interest.⁵⁷

Bounded rationality refers to the fact that humans are not microprocessors, and often do not engage in the multilevel strategies envisioned under certain rational-choice game theories.⁵⁸ If we did, we would rarely, if ever, play chess: the outcome, in any game with set rules and a finite number of sequential moves, could be determined by the initial move.⁵⁹ Individuals, the behavioral economists conclude, generally rely on rules of thumb (heuristics) in making decisions⁶⁰ and engage in a couple of steps of iterated reasoning.⁶¹ A few of the many anomalies observed are:

loss aversion (namely having significantly greater concern about losing a given amount than in the utility of gaining the same amount);⁶²

the endowment effect (when we demand much more to give up and sell an object than what we would be willing to pay to acquire that object);⁶³

57. See Prentice, *supra* note 2, at 1664 n.1 (2003) (citing law articles regarding behavioral law and economics concepts).

58. See, e.g., Daniel Kahneman, *Maps of Bounded Rationality: Psychology for Behavioral Economics*, 93 AM. ECON. REV. 1449–75 (2003).

59. AVINASH DIXIT & BARRY NALEBUFF, THINKING STRATEGICALLY 41–44 (1991). Indeed, E. Zermelo formulated in the early twentieth century an algorithm that leads to an equilibrium outcome in chess, but nonetheless, grandmasters still compete today. MARTIN J. OSBORNE & ARIEL RUBINSTEIN, A COURSE IN GAME THEORY 6 (1994).

60. See Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, in JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES 3, 3 (Kahneman et al., eds., 1982).

61. For example, most test subjects in the “p-beauty contest game” engaged in only one or two steps of iterated reasoning. See Camerer & Loewenstein, *supra* note 26, at 30.

62. RICHARD H. THALER, THE WINNER’S CURSE: PARADOXES AND ANOMALIES OF ECONOMIC LIFE 70–74 (1992). Loss aversion forms part of Kahneman and Tversky’s Prospect Theory, whereby people are risk averse over gains, and risk seeking over losses, and the way an issue is framed (as a gain or avoiding a loss) will affect the individual’s choice. Nicholas Barberis & Richard Thaler, *A Survey of Behavioral Finance*, in ADVANCES IN BEHAVIORAL FINANCE 16–21 (Richard H. Thaler ed., 2005).

63. THALER, THE WINNER’S CURSE, *supra* note 62, at 63; Jolls et al., *supra* note 2, at 1482, 1484, 1498; Daniel Kahneman, Jack L. Knetsch & Richard H. Thaler, *Experimental Tests of the Endowment Effect and the Coase Theorem*, 98 J. POL. ECON. 1325, 1327 tbl.1 (1990) (summarizing studies).

status quo bias (when the choice of default option impacts the outcome);⁶⁴

framing effects (the way the choice is framed—such as a sure gain or avoiding a loss—alters the way we decide);⁶⁵

availability heuristic (when we assess the probability of an event by asking whether relevant examples come readily to mind);⁶⁶

representative heuristic (when we ignore the “base rates and overestimate the correlation between what something appears to be and what something actually is”);⁶⁷

overconfidence bias (when we believe that good things are more likely (and bad things less likely) than average to happen to us);⁶⁸ and

hindsight bias (our tendency to overestimate the ex ante prediction that we had concerning the likelihood of an event’s occurrence after learning that it actually did occur).⁶⁹

Bounded willpower refers to when we knowingly act contrary to our economic interests. Some of us engage in actions known to be detrimental (such as smoking or overconsumption), and thus may incur additional costs given that our willpower is weak, (such as opting for automatic payroll deductions into assets with liquidity restrictions to constrain our immediate consumption)⁷⁰ or paying more for less of what we like too much (such as buying cigarettes individually or by the pack rather than by the carton).⁷¹ We may also behave in ways contrary to

64. THALER, *THE WINNER’S CURSE*, *supra* note 62, at 68–70.

65. For example, framing the choice as number of lives a policy option will likely save versus framing it as to the number of people who will die, leads to different results. Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, *SCIENCE* 211, 453–58 (1981).

66. Richard H. Thaler & Cass R. Sunstein, *Market Efficiency and Rationality: The Peculiar Case of Baseball*, 102 *MICH. L. REV.* 1390, 1395–96 (2004) (book review) (noting study that individuals are more likely to think that more words on a random page end with “-ing” than have the letter n as their next to last letter). Individuals may also conclude that the probability of any event (such as a car accident) is greater if they have recently witnessed such an event than if they have not. Jolls et al., *supra* note 2, at 1477.

67. Korobkin & Ulen, *supra* note 1, at 1086 (citing Tversky and Kahneman’s bank teller problem).

68. *Id.* at 1091–95. Of the 1,033 randomly selected adults surveyed by the *Washington Post* telephone poll between November 4–8, 2005, ninety-four percent said they are at least slightly above average in terms of honesty/trustworthiness, eighty-nine percent said they were above average in terms of common sense, eighty-eight percent in terms of friendliness, eighty-six percent in terms of intelligence, seventy-nine percent in terms of physical appearance, and sixty-nine percent in terms of health. *We’re All Above Average*, *WASH. POST*, Feb. 8, 2006, at A2.

69. Korobkin & Ulen, *supra* note 1, at 1095–1100.

70. Camerer & Loewenstein, *supra* note 26, at 24.

71. Richard H. Thaler, *Mental Accounting Matters*, in *ADVANCES IN BEHAVIORAL ECONOMICS* 75, 90 (Camerer ed., 2004).

the tenets of wealth maximization (such as giving the U.S. government an interest-free loan by withholding too much taxes from our paycheck to ensure a return at tax time).⁷²

Bounded self-interest involves an interesting confluence between descriptive economic theories and ethical norms. Individuals may aspire toward benevolence in accordance with some religious or social norm of fairness even though such behavior deviates from the tenets of wealth maximization. Rational choice theory predicts that our dominant strategy will be to free ride when confronted with a public good. But behavioral economists note that many test subjects often do not free ride at all (or not to the extent predicted under rational choice theory).⁷³ In these public good experiments, “people have a tendency to cooperate until experience shows that those with whom they’re interacting are taking advantage of them.”⁷⁴ Individuals at times act benevolently even when not in their financial interest. Thus, behavioral economists ask, why do many individuals, contrary to rational choice theory, tip waiters and waitresses in cities they are unlikely to revisit?⁷⁵ Why do individuals donate blood?⁷⁶ Why do individuals abide with the “honor system” at various locales by leaving the suggested amount in the offering box?⁷⁷ Conversely, individuals may sacrifice monetary gains to punish those they feel are acting unfairly, i.e., deviating from an established reference point of what is fair. One frequently cited experiment of negatively reciprocal behavior⁷⁸ and bounded self-interest is the “Ultimatum Game.” Suppose you are given \$100 on the condition that you share some portion of that \$100 with another person (suppose an anonymous person in a cubicle in the adjoining building). If the other person accepts your offer, you can keep the balance. If,

72. THALER, THE WINNER’S CURSE, *supra* note 62, at 93; Jolls et al., *supra* note 2, at 1479.

73. THALER, THE WINNER’S CURSE, *supra* note 62, at 9–20; Prentice, *supra* note 2, at 1675–76.

74. THALER, THE WINNER’S CURSE, *supra* note 62, at 14.

75. In one study, the mean response by those surveyed of the tip they would leave in a restaurant they frequent regularly or in another city which they do not expect to revisit was nearly identical (\$1.28 versus \$1.27 for a \$10 meal). Daniel Kahneman, Jack L. Knetsch & Richard H. Thaler, *Fairness as a Constraint on Profit Seeking: Entitlements in the Market*, 76 AM. ECON. REV. 728, 737 (1986). Daniel Kahneman et al., *Fairness as a Constraint on Profit Seeking: Entitlements in the Market*, in ADVANCES IN BEHAVIORAL ECONOMICS 252, 264 (Camerer ed., 2004).

76. Gneezy & Rustichini, *supra* note 3, at 573.

77. See LEVITT & DUBNER, *supra* note 14, at 45–51 (discussing the honesty of office workers in paying for bagels under an honor system).

78. Reciprocity is reciprocating fair behavior with fairness (positive reciprocity) and punishing unfair action with punitive action. Fehr & Gächter, *supra* note 14, at 510–11.

however, the other person rejects your offer, then both of you get nothing. How much should you offer?⁷⁹

Individuals, as the behavioral economic research concludes, generally care about treating others, and being treated, fairly.⁸⁰ Unfairness, namely the deviation from some generally accepted normative ideal, may have economic implications.⁸¹ Contrary to rational choice theory, which assumes one predicted response (offer the nominal amount in the Ultimatum Game), the response may vary depending on the deviation, if any, from the normative reference point of what is fair. Offer a fair amount, and both players win in the Ultimatum Game. Offer an unfair amount (e.g., the profit-maximizer's penny), and you will not maximize your wealth. Change the reference point of fairness, and the results may vary. Assume now that the \$100, in the above Ultimatum Game scenario, was given to you as an entitlement (such as for running around the track four times under 9 minutes), and the anonymous person from their warm cubicle could see you huffing around the icy track. Would you expect your counterpart to agree to a different split (perhaps \$75:\$25 or \$80:\$20)? Alternatively, what if you could sympathetically evoke a greater utility for that money (for example, being unemployed, with no health insurance, and having a baby with a fever)? If that was communicated, might that likely generate a different payment split?

Aside from reciprocity, individuals at times may act from an intrinsic motivation, independent of any financial reward.⁸² Indeed, a financial reward at times may decrease (rather than increase) motivation or the likelihood of the desired results. For example, Uri Gneezy and Aldo Rustichini conducted an interesting study with high school test subjects

79. Rational choice theory predicts that your offer should be the smallest monetary amount above zero (e.g., one penny), and the recipient should accept any positive offer. Actual studies in more than twenty countries show the contrary: the majority of individuals offer significantly more than the nominal amount (ordinarily forty to fifty percent of total amount available) and recipients typically (about half the time) reject nominal positive amounts (less than twenty percent of the total amount available). *Id.* at 512; Camerer & Loewenstein, *supra* note 26, at 27; THALER, THE WINNER'S CURSE, *supra* note 62, at 21–35; Jolls et al., *supra* note 2, at 1489–93; Werner Guth, Rolf Schmittberger & Bernard Schwarze, *An Experimental Analysis of Ultimatum Bargaining*, 3 J. ECON. BEHAV. & ORG. 367, 371–74, 375 tbls. 4 & 5 (1982); Daniel Kahneman, Jack L. Knetsch & Richard H. Thaler, *Fairness and the Assumptions of Economics*, 59 J. BUS. S285, S291 tbl.2 (1986). One study found that male behavior in the ultimatum game is systematically linked with testosterone levels. Males who reject unfair offers have higher testosterone levels than males who accept unfair offers. Fehr & Gächter, *supra* note 14, at 513 (summarizing John F. Kennedy School of Government, Harvard University, Testosterone and Negotiations, submitted by Terrence Burnham (1999)).

80. Jolls et al., *supra* note 2, at 1494; Matthew Rabin, *Incorporating Fairness Into Game Theory and Economics*, 83 AM. ECON. REV. 1281, 1282 (1993).

81. Jolls et al., *supra* note 2, at 1496; Kahneman et al., *supra* note 75, at 728–29.

82. Gneezy & Rustichini, *supra* note 3, at 574–75.

who collected donations for a public purpose in Israel's annually publicized "donation days."⁸³ One group of high schoolers was given a pep talk of the importance of these donations. A second group, in addition to the pep talk, was promised 1% of the amount collected (to be paid from an independent source). A third group was promised an even greater financial incentive (10% of the amount collected). Under rational choice theory, the third group, motivated by the greater financial incentive, should collect the most donations. Instead, the groups promised the 1% and 10% shares collected a lower average amount (\$153.67 and \$219.33, respectively) than the group not financially compensated but given only the pep talk (\$238.60).⁸⁴

Besides examining financial incentives, these authors studied whether financial disincentives curb the unwanted behavior.⁸⁵ Their study examined what impact, if any, a monetary fine had on curbing undesired behavior (namely parents who picked up their children late from certain private day-care centers). These private day-care centers originally had no rule governing parents who picked up their children after 4:00 P.M.; generally, a teacher had to wait with the tardy parent's child. A fine on tardiness was thereafter introduced in some of the day-care centers, which, under rational choice theory, should decrease the incidences of tardiness. Instead, the average number of late-arriving parents increased for these day-care centers. Moreover, after the fine was canceled, the average number of late-arriving parents did not return to the pre-fine levels. For the control group, on the other hand, where no fine was imposed, there was no significant shift of late-arriving parents during this period, and fewer parents reported late in these day-care centers than in the day-care centers with the fine. So why did the monetary penalty increase the undesired behavior? Perhaps, as the authors conclude, parents before were intrinsically motivated to pick up their children on time. The introduction of the fine monetized that lateness into an additional service, offered at a relatively low price.⁸⁶

83. *Id.*

84. *Id.* at 578–80.

85. *Id.* at 581–86.

86. *Id.* Another study involving citizens preparing their income tax statements attempted to determine the effect of sanction threats and to compare them with appeals to conscience. Richard D. Schwartz & Sonya Orleans, *On Legal Sanctions*, 34 U. CHI. L. REV. 274, 283–99 (1967). For the "sanction-treated" group, the emphasis was on the severity of possible jail sentences and the likelihood that tax violators would be apprehended. The "conscience" group was exposed to questions "accentuating moral reasons for compliance with tax law." *Id.* at 286–87. The conscience appeal, overall, had a stronger effect on income reported than did the threat of sanctions. The study's results gave some evidence that although the threat of punishment can increase compliance (particularly among the wealthiest respondents), appeals to conscience

Behavioral economics has not escaped criticism.⁸⁷ But it cannot be seriously disputed that empirically testing rational choice theory's predictive value, and its simplistic (and some may say unflattering) assumptions on human behavior, has beneficial value. More importantly, it is not in destroying rational choice theory that behavioral economists should find ease to their relentless thoughts. Rather the behavioral economists should let rational choice theory's remaining embers dissipate, and turn instead to more interesting challenges: namely, (i) building upon Kahneman and Tversky's findings on heuristics and biases by empirically studying and testing actual behavior across different settings; (ii) incorporating into economic theory more realistic assumptions of human behavior; and (iii) refining current, or developing new, descriptive economic theories that explain (and are consistent with) the empirical data and, if possible, offering testable and accurate predictions.⁸⁸

C. *Theory of the Firm*

One frontier for behavioral economists generally, and antitrust scholars specifically, is to understand how people respond across social settings, including behavior within the firm. As Coase noted, many economists have displayed little interest studying such corporate behavior.⁸⁹ The Chicago School's rational choice theories, for example, do not delve into what happens within the firm, or why firms act the way they do. Instead, their theories "through the lens of price theory,"

(particularly among the college-educated respondents) can be a more effective instrument than sanction threat for securing compliance. *Id.* at 299. See also Greenfield, *supra* note 10, at 615–17 (noting that perceptions of fairness and justice may in certain situations play a greater role in motivating behavior than incentives or penalties); Stucke, *supra* note 43 (discussing shortcomings of optimal deterrence theory in generally deterring antitrust crimes and suggesting moral norms, peer pressure, shaming, and praise as supplements to deter antitrust crimes).

87. Posner's criticisms of the behavioral economics literature include: (i) that it is derivative, and not a descriptive theory itself (namely it explains what rational choice theory cannot); (ii) the representativeness of the test subjects (some studies rely on university students); (iii) the test conditions (that results, based on test subjects' responses to either hypothetical questions or where the financial stakes were nominal, are divorced from real market conditions); and (iv) paternalism. Posner, *Rational Choice*, *supra* note 18, at 1370, 1559–60, 1565, 1575. For other articles critical of behavioral economics, see Prentice, *supra* note 2, at 1668–69 n.11, 1753–54 (citing articles).

88. THALER, WINNER'S CURSE, *supra* note 62, at 167; Camerer & Loewenstein, *supra* note 26, at 7.

89. In his lecture delivered in Stockholm when receiving the Nobel Prize, Coase complained of "blackboard economics": "What is studied is a system which lives in the minds of economists but not on earth. . . . The firm and the market appear by name but they lack any substance." Coase, *supra* note 46, at 714.

assume that companies behave as would their theoretical profit-maximizing counterparts.⁹⁰

At an initial glance, rational choice theory appears well-suited to predict corporate behavior. Even if many individuals systemically deviate from rational choice theory's predicted outcome in some settings, it does not automatically follow that the same individuals would deviate in other settings governed by different legal obligations and social expectations. Publicly held corporations, unlike college students responding to hypotheticals, owe a legal obligation to maximize their shareholders' interests.⁹¹ All companies must maximize profits to thrive (and ultimately survive); otherwise profit-maximizing competitors or new entrants will eliminate them from marketplace.⁹² Thus, one should expect corporate employees to act differently, just as parents may employ different strategies playing the game Monopoly at home against their children than at work against their competitors.⁹³

But there are several reasons why one should not rely uncritically on rational choice theory in the corporate setting. First, popular business literature recognizes the heterogeneity and emotionality of employees' behavior, which is not driven solely by corporate imperatives but also by the employees' own values.⁹⁴ Even if profit-maximization were the

90. Posner, *Chicago School*, *supra* note 33, at 932–34; Korobkin & Ulen, *supra* note 1, at 1066 (“Nearly all law-and-economics literature on business organizations, following the neoclassical economic theory of firms, is built on the explicit or implicit assumption that firms seek to maximize profits.”).

91. Greenfield, *supra* note 10, at 605 (citing case law).

92. In *United States v. Syufy Enterprises*, Judge Kozinski noted that it is the “nature of free enterprise that fierce, no holds barred competition will drive out the least effective participants in the market, providing the most efficient allocation of productive resources.” *United States v. Syufy Enter.*, 903 F.2d 659, 662 (9th Cir. 1990).

93. Some have further distinguished between experimental and behavioral economics, noting that a key insight from experimental economics, and that “which separates it from behavioral economics, is the notion that the behavior of individuals in a group may not simply be reductionistically determinable from individual behavior.” Terrence Chorvat et al., *Law and Neuroeconomics*, GEORGE MASON LAW & ECONOMICS RESEARCH PAPER NO. 04-07 11 (2005). Although some behavioral economists, who research behavior within a firm, may question this distinction, few would dispute that individual behavior can change across social settings, and what behavior may be permissible in one setting (pushing to get a seat on a New York City subway) may not be permissible in another setting (pushing for an available seat in a church pew).

94. Norman W. Hawker, *Antitrust Insights from Strategic Management*, 47 N.Y.L. SCH. L. REV. 67, 74 (2003) (few strategic management text books cite profit-maximization as theory of the firm); *see, e.g.*, LANCE A. BERGER ET AL., *THE CHANGE MANAGEMENT HANDBOOK* 129–30 (1994) (company's mission statement to its employees predicated solely on a commercial profit-maximization rationale (“do it this way because it will make us commercially successful”) is unlikely to be effective, these business authors argue. Rather, rationale for desired corporate behavior should contain an ethical rationale (“do it this way because it is the right way”)); PETER BLOCK, *THE EMPOWERED MANAGER* 85–104 (1987) (discussing an enlightened self-interest).

shared goal, the means are varied and not necessarily hierarchal. Consequently, if corporate (and thus management and employee) behavior were as predictable as rational choice theory posits, there would be little demand (and thus nominal supply) for managerial organizational behavior courses, management consultants, or popular corporate self-help books.

Second, the Chicago School's theories were never conceived inductively through rigorous empirical testing. As Posner admitted, "It is a curiosity, and a source of regret, that to this day [1979] very few of [one of the movement's founders Aaron] Director's ideas have been subjected to systematic empirical examination."⁹⁵ Instead, their rational choice theories were derived deductively from the hypothetical of a perfectly competitive market, which assumes transparent prices, highly elastic demand curves, easy entry and exit, and informed profit-maximizing producers and consumers. Price will equal marginal cost, and the market will produce the efficient level of outputs with the most efficient techniques and using the minimum quantity of inputs.⁹⁶ It is questionable whether such perfectly competitive markets in a stable equilibrium actually exist.

Third, rational choice theories have not fared well in explaining industries that approach the perfectly competitive ideal. Neoclassical economists often use the stock market as the example that most closely approximates perfect competition.⁹⁷ The Efficient Market Hypothesis posits that stock prices reflect their fundamental value (the discounted sum of expected future cash flow).⁹⁸ The Efficient Market Hypothesis, like rational choice theory generally, assumes that rational profit-maximizing traders through arbitrage will minimize the influence of irrational noise traders, and exploit temporary arbitrage opportunities to restore prices to their fundamental value. But as Lynn Stout and other scholars have written, the Efficient Market Hypothesis has fallen into disrepute.⁹⁹ The burgeoning behavioral finance literature questions the degree of efficiency in the stock market and addresses the limits of such arbitrage.¹⁰⁰ Thus, if irrationality is not driven out of supposedly

95. Posner, *Chicago School*, *supra* note 33, at 931 n.13.

96. PAUL A. SAMUELSON & WILLIAM D. NORDHAUS, *ECONOMICS* 106–41 (15th ed. 1995).

97. POSNER, *ANTITRUST LAW*, *supra* note 6, at 164.

98. Barberis & Thaler, *supra* note 62, at 3.

99. See Lynn A. Stout, *The Mechanisms of Market Inefficiency: An Introduction to the New Finance*, 28 J. CORP. L. 635 (2003). See, e.g., 2 *ADVANCES IN BEHAVIORAL FINANCE* (Richard H. Thaler ed., 2005); ROBERT J. SHILLER, *IRRATIONAL EXUBERANCE* (2001). See also Prentice, *supra* note 2, at 1704–05 nn.208–11 (citing additional articles).

100. Barberis & Thaler, *supra* note 62, at 2 (limitations on arbitrage one of two building blocks of behavioral finance); BEINHOCKER, *supra* note 2, at 175–85, 381–403.

perfectly competitive markets, why should we assume that irrationality is driven out in less efficient markets?

Not surprisingly, irrational (non-profit-maximizing) behavior, not readily explainable under rational choice theory, is found in other markets.¹⁰¹ One example is professional baseball. For decades, America's pastime compiled detailed data measuring many facets of player productivity. Few other occupations can measure their workers' productivity in such detail and with such transparency for all participants to analyze.¹⁰² With the advent of free agency, one would expect, given the financial stakes, that different profit-maximizing baseball teams would appropriately value a player's worth based on such productivity information. Instead, the Oakland Athletics, despite having one of the smaller payrolls, fielded very competitive teams by exploiting the baseball market's inefficiencies.¹⁰³ It remains an empirical question then of how quickly agents of change (such as entrants, bankruptcy, mergers and hostile takeovers, new management, or shareholder revolt) drive out non-profit-maximizing behavior in various markets, each presumably operating at different degrees of efficiency.¹⁰⁴ The authors of one *New York Times* bestseller opined that many American companies are "bloated, clumsy, rigid, sluggish, noncompetitive, uncreative, inefficient, disdainful of customer needs, and losing money."¹⁰⁵ Although these dire generalizations should be questioned, sufficient demand obviously exists for these management consultants' predictions and elixirs.

101. Such anomalies include interindustry wage differentials and horse-race betting. THALER, WINNER'S CURSE, *supra* note 62, at 36–49, 132–38. It was found after the introduction of the Euro currency in the European Union. Under traditional economic theory, the dropping of trade barriers, increased mobility of people, reduction in currency costs, and greater price transparency should lead to greater convergence of prices across the EU. Instead the standard deviation of prices within the Euro zone rose from 12.3% in 1998 to 13.8% in 2003. BEINHOCKER, *supra* note 2, at 61–62.

102. MICHAEL LEWIS, MONEYBALL: THE ART OF WINNING AN UNFAIR GAME 28–42 (2003) (discussing how a player is evaluated by scouts). *See also* Thaler & Sunstein, *supra* note 66, at 1392–93 (discussing the many ways in which players are evaluated). It is true that while the data were transparent (moreover, one can watch the players' performances on television in the modern era), the statistics compiled from the data were, at times, incomplete (excluding walks from batting average, thus prompting a new statistic, on-base percentage) or a poor indicator (subjective decision of an "error," which does not accurately measure players' defensive skills).

103. LEWIS, MONEYBALL, *supra* note 102, at xii–xv; *see also* Thaler & Sunstein, *supra* note 66, at 1394–95.

104. Korobkin & Ulen, *supra* note 1, at 1071; Donald C. Langevoort, *Organized Illusions: A Behavioral Theory of Why Corporations Misperceive Stock Market Investors (and Cause Other Social Harms)*, 146 U. PA. L. REV. 101, 104 (1997).

105. MICHAEL HAMMER & JAMES CHAMPY, REENGINEERING THE CORPORATION: A MANIFESTO FOR BUSINESS REVOLUTION 7 (1993).

Consequently, as Coase argued, more empirical work is needed on intra-firm behavior, commonly described as the “black box.”¹⁰⁶ What is needed is interdisciplinary research, including in the areas of social psychology and organizational behavior, in order to fully understand how decisions are made (including the extent to which such decisions are influenced by risk taking or conformity) in different corporate settings.

II. APPLYING BEHAVIORAL ECONOMICS TO ANTITRUST

A. *The Chicago School's Continuing Influence on Antitrust Policy Generally*

The three key federal antitrust provisions (sections 1 and 2 of the Sherman Act and section 7 of the Clayton Act) do not dictate the application of any specific economic assumptions or theories.¹⁰⁷ Apparently few, if any, economists at the time of the Sherman Act's enactment vocally supported antitrust legislation.¹⁰⁸ Indeed, in reviewing these provisions' legislative histories, the Supreme Court and notable antitrust scholars, such as former FTC Chairman Robert Pitofsky, noted Congress's noneconomic concerns about the concentration of wealth and power in the hands of the few.¹⁰⁹ If neither

106. Coase, *supra* note 46, at 714, 718.

107. Section 1 of the Sherman Act, 15 U.S.C.A. § 1 (West 2004 & Supp. 2006), outlaws every unreasonable “contract, combination . . . or conspiracy, in restraint of trade.” Section 2 of the Sherman Act, 15 U.S.C.A. § 2 (West 2004 & Supp. 2006), makes it unlawful for a company to “monopolize, or attempt to monopolize” trade or commerce. Section 7 of the Clayton Act, 15 U.S.C.A. § 18 (West 2004 & Supp. 2006), prohibits mergers and acquisitions where the effect “may be substantially to lessen competition, or to tend to create a monopoly.”

108. “A careful student of the history of economics would have searched long and hard, on July 2 of 1890, the day the Sherman Act was signed by President Harrison, for any economist who had ever recommended the policy of actively combating collusion or monopolization in the economy at large.” George J. Stigler, *The Economists and the Problem of Monopoly*, 72 AM. ECON. REV. 1, 3 (1982).

109. The debates in 1890 show “that the main cause which led to the legislation was the thought that it was required by the economic conditions of the times; that is, the vast accumulation of wealth in the hands of corporations and individuals and the widespread impression that their power had been and would be exerted to oppress individuals and injure the public generally.” *Standard Oil Co. v. United States*, 221 U.S. 1, 50 (1911). “[T]he conviction was universal that the country was in real danger from another kind of slavery sought to be fastened on the American people, namely, the slavery that would result from aggregations of capital in the hands of a few individuals and corporations. . . .” *Id.* at 83 (Harlan, J., concurring and dissenting). See also *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 428–29 n.1 (2d Cir. 1945) (“The popular mind is agitated with problems that may disturb social order, and among them all none is more threatening than the equality of condition, of wealth, and opportunity that has grown within a single generation out of the concentration of capital into vast combinations to control production and trade and to break down competition.”) (quoting 21 Cong. Rec. 2460

the statutory terms nor the legislative history compel antitrust enforcers and the courts to apply the Chicago School's rational choice theories or any particular economic theory, why has the Chicago School cast such a large shadow over antitrust policy?

To answer this question, it is helpful to consider briefly the ebb and flow of antitrust policies before the Reagan Administration. Despite the outcry against monopolies and trusts in the 1890s, few federal cases were actually brought in the early years of the Sherman Act.¹¹⁰ Indeed, the five antitrust lawyers at the Justice Department¹¹¹ prosecuted Eugene V. Debs and other Socialists, as well as labor unions.¹¹² Of all antitrust cases prosecuted before 1910, the Department of Justice's Antitrust Division won only 55.9% of the time.¹¹³ Although antitrust enforcement was reinvigorated somewhat under Presidents Theodore

(1890)). Likewise, Pitofsky said, "It is bad history, bad policy, and bad law to exclude certain political values in interpreting the antitrust laws." Robert Pitofsky, *The Political Content of Antitrust*, 127 U. PA. L. REV. 1051, 1051 (1979). One such political value is a "fear that excessive concentration of economic power will breed antidemocratic political pressures." *Id.* An antitrust policy that neglected to consider such political values would "be unresponsive to the will of Congress." *Id.* at 1052. Sullivan agreed:

To argue, as do the Chicago economists, that antitrust ought to be used solely to inhibit expressions of market power in a technical economic sense, is not only to miss much in the history and development of the law, but to ignore much of its potential . . . The political consensus that supports antitrust comes from other sources. Americans continue to value institutions the scale and the workings of which they can comprehend. Many continue to value the decentralization of decision making power and responsibility. Many favor structures in which power in one locus may be checked by power in another. Antitrust, broadly conceived and sensitively administered, may contribute to the realization of these values.

Lawrence Anthony Sullivan, *Economics and More Humanistic Disciplines: What Are The Sources of Wisdom for Antitrust?*, 125 U. PA. L. REV. 1214, 1222–23 (1977); see also Eleanor M. Fox, *The Battle for the Soul of Antitrust*, 75 CAL. L. REV. 917, 919 (1987) (citing concern for the "little man" and consumers as a goal of antitrust).

110. During the first fourteen years of the Sherman Act, only twenty-two cases were initiated. Joseph C. Gallo et al., *Department of Justice Antitrust Enforcement 1955–1997: An Empirical Study*, 17 REV. INDUS. ORG. 75, 90 (2000).

111. Between 1903 and 1913, the Division employed five attorneys. Fowler Hamilton, *The Selection of Cases for Major Investigations, in THE SHERMAN ANTITRUST ACT AND ITS ENFORCEMENT* 97 (1940).

112. The eighth federal antitrust action brought by the United States was against Debs. CCH, *THE FEDERAL ANTITRUST LAWS: WITH SUMMARY OF CASES INSTITUTED BY THE U.S. 1890–1951* 69 (1952). The United States prosecuted numerous unions and union officials. *Id.* at 459–60 (index of cases against unions); PAUL E. HADLICK, *CRIMINAL PROSECUTIONS UNDER SHERMAN ANTI-TRUST ACT* 140 (1939) (the first persons to serve jail sentences resulting from Sherman Act violations were Eugene V. Debs and others, growing out of the Pullman strike of 1894).

113. Arthur G. Frass & Douglas F. Greer, *Market Structure & Price Collusion: An Empirical Analysis*, 26 J. INDUS. ECON. 21, 27–28 (1977).

Roosevelt and William Howard Taft, the Supreme Court alternatively strengthened and hindered government prosecution.¹¹⁴

During the 1920s, antitrust enforcement waned, given the administrations' concern that vigorous government enforcement might disrupt the prosperity bandwagon.¹¹⁵ Between 1929 and 1932, over a third of the attorneys left the Antitrust Division.¹¹⁶ In the early 1930s, the federal government viewed cooperation with businesses as the priority: "[i]ndustries were organized under codes of 'fair competition' with their representatives empowered to adjust supply to demand, to stabilize prices within limits, to regulate wages, and to otherwise institute self-government under Government supervision."¹¹⁷ When a rapid general price advance occurred following the start of World War II, the Justice Department received up to 250 complaints per day.¹¹⁸ Between 1938 and 1939, the number of antitrust lawyers at the Antitrust Division nearly tripled.¹¹⁹ Why should the Sherman Act "which has been consistently ignored for half a century suddenly become the center of such intense public concern?" asked Thurman Arnold, who oversaw the awakened Antitrust Division.¹²⁰ According to Arnold, "In the antitrust laws is found the only expression of our competitive ideals which we now have."¹²¹ It was Arnold's conviction that "if we do not center the development of tomorrow around the ideal expressed in the Sherman Act, ineffective though that ideal may have been in the past as a practical agency, the last obstacle to complete industrial autocracy will

114. The Supreme Court hindered antitrust prosecution with its decisions in *United States v. E.C. Knight Co.*, 156 U.S. 1, 17 (1895) where it held that the trusts' operations did not constitute interstate commerce. For other early Court decisions that hindered U.S. antitrust, see *United States v. U.S. Steel Corp.*, 251 U.S. 417 (1920); *FTC v. Eastman Kodak Co.*, 274 U.S. 619 (1927); *Appalachian Coals, Inc. v. United States*, 288 U.S. 344 (1933); and *Standard Oil Co. v. United States*, 283 U.S. 163 (1931).

115. U.S. DEPARTMENT OF JUSTICE, A STUDY OF THE DEVELOPMENT OF THE ANTITRUST LAWS AND CURRENT PROBLEMS OF ANTITRUST ENFORCEMENT, SUBMITTED TO THE U.S. SENATE SUBCOMMITTEE ON MONOPOLY 8 (May 23, 1952) [hereinafter 1952 DOJ ANTITRUST REPORT]; Gallo et al., *supra* note 110, at 90.

116. The number of attorneys dropped from twenty-nine in 1929 to eighteen in 1932. Hamilton, *supra* note 111, at 97. The number rose to twenty-six in 1933, but dropped to fifteen in 1934. *Id.*

117. 1952 DOJ ANTITRUST REPORT, *supra* note 115, at 9.

118. Hamilton, *supra* note 111, at 97.

119. The number increased from fifty-nine as of March 31, 1938, to 144 as of June 30, 1939. *Id.* Similarly, the number of criminal and civil antitrust cases increased nearly fourfold after 1939: fifty-seven cases (twenty-seven criminal; thirty civil) between 1935-39 to 223 (163 criminal; sixty civil) between 1940-44. Gallo et al., *supra* note 110, at 90.

120. Thurman Arnold, *Antitrust Law Enforcement, Past and Future*, in THE SHERMAN ANTITRUST ACT AND ITS ENFORCEMENT 8 (1940).

121. *Id.*

have disappeared.”¹²² After World War II, with growing concern for the increased concentration of economic power, antitrust enforcement flourished, enjoying bipartisan support. The Clayton Act was amended in 1950 to arrest concentration of economic might in its incipiency.¹²³ By the 1970s, the agencies’ enforcement policy was aggressively aimed at deconcentrating industries, such as the oil industry.¹²⁴ When the government began challenging mergers between companies with small market shares, antitrust theory appeared unprincipled, to the point where Justice Potter Stewart observed, the “sole consistency . . . is that in litigation under [merger statute] §7, the Government always wins.”¹²⁵

By the 1970s, academics and economists taught by, affiliated with, or otherwise influenced by several professors at the University of Chicago were critically examining the prevailing antitrust theories under the lens of neoclassical economic theory. They did not uniformly adhere to specific dogma, but generally espoused the theory that most markets are competitive, mergers and vertical arrangements often create efficiencies, and market forces will likely redress any attempt to exercise market power.¹²⁶ Interference by the government or courts would likely cause greater harm (in inhibiting the efficient allocation of scarce resources) than good (promoting allocative efficiency). Instead, by creating regulatory barriers or thwarting efficiency, the local, state, or federal government was often the culprit. To interfere in the market, the government should justify the necessity of its action. Thus, intervention should be limited to a few egregious antitrust violations, such as price-fixing or mergers to monopoly, where total welfare is reduced.¹²⁷ The Chicago School’s general philosophy is that markets, left alone by government regulators, will often allocate resources

122. *Id.* at 9.

123. Celler-Kefauver Act, ch. 1184, 64 Stat. 1125 (1950) (codified at 15 U.S.C. §§ 18, 21).

124. David Scheffman et al., *20 Years of Merger Guidelines Enforcement at the FTC: An Economic Perspective*, 71 ANTITRUST L.J. 277, 278 (2003), available at <http://www.ftc.gov/be/hilites/ftc20thanniversarypaper.pdf>; White House Task Force on Antitrust Policy, Task Force Report on Antitrust Policy II-12 (May 21, 1969) (Task Force, chaired by Phil Neal, recommended *inter alia* remedies to reduce concentration). Bork, who was on the Task Force, issued a separate statement, dissenting on such measures.

125. *United States v. Von’s Grocery*, 384 U.S. 270, 301 (1966) (Stewart, J., dissenting). Some, such as Posner, provide more sweeping condemnation, claiming that much of antitrust law in 1976 “was an intellectual disgrace.” POSNER, *supra* note 6, at viii.

126. US GAO, REPORT TO THE CHAIRMAN, U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON THE JUDICIARY, JUSTICE DEPARTMENT: CHANGES IN ANTITRUST ENFORCEMENT POLICIES & ACTIVITIES, GAO/GGD-91-2 (Oct. 29, 1990), available at <http://archive.gao.gov/d2218/142779.pdf> [hereinafter 1990 GAO STUDY].

127. Posner, *supra* note 33, at 933 (describing Bork’s writing as the “orthodox Chicago position”).

efficiently (that resources gravitate toward their most valuable uses), and any company's attempt to secure market power would most likely be defeated by other profit-maximizers (either new entrants or existing competitors).¹²⁸

The Chicago School's emerging influence was visible in the Supreme Court's 1977 decision in *Continental T.V., Inc. v. GTE Sylvania Inc.*¹²⁹ where the Court shook off the earlier per se standard of liability for nonprice vertical restraints, and adopted, as the Chicago School adherents argued, the more fact-intensive, and more expansive rule-of-reason standard. The Chicago School also influenced the incoming Reagan Administration's antitrust enforcers. Thereafter, civil non-merger antitrust enforcement waned, while criminal price-fixing prosecution increased. Between 1981 and 1988, the federal antitrust agencies initiated three section 2 cases (which involve claims of monopolization or attempts to monopolize), the lowest in any eight-year period since 1900.¹³⁰ No new cases involving nonprice vertical restraints or resale price maintenance were initiated.¹³¹ Moreover, the number of antitrust cases involving Fortune 500 firms dwindled,¹³² leaving some to characterize the Reagan Administration's "aggressive campaign to collar a hapless, economically trivial parade of asphalt suppliers, lawyers for indigent criminal defendants, moving and storage firms, bakeries, individual physicians, obscure trade associations and a host of other pygmies."¹³³ Approximately half of the Department of Justice's Antitrust Division's lawyers left during this period,¹³⁴ and as the GAO reported, the remaining Division staff mostly

128. RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 11 (5th ed. 1998).

129. 433 U.S. 36, 59 (1977).

130. William E. Kovacic, *Steady Reliever at Antitrust*, WALL ST. J., Oct. 10, 1989, at A14.

131. Gallo et al., *supra* note 110, at 88 n.20.

132. *Id.*

133. Kovacic, *supra* note 130, at A14. As Pitofsky noted:

To a large extent, this administration has only brought the same case over and over again—a long series of challenges to interrelated regional and local conspiracies in the construction industry. It has shown little inclination to use its considerable economic sophistication to develop innovative ways to detect non-construction industry cartels.

Robert Pitofsky, *Antitrust in the Next 100 Years*, 75 CAL. L. REV. 817, 819 (1987).

134. The number of Division attorneys declined from over 400 in 1980 to the low 200s by the late 1980s. 1990 GAO STUDY, *supra* note 126, at 5. In fiscal year 2004, the number of Division attorneys was 364. ORG. FOR ECON. CO-OPERATION AND DEV. (OECD), DIRECTORATE FOR FIN. AND ENTER. AFFAIRS, ANNUAL REPORT OF COMPETITION POLICY DEVELOPMENTS IN THE UNITED STATES 2003–2004 6 (May 25, 2005), available at <http://www.oecd.org/dataoecd/51/41/35111334.pdf>.

targeted price-fixing or bid-rigging involving road construction or government procurement.¹³⁵

Although a post-Chicago School for antitrust has developed over the past decade,¹³⁶ antitrust, observed Posner, “has to a great extent been normalized, domesticated.”¹³⁷ The federal agencies’ antitrust enforcement is still largely shaped by the Chicago School’s rational choice theories.¹³⁸ These theories are applied to various conduct, such as vertical restraints, conduct by a monopolist, and tying. Justice Scalia, for example, recently characterized collusion as the “supreme evil of antitrust.”¹³⁹ The Court’s view on monopolies, on the other hand, was much more forgiving. Indeed, monopolies and the charging of monopoly prices were surmised as “an important element of the free-market system,” and the inducement to “attract[] ‘business acumen’

135. 1990 GAO STUDY, *supra* note 126, at 43. Of the 521 restraint of trade cases brought by the government between fiscal years 1982 and 1988, 245 involved price-fixing or bid-rigging in road construction and 43 involving government procurement. *Id.*

136. *See, e.g.*, Herbert Hovenkamp, *Post-Chicago Antitrust: A Review & Critique*, 2 COLUM. BUS. L. REV. 259 (2001); *Symposium: Post-Chicago Economics*, 63 ANTITRUST L.J. 445–695 (1995). One area where post-Chicago School thinking has made some slight inroads is predatory pricing. For the Chicago School, given predatory pricing’s sacrificed profits to drive out a competitor, and the risks of recoupment, “there is no sufficient reason for antitrust law or the courts to take predation seriously.” Frank H. Easterbrook, *Predatory Strategies & Counterstrategies*, 48 U. CHI. L. REV. 263, 264 (1981). The Supreme Court, relying upon the Chicago School’s writings, concluded that “there is a consensus among commentators that predatory pricing schemes are rarely tried, and even more rarely successful.” *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986); *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 226 (1993). As the Tenth Circuit noted in the government’s most recent predatory pricing case, “[r]ecent scholarship has challenged the notion that predatory pricing schemes are implausible and irrational.” *United States v. AMR Corp.*, 335 F.3d 1109, 1114–15 (10th Cir. 2003) (citing Patrick Bolton et al., *Predatory Pricing: Strategic Theory and Legal Policy*, 88 GEO. L.J. 2239, 2241 (2000) (“[M]odern economic analysis has developed coherent theories of predation that contravene earlier economic writing claiming that predatory pricing conduct is irrational.”)). Thus, the Tenth Circuit stated, “Although this court approaches [the government’s predatory pricing claims] with caution, we do not do so with the incredulity that once prevailed.” *AMR Corp.*, 335 F.3d at 1115. The Division still lost, however. *Id.* at 1120–21.

137. POSNER, *supra* note 6, at viii.

138. Several areas of antitrust law, however, have withstood attack by the Chicago School. One frequent target was the per se rule against minimum resale price maintenance. Congress in its 1984 budget appropriation to the Department of Justice included language prohibiting the Department of Justice from using any funds to overturn or alter the per se prohibition against resale price maintenance. 1990 GAO STUDY, *supra* note 126, at 33. But the Court will have the opportunity in its 2006–2007 term to reconsider the per se ban on certain vertical restraints on minimum price. *PSKS, Inc. v. Leegin Creative Leather Prod., Inc.*, 171 Fed.Appx. 464 (5th Cir. 2006), *cert. granted*, 127 S. Ct. 763 (2006).

139. *Verizon Comm’n, Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 408 (2004).

in the first place.”¹⁴⁰ A former Assistant Attorney General in charge of the Department of Justice’s Antitrust Division cited this language in support of an enforcement hierarchy, consistent with the Chicago School’s antitrust theories: government enforcers would focus primarily on cartel behavior, followed by mergers, and lastly monopolies. This third priority’s focus was not in prosecuting monopolies, but rather in developing and promoting objective standards to judge monopoly behavior, so as not to chill pro-competitive behavior and prevent monopolists from reaping the rewards of their success.¹⁴¹ Some antitrust commentators have argued that section 5 of the FTC Act involving “unfair methods of competition” has been watered down to the economic consumer welfare standard endorsed by the Chicago School.¹⁴²

B. The Chicago School’s Continuing Influence on Merger Policy

Although the Chicago School’s rational choice theories permeate many antitrust policies, this article focuses on the government’s current merger policies, which are largely beholden to the Chicago School. Moreover, merger analysis over the past few decades has been largely *ex ante*, namely, the federal antitrust agencies typically assess the mergers before they are consummated.¹⁴³ This makes them a good vehicle to test the Chicago School’s descriptive theories.

140. *Id.* at 407.

141. *See, e.g.*, R. Hewitt Pate, Assistant Attorney General, Securing the Benefits of Global Competition, Keynote Speech presented at Tokyo American Center (Sept. 10, 2004), *available at* <http://www.usdoj.gov/atr/public/speeches/205389.htm>; R. Hewitt Pate, International Anti-Cartel Enforcement, Speech presented at 2004 ICN Cartels Workshop, Sydney, Australia (Nov. 21, 2004), *available at* <http://www.usdoj.gov/atr/public/speeches/206428.htm>; U.S. DEPT. OF JUSTICE, ANTITRUST DIV., UPDATE: PROTECTING AND PROMOTING COMPETITION (Spring 2005), *available at* <http://www.usdoj.gov/atr/public/216254.htm>.

142. Foer, *supra* note 11, at 47–48.

143. The Hart-Scott-Rodino Antitrust Improvements Act of 1976 (“HSR Act”) generally requires for mergers exceeding the statutory size-of-party and size-of-transaction thresholds, that the parties before merging first notify the federal antitrust agencies. 15 U.S.C.A. § 18a (West 2004 & Supp. 2006). If either agency requests additional documents and information (commonly referred to as a Second Request), then the companies cannot merge until after they substantially comply with this discovery request. Only one agency reviews the merger, and which agency is subject to a clearance process, based in part on the agency with greater expertise in that industry. Unless the merger is enjoined, after the acquiring party substantially complies, the parties to cash tender offers can merge fifteen days thereafter; for most other transactions, after both parties substantially comply, they can merge twenty days thereafter. 15 U.S.C.A. § 18a(e) (West 2004 & Supp. 2006). The FTC may also challenge the merger in administrative litigation. Before 1976, the agencies often were unaware of the merger until after it had been completed, and while challenging the transaction through protracted litigation, the merger’s anticompetitive effects would hurt consumers and the U.S. economy. In enacting the HSR Act, Congress sought to mitigate the risk of illegal mergers being completed without a realistic opportunity for the federal

During this premerger waiting period, the agency must assess whether the proposed merger may substantially lessen competition or tend to create a monopoly. In making such predictions, the agency relies upon the Merger Guidelines,¹⁴⁴ which represent for Posner, “the triumph of the economic approach.”¹⁴⁵ The Merger Guidelines are often championed as a resounding success: “No policy document issued by the antitrust agencies has been more enduring or far-reaching.”¹⁴⁶ As one FTC official remarked, “[F]or lawyers embarking on their careers a decade ago, the analytical framework of the Guidelines had become so well-accepted—so firmly entrenched in everyday antitrust practice—that they may never have pondered how one might conduct a merger review without the Guidelines.”¹⁴⁷ Thus, for Posner and others, the intellectual journey for merger review has come to an “end”—an ending that represents “a modest vindication” of the Chicago School’s approach.¹⁴⁸ As the same FTC official proclaimed, “[M]uch of the hard

antitrust agencies to bring an effective challenge. THE ANTITRUST IMPROVEMENTS ACT OF 1976, S. REP. NO. 94-803, Part 1, at 63–65.

144. Horizontal Merger Guidelines, *supra* note 15.

145. POSNER, *supra* note 6, at 132; *see also* Scheffman et al., *supra* note 124, at 282 (arguing that the Guidelines are fundamentally grounded in economics).

146. Charles A. James, Assistant Attorney General, Antitrust Division, U.S. Department of Justice, Remarks on the Occasion of the Twentieth Anniversary of the 1982 Merger Guidelines (June 10, 2002), *available at* <http://www.usdoj.gov/atr/hmerger/11253.htm>.

147. Tara Isa Koslov, *Symposium: Celebrating Twenty Years of the Merger Guidelines*, 71 ANTITRUST L.J. 185, 186 (2003). Then-Assistant Attorney General Charles James also questioned merger policy before the 1982 Merger Guidelines:

Looking back over the 20 years since the Baxter Guidelines were announced in June of 1982, it is difficult to fathom the world of merger policy before them. Did we really define markets based almost entirely on circumstantial indications, such as company documents or whether producers of a particular product were all in the same trade association? Did we actually make enforcement decisions based upon little more than four- and eight-firm concentration ratios, without regard to actual shares held by individual firms? Did the courts actually sustain challenges to mergers producing a combined firm with less than five percent of the relevant market? Could it possibly have been the case that merger enforcement policy was blind to the potential competitive significance of entry conditions? Was there really a time in which merger-related efficiencies were viewed with such great skepticism as to be, at best, neutral, and, at worst, potentially harmful, in government merger review? Amazingly, the answer to each of the foregoing questions is a resounding yes.

James, *supra* note 146.

148. POSNER, *supra* note 6, at 132 (“For the time being, the history of antitrust merger doctrine [as memorialized in the Merger Guidelines] is at the end”). Over the past 20 years, the Merger Guidelines have been revised on four occasions. But these revisions essentially retain “the basic [former Assistant Attorney General William] Baxter formulation, making clarifying changes, not radical departures.” James, *supra* note 146. Most recently in providing commentary on the Guidelines, the FTC and DOJ wrote that “a revamping of the Guidelines is neither needed nor widely desired at this time.” FED. TRADE COMM’N & U.S. DEP’T OF JUSTICE, COMMENTARY

intellectual work already had been done,” the “[k]ey ideological battles had been fought,” and “certain presumptions (for example, relating to market structure and entry) had been established.”¹⁴⁹ Everyone should be grateful, because we all “speak the same language and agree on the rules”¹⁵⁰

No doubt the Merger Guidelines, which apply to all industries subject to the antitrust laws,¹⁵¹ provide a helpful analytical framework in which the private bar and government enforcers may discuss a pending merger. They also provide transparency as to which mergers the government would likely investigate and challenge. Besides the federal antitrust enforcers, the courts have largely incorporated the Guidelines’ analytical framework in their merger decisions.¹⁵² Some courts even rely upon the Guidelines analysis in cases not involving mergers¹⁵³ or antitrust generally.¹⁵⁴

But the intellectual journey has not come to an end, whereby all can enjoy the deep slumber of decided opinion. Instead, as the burgeoning behavioral economics literature beckons, we have miles to go before we can sleep.

ON THE HORIZONTAL MERGER GUIDELINES (March 2006), available at <http://www.usdoj.gov/atr/public/guidelines/215247.htm> [hereinafter Guidelines Commentary].

149. Koslov, *supra* note 147, at 186–7.

150. *Id.* at 187.

151. Although there are no industry-specific merger guidelines, the federal antitrust agencies in their Health Care Guidelines do discuss how they would apply the Merger Guidelines to hospital mergers. See Dep’t of Justice and Fed. Trade Comm’n, Statements of Antitrust Enforcement Policy in Health Care, Statement 1 (Aug. 1996), available at <http://www.usdoj.gov/atr/public/guidelines/1791.pdf>.

152. Courts recognize that the Merger Guidelines do not have the force of law. See, e.g., *Olin Corp. v. FTC*, 986 F.2d 1295, 1300 (9th Cir. 1993). But many courts cite and rely upon them in examining whether the merger may substantially lessen competition. See, e.g., *FTC v. H.J. Heinz Co.*, 246 F.3d 708, 716 (D.C. Cir. 2001); *FTC v. Arch Coal, Inc.*, 329 F. Supp. 2d 109, 120 (D.D.C. 2004); *United States v. Sunguard Data Sys., Inc.*, 172 F. Supp. 2d 172, 182 (D.D.C. 2001); *California v. Sutter Health Sys.*, 130 F. Supp. 2d 1109, 1120 (N.D. Cal. 2001); *FTC v. Swedish Match*, 131 F. Supp. 2d 151, 159 (D.D.C. 2000); *FTC v. Cardinal Health, Inc.*, 12 F. Supp. 2d 34, 53 (D.D.C. 1998); *Advocacy Org. v. Mercy Health Serv.*, 987 F. Supp. 967, 973–74 (E.D. Mich. 1997); *FTC v. Staples, Inc.*, 970 F. Supp. 1066, 1081–82 (D.D.C. 1997).

153. See, e.g., *Natsource, L.L.C. v. GFI Group, Inc.*, 332 F. Supp. 2d 626, 636 (S.D.N.Y. 2004) (applying Guidelines’ entry analysis to monopolization claims); *United States v. Visa U.S.A., Inc.*, 163 F. Supp. 2d 322, 335–36 (S.D.N.Y. 2001) (applying Guidelines’ market definition analysis to section 1 restraint of trade claims).

154. See *Honorable v. Easy Life Real Estate Sys.* 100 F. Supp. 2d 885, 890 (N.D. Ill. 2000) (applying Guidelines’ market share presumptions regarding market power to plaintiffs’ federal discrimination claims). Interestingly, the district court, earlier in its opinion, recognized the shortcomings of rational choice theory. *Id.* at 888. Given the behavioral economics research, rational choice theory’s “assumptions must be relaxed, and perhaps, ultimately replaced, if economic theory is to have any application to what happens in actual markets.” *Id.*

C. Merger Guidelines' Five Assumptions

The Merger Guidelines recognize that “mechanical application” to a broad range of industries “may provide misleading answers to the economic questions raised under the antitrust laws.”¹⁵⁵ Moreover, the Guidelines recognize that “the picture of competitive conditions that develops from historical evidence may provide an incomplete answer to the forward-looking inquiry of the Guidelines.”¹⁵⁶ Therefore, the agencies are not beholden to the Guidelines, and are encouraged to apply them simply as guidelines, both “reasonably and flexibly to the particular facts and circumstances of each proposed merger.”¹⁵⁷

Despite the Guidelines' call for flexibility, the analytical framework largely remains fixed. In predicting whether the merger will create or enhance market power, the government under the Merger Guidelines will: (i) define the relevant product and geographic market; (ii) calculate the market participants' shares in that relevant antitrust market; (iii) determine that market's concentration level; (iv) determine whether conditions in that concentrated market may enable the merging firms to lessen competition unilaterally or through coordinated interaction with other market participants; (v) determine whether such attempt to exercise market power would be defeated by timely, likely, and sufficient entry; and (vi) evaluate certain defenses to an otherwise problematic merger.

In making these determinations, the agency will assume that actual behavior comports with rational (i.e., profit-maximizing) behavior, and will inquire whether rational profit-maximizing consumers and producers “‘likely would’ take certain actions, that is, whether the action is in the actor's economic interest.”¹⁵⁸ Overlaying this assumption are at least five more assumptions: (i) the relevant anticompetitive effects would manifest themselves as higher prices; (ii) anticompetitive effects are likely to occur only in highly concentrated

155. Horizontal Merger Guidelines, *supra* note 15, at § 0.

156. *Id.*

157. *Id.* A history of price fixing within an industry, for example, may raise concern with the agencies and courts that a merger in that industry will lessen competition. See *FTC v. Elders Grain*, 868 F.2d 901, 905 (7th Cir. 1989); *United States v. Allied Waste Indus., Inc.*, Civ. Action No. 99 CV 0894 (D.D.C. Apr. 4, 1999) (Competitive Impact Statement) (“Overt collusion has been documented in more than a dozen criminal and civil antitrust cases brought in the last decade and a half. Such collusion typically involves customer allocation and price-fixing, and where it has occurred, has been shown to persist for many years.”); *United States v. Georgia-Pacific Corp.*, Civ. Action No. 96-164 (D. Del. March 29, 1996) (Competitive Impact Statement) (“In addition, at least once every generation this century, civil or criminal actions have exposed successful price-fixing agreements among the dominant gypsum board manufacturers.”).

158. Horizontal Merger Guidelines, *supra* note 15, at § 0.1.

(not moderately concentrated to unconcentrated) markets; (iii) even in highly concentrated markets, anticompetitive effects are unlikely, absent certain economic conditions that would facilitate collusion (e.g., absent big buyers or sellers that would discipline any non-cost-based price increase post-merger); (iv) anticompetitive effects are unlikely, absent high entry barriers; and (v) many companies merge to generate significant efficiencies.

But whether these five assumptions hold true across industries has not been empirically verified. Moreover, it appears anecdotally that some corporate behavior is (or is not) occurring that is not readily explainable under the Merger Guidelines' rational choice theories.

1. Assumption That Relevant Anticompetitive Effects Would Manifest Themselves as Higher Prices

A merger may substantially lessen competition in many ways, such as eliminating choices for consumers, or reducing quality, services, or innovation. In certain industries, price may be less significant than access. For example, in some industries, companies may enter with a technological advancement, exploit their competitive advantage, and then be eventually displaced by the next innovator. The entrenched competitors, rather than simply raising price, may employ anti-competitive measures to thwart these innovators from accessing the marketplace with their disruptive technologies.¹⁵⁹ If, as some observe, "markets create more surprise and innovation than do corporations," the more important antitrust goal in these markets may be to keep them open (by cracking down, for example, on vertical restraints that significantly raise entrants' costs) rather than keep prices low. Another example is media mergers, which besides advertising rates, may substantially lessen editorial competition.¹⁶⁰ Mergers may also implicate noneconomic concerns, such as the political ramifications of economic power concentrated in the hands of the few. Media

159. Michael Porter, for example, has questioned whether antitrust should be focused primarily on price competition, when other parameters of competition, such as innovation or productivity, may play a more important role. Michael E. Porter, *Competition and Antitrust: A Productivity-Based Approach* at 3–4 (revised May 30, 2002), available at <http://www.isc.hbs.edu/053002antitrust.pdf>; Foer, *supra* note 11, at 28–29; see also BEINHOCKER, *supra* note 2, at 329–34. Even in price-fixing cartels, competitors may take steps to thwart entry by restricting information about technology. See Simon J. Evenett, Margaret C. Levenstein & Valerie Y. Suslow, *International Cartel Enforcement: Lessons from the 1990s*, 24 *WORLD ECON.* 1221, 1227–29 (2001), available at <http://www.blackwell-synergy.com/toc/twcc/24/9>.

160. For a discussion of the limitations of the Merger Guidelines on media mergers, see Maurice E. Stucke & Allen P. Grunes, *Antitrust and the Marketplace of Ideas*, 69 *ANTITRUST L.J.* 249 (2001).

concentration may diminish the marketplace of ideas, which the First Amendment seeks to foster for a healthy democracy. Although the political implications of a monopoly may be beyond quantification, as Oliver Williamson recognized in his often-cited antitrust article, the issue is nevertheless important and cannot be ignored.¹⁶¹

The Merger Guidelines, however, relegate nonprice competition to one footnote¹⁶² and do not address any of the noneconomic factors found in the antitrust laws' legislative history. Instead, the Guidelines are restricted to one parameter of competition, namely price. In asking whether the merger creates or enhances market power, or facilitates its exercise, the Guidelines define market power for a seller as the "ability profitably to maintain prices above competitive levels for a significant period of time."¹⁶³ The Guidelines' key question then for merging companies' customers is: what would happen if the merging companies raised prices by a small but significant nontransitory amount, generally five percent?¹⁶⁴ Some customers, in my experience, opine they would have no option but to accept the price increase. Other customers disagree, and a few clever ones challenge the question itself, saying, "You got it all wrong. The merging parties wouldn't raise price, rather they would decrease the levels of services or discounts" or "repackage the product, and then raise price." They recognize that a merger may substantially lessen competition in other ways, such as eliminating choice for consumers, or by reducing quality, services, or innovation.

Under the Guidelines' rational choice theory, a price increase is a price increase is a price increase. If customers care about value-added services or quality, that incremental benefit should be reflected in the price. Because a reduction in discounts is equivalent to an increase in net price, under rational choice theory the way the choice is described should not influence the profit-maximizing consumer's response.

161. Oliver E. Williamson, *Economies as an Antitrust Defense: The Welfare Tradeoffs*, 58 AM. ECON. REV. 18, 28–29 (1968).

162. Horizontal Merger Guidelines, *supra* note 15, at § 0.1 n.6. ("Sellers with market power also may lessen competition on dimensions other than price, such as product quality, service or innovation.").

163. *Id.* at § 0.1.

164. *Id.* at § 0.1. The Merger Guidelines will use prevailing prices, "unless premerger circumstances are strongly suggestive of coordinated interaction in which case the Agency will use a price more reflective of the competitive price." *Id.* Although some might question why the agencies would measure market shares, when direct evidence of market power exists. See *FTC v. Ind. Fed'n of Dentists*, 476 U.S. 447, 460–61 (1986) (no need to define markets when direct evidence of market power exists). Moreover, the hypothetical price increase may be larger or smaller depending on the industry. Horizontal Merger Guidelines, *supra* note 15, at § 1.11.

But the behavioral economics literature suggests that “framing effects” (how the issue is worded or framed) do matter. Consumers typically base a deal’s “value” on the deviation from an established reference point (for example, a sale of twenty percent off the regular price).¹⁶⁵ Deviations from the perceived reference point are marked by asymmetric price elasticity, whereby many test subjects were more sensitive to price increases than price cuts.¹⁶⁶ For example, the majority of people, in one survey, indicated that a car dealer’s elimination of a \$200 discount off the list price for a popular vehicle was acceptable, whereas seventy-one percent viewed selling the vehicle \$200 above the list price as unfair.¹⁶⁷ Both produce the same effect—a higher net retail price—but the direction of the deviation to or from the established reference point differed. Rather than increasing the list price, which may provoke consumer anger, the merging parties may cancel or reduce the level or size of discounts, which may face less resistance from consumers.¹⁶⁸

Besides offering fewer coupons, BOGOs (buy-one-get-one-free), or other promotions, the merged entity company may obtain supra-competitive profits by maintaining the price but reducing the number of choices or the level of services or quality. In *United States v. Franklin*

165. Differing reference points for the same product may lead to paradoxical results. As Thaler noted, test subjects would be willing to pay \$2.65 for a beer brought back to the beach from a fancy resort hotel, but only \$1.50 for a beer brought back to the beach from a small run-down grocery store. Given that the consumption experience (drinking the beer on the beach) is the same, under rational choice theory, the place of purchase should be irrelevant. Thaler, *supra* note 71, at 82.

166. Price elasticity of a good is the change in quantity demanded, in percentage terms, divided by the percentage change in its price. Colin F. Camerer, *Prospect Theory in the Wild*, in *ADVANCES IN BEHAVIORAL ECONOMICS* 148, 152 (Camerer ed., 2004). Thus, many consumers “dislike price increases more than they like the windfall gain from price cuts and will cut back purchases more when prices rise compared with the extra amount they buy when prices fall.” *Id.*

167. Kahneman et al., *supra* note 75, at 257. One also sees this behavior with respect to merchants that impose a surcharge for customers using a credit card with a higher interchange fee (given that the merchant bears a cost for accepting a credit card) versus offering the consumer a discount if she paid with cash (or a credit or debit card with a lower interchange fee). After the credit card companies’ No-Discrimination Rule was abolished, Dutch merchants could impose surcharges or offer discounts, based on how the customer was going to pay. Over seventy percent of the merchants surveyed were unaware of the rule’s abolition, and eighty-nine percent of the merchants did not surcharge customers. Nine percent of the merchants offered discounts to customers who paid by different means. Of the consumers surveyed, seventy-four percent thought it (very) bad if a merchant asked for a surcharge for using a credit card. But when asked about a merchant offering a discount, only forty-nine percent thought it (very) bad, with twenty-two percent neutral and twenty-one percent saying it is a (very) good thing. ITM Research, *The Abolition of the No-Discrimination Rule at 7–8* (March 2000), <http://ec.europa.eu/comm/competition/antitrust/cases/29373/studies/netherlands/report.pdf>.

168. Kahneman et al., *supra* note 75, at 257.

Electric Co.,¹⁶⁹ for example, the monopolist did not charge supra-competitive prices between 1988 and 1995 when it was the only player in the relevant market. But what concerned the court was the extensive evidence that the monopolist during that same time period “was not overly concerned about either making improvements in its product or providing excellent service.”¹⁷⁰

Even in the context of prices, the Merger Guidelines assume a price *increase*. But competitive pressures may require companies, as they maximize operational efficiencies, to reduce prices over time. Thus, a merger may lessen competition, as Judge Sporkin noted, by halting or slowing the rate of price decreases in that industry.¹⁷¹ As the behavioral economics literature suggests, while many people surveyed would accept a cost-based price increase, they seemingly would not demand the converse: namely, demanding that the firm lower its price when its costs decrease.¹⁷² Thus, the merged entity, instead of lowering prices (and thereby change the established reference point), may simply keep the prices stable.

Consequently, more empirical research is required on what happens post-merger than simply whether list prices increased. Did the company retain any cost savings longer than it had in the past? What became of discounts? What happened to other nonprice components of competition, such as service, quality, and most importantly innovation?

2. Assumption That Anticompetitive Effects Likely Occur Only in Highly Concentrated (Not Moderately to Unconcentrated) Industries

In assessing a merger’s likely competitive effects, the agencies and courts next determine the merging parties’ market shares and the level of concentration in the relevant market.¹⁷³ The assumption is that the

169. *United States v. Franklin Elec. Co.*, 130 F. Supp. 2d 1025, 1034–35 (W.D. Wis. 2000).

170. *Id.* at 1035.

171. *FTC v. Cardinal Health*, 12 F. Supp. 2d 34, 65 (D.D.C. 1998). Likewise, the FTC made, and the court accepted, a similar argument in *Staples*. *FTC v. Staples, Inc.*, 970 F. Supp. 1066, 1082 n.14 (D.D.C. 1997).

172. Kahneman et al., *supra* note 75, at 260.

173. Horizontal Merger Guidelines, *supra* note 15, at § 1.0; *Cardinal Health*, 12 F. Supp. 2d at 52. To define markets, the Guidelines rely on demand substitution factors, namely “a product (or group of products) and a geographic area in which it is produced or sold such that a hypothetical profit maximizing firm, not subject to price regulation, that was the only present and future producer or seller . . . would impose a ‘small but significant and nontransitory’ increase in price [“SSNIP”], assuming the terms of sale of all other products are held constant.” *Id.* One issue is whether SSNIP leads to the right results. For example, despite studies of increasing prices in the academic publishing industry after successive mergers, the industry dynamics are not easily explainable under the Merger Guidelines’ SSNIP test. See Aaron S. Edlin & Daniel L. Rubinfeld, *Exclusion or Efficient Pricing? The “Big Deal” Bundling of Academic Journals*, 72

merger is unlikely to create or enhance market power or to facilitate its exercise unless it significantly increases concentration and results in a concentrated market, properly defined and measured.¹⁷⁴ A horizontal merger, by definition, increases concentration as it eliminates an independent competitor from the marketplace. By decreasing the number of competitors by one, a merger should in theory make collusion incrementally easier. The assumption is that the costs for agreeing to the terms of collusion, and in policing and punishing any cheating thereto, are tied in part to the number of competitors.¹⁷⁵ The fewer the competitors, the less likely the divergence in their preferences over the collusive equilibrium (how much to restrict output and increase price), the fewer the options for buyers (and ability to play one competitor off the other), and the greater the impact each competitor has on price (thus making cheating by anyone more noticeable). Increasing concentration thereby makes collusion easier, by lowering the costs of getting everyone to agree to collude, and of policing and effectively punishing cheating (by selling slightly below the cartel price to garner greater profits).¹⁷⁶

Although each horizontal merger increases concentration, and increases, in theory, the likelihood of collusion, it would be an untenable economic policy to enjoin every merger. The federal antitrust agencies must predict when a merger *substantially* increases the likelihood of such tacit or explicit collusion. Is it when the market goes from ten competitors to nine? Or from six competitors to five? Or from three to two? Bork argued that any merger that left three competitors is presumptively lawful.¹⁷⁷

The Merger Guidelines assume that market power through such coordination would be feasible only in highly concentrated markets, as measured under the Herfindahl-Hirschman Index ("HHI"). HHIs are

ANTITRUST L.J. 119, 127 (2004). Ordinarily these academic journals are complements; so if Company B, which publishes biology journals, merges with Company E, which publishes poetry journals, that by itself under the Merger Guidelines should not provide market power. That is, because if the merged company raises the biology journals' prices, librarians would not be expected to switch to the poetry journals.

174. Horizontal Merger Guidelines, *supra* note 15, at § 1.0.

175. POSNER, *supra* note 6, at 124.

176. *FTC v. PPG Indus., Inc.*, 798 F.2d 1500, 1503 (D.C. Cir. 1986) ("[W]here rivals are few, firms will be able to coordinate their behavior, either by overt collusion or implicit understanding, in order to restrict output and achieve profits above competitive levels."); *Hosp. Corp. of Am. v. FTC*, 807 F.2d 1381, 1387 (7th Cir. 1986) (Posner, J.) ("The fewer competitors there are in a market, the easier it is for them to coordinate their pricing . . ."); *American Hosp. Supply Corp. v. Hosp. Prod. Ltd.*, 780 F.2d 589, 602 (7th Cir. 1986) ("[I]t is easier for two firms to collude without being detected than for three to do so.").

177. BORK, *supra* note 34, at 221-22.

derived by summing the squares of each competitor's market share.¹⁷⁸ The first important variable is the industry's HHI post-merger. The second important variable is the change in HHI, namely the number of points, by which the merger increases the market's HHI.¹⁷⁹ The Merger Guidelines assume that mergers "are unlikely to have adverse competitive effects" and thus "ordinarily require no further analysis" in:

- (i) unconcentrated markets (post-merger HHI below 1,000);
- (ii) moderately concentrated markets (post-merger HHI below 1,800) where the merger increases the HHI by less than 100; and
- (iii) highly concentrated markets (post-merger HHI above 1,800), where the merger increases the HHI by less than fifty.

Mergers in moderately concentrated markets (post-merger HHI between 1,000 and 1,800) that increase the HHI by more than 100 points "potentially raise significant concerns."¹⁸⁰ Mergers in highly concentrated markets (post-merger HHI above 1,800) that increase the HHI by more than 100 points are presumed to create or enhance market power; that presumption can be rebutted by other factors, such as entry.¹⁸¹

Although Orin Herfindahl cautioned that the HHI index could sidetrack consideration of the fundamental objectives of the antitrust laws,¹⁸² neither the Guidelines nor the agencies rely on any other measure of industry concentration. The HHI, Posner instructs, is better suited than other measures because it "gives (negative weight) to the existence of a fringe of small sellers, which as we already know is a market condition inimical to collusion."¹⁸³ The federal courts have "come to accept the HHI as the most prominent and accurate method of measuring market concentration."¹⁸⁴ Indeed, in denying the FTC's

178. Horizontal Merger Guidelines, *supra* note 15, at § 1.5. The HHIs range from 10,000 (a monopoly with 100% of the market) to a number approaching zero (for atomistic markets where each firm's share is less than 1). For example, a market with ten competitors each with a ten percent market share would have a HHI of 1000.

179. The HHI increase is measured by doubling the product of the merging firms' market shares. Horizontal Merger Guidelines, *supra* note 15, at § 1.51. For example, the HHI would increase by 100 for a merger between firms with a 5 and 10 percent shares ($2 \times 10 \times 5$).

180. Horizontal Merger Guidelines, *supra* note 15, at § 1.51(b).

181. Horizontal Merger Guidelines, *supra* note 15, at § 1.51(c).

182. Eleanor M. Fox & Lawrence A. Sullivan, *Antitrust—Retrospective and Prospective: Where Are We Coming From? Where Are We Going*, 62 N.Y.U. L. REV. 936, 946 n.56 (1987).

183. POSNER, *supra* note 6, at 70.

184. *FTC v. Cardinal Health*, 12 F. Supp. 2d 34, 53 (D.D.C. 1998), *citing* *FTC v. University Health, Inc.*, 938 F.2d 1206, 1211 n.12 (11th Cir. 1991). *See also* *FTC v. PPG Indus., Inc.*, 798 F.2d 1500, 1503 (D.C. Cir. 1986) (describing HHI as a superior measure to cruder methods for assessing market concentration); *FTC v. Staples, Inc.*, 970 F. Supp. 1066, 1081–82 (D.D.C. 1997) (relying on the HHI value as a reliable indicator).

motion to enjoin one merger, the district court used the HHI against the FTC, noting that a merger's increase in HHI was not "an overwhelming statistical case for the likely creation or enhancement of anticompetitive market power."¹⁸⁵

HHIs, despite their aura of mathematical exactitude, have several frailties. First, the HHIs are manipulable by how broadly or narrowly the agencies and defense counsel define the relevant market. The broader the market is defined (e.g., all beverages sold throughout the world), the lower the firms' market shares and HHIs. The more narrowly defined the market (e.g., branded cola soft drinks sold in the tri-state New York area), the higher the firms' market shares and HHIs.

Second, despite HHIs' aura of mathematical certainty, there is nothing certain about the HHI levels. As Posner concedes, "it is impossible to specify a threshold figure above which collusion becomes an attractive proposition,"¹⁸⁶ or below which collusion is unlikely. No doubt with sufficiently high market shares (such as seventy percent of the properly defined market with high entry barriers), one could assume monopolistic behavior. But each industry may have its own critical threshold HHI whereby collusion is significantly likely. These critical thresholds are only discoverable inductively through systematic empirical testing.

Third, the Guidelines assume that mergers "that either do not significantly increase concentration or do not result in a concentrated market ordinarily require no further analysis."¹⁸⁷ In reality, the federal antitrust enforcement agencies in recent years have rarely challenged mergers that fell below 1,800 in HHIs.¹⁸⁸ The trend line since 1982 (when the HHI thresholds were introduced) is for the agencies to challenge mergers in industries with very high HHIs, and increasingly fewer mergers in industries with a HHI below 2,000.¹⁸⁹ Indeed, of the

185. *FTC v. Arch Coal*, 329 F. Supp. 2d 109, 129 (D.D.C. 2004) (calculations of increase in HHI ranged between 49 and 254 points).

186. POSNER, *supra* note 6, at 70. The Guidelines also express caution as "the numerical divisions suggest greater precision than is possible with the available economic tools and information." Horizontal Merger Guidelines, *supra* note 15, at § 1.5.

187. Horizontal Merger Guidelines, *supra* note 15, at § 1.51.

188. FED. TRADE COMM'N, TRANSPARENCY AT THE FEDERAL TRADE COMMISSION: THE HORIZONTAL MERGER REVIEW PROCESS 58 (2005), available at <http://www.ftc.gov/os/2005/02/0502economicissues.pdf> [hereinafter TRANSPARENCY].

189. Of the FTC's 113 enforcement actions against mergers between 1983 and 2000 where the competitive concerns were limited to only one market, the lowest HHI jumped from 1,566 (in the period of 1983–1984) to 2545 (in 1985–86), and except for one year remained well over 2,000. Scheffman et al., *supra* note 124, at 300. Likewise, the median HHIs alleged in the FTC complaints challenging these mergers started from around 1,800 in 1983–84 and reached 5,000 by 1991–92. *Id.* During the Reagan Administration, generally, neither antitrust agency, with the

441 mergers against which the FTC took enforcement action between fiscal years 1996 and 2003, twenty-nine percent were mergers to monopoly (two firms to one), thirty-five percent were mergers to duopolies (three firms to two), and twenty-three percent were from four firms to three.¹⁹⁰ Thus, eighty-seven percent of the merger cases that the FTC challenged involved mergers that would have left three or fewer competitors in the marketplace.¹⁹¹ As the FTC stated, mergers from five to four competitors are “usually not subject to enforcement action, although . . . [HHIs] over 3,000 trigger a *small* chance of enforcement.”¹⁹² Likewise, of the 1,263 mergers that the federal antitrust agencies challenged between 1999 and 2003, less than fourteen percent involved a HHI below 2,400.¹⁹³

Although the agencies require high HHIs as a condition precedent for challenging the merger, an important empirical question remains unanswered: whether a positive correlation exists across all industries between concentration levels and the parameters of an industry’s competitiveness (e.g., low prices, better service and quality, more innovation, increased productivity).

Relying solely on concentration levels may increase the risk of false positives. Although some studies demonstrate that firms in more concentrated industries enjoy higher profits or higher prices,¹⁹⁴ firms in highly concentrated industries may enjoy higher profits because they operate above the minimum efficient scale and thus have lower costs.

exception of one merger, challenged mergers with a post-merger industry HHI below 1,800, and challenged only two cases where the post-merger HHI was within the 1,800 and 2,000 range. Warren S. Grimes, *Transparency in Federal Antitrust Enforcement*, 51 *BUFF. L. REV.* 937, 953 (2003).

190. *TRANSPARENCY*, *supra* note 188, at 64.

191. Percentages calculated from the data on Table 4.1. *Id.* Thirty-two mergers were challenged involving mergers from five to four firms (seven of which were in the oil markets), thirteen mergers from six firms to five (six of which were in the oil markets), two from seven to six (one of which were in the oil markets), six mergers from eight to seven (all in the oil markets), and two from ten to nine firms (both were in the oil markets). *Id.* at 64, 66.

192. *Id.* at 23.

193. Fifty-seven mergers (4.5%) involved a market with a post-merger HHI below 1,800, forty mergers (3.1%) between 1,799 and 1,999, and seventy-eight mergers (6.2%) between 2,000 and 2,399. FED. TRADE COMM’N & DEPT. OF JUSTICE, *MERGER CHALLENGES DATA, FISCAL YEARS 1999–2003* (2003), at Table 1, *available at* <http://www.usdoj.gov/atr/public/201898.htm>.

194. Economists have differed over the conclusions to draw from these studies. For a discussion of these studies and criticisms, see, e.g., Craig M. Newmark, *Price-Concentration Studies: There You Go Again*, prepared for DOJ/FTC Merger Workshop (Feb. 14, 2004), *available at* <http://www.ftc.gov/bc/mergerenforce/presentations/040217newmark.pdf>; Paul A. Pautler, *Evidence on Mergers and Acquisitions*, Fed. Trade Comm’n, Bureau of Economics, Working Paper No. 243 (2001); Richard Schmalensee, *Inter-Industry Studies of Structure and Performance*, in 2 *HANDBOOK OF INDUSTRIAL ORGANIZATION* 983–88 (Richard Schmalensee & Robert Willig eds., 1989).

Alternatively, such firms may enjoy higher prices and profits due to innovation or consumer demand developed over years of brand development. Market share may also be highly contestable.¹⁹⁵ Also, an increase in concentration could in theory make coordination less likely. Merger-related efficiencies may drive down the marginal cost of the acquiring company's products, enabling it to lower price below the levels of its less efficient competitors, and thereby increase revenues.¹⁹⁶ To minimize this risk of false positives, the Merger Guidelines have evolved to where high concentration alone is insufficient to challenge a merger. Rather, high concentration is a condition precedent for challenging a transaction. The agencies must still provide a theory of the likely anticompetitive effects (such as the merger facilitating collusion or permitting the merged entity to unilaterally increase prices).¹⁹⁷

Although the Guidelines minimize the risk of such false positives, the risk of false negatives remains. In reviewing their recent merger data, the antitrust agencies state that "[a]lthough large market shares and high concentration by themselves are an insufficient basis for challenging a merger, low market shares and concentration are a sufficient basis for not challenging a merger."¹⁹⁸ This assumption would be empirically sound if collusion does not occur in moderately to unconcentrated markets (HHIs below 1,800). The Department of Justice, however, has criminally or civilly prosecuted cartels in unconcentrated or moderately concentrated markets, the structure of which, under the Merger Guidelines, should not be susceptible to such collusion. As the Antitrust Division's former Deputy Assistant Attorney General William Kolasky observed in 2002, cartels can involve a fairly large number of firms. Five or six members were common and occasionally the Department of Justice uncovered cartels with ten or more competitors:

195. Horizontal Merger Guidelines, *supra* note 15, at § 1.521. For example, in markets with frequent technological changes that bring new products, current market shares may not accurately predict future market power. Likewise, if many sales are made under long-term contracts, then market shares may significantly shift when these contracts come up for bid. *Cf.* *United States v. Gen. Dynamics Corp.*, 415 U.S. 486, 501 (1974) ("[E]vidence of past production does not, as a matter of logic, necessarily give a proper picture of company's future ability to compete.").

196. *Id.* at § 4.

197. *See id.* at § 2.0 (market share and concentration data provide only the starting point for analyzing a merger's competitive impact). As a former Assistant Attorney General of the Division observed, the Merger Guidelines "abandon the notion that the agencies are likely to challenge a merger based solely or primarily on structural criteria" such as market concentration and "establish a clear linkage between concentration and the analysis of competitive effects." Charles A. James, *Overview of the 1992 Horizontal Merger Guidelines*, 61 ANTITRUST L.J. 447, 449 (1993).

198. MERGER CHALLENGES DATA, *supra* note 193, at 2.

“This appears to be due in part at least to fringe players in the market feeling they will profit more by going along with the cartel than by trying to take share away from the larger firms by undercutting their prices.”¹⁹⁹ Examples include: (i) Nasdaq—twenty-four market makers plus unnamed co-conspirators;²⁰⁰ (ii) Real Estate (New York)—dozens of bidders;²⁰¹ (iii) Explosives—fourteen corporations in regional and national conspiracies;²⁰² (iv) Point-of-Purchase Display Materials—twenty-four individuals and nine corporations;²⁰³ (v) Graphite Electrodes—six firms;²⁰⁴ (vi) Sorbates—five major producers;²⁰⁵ (vii) eight Ivy League universities and MIT;²⁰⁶ and (viii) numerous Vitamin manufacturers in different markets (the “most pervasive and harmful criminal antitrust conspiracy”).²⁰⁷ This is not a recent phenomenon. One empirical analysis of successfully prosecuted cartels between 1910 and 1972 likewise showed that cartels on average had many participants: where a trade association facilitated collusion, 33.6 firms was the mean of firms involved, and fourteen firms was the median; in price-fixing cartels (without a trade association involved) 8.3 firms was the mean and six was the median.²⁰⁸

199. William J. Kolasky, Deputy Assistant Attorney General, Antitrust Division, U.S. Department of Justice, *Coordinated Effects in Merger Review: from Dead Frenchmen to Beautiful Minds and Mavericks*, Speech at the ABA Section of Antitrust Law Spring Meeting Washington, D.C., 17 (April 24, 2002).

200. See Complaint, *United States v. Alex Brown & Sons Inc.*, Civ. Act. No. (S.D.N.Y. complaint filed July 1996), available at <http://www.usdoj.gov/atr/cases/f0700/0740.htm> (alleging that from at least as early as 1989 through 1996, common understanding arose among the defendants and other Nasdaq market makers concerning, among other things, the manner in which bids and asks would be displayed on Nasdaq).

201. U.S. DEP'T OF JUSTICE, ANTITRUST DIV., ANN. REP. FOR FISCAL YEAR 1999 36–37, available at <http://www.usdoj.gov/atr/public/4523.pdf> [hereinafter 1999 DIVISION ANNUAL REPORT].

202. *Id.* at 33.

203. *Id.* at 34.

204. OECD, *HARD CORE CARTELS* 13 (2000), available at <http://www.oecd.org/dataoecd/39/63/2752129.pdf>.

205. See *COMPETITION LAW AND POLICY IN THE UNITED STATES* 10 (2000), available at <http://www.oecd.org/dataoecd/22/53/34830214.pdf> (discussing a seventeen-year international price-fixing conspiracy in the food preservatives industry).

206. *United States v. Brown Univ.*, 5 F.3d 658, 661 (3d Cir. 1993) (civil antitrust case charging eight Ivy League universities and the Massachusetts Institute of Technology with violating the Sherman Act by illegally conspiring to restrain price competition on financial aid to prospective students).

207. 1999 DIVISION ANNUAL REPORT, *supra* note 201, at 25–26.

208. Frass & Greer, *supra* note 113, at 25, 36–41. One conservative assumption in that empirical study was that the number of cartel members prosecuted reflected the total number of firms in the relevant market. *Id.* at 24. But, aside from ineffectual fringe firms, the relevant market may contain more participants than reflected in the government's indictment or criminal information, which does not always identify all the co-conspirators. Consequently, the authors

Indeed, a study of the government's price-fixing actions brought between 1955 and 1965 found no statistically significant relationship between industry structure (i.e., concentration) and propensity to price-fix.²⁰⁹ Of all defendants in national industries that were convicted of price-fixing, approximately seventy percent were in low to moderately concentrated, barely concentrated, or atomistic industries.²¹⁰ Likewise, the GAO studied enforcement and investigative resources spent by the Department of Justice on horizontal price-fixing violations in manufacturing industries. As the GAO reported in 1980, only thirty-three percent of the government's resources were aimed at concentrated industries, and only twenty-three percent of the litigation efforts were in these industries.²¹¹

The anomaly becomes apparent. If, under the Merger Guidelines, collusion (tacit or express) is unlikely in unconcentrated or moderately concentrated markets, why were the majority of the government's resources in the 1970s devoted to investigating price-fixing in unconcentrated industries, and why has the government over the past century prosecuted many cartels in moderately or unconcentrated industries?

One explanation for this anomaly may be the structure and incentives of the different sections within the Department of Justice's Antitrust Division. The Division's regional field offices criminally prosecute *per se* illegal offenses, such as price-fixing and bid-rigging, while most of its offices in Washington, D.C., since the mid-1990s, investigate primarily civil "rule-of-reason" matters, including mergers. The

had to exclude from its sample of 606 cases, those cases where the number of firms allegedly involved were not specified in the records. *Id.* at 25–26. Some co-conspirators conceivably could escape prosecution (through lack of evidence). Although the authors rely upon an earlier study, which showed a 0.959 correlation between the number of conspirators and total number of firms in the market, the sample size of that earlier study was 34 cases. *Id.* at 28 n.17, citing George Hay & Daniel Kelly, *An Empirical Survey of Price Fixing Conspiracies*, 17 J.L. & ECON. 13 (1974). For studies of cartels immunized from the antitrust laws, see, e.g., Andrew R. Dick, *Identifying Contracts, Combinations & Conspiracies in Restraint of Trade*, 17 MANAGERIAL & DECISION ECON. 203, 213 (1996) (discussing that cartels formed more frequently in unconcentrated industries under Webb-Pomerene Export Trade Act); see also Paul S. Clyde & James D. Reitzes, *The Effectiveness of Collusion Under Antitrust Immunity: The Case of Liner Shipping Conferences*, BUREAU OF ECONOMICS STAFF REPORT (Dec. 1995) (finding a positive, but economically small, relationship between overall market concentration and shipping rates), available at <http://www.ftc.gov/reports/shipping.pdf>.

209. JAMES M. CLABAULT & JOHN F. BURTON, JR., *SHERMAN ACT INDICTMENTS 1955–1965: A LEGAL AND ECONOMIC ANALYSIS* 135–37 (1966).

210. *Id.* at 136.

211. GAO, REPORT TO THE U.S. CONGRESS: CLOSER CONTROLS AND BETTER DATA COULD IMPROVE ANTITRUST ENFORCEMENT 77 (1980), available at <http://archive.gao.gov/f0202/111680.pdf>.

Division's prosecutors in criminal investigations do not typically rely on the economic theories underlying the Merger Guidelines. As the Antitrust Division's top criminal prosecutor recently said, "You can't catch a thief with an economist."²¹² Instead, the prosecutors' cartel profiling is grounded on human behavior, not economic theory:

The Division will target its proactive efforts in industries where we suspect cartel activity in adjacent markets or which involve one or more common players from other cartels. When we are able to identify culpable executives, we begin digging deeper to determine whether they had pricing authority on other products over time and then for indicia of collusion in those products as well. We might investigate who mentored the culpable executives and what other products they were responsible for overseeing, and we keep digging.²¹³

The Department of Justice would not likely deny a conspirator amnesty because the industry structure was not conducive to collusion under the Merger Guidelines. Instead, the criminal prosecutors go where the evidence leads them.

But this enforcement anomaly does not address the fundamental question: why is collusion occurring in moderately to unconcentrated markets? One explanation may be that explicit price-fixing is necessary for less concentrated industries, in contrast to oligopolies, where the competitors can tacitly collude (i.e., each firm setting its price based partly on the strategic considerations regarding its competitors' behavior).²¹⁴ Logically, companies would not expressly collude (and expose themselves to criminal antitrust liability and civil trebled damages) where they tacitly, without any formal agreement, could set their prices at "a profit-maximizing, supra-competitive level by recognizing their shared economic interests and their interdependence with respect to price and output decisions."²¹⁵ Thus, industries where criminal price-fixing occurs may represent the outer-boundary: namely, where collusion is possible (i.e., cartel members can agree upon terms, and police and punish any defection), but only through formal

212. Scott D. Hammond, Deputy Assistant Attorney General, Antitrust Division, Ten Strategies for Winning the Fight Against Hardcore Cartels, at the OECD Competition Committee (Oct. 18, 2005), available at <http://www.usdoj.gov/atr/public/speeches/212270.ppt>.

213. Scott D. Hammond, Director of Criminal Enforcement, Antitrust Division, Cornerstones Of An Effective Leniency Program, Presented before the ICN Workshop on Leniency Programs, Sydney, Australia, at 15-16 (Nov. 22-23, 2004), <http://www.usdoj.gov/atr/public/speeches/206611.pdf>.

214. See, e.g., *Clamp-All Corp. v. Cast Iron Soil Pipe Inst.*, 851 F.2d 478, 483-84 (1st Cir. 1988) (discussing firms following industry leaders in setting prices); ROBERT S. PINDYCK & DANIEL L. RUBINFELD, *MICROECONOMICS* 431 (2d ed. 1992).

215. *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 227 (1993).

measures. As the number of cartel members decreases through mergers, the need for these formal measures to achieve supra-competitive prices becomes less likely.²¹⁶ Should the antitrust agencies be concerned only if the merger substantially increases the companies' ability to tacitly (rather than expressly) collude? As the Merger Guidelines recognize, the Clayton Act seeks to prevent mergers that substantially increase the likelihood of coordinated interaction, which includes "tacit or express collusion."²¹⁷ After all, the Clayton Act seeks to arrest such anticompetitive effects in their incipiency, and the economic harm from express collusion is no worse than from tacit collusion.²¹⁸ Moreover, the Department of Justice's criminal prosecutions do not necessarily capture all collusion. Prosecutors go where the evidence directs them, and thus criminal cases may cluster around specific industries. Prosecutors may also investigate an industry's supra-competitive pricing but lack sufficient evidence to prove an agreement beyond a reasonable doubt.

This still leaves the question why so many competitors can expressly collude if, under the Merger Guidelines' rational choice theories, agreeing to the terms of such collusion and detecting and punishing any defections should be difficult. One answer may lie in the behavioral economics research: namely, price-fixers, like the test subjects in other experiments, may be more trustful and cooperative than rational choice theory predicts. Such experiments show that where trust will lead to more favorable outcomes, people tend to trust at a higher level than if all are operating under a traditional game theory.²¹⁹ Other neuroeconomics literature suggests that some people are more likely to be trustful and tend to cooperate, while others are more likely to behave according to the standard game theory predictions.²²⁰ Trust then can be either socially beneficial or detrimental, and each individual's level of trust may vary. An additional critical variable may be whether a

216. Frass & Greer, *supra* note 113, at 29. This was a key assumption in Frass & Greer's empirical analysis—they believed that explicit collusion "will occur only when it is both *possible* and *necessary* to the maximization of joint-profits."

217. Horizontal Merger Guidelines, *supra* note 15, at § 2.1.

218. See, e.g., *United States v. E. I. Du Pont de Nemours & Co.*, 353 U.S. 586, 589 (1957) ("Section 7 is designed . . . to arrest in their incipiency restraints . . . in a relevant market which, as a reasonably probability, appear at the time of suit likely to result from the acquisition . . .").

219. Terrence Chorvat, *Law and Neuroeconomics*, 13 SUP. CT. ECON. REV. 35, 43 (2005); see also Colin F. Camerer, *Behavioral Game Theory: Predicting Human Behavior in Strategic Situations*, in ADVANCES IN BEHAVIORAL ECONOMICS 374, 378 (Camerer ed., 2004) (summarizing trust games).

220. Chorvat, *supra* note 219, at 55.

person's co-workers or peers are engaged in the illegal behavior.²²¹ The behavioral economics literature may shed light on what impact membership in such trade groups has on that individual's behavior in that group.

Consequently, uncritical reliance on the Merger Guidelines' HHI concentration levels may lead to false negatives. More empirical research is needed across industries to determine the relationship of concentration levels (and changes thereto as a result of mergers) to the likelihood of tacit or express collusion.

3. Assumption That Even in Highly Concentrated Markets, Anticompetitive Effects Are Unlikely Absent Certain Economic Conditions That Facilitate Collusion

Under the Merger Guidelines, the agencies typically consider various economic conditions that in theory facilitate collusion, such as product or firm homogeneity, stability of technology, existence of maverick sellers, capacity constraints, elasticity of demand, lumpiness of purchases, and stability or predictability of demand conditions.²²² To illustrate its point, this article addresses one factor, namely, buyers with sufficient clout to deter the exercise of market power.

Merging parties frequently argue that their customers would discipline any attempt to exercise market power. Big buyers, such as Wal-Mart, Target, Costco, and Home Depot, arguably would secure a competitive price by committing a greater volume of sales for a longer time to those suppliers who offer the lowest price. Other incentives may include favorable product placement (such as a retailer awarding an end cap for a promotion) or more shelf space. If this fails, the big buyer could sponsor entry by enticing the prospective entrant with such favorable commitments. Thus, the Merger Guidelines and courts recognize that although not determinative, the sophistication and bargaining power of buyers play a "significant role" in assessing the

221. Harold G. Grasmick & Donald E. Green, *Legal Punishment, Social Disapproval and Internalization as Inhibitors of Illegal Behavior*, 71 J. CRIM. L. & CRIMINOLOGY 325, 329 (1980); Dan M. Kahan, *Social Influence, Social Meaning, and Deterrence*, 83 VA. L. REV. 349, 354–55 (1997) (stating that individuals' decisions to commit crimes are responsive to decisions of other individuals and not just the price of the crime).

222. See Horizontal Merger Guidelines, *supra* note 15, at § 2.1.

effects of a proposed transaction.²²³ The FTC noted that it would rarely challenge a merger absent significant complaints from customers.²²⁴

But at times, customers may give conflicting statements to counsel for the merging parties and government.²²⁵ Moreover, in the government's two recent attempts to enjoin a merger, the district court discounted the concerns by the government's customer witnesses.²²⁶ These customers, of course, are not beyond biases. Customers conceivably could suffer from biases similar to those discussed in the behavioral economics literature, but dissimilar from the theoretical profit-maximizer. Consequently, how often do the customers accurately predict the likelihood of a merger's anticompetitive effects, and their ability to defeat the exercise of such market power?

The Department of Justice's experience with criminal price-fixing prosecution, as Kolasky observed, suggests that

the ability of large sophisticated buyers to defeat cartel activity may be overrated. In merger analysis, some assume that large purchasers in the market will provide sufficient discipline to prevent cartels. Our experience shows to the contrary that many successful cartels sell to large, sophisticated buyers. In the lysine cartel, the buyers included Tysons Foods and Con Agra; in citric acid, the buyers included Coca-Cola and Procter & Gamble; and in graphite electrodes, the victims included every major steel producer in the world. What is particularly ironic is that the perpetrators and victims of the citric acid cartel included some of the very same firms that the district court found were unlikely to engage in or be vulnerable to cartel activity in refusing to enjoin an acquisition by ADM of one of its leading rivals in the high fructose corn syrup market back in 1991.²²⁷

Likewise, the court may overstate the significance of the big buyer. For example, in 1991, a federal district court rejected the government's challenge to Archer-Daniels-Midland's ("ADM") long-term lease agreement with a competitor because ADM's customers purportedly had sufficient strength and leverage to thwart a price hike.²²⁸ Several

223. *FTC v. Cardinal Health*, 12 F. Supp. 2d 34, 58 (D.D.C. 1998), quoting *R.R. Donnelley & Sons Co.*, No. 90-1619 SSH, 1990 WL 193674, at *4 (D.D.C. Aug. 27, 1990); see also *Horizontal Merger Guidelines*, *supra* note 15, at § 2.12 (discussing factors involved in assessing the effects of a proposed transaction).

224. *TRANSPARENCY*, *supra* note 188, at 24–25.

225. See *United States v. Sunguard Data Sys.*, 172 F. Supp. 2d 172, 192 n.23 (D.D.C. 2001).

226. *FTC v. Arch Coal*, 329 F. Supp. 2d 109, 145–46 (D.D.C. 2004); *United States v. Oracle Corp.*, 331 F. Supp. 2d 1098, 1131, 1168 (N.D. Cal. 2004). See also *FTC v. Tenet Health Care Corp.*, 186 F.3d 1045, 1054 (8th Cir. 1999) (questioning customers' testimony when inconsistent with their economic interests).

227. Kolasky, *supra* note 199, at 18–19.

228. *United States v. Archer-Daniels-Midland Co.*, 781 F. Supp. 1400, 1416, 1423 (S.D. Iowa

years later, however, in its criminal lysine price-fixing action against ADM, the Department of Justice showed a secretly taped meeting where ADM's President summarized his company's attitude toward its customers. As one ADM cartel member told a senior executive from his largest competitor: "Our competitors are our friends. Our customers are the enemy."²²⁹

At times, the big buyers may be overconfident of their negotiating prowess to defeat post-merger any non-cost-based price hike. In addition, these buyers' responses might be contingent on how the issue is framed. For example, are the big buyers genuinely concerned about protecting their customers, and would they resist any non-cost-based wholesale price increase by the merging parties? Or might they accept a supra-competitive wholesale price, if that price was lower relative to the wholesale prices offered to their competitor retailers?

On the other hand, rational choice theory could lead to false positives, in assuming that if a profit-maximizer could raise prices, so too would the merging companies. In my experience, senior executives often raise different reasons why they would not raise prices, even if given the opportunity. The typical response is that even if these executives were sincere, they could be replaced by profit-maximizers (in the event of death, acquisition, shareholder revolt, etc.) who would raise prices. The merger law—section 7 of Clayton Act—deals with a "reasonable likelihood of a substantial lessening of competition," and the possession of such market power would create such a probability, even though the company executives assure that it would not be exercised.²³⁰

But the Merger Guidelines may miss at times an important industry dynamic. As the behavioral economics literature discusses, firms may be disinclined to raise prices opportunistically for various reasons, including the implications of short-run profit gains on long-term profitability, or perhaps non-economic reasons such as fairness or customer loyalty.²³¹ Although some antitrust economists are agnostic on price discrimination or believe that in certain instances it may be

1991); *see also* United States v. Country Lake Foods, Inc., 754 F. Supp. 669, 679 (D. Minn. 1990) (noting customers' ability to defeat a price hike).

229. HARD CORE CARTELS, *supra* note 204, at 16. For a fascinating account of this conspiracy and the events leading up to the trial, see KURT EICHENWALD, THE INFORMANT (2000).

230. FTC v. Staples, 970 F. Supp. 1066, 1072 (D.D.C. 1997) (quoting FTC v. Great Lakes Chem. Corp., 528 F. Supp. 84, 86 (N.D. Ill. 1981)).

231. Kahneman et al., *supra* note 75, at 735 (discussing surveyed individuals' adverse reaction to grocery store raising prices when its competitor is temporarily forced to close).

pro-competitive, ninety-one percent of individuals in one survey thought such exploitation by charging higher prices to those who are more dependent on the product was offensive.²³² So even though firms could raise prices or price discriminate, some may decline, so as to not offend their customers. Obviously many companies do not share these sensitivities when fixing prices, engaging in other anticompetitive conduct, and amassing hefty profits at the consumers' expense. But it is unclear how frequently merged entities behave like their profit-maximizing counterparts by the means suggested by the Merger Guidelines, namely, raising prices by a small but significant amount.

Aside from issues of fairness, a company may have a long-term strategic interest in developing customer loyalty. The Merger Guidelines assume that firms compete primarily on price, which for certain industries may be true. But in commercial industries involving customized business-to-business services or products, this may not always hold true. Companies may seek to compete on parameters other than price by offering value-added services. Suppliers, for example, may integrate with their customers by providing customized manufactured products or services, or customized delivery mechanisms (such as handling the customers' order placements and tracking their inventory for just-in-time delivery). The supplier and customer may jointly collaborate on new products, technologies or services. The value of these additional services may not be readily reflected in the supplier's price. For example, electronic parts distributor Wesco Distribution, according to a recent business article, devoted significant energy to

232. *Id.* at 735. As the former FTC Chairman recognized, more empirical analysis of price-discrimination is necessary:

Some lawyers and economists use evidence of "price discrimination" to infer market power and market definition, raising several issues. Most real world markets, even those for relatively "homogenous" products and a market structure inconsistent with significant market power, exhibit significant price variation. These price differences do not prove that the firms have market power. Moreover, price discrimination can be pro-competitive. A significant deficiency of the economics literature is the fragmentary explanation of why significant price variation is common and understanding the implications of this fact.

A related issue occurs when the agency learns of customers concerned about targeted price increases. These concerns are difficult to assess, especially without detailed industry data. Greater focus on techniques to evaluate and analyze transaction data will yield insights into the likelihood of potential anticompetitive pricing. Thus, more research is needed concerning how to identify price discrimination that raises competitive concerns and the role that price discrimination should have in merger analysis.

Timothy J. Muris, Chairman, Federal Trade Commission, remarks at George Mason University Law Review's Winter Antitrust Symposium (Jan. 15, 2003), available at <http://www.ftc.gov/speeches/muris/improveconfoundatio.htm>.

building customer loyalty by offering inventory management and energy audits.²³³ By integrating their procurement and supply processes with Wesco's systems, the customers lowered their costs of procuring components and operating these electrical systems.²³⁴ To maximize their cost savings, the customers committed more volume to Wesco, which, as a result, reduced Wesco's costs.²³⁵ Wesco thereafter passed on some of these cost savings to its customers.²³⁶ The focus then is not how much the bundled products and services *cost* the client; rather, it is how much they *saved* the client overall. Given the time and expense to build such consumer loyalty, the strategic implications of raising the customers' switching costs, and the competitive advantage such loyalty building may provide, it may be irrational for the merging parties to fritter this away with an unjustified cost increase (simply because an opportunistic profit-maximizing firm would do so).

Consequently more empirical research is necessary as to market conditions that are conducive to the exercise of market power. For example, when were the large, sophisticated purchasers successful or unsuccessful in preventing the exercise of market power post-merger? Conversely, did companies, post-merger, which in theory could raise prices opportunistically, do so?

4. Assumption That Anticompetitive Effects Are Unlikely Unless Entry Barriers Are Sufficiently High

The Chicago School's antitrust theories treat entrants as the superheroes of consumer welfare. When companies attempt to reduce output and raise prices, profit-maximizing entrants or fringe market participants should swoop in and restore competition. In defining barriers as a cost that differentially affects new entrants compared to market participants,²³⁷ significant entry barriers, for some Chicago School adherents, rarely exist.²³⁸ When they do, one significant culprit is the regulatory government.²³⁹ At other times, these entry barriers are

233. Das Narayandas, *Building Loyalty in Business Markets*, HARV. BUS. REV., Sept. 2005, at 131, 138–39.

234. *Id.*

235. *Id.*

236. *Id.*

237. Posner, *supra* note 33, at 945 (citing GEORGE STIGLER, *THE ORGANIZATION OF INDUSTRY* 67–70 (1968)).

238. *Id.* at 946.

239. "It is well known," said Judge Kozinski in *Syufy*, "that some of the most insuperable barriers in the great race of competition are the result of government regulation. Regulation often helps entrench existing businesses by placing new entrants at a competitive disadvantage." Judge Kozinski provided one example, namely government lawsuits. *United States v. Syufy Enterp.*,

justified, in enabling an innovator, through its patent, to recoup its investment. Thus, enforcers should intercede only in those narrow circumstances where antitrust's kryptonite (high entry barriers) would thwart these profit-maximizing superheroes from entering or expanding in the markets.²⁴⁰ The Merger Guidelines have a slightly more expansive view of entry barriers. In markets where entry would in theory be timely (less than two years), likely, and sufficient in its magnitude, character, and scope to deter the exercise of market power, then the "merger raises no antitrust concern and ordinarily requires no further analysis."²⁴¹ If entry would be deficient on any of the three parameters (timeliness, likelihood, or sufficiency), then the Guidelines presume that the profit-maximizing entrant would not defeat the exercise of market power post-merger.²⁴² Entry barriers are consequently a key factor under the Merger Guidelines analysis.²⁴³ In analyzing its mergers subject to a Second Request between fiscal years 1996 and 2003, the FTC observed that it took no enforcement action where the staff concluded that entry would be timely, likely and sufficient under the Merger Guidelines criteria.²⁴⁴

Even if the federal antitrust agencies believe entry barriers are sufficiently high, the courts may disagree. The courts have adopted the view that in the absence of significant entry barriers, a company probably cannot maintain supra-competitive pricing for any length of time.²⁴⁵

But do these profit-maximizing superheroes indeed defeat market power in industries with moderate to low entry barriers? Since price-fixing and bid-rigging are *per se* illegal, the Department of Justice need

903 F.2d 659, 673 (9th Cir. 1990).

240. POSNER, *supra* note 6, at 127, 141.

241. Horizontal Merger Guidelines, *supra* note 15, at § 3.0.

242. *Id.*

243. Scheffman et al., *supra* note 124, at 301.

244. See TRANSPARENCY, *supra* note 188, at 78 (noting that of the nineteen cases identified, sixteen were in highly concentrated industries (post-merger HHI exceeding 1800)).

245. *United States v. Baker Hughes Inc.*, 908 F.2d 981, 987 (D.C. Cir. 1990). See also *Cargill, Inc. v. Monfort of Colo., Inc.*, 479 U.S. 104, 119–20 n.15 (1986) (recognizing that "[w]ithout barriers to entry into the market it would presumably be impossible to maintain supracompetitive prices for an extended time."); *United States v. Waste Mgmt., Inc.*, 743 F.2d 976, 983 (2d Cir. 1984) (easy entry would eliminate any anticompetitive impact of merger in highly concentrated industry); *United States v. Syufy Enter.*, 903 F.2d 659, 664 (9th Cir. 1990) ("If there are no significant barriers to entry . . . any attempt to raise prices above the competitive level will lure into the market new competitors able and willing to offer their commercial goods or personal services for less."); *FTC v. Cardinal Health, Inc.*, 12 F. Supp. 2d 34, 54–55 (D.D.C. 1998) (finding that ease of entry can be sufficient to offset the government's prima facie case of anticompetitiveness).

not, and generally does not, address the characteristics of the industry, such as HHIs or entry barriers. A review of the Department of Justice's criminal antitrust cases brought between 1988 and 1996 reveals price-fixing and bid-rigging in industries that superficially appear to have high entry barriers, such as commercial explosives²⁴⁶ (which has regulatory and licensing barriers) and thermal facsimile paper.²⁴⁷ But many industries, which appear on the surface to have moderate or low entry barriers, were also susceptible to price-fixing, such as:

turtles;²⁴⁸

low-priced carpets sold throughout the United States;²⁴⁹

plastic cups and glasses;²⁵⁰

the interstate transportation of household goods for military personnel;²⁵¹

chain link fences;²⁵²

retail gasoline;²⁵³

the sale of wholesale plumbing supplies;²⁵⁴

new steel pails;²⁵⁵

bicycle retailers;²⁵⁶

one brand of boats;²⁵⁷

246. *United States v. ICI Explosives USA Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,095, at 44,758 (D. Tex. 1995).

247. *United States v. Kanzaki Specialty Papers, Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,094, at 44,706 (D. Mass. 1994).

248. *United States v. National Turtle Farmers & Shippers Assoc., Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,095, at 44,744 (D. La. 1995).

249. *United States v. Sunrise Carpet Indus., Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,095, at 44,750 (D. Ga. 1995).

250. *United States v. Plastics, Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,094, at 44,696 (E.D. Pa. 1994).

251. *United States v. Austin Moving & Storage Co.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,089, at 44,459 (D. Fla. 1989).

252. *United States v. Davis Walker Corp.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,080, at 44,229 (D. Md. 1988).

253. *United States v. Appalachian Oil Co., Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,091, at 44,571 (D. Tenn. 1991) (showing price-fixing between 1980 and 1988 in Johnson City, Tennessee).

254. *United States v. Robert David Smith*, Trade Reg. Rep. Summaries (CCH) ¶ 45,093, at 44,633 (D. Tex. 1993).

255. *United States v. Van Leer Containers, Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,092, at 44,592 (N.D. Ill. 1992).

256. *United States v. Michael J. Wolf*, Trade Reg. Rep. Summaries (CCH) ¶ 45,094, at 44,700 (D. Conn. 1994).

257. *United States v. Mo. River Marine, Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,091, at 44,563 (D. Mont. 1991) (showing price-fixing and market and customer allocation).

buyers of waste paper from sources such as supermarkets, warehouses, newspaper publishers and then reselling to other dealers or paper mills;²⁵⁸ and

residential roofing work.²⁵⁹

Similarly, bid-rigging occurred in many local markets, which on the surface appear to have minimal entry barriers. Some, as noted below, involved public auctions, which presumably were open to all:

demolition contracts;²⁶⁰

waterproofing and building restoration;²⁶¹

contracts for scrap metal from industrial plants;²⁶²

purchase of used sewing machines at public auctions;²⁶³

purchase of antiques at public auctions;²⁶⁴

purchase of jewelry at public auctions;²⁶⁵

real estate at public auctions;²⁶⁶

rare banknotes;²⁶⁷

purchase of used commercial equipment at public auctions;²⁶⁸ and

highway pavement marking contracts.²⁶⁹

258. *United States v. I. Hershman & Co.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,091, at 44,559 (D. Conn. 1991).

259. *United States v. Sutar Roofing, Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,088, at 44,420 (D. Kan. 1989); *United States v. Comox Constr., Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,090, at 44,519 (D. Kan. 1991) (allocating customers for installation of residential cedar shake roofs over ten-year period).

260. *United States v. James Karis, Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,088, at 44,413–5 (W.D. Pa. 1988).

261. *United States v. Silverman*, Trade Reg. Rep. Summaries (CCH) ¶ 45,093, at 44,655 (S.D.N.Y. 1993).

262. *United States v. George Apkin & Sons, Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,093, at 44,662 (D. Mass. 1993).

263. *United States v. Ace Sewing Mach. Co.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,089, at 44,481 (E.D. Pa. 1989).

264. *United States v. Kay & Gross, Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,091, at 44,545 (S.D.N.Y. 1991); *United States v. Empire Antiques Corp.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,092, at 44,601 (D. Mass. 1992).

265. *United States v. John G. Bares, Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,090, at 44,499 (E.D. Pa. 1990).

266. *United States v. Greenbaum*, Trade Reg. Reporter: Rep. (CCH) ¶ 45,090, at 44,511 (D.D.C. 1990) (showing bid-rigging at real estate auctions between 1977 and 1986).

267. *United States v. William Barrett Numismatics Ltd.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,095, at 44,741 (S.D.N.Y. 1995).

268. *United States v. Libsons Mach., Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,089, at 44,459 (D.R.I. 1989).

269. *United States v. Accent Stripe, Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,092, at 44,615 (S.D.N.Y. 1992).

As these criminal prosecutions reveal, markets characterized with low entry barriers are susceptible to price-fixing. In criticizing a Supreme Court decision, Posner, for example, surmised that collusion would not be feasible in the supermarket industry given its low entry barriers. The Reagan Administration, in fact, prosecuted price-fixing in this industry.²⁷⁰ As Kolasky noted in 2002:

while most of our cartel cases involve industries in which entry tends to be difficult, there are notable exceptions, such as in the Division's many bid rigging cases in the road building industry. The road building industry, at least at the time of the conspiracies, was not difficult to enter, yet the Division turned up numerous cartels.²⁷¹

Some industries bore conspiracies over the history of the Sherman Act. In rejecting the government's challenge of a merger, a district court surmised that the "absence of entry barriers makes it unlikely that these sellers of fluid milk could exercise market power."²⁷² But approximately one week after the Department of Justice challenged this merger between fluid milk processors in one state, a fluid milk supplier in another state pled guilty to bid-rigging on milk contracts for schools and federal military installations, bringing to date a total of eighty-three criminal cases filed against forty-seven corporations and fifty-six individuals in the fluid milk/dairy products industry for bid-rigging conspiracies in Florida, Georgia, North Carolina, South Carolina, Virginia, Kentucky, Illinois, Texas, Mississippi, Tennessee, Indiana and Oklahoma.²⁷³ Moreover, in 1992, Oak Grove Dairy (one of the profit-maximizing competitors referenced in *Country Lake*) was indicted for entering into and engaging in a combination and conspiracy to suppress and eliminate competition by fixing prices, rigging bids, and allocating customers with respect to public school contracts for the sale of dairy products in the State of Minnesota.²⁷⁴ Besides fluid milk and dairy

270. Compare POSNER, *supra* note 6, at 127 (noting that the Los Angeles grocery stores in *United States v. Von's Grocery Co.*, 384 U.S. 270 (1966) could not have fixed prices without inducing rapid and widespread entry as to force the market price down to competitive levels before the cartel could obtain substantial monopoly profits) with *United States v. Waldbaum, Inc.*, 612 F. Supp. 1307 (D. Conn. 1985).

271. Kolasky, *supra* note 199, at 20–21.

272. *United States v. Country Lake Foods, Inc.*, 754 F. Supp. 669, 673 (D. Minn. 1990).

273. See *United States v. Borden, Inc.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,090, at 44,495 (M.D. Fla. 1990).

274. *United States v. George Benz & Sons, Inc. d/b/a Oak Grove Dairy*, Criminal No. 97-134 (D. Minn. 1997). As of August 1993, the Division had brought ninety-eight criminal cases against fifty-two corporations and sixty-six individuals in the milk and dairy products industry for bid-rigging conspiracies. See *United States v. H. Meyer Dairy Co.*, Trade Reg. Rep. Summaries (CCH) ¶ 45,093, at 44,649. As of August 1993, 45 corporations and 48 individuals had been convicted, and approximately \$46.3 million in fines were imposed. *Id.*

products, other industries such as gypsum board, bread, cement, fertilizers, trucking, and lumber have had a higher degree of recidivism.²⁷⁵

Moreover, while the Chicago School posits that cartels are inherently unstable,²⁷⁶ many conspiracies, including those with eleven or more conspirators, last for long periods.²⁷⁷ As Kolasky said:

[c]artels are more durable [than] sometimes thought. After the ADM plea, the Wall Street Journal stated 'If colluders push prices too high, defectors and new entrants will set things right.' Our experience has shown that this is not the case. Several of the cartels we prosecuted had been in existence for over ten years, including one (sorbates) that lasted 17 years, from 1979 to 1996.²⁷⁸

275. An earlier review identified over forty defendants who faced four or more indictments and convictions for antitrust offenses between July 1955 and 1980. JAMES M. CLABAULT & MICHAEL K. BLOCK, *SHERMAN ACT INDICTMENTS: 1955-1980*, at 905-11 (1981). Among those criminally convicted for multiple antitrust violations during this twenty-five-year period were: General Electric Co. (nineteen antitrust convictions); Westinghouse Electric Corp. (twenty); oil producers Gulf Oil Corp. (six); Phillips Petroleum Co. (seven); Shell Oil Co. (seven); Mobil Oil Corp. (eleven); and steel producers Bethlehem Steel Corp. (seven) and United States Steel Corp. (eleven). As the former Assistant Attorney General for the Antitrust Division said, the DOJ files "contain the stories of industries that seem again and again to have had antitrust difficulty" and that corporate recidivism "is not at all unknown in the antitrust world." John H. Shenefield, *Compliance Programs As Viewed from the Antitrust Division*, 48 ANTITRUST L.J. 73, 79 (1979). Another example was Hoffmann-La Roche, which continued its participation in the vitamin conspiracy even as it was entering into a plea agreement for its participation in the citric acid cartel. Kolasky, *supra* note 199, at 20.

276. See Posner, *supra* note 33, at 932 (noting early neoclassical economic belief, in which the Chicago School operates, that cartels are highly unstable); John S. McGee, *Ocean Freight Rate Conferences and the American Merchant Marine*, 27 U. CHI. L. REV. 191, 197-99 (1960).

277. The average duration of price fixing and other per se illegal cartels prosecuted by the United States between 1955-59 was 7.4 years. Gallo et al., *supra* note 110, at 99. The average length of the conspiracies prosecuted in the four-year periods thereafter ranged between 6.2 and 7.8 years. *Id.* During the Reagan Administration, the Division prosecuted more regional conspiracies, and fewer nationwide or international conspiracies. *Id.* The average duration of the conspiracies during the Reagan Administration was also shorter: 3.7 years (1980-84); 4 years (1985-89). *Id.* The average duration of conspiracies prosecuted thereafter was 5.8 years (1990-94), and 2.6 years for two-year period of 1995-97. *Id.* As Posner observed from his study of prosecuted cartels, the hypothesis that cartels with more members are less stable than cartels with fewer members "yielded a negative result." Richard A. Posner, *A Statistical Study of Antitrust Enforcement*, 13 J.L. & ECON. 365, 402 (1970). Of the seventy-nine conspiracies involving ten or fewer conspirators, fifty-two percent of them (forty-one) persisted for six years or more, and twenty-four percent lasted more than ten years. *Id.* Of the twenty-eight conspiracies involving eleven or more conspirators, sixty-four percent of them (eighteen) persisted for six years or more, and thirty-two percent lasted more than ten years. *Id.* See also Simon J. Evenett, Margaret C. Levenstein & Valerie Y. Suslow, *International Cartel Enforcement: Lessons from the 1990s*, WORLD ECON. 1221, 1226 (2001) (average duration of surveyed cartels prosecuted in 1990s was six years, with some lasting two decades).

278. Kolasky, *supra* note 199, at 19 (emphasis omitted). Likewise, former Assistant Attorney General Joel Klein remarked:

Another great myth, perpetrated by some of the theoretical thinkers is that cartels,

At other times, entry occurs but fails to prevent the price-fixing. The entrant is either ineffectual or co-opted. The Antitrust Division's top criminal prosecutor observed of one enterprising criminal cartel involving thirty-one individuals and fifteen companies prosecuted for massive bid-rigging among food suppliers. In defrauding New York City schools, children's facilities, homeless shelters, hospitals, and jails, among other non-profit and public entities, the bid-riggers went beyond "the usual agreements on price levels and allocations of contracts" but also had "a slush fund totaling hundreds of thousands of dollars, which was used to pay off potential competitors to bid high, or not to bid at all, on contract solicitations that other conspirators were slated to win."²⁷⁹

On the other hand, studies have shown companies entering markets when rational choice theory predicts the contrary. A profit-maximizing firm would not embark on such ventures with a negative expected value.²⁸⁰ Examining entry on a macro level (domestic manufacturing industries), one antitrust commentator found that twenty-five percent of these entrants disappear within two years, and over sixty percent within five years.²⁸¹ Thus, while entry was not difficult, survival was. Why then does entry occur, where it should not, and why doesn't timely, likely and sufficient entry always occur in markets where under the Merger Guidelines it should?

The behavioral finance literature may offer some insights. In theory, entry in the form of arbitrage should be very attractive in financial markets since: (i) entry involves no sunk cost (just the opportunity cost of using the funds elsewhere), (ii) the financial markets have greater price transparency and asset liquidity than in many other markets (such

where they exist, are unstable and short-lived. Our experience proves otherwise. The Division has uncovered a number of conspiracies that operated for a decade or more, and the majority of the international cartels that we have prosecuted or that are currently under investigation are believed to have already existed continuously for 5–10 years or longer. In each of the cases that I just mentioned, you can bet that the cartels would still exist today if they had not been detected and prosecuted by the Division.

Joel I. Klein, Assistant Attorney General, Remarks at the American Bar Association Antitrust Section Spring Meeting: The Antitrust Division's International Anti-Cartel Enforcement Program (Apr. 6, 2006).

279. Scott D. Hammond, Director of Criminal Enforcement, Antitrust Division, A Review of Recent Cases and Developments in the Antitrust Division's Criminal Enforcement Program, presented at the 2002 Antitrust Conference: Antitrust Issues In Today's Economy By The Conference Board (Mar. 7, 2002), available at <http://www.usdoj.gov/atr/public/speeches/10862.htm>.

280. Avishalom Tor, *The Fable of Entry: Bounded Rationality, Market Discipline, and Legal Policy*, 101 MICH. L. REV. 482, 489–90 (2002).

281. *Id.* at 490.

as real estate), and (iii) such “an investment strategy . . . offers riskless profits at no cost.”²⁸² The Efficient Market Hypothesis consequently assumes that such easy entry would readily exploit arbitrage opportunities, and move stock prices back to their true value. If so, why then are arbitrageurs at times slow in exploiting such opportunities (or do not exploit them all)? One possible explanation is that despite the price transparency of stocks, the costs of discovering such arbitrage opportunities are greater than generally assumed under the Efficient Market Hypothesis.²⁸³ If so, then the search costs for potential entrants to ascertain market prices and/or the cost of entry would presumably be greater in other markets with far less price transparency. Restrictions on trading could be another explanation. It could also be that the number of superheroes is limited, and the discounted return on capital for other ventures simply is more attractive.

Another explanation may be the role of the biases discussed in the behavioral economics literature. Any meaningful entry requires some degree of adventure and risk. Entry first depends upon the company’s willingness to explore new markets, technologies, or products. Not only are there search costs for discovering such opportunities, the motivation may also depend on the conditions in the potential entrant’s current market.²⁸⁴

Once the company identifies the opportunity, entry next depends upon its willingness to exploit that opportunity. The way individuals perceive and react to either risk and/or uncertainty may systemically diverge from the rational choice theory’s predicted outcome. Individuals generally are more risk adverse with respect to gains than losses. For example, in one study, a majority of test subjects preferred a sure gain (for example, a \$50 reward) to a gamble (fifty percent probability of winning \$100).²⁸⁵ However, the same test subjects were more willing to gamble a loss (opting for the fifty percent chance of

282. Barberis & Thaler, *supra* note 62, at 3–4.

283. Stout, *supra* note 99, at 655–65.

284. See BEINHOCKER, *supra* note 2, at 254–58 (discussing RICHARD FOSTER, INNOVATION: THE ATTACKER’S ADVANTAGE (1986)). From various industries, Foster found a consistent S-shaped curve pattern involving the natural life cycle of technologies. Initially, a technology’s performance is poor, and progress is slow. After a period of investment and refinement, the technology takes off, and each dollar invested yields substantial gains from the technology. As the technology matures, its returns on investment diminish, and entrepreneurs and smaller innovators have an increased incentive to explore for new technologies. Thus, a company where its technology is in the growth stage may be more willing to exploit current opportunities (such as by expanding in other geographic markets) than to invest in future disruptive technologies. *Id.*

285. Korobkin & Ulen, *supra* note 1, at 1105.

paying a \$100 fine), than paying a certain penalty (\$50 fine).²⁸⁶ Studies also show that professional traders are susceptible to these heuristics and biases.²⁸⁷ Similarly, once an entrant has taken the plunge, it may more likely accept a greater risk (such as investing more money to remain in the market if there is a fifty percent probability of attaining a \$100 million in profits) than if the company is still on the edge considering whether to enter and commit those funds.²⁸⁸ With respect to ambiguous risks (where not all the risks are known or the risks' probability of occurring is unknown), the behavioral economists have found that the test subjects are even more risk averse.²⁸⁹

The timeliness, likelihood, and success of entry may depend on organizational behavior. Ideally, the larger the company, the greater the degree of possibilities to exploit the opportunity. Organizational growth can create powerful economies of scale to tackle more complex tasks such as making a jumbo jet airplane versus a café americano.²⁹⁰ But such "network growth creates interdependencies, interdependencies create conflicting constraints, and conflicting constraints create slow

286. *Id.*

287. Prentice, *supra* note 2, at 1704 n.211.

288. Although under rational choice theory, the profit-maximizer should not be affected by sunk costs in its decisions (such as feeling obligated to go to the theatre on a particular night, after purchasing a season subscription), studies show such sunk cost effects influence decision-making. See Thaler, *Mental Accounting Matters*, *supra* note 71, at 83–86; Prentice, *supra* note 2, at 1735 n.385.

289. Colin F. Camerer & Risto Karjalainen, *Ambiguity-Aversion and Non-additive Beliefs in Non-cooperative Games: Experimental Evidence*, in *MODELS AND EXPERIMENTS ON RISK AND RATIONALITY* 325, 325–58 (Bertrand Munier & Mark Machina eds., 1994). While a Special Assistant U.S. Attorney, I observed this phenomenon (although the results can hardly be described as scientific). As part of our training, we prosecuted traffic infractions on the George Washington Memorial Parkway, which was federal land, and thus within the federal court's jurisdiction. Given the number of speeding infractions on the weekly docket, we would on the morning of the court date attempt to negotiate pleas with the defendants. Pleas were important, as trying these cases would consume much of the court's resources. The United States Park Police officer would write on the ticket the infraction (speeding and reckless driving) and the fine. Initially, despite my offer to drop one of the infractions (reckless driving) (thus providing indirectly a benefit of lower insurance premiums), many defendants on my docket were unwilling to plea and opted for the trial (taking a gamble on paying nothing rather than the fine on the ticket). I then offered as part of the plea to lower the speed (thus lowering the points that the local DMV assessed on the ticket) but that did not significantly increase the number of pleas. Still puzzled, I observed some of my fellow SAUSAs, and then added to my plea speech a degree of ambiguity. I noted to the speeder that the judge was not bound by the amount of fine reflected on the ticket (which was true), and that the court could impose up to the maximum penalties for this misdemeanor, namely 6 months imprisonment and/or a fine up to \$5,000. I indicated that although these maximum fines were rarely imposed, I needed to make the defendant aware of this possibility. The number of pleas skyrocketed.

290. BEINHOCKER, *supra* note 2, at 148–50.

decision making and, ultimately, bureaucratic gridlock.”²⁹¹ As one has likely experienced planning a family event with parents, siblings, in-laws, and relatives, the more interaction and approval required, the lesser the degree of freedom, and the greater the likelihood of standing in a parking lot arguing over which restaurant would be suitable for all.

Because companies’ culture and hierarchy may vary considerably, one empirical question is how does the potential entrant internally promote risk taking? Television and radio advertisements commonly tout their products as the safe choice for the middle-manager: “No one was ever fired for using” As the behavioral economics literature illustrates, if the mid-level executives evaluated each project individually and separately (rather than collectively), such “narrow framing” may lead to greater risk aversion. Thaler, for example, asked one firm’s twenty-five executives if they would undertake a project that stood a fifty percent chance to gain \$2 million and fifty percent chance to lose \$1 million.²⁹² Only three executives accepted the gamble, whereas the company’s CEO, when asked if would like a portfolio of twenty-five of these investments, nodded enthusiastically.²⁹³ On the other hand, the company may internally place a premium on such risk taking, encouraging its departments to consider alternative strategies as a hedging mechanism.

Economists then can use data from other fields, such as organizational behavior and social psychology, to identify characteristics (either of industries or firm structures) where all else is equal (under the Merger Guidelines), entry is more (rather than less) likely to occur on a timely basis and be sufficient to defeat the exercise of market power. Although in evaluating mergers, antitrust enforcers look at instances of past entry, the harder question is whether the change in the market as a result of this merger alters the dynamics of entry. A company may be more committed to expend resources to remain in the market than to expend to enter. Only by re-examining the market post-merger can one determine whether these superheroes did in fact materialize and defeat the merger’s anticompetitive effects.

291. *Id.* at 152.

292. Thaler, *supra* note 71, at 97.

293. *Id.*

5. Assumption That Many Companies Merge to Generate Significant Efficiencies

The Merger Guidelines state that the “primary benefit of mergers to the economy is their efficiency-enhancing potential.”²⁹⁴ The belief is that profit-maximizing firms merge for two principal reasons: efficiencies/cost savings and/or market power. If the merger generates neither, it would be economically irrational.

The Merger Guidelines treat efficiencies as a defense available for the merging parties. The parties may argue that the merger will generate efficiencies, which, in turn, will lead to lower prices for consumers.²⁹⁵ Efficiencies that reduce marginal costs in theory could make collusion less likely or effective by “creating a new maverick firm.” Some have argued for expanding the availability of the efficiencies defense to mergers where consumers would likely pay higher prices, but where the merging parties would yield even greater productive efficiencies (the cost savings attributable to the merger).²⁹⁶ Under this total welfare standard, society would be better off since the merged entity would consume fewer resources, which would be freed up for other consumers.²⁹⁷

The problem is that no one knows whether, and to what extent, mergers in different industries actually generate significant efficiencies. Management consulting firms, for example, have noted that the merging parties’ executives, at times, may overstate the likely efficiencies.²⁹⁸ In several notable cases, such as the AOL/Time Warner merger, the parties failed to achieve their claimed efficiencies.²⁹⁹ In the antitrust field, some, including economist F.M. Scherer, have their doubts:

294. Horizontal Merger Guidelines, *supra* note 15, at § 4. For a well-written account of the evolution of the efficiencies defense, see William J. Kolasky & Andrew R. Dick, *The Merger Guidelines and the Integration of Efficiencies into Antitrust Review of Horizontal Mergers*, 71 ANTITRUST L.J. 207 (2003).

295. Horizontal Merger Guidelines, *supra* note 15, at § 4.

296. Posner, *supra* note 33, at 930–35. For a discussion of the varying efficiency defenses, including the consumer welfare and total welfare standards, see Daniel J. Gifford & Robert T. Kudrle, *Rhetoric and Reality in the Merger Standards of the United States, Canada, and the European Union*, 72 ANTITRUST L.J. 423 (2005).

297. Some Chicago School adherents, however, do not subscribe to an efficiencies defense, given the difficulty in calculating efficiencies. POSNER, *supra* note 6, at 133. They instead believe that most efficiency-enhancing mergers, if the government agencies apply the Chicago School’s rational choice theories, would go unchallenged. *Id.* at 133–34.

298. For a summary of various management consulting studies, see Paul A. Pautler, *The Effects of Mergers and Post-merger Integration: A Review of Business Consulting Literature* (Jan. 21, 2003), available at <http://www.ftc.gov/be/rt/businessreviewpaper.pdf>.

299. Steve Case, *It’s Time to Take It Apart: My Case for Dividing the Media Giant*, WASH. POST, Dec. 11, 2005, at B1.

What the combination of this evidence seems to reveal is that making mergers is a risky proposition. Many mergers, and perhaps the majority, fail to live up to expectations and may indeed make matters worse rather than better. Many muddle though. A fair number succeed, and a few succeed spectacularly. . . . Making mergers is a form of gambling; skill matters, but there is an important chance component.³⁰⁰

In cases where efficiencies were not realized, why did the corporate executives misjudge? The acquiring company, for example, may have had incomplete information on the acquired company (due in part to the antitrust laws) when they calculated pre-merger the likely efficiencies. Other non-quantifiable or unforeseen factors (such as the two organizations' cultures or a downturn in the economy) may have materially impeded the realization of such efficiencies.

It is also possible that the biases discussed in the behavioral economics literature account for the executives' poor predictions on efficiencies. Rational choice theory assumes that bidders are profit-maximizers, and each bidder assumes that the other bidders are rational. But in bidding wars, passion and optimism may prevail, leading the participants to overvalue the purchased assets. The greater the number of bidders, as Thaler points out, the greater the risk of overpaying for the assets—the winner's curse.³⁰¹ Even if one bidder recognizes that its competitors' bids are inflated, it can either opt out of the bid (but if the winner's curse behavior is systemic, this may not be an optimal strategy long-term) or attempt to outbid the other bids.³⁰² Alternatively, fueled by their successes with prior mergers, corporate executives may be overconfident in their management skills, and believe (just as the belief in the athlete with the hot hand)³⁰³ that the next merger would yield similar (if not greater) efficiencies. Or management's incentives for merging may be driven, not by market power or efficiencies, but by handsome buy-out compensation packages.³⁰⁴

It is difficult today for outsiders to measure *ex post* whether the merger actually yielded the claimed efficiencies. Many public companies report on a consolidated basis, so one may not easily measure the post-merger cost savings for a particular division.

300. F.M. Scherer, *Some Principles for Post-Chicago Antitrust Analysis*, 52 CASE W. RES. L. REV. 5, 18 (2001).

301. THALER, WINNER'S CURSE, *supra* note 62, at 50–62.

302. *Id.*

303. Prentice, *supra* note 2, at 1684 n.95 (citing articles on hot hand theory).

304. Gretchen Morgenson, *What Are Mergers Good For?*, N.Y. TIMES, June 5, 2005, § 6 (Magazine), at 58.

Moreover, some cost savings may have been realized independent of the merger (such as new management or technology). Even if one puts aside the infirmities of the Efficient Market Hypothesis, comparing the company's stock price pre- and post-merger raises other complications when the efficiencies are small relative to overall earnings, or when intervening factors materially impact the stock price. Relying on the market's reaction to the announcement of the merger assumes that market participants (with presumably less information than the acquiring company's executives regarding the merging companies' cost structures) were better prognosticators of the likely efficiencies than company management. Moreover, the stock price may rise for reasons unrelated to efficiencies (including anomalies in the market itself).

Given that antitrust enforcers do not regularly revisit mergers, it is unclear today to what extent the efficiencies claimed as a defense actually materialized. More empirical research is needed to determine to what extent mergers generate significant efficiencies. Such research may help identify factors of when, and under what circumstances, the claimed efficiencies are likely to be realized.

D. Nature of the Problem

Antitrust agencies do not ignore empirical data. The staff generally spends months during the pre-merger review process gathering industry data through various sources, such as customers, competitors, and market experts. The staff typically considers natural experiments, such as market prices before and after recent entry or prices in other geographic markets with one fewer competitor.³⁰⁵ Some industries offer unusually rich data, such as retailers' in-store scan data, which can show what impact changes in the retail price of one brand (such as Wonder white-pan bread) had on the unit sales of other branded or private label products (such as rye bread, bagels, or wheat bread).³⁰⁶

305. For one such natural experiment where the analysis did not rest on functional interchangeability of office products sold through different outlets, but rather on the localized competition between the merging parties and the differences in pricing in geographic markets when one faced competition with the other, see *FTC v. Staples, Inc.*, 970 F. Supp. 1066, 1073–81 (D.D.C. 1997).

306. See Daniel Hosken et al., *Demand System Estimation and Its Application to Horizontal Merger Analysis* (Fed. Trade Comm'n Bureau of Economics, Working Paper No. 246, 2002), available at <http://www.ftc.gov/be/workpapers/wp246.pdf> (discussing use of scanner data for demand estimation); David Scheffman & Mary Coleman, *FTC Perspectives on the Use of Econometric Analyses in Antitrust Cases* (2002), available at <http://www.ftc.gov/be/ftcperspectivesoneconometrics.pdf> (discussing the use of scanner data for demand estimation and other relevant economic analyses); Fed. Trade Comm'n, Bureau of Economics, *Best Practices for Data, and Economics and Financial Analyses in Antitrust Investigations* (2002), available at <http://www.ftc.gov/be/ftcbebp.pdf> (providing guidelines on economic analysis for meeting with

But even with this rich data, as former FTC Chairman Timothy J. Muris observed, the economic merger simulation models typically are based on simple economic models, such as a “one-shot Bertrand” model.³⁰⁷ One major problem then is that the “Bertrand model is imposed with virtually no analysis of its actual ability to explain competition in the market. Theory cannot perfectly replicate reality, but applying a highly simplistic theory without any empirical basis that the theory adequately approximates reality is not sound economics.”³⁰⁸ Thus, pre-merger, months of hard work go into collecting data for these economic models, but post-merger, the agencies typically do not revisit the industry to see if their model got it right. As Kovacic observed, the “desirability of devoting greater resources to ex post evaluation of completed matters was a consistent theme of competition policy experts who testified at the FTC’s hearings in 1995 on innovation and international competition.”³⁰⁹

The challenge for antitrust policy makers is apparent. In light of the burgeoning behavioral economics literature and the anecdotal evidence thus far, the government’s descriptive theory, which makes several critical assumptions based on industry structure and entry, needs to be rigorously tested to determine its accuracy in predicting the likelihood of competitive harm.³¹⁰ But this may be so self-evident that one may

FTC Bureau of Economics). See also Guidelines Commentary, *supra* note 148, at 6, 8, 9, 14 (describing use of scan data to estimate demand elasticities for branded consumer products).

307. Timothy J. Muris, Chairman, FTC, Remarks at George Mason University Law Review’s Winter Antitrust Symposium (Jan. 15, 2003), available at <http://www.ftc.gov/speeches/muris/improveconfundatio.htm>.

308. *Id.*

309. William E. Kovacic, *Evaluating Antitrust Experiments: Using Ex Post Assessments of Government Enforcement Decisions to Inform Competition Policy*, 9 GEO. MASON L. REV. 843, 855–56, (2001) (collecting statements); see also Timothy J. Muris, *GTE Sylvania and the Empirical Foundations of Antitrust*, 68 ANTITRUST L.J. 899, 906–07 (2001) (agencies should fill merger policy’s void by testing post-merger existence of anticompetitive effects); Fed. Trade Comm’n, *Empirical Industrial Organization Roundtable* 115–41 (Sept. 11, 2001), available at <http://www.ftc.gov/be/empiricalroundtabletranscript.pdf> (discussing the value of ex post evaluation of mergers).

310. Similarly, the former FTC Chairman recognized:

To assess the efficacy of merger enforcement, we need to analyze the effects of past enforcement actions, including non-enforcement decisions. Specifically, we need to understand the industry and firm specific conditions relevant to the potential for anticompetitive effects. We also need to know much more about the nature and likelihood of significant procompetitive effects of mergers. Understanding the efficiencies that can arise from mergers and how they are achieved would provide us with greater ability to evaluate prospective mergers.

Muris, *supra* note 307.

ask: doesn't the government revisit these industries post-merger? The answer is often no.³¹¹

The FTC from time to time publishes studies of different industries, such as the soft drink industry.³¹² The Department of Justice occasionally evaluates particular industries, most notably in the 1930s when the congressional Temporary National Economic Committee investigated the state of competition in various industries. As the Justice Department later reported, this empirical analysis was helpful. The factual data from this effort "revealed the urgent need for a vigorous attack on monopoly power and concentration of economic resources and gave added impetus in 1938 and subsequently to the effort to reverse or at least check the trend toward concentration which had prevailed for most of the preceding half century, and to overcome some of the obstacles to effective enforcement of the antitrust laws."³¹³ From time to time, the agencies have proposed such ex post review to provide "needed insight into the effectiveness of antitrust enforcement,"³¹⁴ but failed to undertake such action.

At times, the agencies may revisit that industry, but when is indeterminate—perhaps because of another merger, a criminal price-fixing prosecution, or a monopolization case. It is also unpredictable whether the staff will take any action if another merger occurs in an industry. For example, if the agency previously investigated, but did not challenge, a merger (because the product market was difficult to defend under the Merger Guidelines or the industry's entry barriers were deemed low), then the agency may pass on re-examining that industry (even though no analysis was done as to what actually happened to competition post-merger). This, in turn, may compound

311. Kovacic, *supra* note 309, at 852 ("Public enforcement agencies spend comparatively few resources assessing the effect of their past initiatives."); Muris, *supra* note 307, at 906; GAO, REPORT TO THE U.S. CONGRESS: CLOSER CONTROLS AND BETTER DATA COULD IMPROVE ANTITRUST ENFORCEMENT, *supra* note 211, at 12 (noting that neither agency placed high priority on evaluating enforcement activities to assure that resources are effectively employed).

312. Harold Saltzman et al., *Transformation and Continuity: The U.S. Carbonated Soft Drink Bottling Industry and Antitrust Policy Since 1980* (Nov. 1999), <http://www.ftc.gov/reports/softdrink/softdrink.pdf>; Laurence Schumann et al., *Case Studies of the Price Effects of Horizontal Mergers* (April 1992) (study examines aftermath of mergers in three industries: titanium dioxide, cement, and corrugated paperboard, finding a mixture of results with likely pro-competitive outcomes in cement and paperboard, and potentially large anticompetitive outcome in titanium dioxide, depending on the model specification).

313. 1952 DOJ ANTITRUST REPORT, *supra* note 115, at 9.

314. GAO, REPORT TO THE U.S. CONGRESS: CLOSER CONTROLS AND BETTER DATA COULD IMPROVE ANTITRUST ENFORCEMENT, *supra* note 211, at 13 (noting agencies' proposals to study markets where a successful case was brought to determine effect on prices or for mergers whether competition has been restored).

the error. Even if the staff does investigate the next merger, the data from the original investigation may have been destroyed, returned to the parties, or gathering dust in archives. Even if the data reveals a price increase after the last merger, the government may still hesitate. If the higher prices are not readily explainable under current rational choice theory, then the government may pass on that merger as well. The government may also be hindered in legally challenging the anticompetitive conduct post-merger. For example, the antitrust laws do not prohibit a monopolist from raising prices. Thus, the merging parties may later exercise market power by reducing innovation, quality and services, and increasing prices, which may all go unchallenged.

Moreover, if and when, they review the industry post-merger, the government agencies rarely post their findings. There is little coordination among the various federal agencies about the data they collect on various industries. Also, there is not much coordination between the legal staffs of the FTC and the Department of Justice, or between the Department of Justice's criminal and civil antitrust sections. While the Federal Rules of Criminal Procedure and statutes on grand jury secrecy restrict the dissemination of certain information,³¹⁵ the Department of Justice has not systemically studied, for example, markets where criminal price-fixing occurred. Academic literature relies on the bits of the published summaries of these cases.³¹⁶ But there have not been any extensive studies of the characteristics of these industries, in which cartel behavior was prosecuted.

The legal staff and economists, in my experience, devote considerable efforts in examining mergers, and are genuinely concerned about reaching the right result. Consequently, if the benefits of such post-merger review are so self-evident, why isn't the federal government performing them? Several explanations come to mind. First, the agencies may lack subpoena power for such post-merger review. Data on net prices, costs, services, innovation and quality is not always publicly available. Thus, it is unclear whether both agencies can subpoena the firms post-merger for such information if they are not investigating a possible antitrust violation.³¹⁷ A second explanation

315. FED. R. CRIM. P. 6(e)(2) (explaining the secrecy requirements of grand jury proceedings).

316. See Gallo et al., *supra* note 110, at 97 n.30 (noting the inadequacies of economic evidence regarding government criminal prosecutions).

317. The Antitrust Division appears to be more limited in conducting such general post-merger review. The Division's subpoena authority in civil investigations comes from the Antitrust Civil Process Act, 15 U.S.C.A. §§ 1311-1314 (West 2004 & Supp. 2006). The Act defines an antitrust investigation to premerger activities or suspected antitrust violations. *Id.* at § 1311(c). The FTC, on the other hand, has broader statutory authority to gather information on the effects of its enforcement measures. See 15 U.S.C.A. § 46 (West 2004 & Supp. 2006),

may be that with staffing and budgetary constraints, the antitrust agencies may feel that resources are better used toward prosecuting offenses, particularly if there is a higher value or reward in bringing new cases than in revisiting old ones.³¹⁸ A final explanation is the bias of “belief perseverance,” which the behavioral economists describe as clinging to a belief too tightly and for too long.³¹⁹ Under this bias, individuals search for data that validates their opinion, and are reluctant to search for evidence that contradicts their belief.³²⁰ When evidence contradicts their firmly held opinion, they either discount it, or misinterpret the evidence as actually supporting their hypothesis. Thus, belief perseverance predicts that if people begin their antitrust careers believing in the rational choice theories underlying the Merger Guidelines, they may believe that their intellectual journey has come to an end, even if compelling evidence to the contrary has emerged.³²¹

III. RECOMMENDATION

To encourage such post-merger review and to empirically test the Merger Guidelines’ predictive qualities, this article recommends five legislative actions. Why legislation? Why can’t the government agencies simply condition approval of a merger on the parties’ compliance post-merger with these data requests? Short of legislation, that would be a good start. But the merging companies may not always faithfully comply (requiring the court to enforce a contractual obligation for documents), some critical non-public industry data may be in the hands of third parties (not subject to this contract), and the agencies’ reporting efforts would be *sua sponte*, rather than mandatory. Consequently, the recommendations below serve as a starting point for further discussion, and are by no means definitive.

First, Congress should expressly provide the federal antitrust agencies with subpoena authority for non-public information to conduct such post-merger review. This subpoena authority should be sufficiently broad to enable the antitrust agencies to test (and eliminate) other explanations as to why competition (which includes important

amended by U.S. Safe Web Act of 2006, Pub. L. No. 109-455 § 4(a), (b), (d), 120 Stat. 3372, 3373, 3375 (empowering FTC to gather data to perform economic studies).

318. GAO, REPORT TO THE U.S. CONGRESS: CLOSER CONTROLS AND BETTER DATA COULD IMPROVE ANTITRUST ENFORCEMENT, *supra* note 211, at 12 (Antitrust Division noting that few evaluative efforts undertaken because of lack of staff; FTC efforts stalled in part due to staff’s lack of time or inclination); Kovacic, *supra* note 309, at 852.

319. Barberis & Thaler, *supra* note 62, at 15.

320. *Id.*

321. *Id.* (using this analogy for Efficient Markets Hypothesis).

parameters beyond price) increased or diminished post-merger.³²² Congress should also require the federal antitrust agencies to coordinate with other agencies in sharing such information, subject to the data producer's ability to challenge the dissemination of its commercially sensitive information.

Second, Congress should require the federal antitrust agencies to publish their summary findings of any merger subject to a Second Request in which the agency: (i) took no enforcement action; (ii) permitted the merger in part to be consummated pursuant to a consent decree; or (iii) challenged the merger in court, but lost. The antitrust agency (or other designated entity) two to five years after such mergers were consummated would examine the state of competition in that industry, including pricing levels and non-price components such as innovation, productivity, services, and quality, to the extent observable. Where the competition significantly diminished, the agencies would report whether other variables, besides the merger, might explain the increase in prices or reduction in innovation, productivity, services, and quality. For those companies identified as potential entrants in the original merger review, the reviewing agency would analyze, based on its interviews with these identified entrants, why they chose not to enter, or if they did enter, why they were ineffectual. The reviewing agency would describe which, if any, of the merging parties' efficiencies it could verify post-merger, the magnitude of the efficiencies, and the extent that consumers directly benefited from such efficiencies. The federal antitrust agencies would also describe annually what specific actions, if any, they are undertaking with respect to this data, including how they are incorporating the findings from this data in their merger review.

Third, for any successful cartel or monopolization prosecution, Congress should require the agency to report two to five years after the completion of the prosecution the state of competition in that industry, as described above. With criminal cartel prosecutions, the Department of Justice typically seeks fines and incarceration; whether these measures were sufficient to restore competition and deter recidivism should be assessed.³²³ After securing its criminal convictions, the

322. If, on the other hand, the subpoena authority were narrowly constrained to post-merger price data, one may fall into the trap of equating correlation with causation. Just because prices, for example, increased post-merger does not necessarily mean that the merger caused prices to increase. For example, prices may have increased in other geographic markets unaffected by the merger.

323. As Senator Sherman observed:

These corporations do not care about your criminal statutes aimed at their servants.

Department of Justice should also inquire, and publicly report, how cartels with many members or competitors were able to collude. Did they act as many profit-maximizer game theories would predict, or were they more trustful and cooperative than these theories' predicted outcome? If so, why? As the number of cartel members increases, were there other specific factors that enabled them to successfully collude? What, besides its amnesty program, can the government do to deteriorate that trust and cooperation among price-fixers (without adversely affecting other legal rules that foster socially beneficial trustful relationships)?³²⁴ The agencies should also determine whether any cartel member or monopolist had acquired any competitor, large customer or supplier in the affected industry in the five years before, or at any time during, the alleged violation. If so, the agency should report what action, if any, antitrust enforcers had taken in reviewing that earlier acquisition, identify the reasons for not challenging it, and what impact, if any, that earlier acquisition had on the industry's state of competition.

Fourth, Congress should require the federal antitrust agencies to make publicly available a computerized database identifying all civil and criminal antitrust consent decrees, pleas, or litigated actions under section 1 of the Sherman Act.³²⁵ The database should include certain industry characteristics, such as: (i) the number of conspirators (and best estimate of their market shares); (ii) the length of conspiracy; (iii) the product or services market in which collusion occurred; (iv) the number of competitors (and their market shares) who were not part of the conspiracy; (v) the number of entrants (and their market shares) during the period of the conspiracy; and (vi) the nature of the conspiracy.³²⁶

They could give up at once one or two or three of their servants to bear this penalty for them. But when you strike at their powers, at their franchises, at their corporate existence, when you deal with them directly, then they begin to feel the power of the Government.

21 CONG. REC. 2569 (1890).

324. The government's amnesty policy is cited as one helpful device to destroy that trust. Under the Corporate Leniency (or Amnesty) Program, as revised in 1993, amnesty is automatic if there is no pre-existing investigation, and may be available if the company cooperates after the investigation is underway, and all officers, directors, and employees of a corporation qualifying for automatic amnesty are protected from criminal prosecution. U.S. DEP'T OF JUSTICE, STATUS REPORT: CORPORATE LENIENCY PROGRAM 1 (2001), available at <http://www.usdoj.gov/atr/public/criminal/8278.pdf>. More information about the Department of Justice's leniency program is available at <http://www.usdoj.gov/atr/public/guidelines/0091.htm>.

325. See *supra* note 107 and accompanying text.

326. The government may delay listing certain nonpublic information if it would compromise ongoing antitrust enforcement. However, after completing its prosecution of the cartel, the Division should post such information, absent demonstrating that disclosure would compromise its enforcement activity.

Fifth, any publicly held company that seeks to rely on an efficiency defense before the agencies and/or the courts should be required to publicly report its claimed efficiencies in its SEC filings. For each year post-merger (for the period that it claims the efficiencies will be realized), the company should report the actual amount of efficiencies realized versus the projected amount. This should temper the company executives from inflating the claimed efficiencies, and hold them accountable to the shareholders for pursuing a growth-by-acquisition strategy, while informing the agencies on those efficiencies for particular industries that are more likely to be cognizable and substantial.³²⁷

IV. BENEFITS AND RISKS OF EMPIRICALLY TESTING THE MERGER GUIDELINES

The first benefit from such empirical testing is that the government can assess the efficacy of the Merger Guidelines. No one currently knows the government's success rate under these Guidelines. Thus, such empirical testing hopefully will lead to more informed antitrust enforcement, a nonpartisan goal palatable to those with divergent views on antitrust enforcement.³²⁸

Second, such empirical testing can provide the agencies, private bar, courts, and antitrust policy makers greater confidence, and mitigate the self-serving bias. The discussion of fairness so far assumes a deviation from a uniformly accepted reference point. A trickier issue is the concept of fairness in ambiguous scenarios with competing reference points.³²⁹ A famous example is Sophocles's play *Antigone*, which

327. Horizontal Merger Guidelines, *supra* note 15, at § 4 (noting certain types of efficiencies more likely to be cognizable and substantial). Several antitrust scholars have outlined the benefits of verifying after the merger the parties' ex ante efficiency claims. Joseph F. Brodley, *Post-Chicago Economics and Workable Legal Policy*, 63 ANTITRUST L.J. 683, 691-93 (1995); Robert Pitofsky, *Proposals for Revised United States Merger Enforcement in a Global Economy*, 81 GEO. L.J. 195, 222-27 (1992) (proposing enforcement agencies' conditional clearance of certain mergers subject to post-merger verification of efficiencies); Dennis A. Yao & Thomas N. Dahdouh, *Information Problems in Merger Decision Making and Their Impact on Development of an Efficiencies Defense*, 62 ANTITRUST L.J. 23, 26-27 (1993) (post-merger review of efficiencies equivalent to performance bonding by merging parties verifying their assertion that merger will realize efficiencies).

328. Posner, for one, would appear to support such post-merger review, as he noted in *United States v. Rockford Memorial Corp.* that:

[i]t is regrettable that antitrust cases are decided on the basis of theoretical guesses as to what particular market-structure characteristics portend for competition We would like to see more effort put into studying actual effect of concentration on price in the hospital industry as in other industries.

United States v. Rockford Mem'l Corp., 898 F.2d 1278, 1286 (7th Cir. 1990).

329. Linda Babcock & George Loewenstein, *Explaining Bargaining Impasse: The Role of*

represented “a collision between the two highest moral powers.”³³⁰ Although lacking the tragedy of the Greek play, merger review is not beyond this self-serving bias. The government enforcers may view themselves as defending consumers from the companies’ rapacity. The corporate executives may view the merger as necessary to survive for the benefit of their shareholders and employees, or even society. Such biases may engender costly discovery, contentious depositions, and ultimately litigation. To mitigate this bias, the antitrust staff at the Department of Justice typically outlines for the Assistant Attorney General the merging parties’ strongest arguments and documents, and may engage in moot court arguments, where staff lawyers argue the parties’ positions.³³¹ But this post-merger review may provide another tool to mitigate this self-serving bias. Human thinking is often context dependent.³³² For example, home buyers judge the fairness of a selling price based on comparable deals in the neighborhood. So too, we may be better equipped in evaluating a merger’s anticompetitive impact inductively (based on the outcome of prior comparable deals) than deductively based on the market’s deviation from a theoretical perfectly competitive ideal.³³³ In collecting post-merger data, the government economists and legal staff can augment their analysis with a case-based approach. By determining the pending merger’s degree of similarity to prior mergers, averaging the outcomes in these prior mergers weighted by the similarity of these prior mergers to the pending one, the government would have another measure to determine the probability of a merger’s anticompetitive outcome.³³⁴ The merging firms would have access to this database, and could augment their analysis of why the merger would not likely raise anticompetitive concerns. Although each side might have its list of comparables, this information may serve as bridge for the parties as to why the merger is more likely to resemble one set of outcomes than another.

Self-Serving Biases, in *ADVANCES IN BEHAVIORAL ECONOMICS* 326, 328 (Camerer ed., 2004).

330. Bernard Knox, *Introduction* to *SOPHOCLES, THE THREE THEBAN PLAYS* 41 (Robert Fagles trans., Penguin 1984) (quoting Hegel). Antigone’s moral authority for burying her brother lies not only in her promise to him, but in honoring the divine “laws the gods hold in honor.” *SOPHOCLES, THE THREE THEBAN PLAYS* 63 (Robert Fagles trans., Penguin 1984). Creon, on the other hand, seeks to prevent the burial of this traitor who declared war on the city, and believes in his moral superiority in upholding the safety of the country and the rule of law. Knox, *supra*, at 40–44.

331. Such measures have been shown to reduce this self-serving bias. See Babcock & Loewenstein, *supra* note 329, at 332–33.

332. *Id.* at 339.

333. See BEINHOCKER, *supra* note 2, at 125–39 (describing humans as inductively rational pattern recognizers).

334. Camerer & Loewenstein, *supra* note 26, at 37.

Third, such empirical testing may improve the agencies' credibility with the courts. Currently, the parties in litigation each retain their expert economists, typically academics with little, if any, regular interaction or experience in the affected industry. Each party has its set of customers who favor or oppose the merger, and company documents that support or undermine the economic theory. The court then wades through this conflicting evidence and ultimately decides which outcome is more likely under the rational choice theory, premised on a profit-maximizer.³³⁵ Not surprisingly, the predicted outcome may be divorced from reality. Moreover, the Supreme Court has reconsidered its decisions construing the Sherman Act when the theoretical underpinnings of its earlier decisions were called into question.³³⁶ This empirical testing may assist the courts in refining or reconsidering the theories underlying the antitrust laws.

Fourth, the federal agencies are ideally suited for collecting this empirical data. Private parties rarely challenge mergers under section 7 of the Clayton Act. The federal agencies under the HSR provisions initially receive the merger filings and largely spearhead the merger reviews. They can also bear the cost of such empirical testing. As John Stuart Mill observed, the government need not meddle in the affairs of its citizens (either individually or collectively) when the citizens' affairs do not prejudice others.³³⁷ But one useful purpose of the government is in "the greatest possible centralization of information, and diffusion of it from the centre."³³⁸

Fifth, such ex post assessments foster accountability.³³⁹ The staff at the agencies, in my experience, has been dedicated in enforcing the antitrust laws. But after devoting long hours collecting data to evaluate a merger's likely anticompetitiveness, the staff may conclude that the data when evaluated under the lens of the Merger Guidelines' rational choice theories is insufficient to reach any conclusion. Even if the staff

335. In *Arch Coal*, for example, the district court heard from more than twenty witnesses, and received hundreds of exhibits and "well over 700 pages of post-hearing proposed findings of fact and briefs." *FTC v. Arch Coal, Inc.*, 329 F. Supp. 2d 109, 114 (D.D.C. 2001). In *Sunguard*, the district court acknowledges its difficulties in defining the relevant market "given the conflicting evidence from the parties' economists, as well as the conflicting customer statements submitted by the parties." *United States v. Sunguard Data Sys., Inc.*, 172 F. Supp. 2d 172, 190 (D.D.C. 2001).

336. See *State Oil Co. v. Khan*, 522 U.S. 3, 20 (1997) (in revisiting per se ban on vertical restraints on maximum price, the Court describing its role "in recognizing and adapting to changed circumstances and the lessons of accumulated experience").

337. JOHN STUART MILL, *ON LIBERTY* 123 (Penguin Books ed. 2004).

338. *Id.*

339. Kovacic, *supra* note 309, at 847.

believes that the merger may substantially lessen competition or tend to create a monopoly, it may not recommend challenging the merger if proving it in court would be too difficult. Even when the staff amasses sufficient customer testimony, business records, admissions, and other evidence to enjoin the transaction, the agency may ultimately not challenge the merger for various reasons. One former Assistant Attorney General declined to bring many cases that the Department of Justice staff recommended because these cases did not make “economic sense” or, in his opinion, were not in the public interest.³⁴⁰ On the other hand, enforcement action may lead in some situations to undesirable outcomes. In determining an acceptable settlement, the agency must determine whether the divestiture of a particular brand, manufacturing plant, or other assets would remedy the perceived harms. Such divestitures may later prove to be inadequate. Alternatively, the agency may require the merging parties to act or refraining from acting in such a manner that unintentionally leads to anticompetitive results.³⁴¹ The settlement itself may be misguided as foreseeable dynamic forces indeed prevent the exercise of market power. By subjecting the agencies’ actions to external review and criticism, such *ex post* review would bring some accountability to those at the agencies who are responsible for enforcing the antitrust laws.³⁴²

Sixth, publicly disseminating the agency’s post-merger findings improves transparency. This information will assist the antitrust community in determining where the Merger Guidelines are or are not working, and enable other federal and state agencies, foreign governments, and academics to further analyze and refine the economic theories. Indeed, this empirical testing may reveal that many markets are not closed equilibrium systems, but rather complex adaptive systems.³⁴³ Rather than focusing on price in a competitive equilibrium, the antitrust agencies may instead focus on more important dynamic factors, such as competitor restraints that thwart innovators from entering and competing in that market. Public dissemination will also further one purpose of the Guidelines by assisting business communities

340. 1990 GAO STUDY, *supra* note 126, at 45 (quoting former Assistant Attorney General Douglas H. Ginsburg).

341. For example, making price information public may make collusion easier. See OECD’s Directorate for Financial, Fiscal and Enterprise Affairs, Committee on Competition Law & Policy, *Competition Policy Roundtable: Price Transparency*, at 205–09 (Sept. 11, 2001), http://www.econ.au.dk/fag/7200/e03/PBO/OECD/Price_Transparency.pdf (discussing benefits and detriments of price transparency in the United Kingdom).

342. Kovacic, *supra* note 309, at 847.

343. BEINHOCKER, *supra* note 2, at 70.

in predicting which mergers the government would likely investigate and challenge.³⁴⁴

Seventh, such empirical testing may assist policy makers in other areas of the law. For example, if the lag in entry is attributable to the lack of price transparency, then policy makers can assess how to increase price transparency and foster entry. The government can also redress other unintended actions, such as regulatory entry barriers, which may foster anticompetitive effects.

Finally, and most importantly, such empirical research will inform the public of antitrust's important role. Critics—ranging from the *Wall Street Journal* opinion page to the Internet—can characterize a particular antitrust enforcement as overzealous or flaccid. “The antitrust problem,” wrote Thurman Arnold over sixty years ago, “must be brought to the public and not reserved for the abstract consideration of the lawyer or the economist.”³⁴⁵ Some distrust the American public to judge antitrust issues, fearing that the underlying economic theories are too complex. But such paternalism is dangerous to our democratic ideals. The public debate over the appropriate level of antitrust enforcement will not be resolved by conflicting antitrust theories or by conflated fears of either big business or big government. Rather, the debate will be informed only by empirical research, namely what happens to industries post-merger.

Against these benefits, one must weigh eight concerns. Several concerns are significant and should caution policy makers to exercise restraint in conducting this ex post review.

One concern is that the merging parties are already burdened with complying with costly “Second Requests” during the merger process under the HSR statute.³⁴⁶ This supplemental review may further burden the merging parties already saddled with compliance costs imposed by foreign governmental, U.S. federal and state agencies. More significant

344. See Grimes, *supra* note 189, at 943 (discussing the benefits of increased transparency in merger review).

345. Arnold, *supra* note 120, at 10.

346. For two private antitrust lawyers' perspective on the costs of the HSR process, see Joe Sims & Deborah P. Herman, *The Effect of Twenty Years of Hart-Scott-Rodino on Merger Practice: A Case Study of Unintended Consequences Applied to Antitrust Legislation*, 65 ANTITRUST L.J. 865, 885–89 (1997). To lessen this burden, the Federal Trade Commission and the Department of Justice recently announced measures to further streamline the merger investigation process and to reduce the cost, time, and burdens faced by the merging parties. Fed. Trade Comm'n, *Reforms to Merger Review Process* (Feb. 16, 2006), available at <http://www.ftc.gov/os/2006/02/mergerreviewprocess.pdf>; Department of Justice, *Antitrust Division, Merger Review Process Initiative*, (Revised Dec. 14, 2006), available at <http://www.usdoj.gov/atr/public/220237.htm>.

than the costs from discovery, delay, and filing fees are the divestiture costs. Few mergers are challenged today in court; instead, the overwhelming majority are settled with a consent decree, whereby the merging firms typically divest a brand, factory, or other assets. Some may view these divestitures as the requisite sacrifice for government approval.³⁴⁷ If the costs of achieving the merger, however, exceed the merger's gains to the parties, then the merger would not occur, and the efficiencies that would flow from the merger would not be realized.³⁴⁸

To mitigate this concern, several actions can be taken. First, the post-merger review should be limited primarily to the close-call mergers, namely those subject to a Second Request. Thus, this *ex post* review would impact a tiny percentage of all mergers. Between 1995 and 2004, the number of transactions reported annually under the HSR Act ranged between 1,014 and 4,728, which itself is a subset of all mergers in the United States. Of this, the federal antitrust agencies issued a Second Request in less than five percent of the reported mergers annually.³⁴⁹ A second means of mitigation is, in revisiting the merger, that the agency should request limited data that augments the cost, price, quantity, and other data obtained pre-merger during the Second Request process. Given that the staff generally has coordinated with the merging parties pre-merger in obtaining this data, the parties can minimize their costs by maintaining the data that the government will later request. Third, and more importantly, in obtaining this data, the government hopefully can refine its theories for particular industries, thereby not only refining the scope of discovery for future merger reviews, but also minimizing the risk of false positives (which require costly divestitures in industries where past empirical data would cast significant doubt on anticompetitive effects). The merging parties would have another weapon to dissuade the government from issuing Second Requests, namely, mergers in comparable markets, which did not bear anticompetitive effects. If the agency acts irresponsibly in issuing Second Requests, the private antitrust bar has additional

347. Sims & Herman, *supra* note 346, at 887.

348. Coase, *supra* note 46, at 716.

349. The number of Second Requests issued were 3.8% in 1995; 3.5% in 1996 and 1997; 2.7% in 1998; 2.6% in 1999; 2.1% in 2000; 3.1% in 2001; 4.3% in 2002; 3.6% in 2003; and 2.5% in 2004. Fed. Trade Comm'n & Dept. of Justice, Annual Report to Congress: Fiscal Year 2004, at 5. Although the number of deals rose 24% in 2006, the percentage of Second Requests issued by the Department of Justice dropped to 1%. Marius Meland, *Second Requests Drop in U.S. Merger Reviews*, COMPETITION LAW 360, Dec. 21, 2006. Indeed, the Department of Justice has issued far fewer Second Requests now than under the Clinton Administration, with a ten-year low of 15 Second Requests issued in 2004. ANTITRUST DIV. WORKLOAD STATISTICS, *supra* note 16.

ammunition to lobby Congress to restrict corporations' pre-merger burden under the HSR Act.

A second concern is the uncertainty this may engender for the merging parties. Suppose that in revisiting the merger, the government notices a significant non-cost-based price increase. Should the government now challenge the merger? How feasible would any remedy be if the businesses were fully integrated? With the risk of possible divestitures, might companies postpone investments in the acquired assets? These serious questions illustrate the delicate balance between the data collection's principal aim in refining the economic theories, and preserving the government's legal right to challenge mergers *ex post*. The agencies should not be automatically foreclosed from challenging a merger *ex post* (as it is not foreclosed today), given their obligation to protect consumers from anticompetitive practices. On the other hand, the primary aim in securing this data should be to test empirically the economic theories, not to challenge mergers. To facilitate that end, economists or staff in a different section or different agency, who would not be biased toward a likely prosecution, could collect the post-merger data.

The third concern is biased results. The merging parties, knowing that the government will revisit them, might refrain during this two to five-year period from raising prices or otherwise reducing competition, while other merging companies not subject to a Second Request would raise prices where they could. To minimize this bias, the government could randomly (depending on staff workload) revisit a small number of other mergers not subject to a Second Request (but for which an investigation was opened), and examine these as well. Moreover, customers can be given the telephone number of the post-merger review staff, to report any anticompetitive effects post-merger.

Another potential bias is that the empirical data will cover only those mergers subject to a Second Request. Thus the data will not capture a cross-section of mergers, but only those in highly concentrated industries, with high entry barriers. But this is as good a place to start as any. The data from the criminal prosecutions will assist in analyzing other markets where collusion occurred. In addition, the agencies, as this article proposes, should randomly select other mergers that the staff investigated but declined issuing a Second Request. By informing antitrust prosecution, the data hopefully will steer the agencies toward industries where mergers are more likely to be problematic, and thus deserve attention, while avoiding other industries (that are superficially appealing under the Merger Guidelines) where mergers are unlikely to produce anticompetitive results.

A fourth concern is waste—if the empirical data confirms that the current economic model accurately predicts the outcome (including the likely magnitude of anti- or pro-competitive effects), would the empirical testing have been for naught? Even the staunchest defenders of the Merger Guidelines (or any economic model) should invite the world to test their theory's accuracy in predicting outcomes. If the Guidelines withstand scrutiny, then the antitrust policy makers' and courts' confidence in them increases. It is the government's obligation to ascertain the efficacy of its actions.

No one should be content that because these economic theories, including the assumptions underlying them, have been used for the past two decades without apparent destruction to the economy, then they must be good. The antitrust laws were vigorously enforced before the Chicago School's theories came into favor. Grotesque distortions to the economy did not occur after World War II under these earlier antitrust policies (such as preserving small businesses). Such distortions, if any, would likely manifest themselves in particular industries and may be one of many factors contributing to the industry's sickly competitive state. Consequently, no group should unilaterally decide *ex ante* that its theories are beyond judgment. To assume that its economic theories are accurate predictors and that empirical testing would be wasteful is to assume infallibility.

A fifth concern is that the fault may not lie in the Guidelines, but in the attorneys and economists applying the Guidelines, who are thus responsible for the false positives/negatives. Empirical testing should reveal if the errors are systematic or episodic. If the latter, then the testing may provide some accountability (for example, reassigning administration officials, lawyers or economists). But if errors occur throughout the government agencies, then that raises concerns with the Guidelines. The Guidelines may indeed represent the Platonic ideal, but if difficult to apply, it would be helpful to understand under what circumstances.

A sixth concern arises if empirical testing shows that the Merger Guidelines were poor predictors in certain circumstances. Critics may argue that absent these theories, the antitrust policy makers would revert to normative, rudderless enforcement policies of the 1950s, 60s, and 70s. Behavioral economics is residual, as it describes phenomena that the profit-maximizer model does not explain.³⁵⁰ It cannot predict, critics argue; thus, the profit-maximizing theories are the best we have, until a better predictive model comes along. This criticism, however, is

350. Posner, *Rational Choice*, *supra* note 18, at 1559–60.

a plea for ignorance. One cannot assess the reliability of the Merger Guidelines without empirically testing their predictive value. Perhaps, the Guidelines can be tailored to rectify these mistakes. But if the Guidelines are a poor predictor, then antitrust policy makers must make an informed decision of whether these Guidelines in their current form are worth using for every merger. No doubt, the Guidelines' transparency assists the parties in predicting which mergers the government will likely investigate. Such empirical testing will increase transparency. But more importantly, just as the rational choice theories premised on stable preferences have come under attack as the complexity of human behavior is fully realized, so too may the simple uniform assumptions underlying the Merger Guidelines be unrealistic. Instead of being a concern, this represents an opportunity to revise the Guidelines so as to more accurately depict (and predict) behavior for each industry. In better understanding the complexities of a dynamic marketplace, we may ultimately accept our shortcomings in accurately forecasting anticompetitive effects. But at least we would have a better grasp of reality, and dealing with its hazards.

A seventh concern is that the empirical testing addresses false negatives, but not false positives, namely instances where the government erroneously challenged an otherwise pro-competitive merger. The government challenges few mergers. For example, between 1994 and 2005 the Department of Justice challenged annually less than 1.5% of all mergers.³⁵¹ The extent to which this chills other mergers from occurring is unknown. (If significant, one would expect merger activity to be positively correlated to administrations with lax antitrust enforcement.) But the aim here is more informed antitrust enforcement, not simply increasing the number of mergers challenged annually. Moreover, in determining that a close-call merger did not lead to anticompetitive results, the agency may have greater confidence in permitting mergers in similar industries, knowing that they can test these assumptions. Undoubtedly, there is always the concern that the pending merger will lead to a different outcome, but the agencies at least will have an extensive factual mosaic of other mergers where, under similar circumstances, no antitrust concerns arose post-merger. The staff and parties could seek to differentiate the facts of those

351. The total number of mergers challenged in part or in whole. The Department of Justice challenged 22 (0.96%) in 1994; 18 (0.64%) in 1995; 30 (0.97%) in 1996; 31 (0.84%) in 1997; 51 (1.08%) in 1998; 46 (0.99%) in 1999; 48 (0.97%) in 2000; 32 (1.35%) in 2001; 10 (0.84%) in 2002; 15 (1.48%) in 2003; 9 (0.6%) in 2004; and 4 (0.2%) in 2005. ANTITRUST DIV. WORKLOAD STATISTICS, *supra* note 16.

industries from that instant merger, but at least an empirical baseline would exist.

An eighth concern is that this diverts the government's legal staff and economists from prosecuting antitrust violations. The agencies cannot prosecute every antitrust offense, and devoting resources to this retrospective may sacrifice investigating other violations. This may be a concern, but currently the Department of Justice's Antitrust Division attorneys are devoting resources to defend immigration prosecutions before the various federal courts of appeals. Moreover, the resources for such post-merger review should not be as significant as the initial merger review. But as part of their budget, the agencies should receive funds earmarked for this review.

CONCLUSION

Antitrust merger policies are currently long on theory and short on empirical testing. No one knows how accurately the Merger Guidelines predict whether, and to what extent, mergers across industries lessen competition or tend to create monopolies. Application of the Merger Guidelines conceivably could lead at times to false negatives (for example, predicting prices post-merger to decline or remain stable, or predicting entry to discipline a price hike) or, at other times, to false positives (such as predicting a price increase when none occurs). While typically spending months reviewing mergers *ex ante*, the federal antitrust agencies infrequently, if ever, revisit these industries post-merger to see what actually happened to the state of competition. Given the developments in behavioral economics, and the anomalies between the Merger Guidelines and criminal price-fixing prosecutions, there are now even more compelling reasons for engaging in such post-merger inquiry.

As Coase said, “[a]n inspired theoretician might do as well without such empirical work, but my own feeling is that the inspiration is most likely to come through the stimulus provided by the patterns, puzzles, and anomalies revealed by the systematic gathering of data, particularly when the prime need is to break our existing habits of thought.”³⁵² Antitrust is presently at that exciting threshold. The federal government, ideally suited to review these industries post-merger, can offer the public data that may lead to a better understanding of when, and why, certain mergers may substantially lessen competition. It must now resist the slumber of decided opinion, and undertake this journey.

352. Coase, *supra* note 46, at 718–19.