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Reconsidering Competition

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RECONSIDERING COMPETITION

*Maurice E. Stucke**

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INTRODUCTION

The financial crisis prompted in the United States unprecedented government bailouts for banks, mortgage servicers, the insurance giant AIG, and automotive makers General Motors and Chrysler.¹ The U.S. economy shifted to financial services and products, and more behavioral regulation is underway for financial institutions deemed too-big-to-fail. But federal regulators were incapable in addressing the abuses leading up to the financial crisis, unaware initially of the scope of the crisis, and inept in their initial response.² This is troubling especially when the U.S. Supreme Court, of late, appears more comfortable with the antitrust function being subsumed in the regulatory framework.³

Although one can distinguish the financial services industry from other industries, the crisis raised important issues of market failure, weak regulation, the lack of understanding of systemic risk in financial markets, and moral hazard. Policymakers are re-examining fundamental issues such as the efficiency of markets⁴ and the role of legal, social, and ethical norms

¹ ProPublica, Bailout Recipients, <http://bailout.propublica.org/main/list/index>.

² JOSEPH E. STIGLITZ, *FREEFALL: AMERICA, FREE MARKETS, AND THE SINKING OF THE WORLD ECONOMY* (2010).

³ *Pacific Bell Telephone Co. v. linkline Communications, Inc.*, 129 S.Ct. 1109, 1124 (2009) (Breyer, J., concurring) (when a “regulatory structure exists to deter and remedy anticompetitive harm, the costs of antitrust enforcement are likely to be greater than the benefits”); *Credit Suisse Securities (USA) LLC v. Billing*, 127 S. Ct. 2383, 2395 (2007); *Verizon Commc’ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 414-15 (2004); *see also* Edward D. Cavanagh, *The Private Antitrust Remedy: Lessons From The American Experience*, 41 LOY. U. CHI. L.J. 629, 636 (2010); Stacey L. Dogan & Mark A. Lemley, *Antitrust Law and Regulatory Gaming*, 87 TEX. L. REV. 685 (2009).

⁴ Christine A. Varney, Assistant Attorney Gen., Antitrust Div., U.S. Dep’t of Justice, Remarks for the U.S. Chamber of Commerce: Vigorous Antitrust

in a market economy.⁵ The financial crisis has prompted calls for reinvigorating antitrust enforcement in the U.S., toughening antitrust's legal standards,⁶ and breaking up firms deemed too big to fail.⁷

In reconsidering their antitrust policies, policymakers should return to first principles. Antitrust policy is built on a flawed assumption of rationality. As a result, antitrust provides an incomplete, and at times incorrect, account of competition. For the past thirty years, the Chicago,⁸ post-Chicago,⁹ and to the extent distinguishable, Harvard Schools¹⁰ have debated over antitrust's legal standards. But all three schools assume a

Enforcement in This Challenging Era (May 12, 2009) (rejecting assumption that markets are generally self-policing and self-correcting), <http://www.usdoj.gov/atr/public/speeches/245777.htm>; J. Thomas Rosch, Comm'r, Fed. Trade Comm'n, Conference on the Regulation of Consumer Financial Products: Managing Irrationality: Some Observations on Behavioral Economics and the Creation of the Consumer Financial Protection Agency (Jan. 6, 2010), <http://www.ftc.gov/speeches/rosch/100106financial-products.pdf>.

⁵ See, e.g., STIGLITZ, *supra* note 2, at xvi, 238-74; GEORGE A. AKERLOF & ROBERT J. SHILLER, ANIMAL SPIRITS: HOW HUMAN PSYCHOLOGY DRIVES THE ECONOMY, AND WHY IT MATTERS FOR GLOBAL CAPITALISM 26 (2009); ROBERT SKIDELSKY, KEYNES: THE RETURN OF THE MASTER 189 (2009); Gillian Tett, *The Emotional Markets Hypothesis and Greek Bonds*, FIN. TIMES, Apr. 10-11, 2010, at 7; Rana Foroohar, *May the Best Theory Win: How Economists Are Competing to Make Sense of Our Failed Financial System*, NEWSWEEK, Feb. 1, 2010 (discussing annual meeting of American Economic Association); John Authers, *Wanted: New Model for Markets*, FIN. TIMES, Sept. 29, 2009, at 9; Paul Krugman, *How Did Economists Get it So Wrong?*, N.Y. TIMES, Sept. 6, 2009 (Sun. Mag.), at 36.

⁶ See Press Release, U.S. Dep't of Justice, Justice Department Withdraws Report on Antitrust Monopoly Law: Antitrust Division to Apply More Rigorous Standard With Focus on the Impact of Exclusionary Conduct on Consumers (May 11, 2009), [available at http://www.usdoj.gov/atr/public/press_releases/2009/245710.htm](http://www.usdoj.gov/atr/public/press_releases/2009/245710.htm).

⁷ See, e.g., SIMON JOHNSON & JAMES KWAK, 13 BANKERS: THE WALL STREET TAKEOVER AND THE NEXT FINANCIAL MELTDOWN 208-22 (2010).

⁸ See, e.g., RICHARD A. POSNER, ANTITRUST LAW (2d ed. 2001); ROBERT H. BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF (1978).

⁹ See, e.g., 1 PHILLIP E. AREEDA & HERBERT J. HOVENKAMP, ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION ¶ 113, at 134 (2d ed. 2000) ("Business firms are (or must be assumed to be) profit maximizers"); Herbert J. 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).

¹⁰ William E. Kovacic, *The Intellectual DNA of Modern U.S. Competition Law for Dominant Firm Conduct: The Chicago/Harvard Double Helix*, 2007 COLUM. BUS. L. REV. 101 (summarizing contributions of Harvard School to modern antitrust analysis).

marketplace of rational¹¹ profit-maximizing firms and consumers with perfect willpower.¹² Therein lies the problem.

For meaningful change after the financial crisis, competition policymakers must reconsider three fundamental interrelated questions: First, what is competition? Second, what are the goals of the competition laws? Third, what should be the legal standards to promote these goals?

This Article addresses the first question, *What is competition*. The question seems so basic that it need not be asked. But as Part I discusses, no satisfactory definition of competition exists. Some consider competition as an idealized end state (such as static price competition under the economic model of perfect competition). Others view competition as a dynamic process.

Part II explores one reason why multiple definitions of competition remain. Any theory of competition depends on its premises, the validity of which may not hold true across industries, countries, and time. Using the recent developments from behavioral economics, Part II varies one premise of competition--the relative rationality of market firms and consumers. As the behavioral economic literature has shown over the past thirty years, and the recent financial crisis bore out, consumers and firms do not always behave rationally. Relaxing the assumption of rational firms and consumers yields four scenarios of competition.

Part III analyzes each scenario of competition and its policy

¹¹ Rationality under neoclassical economic theory has a narrow meaning, namely individuals are objective, seek out the optimal amount of information, readily and continually update their prior factual beliefs with relevant and reliable empirical data, and choose, after conducting a cost-benefit analysis, the best action according to stable, well-defined preferences. Colin Camerer et al., *Regulation for Conservatives: Behavioral Economics and the Case for "Asymmetric Paternalism,"* 151 U. PA. L. REV. 1211, 1214-15 (2003). Rationality, as discussed herein, does not encompass its other meanings, such as being fair, pragmatic, thoughtful, compassionate, or virtuous.

¹² Humans with perfect willpower take actions that are consistent with their own long-term interests.

implications. In relaxing the assumption of rational firms and consumers, the theory of competition extends beyond the current focus on static price competition in narrowly defined markets. Issues of systemic risk, behavioral exploitation, herding behavior, overconfidence bias, the importance of maintaining trial-and-error feedback loops, consumer choice, and competitive diversity all increase in importance. Moreover for each scenario of competition, Part III separately examines the antitrust policy implications if the government is relatively less or more rational than market participants. This Article introduces several important challenges facing competition policy and provides several mechanisms for competition agencies to improve their policies.

I. DEFINING COMPETITION

A. *Common Definitions of Competition*

One popular antitrust treatise states, “Today it seems clear that the general goal of the antitrust laws is to promote ‘competition’ as the economist understands that term.”¹³ One problem, the treatise recognizes, is that economists can have a different conception of competition than lawyers and laypersons.¹⁴ Another problem is that economists have not reached consensus in defining *competition*.

The United States’ Sherman Antitrust Act was enacted over a century ago.¹⁵ But antitrust law, Robert Bork observed, “has not arrived at one satisfactory definition of ‘competition.’”¹⁶ This is surprising. The concept of competition is central to competition policy and economic thinking in

¹³ PHILLIP E. AREEDA & HERBERT HOVENKAMP, I ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION ¶ 100a, at 4 (3d ed. 2006); *see also* AMERICAN BAR ASSOCIATION, SECTION OF ANTITRUST LAW, REPORT ON ANTITRUST POLICY OBJECTIVES (2003), <http://www.abanet.org/antitrust/at-comments/2003/reports/policyobjectives.pdf>.

¹⁴ AREEDA & HOVENKAMP, *supra* note 13, at ¶ 100a, at 3.

¹⁵ 26 Stat. 209, 15 U.S.C. §§ 1–7.

¹⁶ BORK, *supra* note 8, at 61 (1993).

general. Competition law focuses on anti-competitive restraints,¹⁷ and one oft-described goal is to ensure an effective competitive process.¹⁸ Yet the concept of competition, economist John Vickers said, “has taken on a number of interpretations and meanings, many of them vague.”¹⁹ Others agree.²⁰ Most jurisdictions “maintain that their competition laws ‘preserve competition,’” observed the American Bar Association, but preserving

¹⁷ See, e.g., *Leegin Creative Leather Products, Inc. v. PSKS, Inc.*, 551 U.S. 877, 898-99 (2007) (noting how courts can “devise rules over time for offering proof, or even presumptions where justified, to make the rule of reason a fair and efficient way to prohibit anticompetitive restraints and to promote procompetitive ones”).

¹⁸ Unilateral Conduct Working Group, Int’l Competition Network, Report on the Objectives of Unilateral Conduct Laws, Assessment of Dominance/Substantial Market Power, and State-Created Monopolies 6 (2007), http://www.internationalcompetitionnetwork.org/media/library/unilateral_conduct/Objectives%20of%CC20Unilateral%CC20Conduct%CC20May%2007.pdf [hereinafter 2007 ICN Report].

¹⁹ John Vickers, *Concepts of Competition*, 47 OXFORD ECON. PAPERS 1, 3 (1995).

²⁰ *United States v. Kennecott Copper Corp.*, 231 F. Supp. 95, 103 (S.D.N.Y. 1964) (“There is no one definition of competition. Economists do not agree over the meaning of the term nor do they agree how it can be achieved.”); WORLD BANK, WORLD DEVELOPMENT REPORT 2002: BUILDING INSTITUTIONS FOR MARKETS 140 (2002), available at <http://www.worldbank.org/wdr/2001/fulltext/fulltext2002.htm> (finding in its survey of fifty countries’ competition laws, “different conceptions of competition . . . across countries”); Neri Salvadori & Rodolfo Signorino, *The Classical Notion of Competition Revisited*, MPRA Paper No. 22499 2 (May 5, 2010), <http://mpra.ub.uni-muenchen.de/22499/> (noting that few would disagree with Vickers’ statement); Michael E. Porter, *Building the Microeconomic Foundations of Prosperity: Findings from the Business Competitive Index 2004*, in UNIQUE VALUE: COMPETITION BASED ON INNOVATION CREATING UNIQUE VALUE 64 (Charles D. Weller Ed. 2004) (competitiveness “remains a concept that is not well understood, despite widespread acceptance of its importance”); Donghyun Park, *The Meaning of Competition: A Graphical Exposition*, 29 J. ECON. EDUC. 347, 356 (1998) (“competition has become one of the most ambiguous concepts in economics”); Jay B. Barney, *Types of Competition and the Theory of Strategy: Toward an Integrative Framework*, 11 ACAD. MGMT. REV. 791, 798 (1986) (“Competition . . . is a concept that can mean different things at different times to different firms.”); Michael S. Lewis-Beck, *Maintaining Economic Competition: The Causes and Consequences of Antitrust*, 41 J. POL. 169, 171 (1979) (noting the “lack, among economists, of a generally accepted definition of competition”); Paul J. McNulty, *Economic Theory and the Meaning of Competition*, 82 Q. J. ECON. 639, 639 (1968) (“probably no concept in all of economics that is at once more fundamental and pervasive, yet less satisfactorily developed, than the concept of competition”); George J. Stigler, *Perfect Competition, Historically Contemplated*, 65 J. POL. ECON. 1 (1957) (noting that concept of competition was long treated with casualness); STANLEY N. BARNES ET AL., THE ATTORNEY GENERAL’S NATIONAL COMMITTEE TO STUDY THE ANTITRUST LAWS 318 (1955) (“idea of competition itself . . . is not so easy to define”).

competition “does not always mean the same thing in different jurisdictions and is sometimes only one of several objectives pursued under a country’s antitrust law.”²¹ The Chilean Competition Tribunal, for example, said, “the only objective of competition policy is to promote and protect competition,” but then recognized that “one of the main difficulties is to define legally what ‘free competition means,’ or to articulate why competition itself should be protected.”²²

Some view competition in its natural setting, a cutthroat fight over scarce resources.²³ But within animal ecology, genetics, and evolution, the term *competition* has multiple meanings.²⁴ Antitrust policy, of course, does not encourage market participants in seeking scarce resources to maim or kill others.²⁵ Competition should not increase society’s mortality rate.²⁶ Even within the animal kingdom, competition for scarce resources is not a prerequisite for “survival of the fittest,” the natural selection of species.²⁷

Many view competition as rivalry: “the effort of two or more parties acting independently to secure the business of a third party by offering the most favorable terms.”²⁸ Several courts applied similar definitions, such as

²¹ American Bar Association, Section of Antitrust Law, Report on Antitrust Policy Objectives (Feb. 12, 2003) <http://www.abanet.org/antitrust/at-comments/2003/reports/policyobjectives.pdf>.

²² 2007 ICN Report, *supra* note 18, at 8. In 2004, when Chile’s competition act was amended, “the executive and legislative powers discussed whether ‘free competition’ should be defined more narrowly as a right to participate in economic activities, a means of promoting economic efficiency, or a means of enhancing consumer welfare.” The legislators, as reported by the ICN, “decided that the meaning of ‘free competition,’ that is, an effective competitive process, should be left to the Tribunal’s interpretation, on a case-by-case basis.” *Id.*

²³ R.J. Reynolds Tobacco Co. v. Cigarettes Cheaper!, 462 F.3d 690 (7th Cir. 2006) (noting that “cutthroat competition” is a term of praise rather than condemnation and consumers gain when firms try to “kill” the competition and take as much business as they can).

²⁴ LC Birch, *The Meaning of Competition*, 91 AM. NATURALIST 5, 6 (1957).

²⁵ *Id.* at 6.

²⁶ *Id.* at 9.

²⁷ *Id.* at 13.

²⁸ <http://www.merriam-webster.com/dictionary/competition>; BARNES ET AL., *supra*

- the “effort of two or more parties, acting independently, to secure the custom of a third party by the offer of the most favorable terms.’ “The struggle between rivals for the same trade at the same time.”²⁹; and
- the “independent endeavor of two or more persons or organizations within the realm of a chosen market place, to obtain the business patronage of others by means of various appeals, including the offer of more attractive terms or superior merchandise.”³⁰

Others question this characterization of competition. Increasing the number of rivals does not necessarily increase, and can diminish, incentives to compete.³¹ “An economist sees competition not in terms of rivalry per se, but in terms of market performance,” said a former DOJ official. “An economist would say that a market is perfectly competitive when firms price their output at marginal cost and costs are minimized by internal efficiency. This does not necessarily require a large number of rivals. Where entry and exit are costless, markets can be perfectly competitive even with only one firm serving the entire market.”³² He characterized competition as “the process by which market forces operate freely to assure that society's scarce resources are employed as efficiently as possible to

note 20, at 318 (one conception of competition is “the self-interested and independent rivalry of two or more private competitors”).

²⁹ *Lipson v. Socony Vacuum Corp.*, 87 F.2d 265, 270 (1st Cir. 1937).

³⁰ *United States v. Aluminum Company of America*, 91 F. Supp. 333, 355 (S.D.N.Y. 1950); *see also* *New England Theatres, Inc. v. Lausier*, 86 F. Supp. 852, 856 (D. Me. 1949); *United States v. Sutherland*, 9 F. Supp. 204, 205 (W.D. Mo. 1934).

³¹ Avishalom Tor & Stephen M. Garcia, *The N-Effect: Beyond Winning Probabilities*, PSYCHOL. SCI. (Nov. 9, 2009), *available at* <http://ssrn.com/abstract=1502856>.

³² William J. Kolasky, Deputy Assistant Attorney General, Antitrust Div., U.S. Dep’t of Justice, *What Is Competition?* Seminar on Convergence sponsored by the Netherlands Ministry of Economic Affairs (October 28, 2002) http://www.justice.gov/atr/public/speeches/200440.htm#N_7_.

maximize total economic welfare.”³³

Competition, like athletic contests,³⁴ is not always zero-sum. It involves cooperation through voluntary endeavors among suppliers, wholesalers, retailers, and consumers. One can view competition as the voluntary process society elects to resolve conflicts of interest among its members.³⁵

Competition can be vertical among firms in the distribution chain. Manufacturers often have a complementary and competitive relationship with firms from whom they buy and to whom they sell.³⁶ Not surprisingly, two of Harvard Business Professor Michael Porter’s famous five competitive forces that impact a company’s profits are vertical: (i) powerful customers seeking to “capture more value by forcing down prices, demanding better quality or more service (thereby driving up costs), and generally playing industry participants off against one another, all at the expense of industry profitability” and (ii) powerful suppliers seeking to “capture more of the value for themselves by charging higher prices, limiting quality or services, or shifting costs to industry participants.”³⁷

Competition is also normative.³⁸ What we observe as competition reflects in part the constraints and incentives imposed by the government

³³ *Id.*

³⁴ Nat’l Collegiate Athletic Ass’n v. Bd. of Regents of Univ. of Okla. (NCAA), 468 U.S. 85 (1984).

³⁵ ARMEN A. ALCHIAN, *ECONOMIC FORCES AT WORK* 127 (1977).

³⁶ Robert L. Steiner, *Market Power in Consumer Goods Industries*, in PRIVATE LABELS, BRANDS, AND COMPETITION POLICY: THE CHANGING LANDSCAPE OF RETAIL COMPETITION (2009); Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings (C 31/03) § V (2004) (“competitive pressure on a supplier is not only exercised by competitors but can also come from its customers”)

³⁷ Michael E. Porter, *The Five Competitive Forces That Shape Strategy*, HARV. BUS. REV., Jan. 2008; Toys “R” Us, Inc. v. Federal Trade Comm’n, 221 F.3d 928 (7th Cir. 2000).

³⁸ Xiaoye Wang, *The New Chinese Anti-Monopoly Law: A Survey of a Work in Progress*, 54 ANTITRUST BULL. 579, 580 (2009) (observing how China until the late 1970s viewed the term competition pejoratively as a “capitalist monster”).

and society through informal social, ethical and moral norms.³⁹ Societies distinguish between “competition on the merits” and unfair methods of competition.⁴⁰ Those terms, subject to different interpretations,⁴¹ imply that competition can be good or bad, based on society’s “generalized standards of fairness and social utility.”⁴² Market participants through the legislature, industry codes, and informal norms set the rules and punishments. At times competition is considered “ruinous” or “cutthroat.”⁴³ At times competition with foreign firms is criticized as “structurally and qualitatively unequal.”⁴⁴ At times competition is curtailed to promote other societal goals.⁴⁵

Nor is competition always desirable. Status competition (including

³⁹ DOUGLASS C. NORTH, UNDERSTANDING THE PROCESS OF ECONOMIC CHANGE 60, 123 (2005).

⁴⁰ Section 5(a) of the Federal Trade Commission Act, 15 U.S.C. § 45(a) (prohibiting “unfair or deceptive acts or practices in or affecting commerce”); Article 6 of Rome II (Unfair competition and acts restricting free competition); *FTC v. Sperry & Hutchinson Co.*, 405 U.S. 233, 244 (1972) (“unfair competitive practices were not limited to those likely to have anticompetitive consequences after the manner of the antitrust laws; nor were unfair practices in commerce confined to purely competitive behavior”).

⁴¹ Org. for Econ. Co-operation & Dev., Policy Brief: What Is Competition on the Merits? 1 (2006), <http://www.oecd.org/dataoecd/10/27/37082099.pdf> (noting that expression “competition on the merits” has “never been satisfactorily defined,” which has “led to a discordant body of case law that uses an assortment of analytical methods,” which in turn has “produced unpredictable results and undermined the term's legitimacy along with policies that are supposedly based on it”).

⁴² RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 1, at 9 (1995).

⁴³ Glossary of Industrial Organisation Economics and Competition Law, compiled by R. S. Khemani and D. M. Shapiro, commissioned by the Directorate for Financial, Fiscal and Enterprise Affairs, OECD (1993) (“refers to situations when competition results in prices that do not chronically or for extended periods of time cover costs of production, particularly fixed costs. This may arise in secularly declining or ‘sick’ industries with high levels of excess capacity or where frequent cyclical or random demand downturns are experienced.”), <http://stats.oecd.org/glossary/detail.asp?ID=3186>.

⁴⁴ JAMES KYNGE, CHINA SHAKES THE WORLD: A TITAN'S RISE AND TROUBLED FUTURE -- AND THE CHALLENGE FOR AMERICA 109 (2007) (concerns over China’s currency being undervalued, and keeping costs artificially low with poor safety, environmental and worker standards, and by subsidizing energy and water).

⁴⁵ *United States v. Frankfort Distilleries*, 324 U.S. 293, 301 (1945) (“If a State for its own sufficient reasons deems it a desirable policy to standardize the price of liquor within its borders either by a direct price-fixing statute or by permissive sanction of such price-fixing in order to discourage the temptations of cheap liquor due to cutthroat competition, the Twenty-first Amendment gives it that power and the Commerce Clause does not gainsay it.”).

competing over conspicuous consumption) can increase envy and misery.⁴⁶

As economist Richard Layard observed,

We do want the maximum of competition between firms, but not between individuals. We want a lot of cooperation between individuals, for one reason above all – that life is more enjoyable that way.⁴⁷

When referring positively to competition, policymakers often cite its effects, such as “low prices, high quality products, a wide selection of goods and services, and innovation.”⁴⁸ But the effects do not define competition itself. The effects, at times, are inconsistent. Higher prices and reduced output, remarked the Supreme Court, are “the paradigmatic examples of restraints of trade that the Sherman Act was intended to prohibit.”⁴⁹ But a divided Court recently recognized that vertical restraints that lead to higher prices can nonetheless be pro-competitive.⁵⁰ Manufacturers today can prevent retailers—through resale price maintenance—from discounting their goods. At times, increased price competition (for example, intra-brand competition⁵¹) leads to more free-riding, less services and innovation, and

⁴⁶ Maurice E. Stucke, *Money, Is That What I Want? Competition Policy & the Role of Behavioral Economics*, 50 SANTA CLARA L. REV. 893 (2010).

⁴⁷ Richard Layard, *Happiness & Public Policy: A Challenge to the Profession*, 116 ECON. J. C24, C31 (2006).

⁴⁸ European Commission Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings (2008/C 265/07); *Northern Pacific Railway Co. v. United States*, 356 U.S. 1, 4 (1958) (“unrestrained interaction of competitive forces will yield the best allocation of our economic resources, the lowest prices, the highest quality, and the greatest material progress”); U.S. Dep’t of Justice, Antitrust Enforcement and the Consumer (“Free and open competition benefits consumers by ensuring lower prices and new and better products”), http://www.justice.gov/atr/public/div_stats/211491.htm; Fed. Trade Comm’n, *Competition Counts: How Consumers Win When Businesses Compete* (“Competition in America is about price, selection, and service. It benefits consumers by keeping prices low and the quality and choice of goods and services high.”), <http://www.ftc.gov/bc/edu/pubs/consumer/general/zgen01.pdf>.

⁴⁹ *Nat’l Collegiate Athletic Ass’n v. Bd. of Regents of Univ. of Okla.*, 468 U.S. 85, 107–08 (1984).

⁵⁰ *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 127 S. Ct. 2705 (2007).

⁵¹ *Continental T.V., Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36 (1977). A vertical non-price restraint can potentially and simultaneously reduce intra-brand competition (e.g.,

ultimately fewer choices and firms.⁵² At times, greater innovation comes from excluding competitors from making, using, or selling the product at a lower price.⁵³

B. Perfect v. Dynamic Competition

Within antitrust, two popular theories of competition are as (i) an ideal static end-state (perfect competition) and (ii) a process (dynamic competition).⁵⁴ Perfect competition, according to some, is “the most competitive market imaginable in which everybody is a price taker.”⁵⁵ In the perfectly competitive market, “buyers and sellers are so numerous and well informed that each can act as a price-taker, able to buy or sell any desired quantity without affecting the market price.”⁵⁶ Between monopoly and perfect competition are degrees of imperfect competition.⁵⁷

competition among Sylvania dealers for Sylvania television sets) and stimulate inter-brand competition (e.g., competition among different manufacturers of television sets, such as Zenith or RCA).

⁵² *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 127 S. Ct. 2705 (2007); Louis D. Brandeis, *Price and Competition*, in *THE SOCIAL AND ECONOMIC VIEWS OF MR. JUSTICE BRANDEIS* 398 (1930) (observing how unrestricted competition leads to monopoly); Peter O. Steiner, *Program Patterns and Preferences, and the Workability Competition in Radio Broadcasting*, 66 Q.J. ECON. 194, 212-17 (1952); U.S. Dep’t of Justice & Fed. Trade Comm’n, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition* 34 (Apr. 17, 2007) (discussing winner-take-all standards war where firms vigorously compete to establish their technology as the de facto standard), <http://www.justice.gov/atr/public/hearings/ip/222655.htm>.

⁵³ H.R. Rep. No. 60-2222, at 7 (1909) (copyright law considers “how much the monopoly granted [would] be detrimental to the public . . . [as] the granting of such exclusive rights, under the proper terms and conditions, confers a benefit upon the public that outweighs the evils of the temporary monopoly”); *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 63 (1998) (“The balance between the interest in motivating innovation and enlightenment by rewarding invention with patent protection on the one hand, and the interest in avoiding monopolies that unnecessarily stifle competition on the other, has been a feature of the federal patent laws since their inception.”).

⁵⁴ Mark Blaug, *Is Competition Such a Good Thing? Static Efficiency versus Dynamic Efficiency*, 19 REV. INDUS. ORG. 37, 37 (2001) (noting distinction goes to early history of economics).

⁵⁵ <http://www.economist.com/RESEARCH/ECONOMICS/alphabetic.cfm?letter=C#competition>.

⁵⁶ JOHN BLACK, *A DICTIONARY OF ECONOMICS* 348 (1997); William J. Kolasky, *What Is Competition? A Comparison of U.S. and European Perspectives*, 49 ANTITRUST BULL. 29, 31 (2004).

⁵⁷ F.M. SCHERER & DAVID ROSS, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC*

Others, like F.A. Hayek, dispute this characterization of competition.⁵⁸ Competition by its nature is not an end state but a dynamic process. The competitive process is complex and unpredictable. The imperfections and limitations of human knowledge and the variety of conditions intrinsic to or affecting markets (including legal, social and ethical norms, technology, production, and service norms) necessitate against a stable competitive end state.

The 2010 revisions to the U.S. Horizontal Merger Guidelines exposed the divide between static price competition and competition as a dynamic process.⁵⁹ The 2010 Guidelines are an improvement over the earlier Guidelines in recognizing other non-price dimensions of competition.⁶⁰ But the criticism remains that the 2010 Guidelines primarily focus on static competition in narrowly-defined antitrust markets.⁶¹ Thus one complaint endures: Competition officials recognize the importance of dynamic competition for our nation's long-term economic growth,⁶² but antitrust law

PERFORMANCE 16-18 (3d ed. 1990).

⁵⁸ FRIEDRICH A. HAYEK, *INDIVIDUALISM AND ECONOMIC ORDER* (1948); *see also* 2007 ICN Report, *supra* note 18, at 28 (noting that 10 of 32 surveyed competition agencies focused on fostering a competitive process that is dynamic in nature).

⁵⁹ U.S. Dep't of Justice & Fed. Trade Comm'n, *Horizontal Merger Guidelines* (2010), available at <http://www.justice.gov/atr/public/guidelines/hmg-2010.html>.

⁶⁰ *Compare id.* at § 1 (discussing throughout how market power can be manifested in “non-price terms and conditions that adversely affect customers, including reduced product quality, reduced product variety, reduced service, or diminished innovation”) with U.S. Dep't of Justice and Fed. Trade Comm'n *Horizontal Merger Guidelines* § 0.1 n.6 (1992, revised 1997), *reprinted in* 4 Trade Reg. Rep. (CCH) ¶ 13,104 (relegating non-price competition to one footnote: “Sellers with market power also may lessen competition on dimensions other than price, such as product quality, service, or innovation.”).

⁶¹ *See, e.g.*, J. Thomas Rosch, Comm'r, Fed. Trade Comm'n, *The Next Challenges for Antitrust Economists* (July 8, 2010), <http://www.ftc.gov/speeches/rosch/100708neraspeech.pdf>; Jay Ezrielev & Janusz A. Ordover, *The 2010 Horizontal Merger Guidelines: A Static Compass in a Dynamic World?*, *ANTITRUST SOURCE* (Oct. 2010).

⁶² Thomas O. Barnett, Assistant Attorney General, Antitrust Div., U.S. Dep't of Justice, *Competition Enforcement in an Innovative Economy*, (June 20, 2008) (quoting Robert M. Solow, *Growth Theory and After*, Prize Lecture for the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 1987 (Dec. 8, 1987), http://nobelprize.org/nobel_prizes/economics/laureates/1987/solow-lecture.html).

has ossified around static price competition.⁶³

Consequently, competition is ubiquitous and can take different forms. Market participants compete to secure greater monetary profits. Sycophants in authoritarian regimes compete to curry favor with superiors. Thus the issue is not whether competition exists, but “what kind of competition should exist.”⁶⁴ Competition can occur (i) on various dimensions (such as price, quality, service, variety, innovation) across markets (ii) operating at different levels of efficiency (iii) with different levels of product differentiation, entry barriers, and transparency, (iv) at different stages of the product life cycle, and (v) with different demands for technological innovation.

II. REEXAMINING THE ASSUMPTIONS UNDERLYING COMPETITION AND COMPETITION LAW

As Part I discusses, competition has multiple meanings. This Part explores one reason why we have not arrived at one satisfactory definition of *competition*: Any theory of competition depends on its premises, the validity of which depends on the context. Among the assumptions in any theory of competition are (i) the rationality of the market participants, (ii) the amount of information they have, (iii) the transaction costs and the speed of transactions, (iv) the degree to which market participants act independently of one another and care about the interests of third parties, and (v) the role of formal rules and informal social, ethical, or moral norms

⁶³ J. Thomas Rosch, Comm’r, Fed. Trade Comm’n, Promoting Innovation: Just How “Dynamic” Should Antitrust Law Be? (March 23, 2010), <http://www.ftc.gov/speeches/rosch/100323uscremarks.pdf> (observed how antitrust “has historically focused more on static than dynamic analysis”); Michael E. Porter, *Competition and Antitrust: A Productivity-Based Approach*, in *UNIQUE VALUE: COMPETITION BASED ON INNOVATION: CREATING UNIQUE VALUE FOR ANTITRUST, THE ECONOMY, EDUCATION AND BEYOND* 154, 157 (Charles D. Weller ed., 2004) (“[w]hile protecting short-run consumer welfare measured by price-cost margins is . . . important, . . . productivity growth through innovation, where innovation is defined broadly to include not only products, but also processes and methods of management . . . [are] the single most important determinant of long-term consumer welfare and a nation's standard of living.”).

⁶⁴ LUDWIG VON MISES, *BUREAUCRACY* 86 (2007).

in affecting the market participants' behavior.

This Article focuses on one important assumption, namely the extent to which firms, consumers, and the government are rational and act with perfect willpower.⁶⁵ In relaxing this assumption, one's conception of competition changes. Firms can be relatively more or less rational than consumers in displaying the biases and heuristics identified in the behavioral economics literature. Accordingly, our conception of competition can vary under the following four scenarios:

	Consumers, Rational	Consumers, Bounded Rational
Firms, Rational	I.	II.
Firms, Bounded Rational	III.	IV.

As economist Douglass North observed, the “government is not a disinterested party in the economy.”⁶⁶ Consequently, for each scenario, this Part examines the policy implications if the government is either relatively more or less rational than consumers and firms.

Several caveats are necessary. First, this article simplifies by examining consumers and firms. One can extend the analysis to the rationality of intermediaries (e.g., suppliers, wholesalers, and retailers), and firms as buyers and consumers as sellers of services. Second, it is an oversimplification to say that millions of consumers and firms are either rational or bounded rational. Under any scenario, some market participants will be relatively more rational and have greater willpower than others. Bounded rationality and willpower can increase or decrease over time.

⁶⁵ For the normative and descriptive shortcomings of the third prong of rational choice theory, namely individuals pursue solely their economic self-interest, see Maurice E. Stucke, *Money*, *supra* note 46, at 907-17.

⁶⁶ NORTH, UNDERSTANDING, *supra* note 39, at 67.

People at any moment can act “more or less rationally depending on a host of situational, emotional and other contingent influences.”⁶⁷ Nor is behavior consistent. People can behave differently depending on their gender⁶⁸ or situational factors, such as whether they are alone or in groups.⁶⁹ Third, firms as institutions can be bounded rational, although in different ways and degrees than consumers. Firms, at times, can minimize individual biases, but at other times (such as cults, mobs, and “groupthink”⁷⁰) can displace independent thinking.

Finally, in mapping each scenario, this Article first examines competition using the interaction of firms and consumers, and then introduces the rationality of the government in discussing the policy implications. This Article’s baseline is a free-market economy. With a centrally-planned economy, the analysis begins by examining the rationality of the government relative to private firms and consumers. With these caveats in mind, the purpose here is to explore generally how our conception of competition changes when relaxing one key assumption.

III. FOUR SCENARIOS OF COMPETITION AND THEIR POLICY IMPLICATIONS

A. *Scenario I: Both Firms and Consumers Are Rational*

The first scenario reflects neoclassical economic theory and competition policy today. A perfectly competitive market assumes transparent prices, highly elastic demand curves, easy entry and exit, and perfectly informed rational profit-maximizing producers and consumers.⁷¹ Price equals

⁶⁷ Donald C. Langevoort, *The Behavioral Economics of Mergers and Acquisitions*, TRANSACTIONS (forthcoming Spring 2011).

⁶⁸ Jeff Sommer, *How Men’s Overconfidence Hurts Them as Investors*, N.Y. TIMES, March 14, 2010, at 4 (Bus.).

⁶⁹ PHILIP ZIMBARDO, THE LUCIFER EFFECT (2008).

⁷⁰ Robert S. Baron, *So Right It’s Wrong: Groupthink and the Ubiquitous Nature of Polarized Group Decision Making*, in Vol. 37 ADVANCES IN EXPERIMENTAL SOCIAL PSYCHOLOGY 219 (Mark. P. Zanna, ed. 2005).

⁷¹ BLACK, *supra* note 56, at 348.

marginal cost. Market forces will deliver the efficient level of outputs with the most efficient techniques, using the minimum quantity of inputs.⁷²

But perfect competition, critics have long argued, cannot serve as the policymaker's conception of competition.⁷³ First, as the Chicago School jurist Richard Posner recognized, "No market fits the economist's model of perfect competition."⁷⁴ Second, perfect competition is inconsistent with our real world view of competition, which over the past century has increasingly focused on productive and dynamic efficiencies.⁷⁵ Imagine the reaction in an Ivy-League MBA program where perfect competition is the idealized end-state. If true, perfect competition would render the students' services and future employers' products as fungible and their high tuition unnecessary. Instead, for MBA students, competition "is a perpetual flight from the zero-profit abyss."⁷⁶ Third, the model, which idealizes

⁷² PAUL A. SAMUELSON & WILLIAM D. NORDHAUS, *ECONOMICS* 106–41 (15th ed. 1995).

⁷³ Park, *Competition*, *supra* note 20, at 349; Blaug, *supra* note 54, at 39; McNulty, *supra* note 20, at 641; HAYEK, *INDIVIDUALISM*, *supra* note 58, at 96; JOSEPH A. SCHUMPETER, *CAPITALISM, SOCIALISM, AND DEMOCRACY* (1942).

⁷⁴ *FTC v. Elders Grain, Inc.*, 868 F.2d 901, 907 (7th Cir. 1989); *United States v. Realty Multi-List, Inc.*, 629 F.2d 1351, 1368 (5th Cir. 1980) ("Perfect competition is a theoretical concept; all markets are subject to varying degrees of imperfections") (quoting Austin, *Real Estate Boards, and Multiple Listing Systems as Restraints of Trade*, 70 COLUM. L. REV. 1325, 1353-1354 (1970)); ANTITRUST MODERNIZATION COMM'N, REPORT AND RECOMMENDATIONS 2 (2007), http://go-vinfo.library.unt.edu/amc/report_recommendation/amc_final_report.pdf ("real world contains very few such markets.").

⁷⁵ Vickers, *supra* note 19, at 7; *see also* Douglass C. North, *Economic Performance Through Time*, 84 AM. ECON. REV. 359, 359 (1994) ("Neoclassical theory is simply an inappropriate tool to analyze and prescribe policies that will induce development."); McNulty, *supra* note 20, at 649; HAYEK, *INDIVIDUALISM*, *supra* note 58, at 96 ("Advertising, undercutting, and improving ("differentiating") the goods or services produced are all excluded by definition—'perfect' competition means indeed the absence of all competitive activities.").

⁷⁶ M.A. Adelman, *Economic and Legal Concepts of Competition*, 41 J. FARM ECON. 1197, 1197 (1959); Mary Keeney et al., Central Bank & Financial Services Authority of Ireland, *Research Technical Paper: How do Firms Set Prices? Survey Evidence from Ireland*, 7/RT/10, at 3 (May 2010) (finding that autonomous price setting prevails when firm considers competition to be absent, the most common approach in setting price is based on firms' costs and self-determined profit margin, and only one-third of firms set

homogeneity in products and knowledge, is far from desirable. Who wants to live in a world where after providing homogenous goods and services, we drive homogenous cars to homogenous homes?⁷⁷

In defense of perfect competition, the Chicago School economist George Stigler said that any concept to be useful in scientific analysis is abstract: “If a science is to deal with a large class of phenomena, clearly it cannot work with concepts that are faithfully descriptive of even one phenomenon, for then they will be grotesquely undescriptive of others.”⁷⁸ Under his logic, zoologists could not distinguish among Alaskan Hares (*Lepus othus*), Arctic Hares (*Lepus arcticus*) and Black-tailed Jackrabbits (*Lepus californicus*). Zoologists simply would call them collectively as creatures that hop. Moreover, if a zoologist calls these creatures Alaskan Hares, she is correct at least sometimes (when a *Lepus othus* hops past her). But if an economist describes all competition as perfect competition, she is always wrong. Perfect competition does not embrace or represent any form of actual competition. It is akin to the Easter Bunny.

An economic model can assume idealized conditions: market participants are *rational* with *perfect* knowledge of the conditions of supply and demand. Under these conditions, market participants “are supposed to know absolutely the consequences of their acts when they are performed, and to perform them in the light of the consequences.”⁷⁹ But since perfect

price primarily by following that of their closest competitor), http://www.centralbank.ie/data/TechPaperFiles/prices_rtpMay10.pdf. For an excellent recent discussion of this, see Deven R. Desai & Spencer Weber Waller, *Brands, Competition and the Law* (Feb. 1, 2010), <http://ssrn.com/abstract=1545893>.

⁷⁷ One example was the Cultural Revolution in China where “[a]ny form of personal taste in clothing was out of bounds—women wore uniformly flat heels and most people donned Red Guard-style green uniform jackets, baggy trousers and caps, with a badge of the Chairman [Mao] on the tunic pocket.” FENBY, *supra* note 159, at 457; *see also* RODERICK MACFARQUHAR & MICHAEL SCHOENHALS, *MAO’S LAST REVOLUTION* 116 (2006).

⁷⁸ Stigler, *supra* note 20, at 17.

⁷⁹ *Id.* at 12 (quoting FRANK KNIGHT, *RISK, UNCERTAINTY AND PROFIT* (1921)).

competition is neither descriptive nor normative, it is of little utility in dealing with day-to-day competition policy issues.

The next gradation is to assume *rational* actors with *incomplete* knowledge. Some information is unobtainable. Other information, while obtainable, is too costly to procure.⁸⁰ In this market economy, the Austrian School economist Ludwig von Mises observed, rational consumers, not firms, should be supreme. In their purchasing behavior, consumers ultimately determine “what should be produced and in what quantity and quality.”⁸¹ Mises, in his belief of consumer sovereignty, was skeptical about the evils of private monopolies: Rational consumers with willpower often can take care of themselves in the marketplace. But this is not always true.⁸² Imperfect information and informational asymmetries, for example, can lead to “lemon” markets where dishonest dealers for goods or services drive out honest dealers,⁸³ and thereby inhibit innovation.

The trickier aspect, as the next three scenarios address, is the descent to

⁸⁰ William J. Kolasky & Andrew R. Dick, *The Merger Guidelines and the Integration of Efficiencies into Antitrust Review of Horizontal Mergers* 60 (“Rational consumers and producers will invest in becoming informed only up until the point where the marginal cost of information equals its marginal value.”), http://www.justice.gov/atr/hmerger/11254.htm#N_1_.

⁸¹ MISES, *supra* note 64, at 17.

⁸² *Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451, 477 (1992); *Queen City Pizza, Inc. v. Domino's Pizza, Inc.*, 124 F.3d 430, 446 n.4 (3d Cir. 1997) (“Kodak is merely a concession to fact that markets do not always work perfectly, and sometimes, but not always, these [information] imperfections can create sufficient market power to justify possible antitrust liability.”); *see also* Robert H. Lande, *Chicago Takes It On The Chin: Imperfect Information Could Play A Crucial Role In The Post-Kodak World*, 62 ANTITRUST L.J. 193, 195 (1993) (“Another important lesson of *Kodak* is that imperfect information can be a crucial factor in defining relevant markets.”).

⁸³ *FTC v. Winsted Hosiery Co.*, 258 U.S. 483, 494 (1922) (“The honest manufacturer's business may suffer, not merely through a competitor's deceiving his direct customer, the retailer, but also through the competitor's putting into the hands of the retailer an unlawful instrument, which enables the retailer to increase his own sales of the dishonest goods, thereby lessening the market for the honest product.”); George A. Akerlof, *The Market for “Lemons”: Quality Uncertainty and the Market Mechanism*, 84 Q. J. ECON. 488, 495 (1970) (cost of dishonesty includes “loss incurred from driving legitimate business out of existence”).

bounded rational actors with *imperfect* willpower, who act with *incomplete* knowledge. Markets, where many participants have bounded rationality and willpower, can lead to additional undesirable outcomes.

1. Scenario I's Policy Implications Assuming the Government Is Rational
A trinity of rational firms, consumers and government paradoxically can justify either limited government or a centrally-planned economy.⁸⁴ As Stigler observed, a "perfect market may also exist under monopoly."⁸⁵ Logically monopolies can be private or government enterprises. If the latter, a state planner could model scenarios using the hypothetical profit-maximizer and centrally plan a similar outcome. Because rational profit-maximizing behavior is predictable, a temptation exists to nudge competition closer to perfect competition under "the guiding hand of some elite corps of governmental and non-governmental policy-makers."⁸⁶

On the other hand, the stronger the presumption of rationality, the *laissez-faire* argument goes, the more likely the market is perceived in becoming efficient, the less need for governmental regulation.⁸⁷ Generally, with rational market participants acting with the optimal amount of information in markets with no negative externalities, there is little for the government to do.⁸⁸ Transactions are presumably mutually beneficial as market participants contract to further their interests. The government perhaps can facilitate competition by reducing the market participants'

⁸⁴ See also JOHN CASSIDY, *HOW MARKETS FAIL: THE LOGIC OF ECONOMIC CALAMITIES* 59 (2009) (discussing Oskar Lange's same observations on a centrally-planned economy and perfect competition).

⁸⁵ Stigler, *supra* note 20, at 14.

⁸⁶ HM Blake & WK Jones, *In Defense of Antitrust* 65 COLUM. L. REV. 377, 378 (1965).

⁸⁷ *Town Sound & Custom Tops, Inc. v. Chrysler Motors Corp.*, 959 F.2d 468, 485 n.23 (3d Cir. 1992) ("Most of the work of 'Chicago School' theorists has centered on the general proposition that significant economic harm cannot occur (and hence the antitrust laws should not interfere) in competitive markets."); Michael A. Salinger, *Behavioral Economics, Consumer Protection, and Antitrust*, COMPETITION POL'Y INT'L, Spring 2010, at 68.

⁸⁸ JOHNSON & KWAK, *supra* note 7, 69.

transaction costs (such as providing a model contract and well-functioning judiciary system) or by lowering the participants' search and information costs (such as combating fraud).⁸⁹ But the stronger the rationality presumption, the more likely the government, subject to rent-seeking, is perceived to impede the path toward allocative efficiency.⁹⁰

Even in Scenario I, it does not follow that the government always does little. First, the government must address the commonly identified types of market failure under neo-classical economic theory, such as (i) the sustained exercise of market power;⁹¹ (ii) externalities;⁹² (iii) public goods;⁹³ and (iv) significant informational asymmetries or uncertainty.⁹⁴ So the rational government can increase price transparency (by restricting competitors' concerted efforts to reduce it or mandating public disclosures), internalize negative externalities (such as imposing on polluters a carbon tax), prosecute anticompetitive restraints of trade (such as price-fixing cartels or monopolist's efforts to unfairly increase rivals' costs or deter entry), and enjoin mergers to monopoly.

Second, competitive markets do not always yield the best or desired outcome. "It is *not* a correct deduction from the Principles of Economics

⁸⁹ Maurice E. Stucke, *How Do (and Should) Competition Authorities Treat a Dominant Firm's Deception?*, 63 SMU L. REV. 1069 (2010).

⁹⁰ See, e.g., Avinash Dixit, *In Honor of Paul Krugman: Winner of the John Bates Clark Medal*, 7 J. ECON. PERSP. 173, 182 n.7 (1993) ("there is no market failure so bad that the U.S. government and political process could not do even worse").

⁹¹ CASSIDY, *supra* note 84, at 126.

⁹² BLACK, *supra* note 56, at 168 (where the "cost or benefit arising from any activity which does not accrue to the person or organization carrying on the activity"); A. C. PIGOU, *THE ECONOMICS OF WELFARE* 192 (4th ed. 1962).

⁹³ Francis M. Bator, *The Anatomy of Market Failure*, 72 Q. J. ECON. 351 (1958) (whereby the payers for the goods cannot exclude the non-payers from consuming (or benefitting) from the goods (e.g., national defense)).

⁹⁴ <http://www.economist.com/research/economics/alphabetic.cfm?letter=M#marketfailure>; see also François Moreau, *The Role of the State in Evolutionary Economics*, 28 CAMBRIDGE J. ECON. 847, 849 (2004).

that enlightened self-interest always operates in the public interest.”⁹⁵ Unbridled capitalism, Professors Akerlof and Shiller write, “does not automatically produce what people really need; it produces what they *think* they need, and are willing to pay for.”⁹⁶ Competition can maximize output of products that eventually wipe out the economy.⁹⁷

Third, the government must address behavior that is individually rational but collectively irrational.⁹⁸ In examining the financial crisis, for example, Posner described how rational self-interested behavior of “law-abiding financiers and consumers can precipitate an economic disaster.”⁹⁹ Self-interest, for Posner, is a private virtue in that competition drives businesses to profit maximization, which drives economic progress.¹⁰⁰ But competitive self-interested behavior, at times, is a public vice. An overleveraged financial institution can ignore the small probability that its risky conduct in conjunction with its competitors’ risky conduct may bring down the entire economy. Each firm in pursuing its self-interest will incur greater leverage to maximize profits.¹⁰¹ So even for rational-choice theorists like Posner, the government must serve as a countervailing force to such self-interested rational private behavior by better regulating financial institutions.¹⁰²

⁹⁵ JOHN MAYNARD KEYNES, *THE END OF LAISSEZ-FAIRE* 36 (“It is *not* a correct deduction from the Principles of Economics that enlightened self-interest always operates in the public interest.”); STIGLITZ, *supra* note 2, at 273.

⁹⁶ AKERLOF & SHILLER, *supra* note 5, at 26.

⁹⁷ *Id.*; see also Anthony Faiola et al., *What Went Wrong?*, WASH. POST, Oct. 15, 2008, at A01 (noting several Clinton and Bush administrations officials’ opposition to regulation of derivatives).

⁹⁸ CASSIDY, *supra* note 84, at 139-50, 309.

⁹⁹ RICHARD A. POSNER, *A FAILURE OF CAPITALISM: THE CRISIS OF '08 AND THE DESCENT INTO DEPRESSION* 107 (2009); see also *id.* at 111-112; CASSIDY, *supra* note 84, at 209-17.

¹⁰⁰ POSNER, *FAILURE OF CAPITALISM*, *supra* note 99, at 107.

¹⁰¹ See, e.g., CASSIDY, *supra* note 84, at 221-27.

¹⁰² POSNER, *FAILURE OF CAPITALISM*, *supra* note 99, at 107.

2. Scenario I's Policy Implications Assuming the Government Is Bounded Rational

Rational firms and consumers often will be worse off when a meddling bounded rational government seeks to regulate their competitive behavior. Market forces invariably would provide a more efficient or timely solution.¹⁰³

But one first must inquire why the government is less rational than the market participants. One theory is dispositional: The government attracts bounded rational employees, namely, as Mises called them, those unfit to serve their fellow citizens, but who want to rule them.¹⁰⁴ But this assumes that civil servants' disposition differs from consumers' and firms'. Government workers, however, are also consumers (and former employees in private firms). Consequently, it is unlikely that civil servants are more rational in their private transactions (or prior jobs) than in their government offices.

A second theory is that the bounded rationality is situational. Market forces provide greater incentives for private firms and consumers to improve their willpower and rationality.¹⁰⁵ In their work decisions, civil servants, in contrast, have weaker incentives to avoid mistakes because of political myopia, the lack of direct accountability to voters, and regulatory capture. Under this theory, attracting business executives to oversee government agencies, and promoting a revolving door between the government and private sector will not eliminate bounded rationality, as the situational forces remain. The bureaucracy is not structured to experiment

¹⁰³ HERBERT HOVENKAMP, *THE ANTITRUST ENTERPRISE: PRINCIPLE AND EXECUTION* 124 (2005) ("markets generally work well when left alone, [and] intervention is justified only in the relatively few cases where the judiciary can fix the problem more reliably, more cheaply, or more quickly than the market can fix itself").

¹⁰⁴ MISES, *supra* note 64, at 75.

¹⁰⁵ Edward L. Glaeser, *Paternalism & Psychology*, 73 U. CHI. L. REV. 133, 140–41, 144–46 (2006) (modeling how consumers face stronger incentives to correct errors that directly impact their well-being than do government bureaucrats).

for the purpose of maximizing profits, but for the employees, consistent with the rule of law, to “obey rules and regulations established by a superior body.”¹⁰⁶

Logically under this scenario, a bounded rational government should not be problematic for competition policy. There exists the risk that the government, captured by powerful special interests, impedes competition. But rational citizens, recognizing this risk, would rely on structural, rather than behavioral, safeguards to prevent the concentration of power in either the government or marketplace.¹⁰⁷ Accordingly the demand for governmental antitrust services would diminish to the instances of sustained market failure, which market forces cannot correct. The bounded rational government would undertake measures (preferably structural) to prevent (or remedy) these market failures, under the careful guidance of rational voters. Otherwise, rational market participants in a well-functioning democracy would increasingly rely on market forces for the solution.

B. Scenario II: Rational Firms and Bounded Rational Consumers

Here rational firms can compete to exploit or help consumers with bounded rationality and willpower. Consumers with bounded willpower sacrifice their long-term interests (such as increased savings) for immediate consumption (and increased debt),¹⁰⁸ and display time-inconsistent preferences.¹⁰⁹ When the activity involves immediate costs and delayed

¹⁰⁶ MISES, *supra* note 64, at 55.

¹⁰⁷ U.S. Dep’t of Justice, Antitrust Div., Antitrust Division Policy Guide to Merger Remedies (Oct. 2004) (structural remedies in merger cases are preferred as “they are relatively clean and certain, and generally avoid costly government entanglement in the market”), <http://www.justice.gov/atr/public/guidelines/205108.pdf>; Louis D. Brandeis, *Scientific Management and Trusts*, in *THE SOCIAL AND ECONOMIC VIEWS OF MR. JUSTICE BRANDEIS* 386 (1930) (observing how accepting mergers to monopolies with behavioral safeguards is like “surrendering liberty and substituting despotism with safeguards”).

¹⁰⁸ Ned Welch, *A Marketer’s Guide to Behavioral Economics*, MCKINSEY Q. (Feb. 2010).

¹⁰⁹ Samuel M. McClure et al., *Separate Neural Systems Value Immediate & Delayed Monetary Rewards*, *SCIENCE*, Oct. 13, 2004, at 503, 504 (noting how if someone offered

benefits (e.g., exercising, studying), consumers procrastinate.¹¹⁰ When the activity involves immediate benefits and delayed costs, consumers find it harder to delay gratification.¹¹¹

Behavioral economics, commented one of its pioneers, uses scientific methods to explore human behavior already known to “advertisers and used-car salesmen.”¹¹² Rational firms manipulate consumption decisions by

- using framing effects and changing the reference point, such that the price change is viewed as a discount, rather than a surcharge;¹¹³
- anchoring consumers to an artificially high suggested retail price, from which bounded rational consumers negotiate;¹¹⁴

\$10 today versus \$11 tomorrow, person would be tempted to choose the former; whereas if present choice involved a distant payoff (\$10 in a year from now versus \$11 in a year and a day from now), same person would likely choose the latter).

¹¹⁰ Ted O’Donoghue & Matthew Rabin, *Doing it Now or Later*, 89 AM. ECON. REV. 103 (1999) (discussing welfare implications of sophisticated person, who knows exactly what her future self’s preferences will be, and naïve person, who believes her future self’s preferences will be identical to her current self’s, not realizing that as she gets closer to executing decisions her tastes will change).

¹¹¹ *Id.* at 110 (using example of seeing a mediocre film this weekend rather than waiting to see a better film released several weeks later).

¹¹² GARY BELSKY & THOMAS GILOVICH, WHY SMART PEOPLE MAKE BIG MONEY MISTAKES AND HOW TO CORRECT THEM: LESSONS FROM THE NEW SCIENCE OF BEHAVIORAL ECONOMICS 23 (1999) (quoting Amos Tversky).

¹¹³ The way the choice is framed—such as a sure gain or avoiding a loss—can significantly impact the outcome of the consumers’ choice. Daniel Kahneman, *Maps of Bounded Rationality: Psychology for Behavioral Economics*, 93 AM. ECON. REV. 1449, 1458 (2003). Consumers may be less concerned with the elimination of a discount than a price increase (although both have the same net effect). Thus deviations from the perceived reference point may be marked by asymmetric price elasticity: consumers may be more sensitive to (and angry about) price increases than when the manufacturer eliminates a discount or does not reduce prices during periods of deflation.

¹¹⁴ In one experiment, MBA students put down the last 2 digits of their social security number (e.g., 14). The students then participants monetized it (e.g., \$14), and then answered for each bidded item Yes or No if they would pay that amount for the item. The students then stated the maximum amount they were willing to pay for each auctioned product. Students with the highest ending SSN (80-99) bid the highest and those with the lowest SSN (1-20) bid the lowest, and those with highest-ending SSN bid 216 to 346 percent higher than students with low-end SSNs. DAN ARIELY, PREDICTABLY IRRATIONAL: THE HIDDEN FORCES THAT SHAPE OUR DECISIONS 25-28 (2008).

- adding decoy options (such as a restaurant’s adding a higher priced wine) to make the other options appear relatively less expensive;¹¹⁵
- using the sunk cost fallacy to remind bounded rational consumers of the financial commitment they already made to induce them to continue paying installments on an item, whose value is less than the remainder of payments;
- using the availability heuristic¹¹⁶ to drive purchases, such as an airline travel insurer using an emotionally salient death (from “terrorist acts”) rather than a death from “all possible causes;”,¹¹⁷
- taking advantage of the focusing illusion in advertisements (i.e., consumers predicting greater personal happiness from consumption of the advertised good and not accounting one’s adaptation to the new product);¹¹⁸
- giving the impression that their goods and services are of better quality because they are higher priced,¹¹⁹ and

¹¹⁵ Similarly, people rarely choose things in absolute terms, but instead based on their relative advantage to other things. *Id.* at 2. As Ariely discusses, by adding a third more expensive choice, for example, the marketer can steer consumers to a more expensive second choice. *Id.* MIT students, in one experiment, were offered three choices for the Economist magazine: (i) Internet-only subscription for \$59 (sixteen students); (ii) print-only subscriptions for \$125 (no students); and (iii) print-and-Internet subscriptions for \$125 (eighty-four students). *Id.* at 5. When the “decoy” second choice (print-only subscriptions) was removed and only the first and third options were presented, the students did not react similarly. *Id.* at 5–6. Instead sixty-eight students opted for Internet-only subscription for fifty-nine dollars (up from sixteen students) and only thirty-two students chose print-and-Internet subscriptions for \$125 (down from eighty-four students). *Id.* at 5–6.

¹¹⁶ Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, SCIENCE, Sept. 27, 1974, at 1127 (noting situations where people assess the “frequency of a class or the probability of an event by the ease with which instances or occurrences can be brought to mind”).

¹¹⁷ E.J. Johnson et al., *Framing, Probability Distortions, and Insurance Decisions*, 7 J. RISK & UNCERTAINTY 35–51 (1993).

¹¹⁸ See *supra* note .

¹¹⁹ Ariely for example conducted several experiments that revealed the power of higher

- seeking to avoid price competition through branding.¹²⁰

Rational credit card companies, as one example, can capitalize on this bounded rationality and willpower in two ways: First, they can compete in ways to encourage consumers to charge more (and maximize fees for the banks).¹²¹ Competition profits the rational firms but leaves consumers increasingly miserable with greater debt. Second, rational credit card companies can compete in helping consumers achieve their long-term interests by providing them with commitment devices. Sophisticated

prices. ARIELY, *supra* note 114, at 181-86. In one experiment, nearly all the participants reported less pain after taking a placebo priced at \$2.50 per dose; when the placebo was discounted to 10 cents per dose, only half of the participants experienced less pain. *Id.* at 182-83. Similarly, MIT students who paid regular price for the “SoBe Adrenaline Rush” beverage reported less fatigue than the students who paid one-third of regular price for the same drink. *Id.* at 184-85. SoBe Adrenaline Rush beverage was next promoted as energy for the students’ mind, and students after drinking the placebo, had to solve as many word puzzles within 30 minutes. Students who paid regular price for the drink got on average 9 correct responses, versus students who paid a discounted price for the same drink got on average 6.5 questions right. *Id.* at 185-86. Similarly, according to researchers at the Stanford Graduate School of Business and the California Institute of Technology, “if a person is told he or she is tasting two different wines—and that one costs \$5 and the other \$45 when they are, in fact, the same wine—the part of the brain that experiences pleasure will become more active when the drinker thinks he or she is enjoying the more expensive vintage.” <http://news-service.stanford.edu/pr/2008/pr-wine-011608.html>; see also Jonathan D. Glater & Alan Finder, *In Tuition Game, Popularity Rises With Price*, N.Y. TIMES, Dec. 12, 2006 (discussing how Ursinus College, believing it was losing applicants because of its low tuition, raised its tuition and fees 17.6 percent in 2000 (but offered more financial aid), and received nearly 200 more applications the following year), <http://www.nytimes.com/2006/12/12/education/12tuition.html?pagewanted=print>.

¹²⁰ Amos Tversky & Daniel Kahneman, *Loss Aversion in Riskless Choice: A Reference-Dependent Model*, 106 Q.J. ECON. 1039, 1054-58 (1991). A famous antitrust example is Clorox, whose bleach is chemically indistinguishable from rival brands. *FTC v. Procter & Gamble Co.*, 386 U.S. 568 (1967). Nonetheless, Clorox invested millions of dollars in promoting its brand of bleach, and often charged a higher price for its bleach. One would think that a market, where one company sells a fungible chemically indistinguishable product at a price premium, would be attractive for potential entrants. But Procter & Gamble sought to purchase Clorox rather than enter the liquid bleach market independently. And Clorox bleach, according to the company website, remains today the U.S. industry leader with 64 percent of sales. http://files.shareholder.com/downloads/CLX/895785564x0x319009/61002338-3AE9-40B6-8B3A-592193C6364E/FactSheet_2009_Final.pdf.

¹²¹ Oren Bar-Gill & Elizabeth Warren, *Making Credit Safer*, 157 U. PA. L. REV. 1, 56 (2008) (“data on credit choice and use show that consumer mistakes cost hundreds of dollars a year per consumer”).

consumers, recognizing their bounded willpower, can demand commitment devices.¹²² Every day, for example, people have part of their salaries automatically deducted into separate investment accounts, hire personal trainers to ensure they exercise, and set their clocks slightly fast. Banks accordingly can offer credit cards with commitment devices to enable consumers to save more. Consumers in their dispassionate state can elect to cap subsequent credit card purchases for certain categories of goods or services (e.g., limiting spending on Starbucks coffee to \$5 per week).¹²³

Why wouldn't rational firms always exploit consumers? One factor is rational firms' ability to *identify* consumers with weaker rationality and willpower for certain decisions. Consumers can make better decisions when they have greater experience, have good feedback on earlier errors, or rely on salient information.¹²⁴ Thus identifying instances where bounded rationality can be exploited is a business unto itself.¹²⁵ Rational firms can target bounded rational consumers by offering to help them with their earlier problems, such as selling their time shares, preventing home foreclosures, or improving their credit rating.

At times exploiting irrationality benefits society. Rational firms can dampen investors' speculation (e.g., buying a company's stock on the hope that past price increases will continue with future price increases). The interaction of people each of whom possesses partial knowledge can yield

¹²² O'Donoghue & Rabin, *supra* note 110, at 103-24; David Laibson, *Golden Eggs and Hyperbolic Discounting*, 112 Q.J. ECON. 443, 444-45 (1997).

¹²³ Ron Lieber, *Your Money: Your Card Has Been Declined, Just as You Wanted*, N.Y. TIMES, Aug. 13, 2010, <http://www.nytimes.com/2010/08/14/your-money/credit-and-debit-cards/14money.html?src=me&ref=business>.

¹²⁴ John A. List, *Does Market Experience Eliminate Market Anomalies?*, 118 Q. J. ECON. 41, 41 (2003).

¹²⁵ Bar-Gill & Warren, *supra* note 121, at 23-24. Credit rating agency Equifax, for example, advertises "advanced profiling techniques" to identify people who show a "statistical propensity to acquire new credit" within [ninety] days." Brad Stone, *Banks Mine Data and Woo Troubled Borrowers*, N.Y. TIMES, Oct. 22, 2008, at B1, available at http://www.nytimes.com/2008/10/22/business/22target.html?_r=1.

valuable information, such as a remarkably accurate prediction of an event in prediction markets.¹²⁶ Rational investors can exploit irrationality, as these predictions markets have a defined event (e.g., the winner of the U.S. presidential elections) and end date when bets are settled.¹²⁷

But rational firms, even after identifying bounded rational consumers, cannot always exploit them. Consumers, recognizing their bounded rationality, can turn to rational advisors or consumer advocates (such as Consumers Reports). Many markets, unlike prediction markets, lack a defined end-point. A rational investor could “short” a company’s stock to profit when the stock price declines.¹²⁸ But the rational trader cannot determine when the speculation bubble will burst. Rational traders, due to investor pressure, can be subject to short-term horizons, and follow the herd for short-term gains.¹²⁹ Rational traders may also find it more profitable to devise products to facilitate, rather than combat, speculation.¹³⁰

Scenario II competition presents other forms of market failure. One is systemic behavioral exploitation.¹³¹ In competitive markets, one expects

¹²⁶ Colin F. Camerer & Ernst Fehr, *When Does “Economic Man” Dominate Social Behavior?*, SCIENCE, Jan. 6, 2006, at 47, 52; see also HAYEK, INDIVIDUALISM, *supra* note 58, at 91.

¹²⁷ *Id.*

¹²⁸ The Fool FAQ, Shorting Stocks (“An investor who sells stock short borrows shares from a brokerage house and sells them to another buyer. Proceeds from the sale go into the shorter's account. He must buy those shares back (cover) at some point in time and return them to the lender.”), <http://www.fool.com/foolfaq/foolfaq0033.htm>.

¹²⁹ Andrei Shleifer & Robert W. Vishny, *The Limits of Arbitrage*, in II ADVANCES IN BEHAVIORAL FINANCE 81, 92 (Richard H. Thaler ed. 2005); see also CASSIDY, *supra* note 84, at 177-81; James Mackintosh, *Decoding the Psychology of Trading*, FIN. TIMES, July 17-18, 2010, at 15 (discussing how hedge fund seeks to exploit investors’ bounded rationality by monitoring investor sentiments in the press).

¹³⁰ CASSIDY, *supra* note 84, at 182-84; ANDREI SHLEIFER, INEFFICIENT MARKETS: AN INTRODUCTION TO BEHAVIORAL FINANCE 172 (2002) (citing several examples, including future contracts on tulips during the Tulipmania in the 1630s).

¹³¹ Max Huffman, *Bridging the Divide? Theories for Integrating Competition Law and Consumer Protection*, 6 EUR. COMPETITION J. 7, 17-18 (2010) (discussing how behavioral exploitation may produce longer-lasting consumer harm). Prof. Huffman’s article prompted an interesting roundtable discussion among competition law lawyers, economists, and policy officials. *Antitrust Marathon IV: With Authority -- A discussion led*

rational firms to inform bounded rational consumers of other firms' attempts to exploit them. Providing this information is another facet of competition: Trust us, we won't exploit you.¹³² But too frequently rather than compete to build consumers' trust in their business, competitors engage in similar exploitation.¹³³

Rational firms can compete in finding cleverer ways to attract and exploit bounded rational consumers companies. As the U.K.'s Office of Fair Trading recently experimented, firms can jointly manipulate consumer consumption behavior and leave them worse off under five common price frames: (i) "drip pricing", where a lower price is initially disclosed to the consumer and additional charges are added as the sale progresses; (ii) "sales," where the "sales" price is referenced off an inflated regular price

by Philip Marsden and Spencer Weber Waller, 6 EUR. COMPETITION J. 1-127 (2010).

¹³² SCFC ILC, Inc. v. Visa USA, Inc., 36 F.3d 958, 965 (10th Cir. 1994) ("If the structure of the market is such that there is little potential for consumers to be harmed, we need not be especially concerned with how firms behave because the presence of effective competition will provide a powerful antidote to any effort to exploit consumers.") (quoting George A. Hay, *Market Power in Antitrust*, 60 ANTITRUST L.J. 807, 808 (1992)).

¹³³ See, e.g., Eastman Kodak Co. v. Image Tech. Servs., Inc., 504 U.S. 451, 474 n.21 (1992) (noting that "in an equipment market with relatively few sellers, competitors may find it more profitable to adopt Kodak's service and parts policy than to inform the consumers"); FTC v. R.F. Keppel & Bro., 291 U.S. 304, 308, 313 (1934) (finding that while competitors "reluctantly yielded" to the challenged practice to avoid loss of trade to their competitors, a "trader may not, by pursuing a dishonest practice, force his competitors to choose between its adoption or the loss of their trade"); Ford Motor Co. v. FTC, 120 F.2d 175 (6th Cir. 1941) (Ford following industry leader General Motors in advertising a deceptive six-percent financing plan); Matthew Bennett et al., *What Does Behavioral Economics Mean for Competition Policy?*, 6 COMPETITION POL'Y INT'L 111, 118 (Spring 2010); Eliana Garcés, *The Impact of Behavioral Economics on Consumer and Competition Policies*, 6 COMPETITION POL'Y INT'L 145, 150 (2010); Huffman, *supra* note 131. Antitrust scholar Robert Steiner, who was also the former president of the Kenner Products toy company, described his concerns about the industry self-regulation of toy commercials in the 1960s and 1970s. Originally favoring industry self-policing, he feared the greater anticompetitive consequences of deceptive advertising. Absent regulation, some toy manufacturers would air deceptive ads, which would pull down the toy industry. Unless his company matched "the exaggerations and sometimes the outright deceptions of certain competitors, our commercials might not be exciting enough to move our toys off the shelf." He foresaw bad commercials driving out the good ones, rendering TV advertising relatively ineffective. Robert L. Steiner, *Double Standards in the Regulation of Toy Advertising*, 56 CINCINNATI L. REV. 1259, 1264 (1988).

(was \$2, now \$1); (iii) “complex pricing” (e.g., three-for-two offers), where the unit price requires some computation; (iv) “baiting,” where sellers promote special deals with only a limited number of goods available at the discounted price; and (v) “time limited offers,” where the special price is available for a short period.¹³⁴ The OFT experiment found drip pricing and time-limited offers particularly detrimental. Not surprisingly one sees such exploitive “drip pricing” for airline tickets,¹³⁵ car rentals,¹³⁶ and prepaid telephone calling cards.¹³⁷

To exploit consumers, rational firms can compete in ways to reduce price transparency and increase the complexity of their products (or product terms).¹³⁸ Take credit cards as one example. A single credit card account

¹³⁴ Office of Fair Trading, *The Impact of Price Frames on Consumer Decision Making* (May 2010), http://www.of.gov.uk/shared_of/economic_research/OFT1226.pdf.

¹³⁵ The airlines are clever in their surcharges for pieces and weight of luggage, phone reservation fees, meals, beverages, headsets, extra leg room, etc. These extra fees often are not quoted in the initial price displayed to customers, but later when consumers are completing their purchase. Jad Mouawad & Claire Cain Miller, *Search for Low Airfares Gets More Competitive*, N.Y. TIMES, Feb. 10, 2011, at B1; Alex Altman & Kate Pickert, *New Airline Surcharge: A Bag Too Far?*, TIME, May 22, 2008, <http://www.time.com/time/business/article/0,8599,1808804,00.html>.

¹³⁶ In re Dollar Rent-A-Car, 116 F.T.C. 255 (1993) (requiring Dollar to disclose to consumers in its ads the existence of any mandatory fuel charges, airport surcharges or other charges not reasonably avoidable by consumers); In re Value Rent-A-Car, 116 F.T.C. 245 (1993) (same); In re Alamo Rent-A-Car, Inc., 111 F.T.C. 644 (1989) (settling charges that its operators failed to disclose to consumers the existence and amount of airport surcharges and mandatory fuel charges when consumers inquire about possible rental of Alamo's vehicles); In re General Rent-A-Car Systems, Inc., 111 F.T.C. 694 (1989) (requiring national car rental company to disclose charges that are mandatory or are not reasonably avoidable to every consumer that inquires about prices).

¹³⁷ Bennett et al., *supra* note 133, at 117.

¹³⁸ JOHNSON & KWAK, *supra* note 7, at 81, 108; Edward J. Janger & Susan Block-Lieb, *Consumer Credit and Competition: The Puzzle of Competitive Credit Markets*, 6 EUR. COMPETITION J. 68, 71 (2010) (“Price competition often takes the form of price concealment.”); Bar-Gill & Warren, *supra* note 121, at 27-28; Xavier Gabaix & David Laibson, *Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets*, 121 Q.J. ECON. 505, 505-08 (2006). Visa, MasterCard, and American Express, the DOJ recently alleged, sought to reduce price transparency for their credit card network services. *Compl., United States v. American Express Co.*, Civ. Act. No. 1:10-cv-4496 (E.D.N.Y. filed Oct. 4, 2010) (alleging that merchants were prohibited from informing consumers of the merchants' cost in using a particular credit card network, or to encourage the customer to use a less costly credit card or payment method). To date, Visa

can have multiple APRs for different types of credit extensions, or that apply for limited time periods. General purpose credit card issuers can compete by reducing “front-end” costs, such as eliminating annual fees and substantially discounting initial interest rates. Consumers, ill-informed about the long-term costs of different credit cards, can make decisions on incidental benefits (such as receiving a T-shirt with the university logo when signing up for a credit card on a college campus). The credit card companies then overcharge the consumer on the less salient “back-end” costs, with higher late fees and penalties and over-the-credit-limit fees.¹³⁹ At times, consumers are disclosed the information, but do not understand the key terms that affect the cost of using their credit card; at other times, consumers simply do not act on the information.¹⁴⁰

Rational companies can also seek to exploit consumers’ optimism bias. One former CEO, for example, explained how his credit card company successfully targeted vulnerable low-income customers “by offering ‘free’ credit cards that carried heavy hidden fees.”¹⁴¹ The company “used to use the word ‘penalty pricing’ or ‘stealth pricing.’”¹⁴² The former CEO explained how these ads targeted consumers’ optimism: “When people make the buying decision, they don’t look at the penalty fees because they never believe they’ll be late. They never believe they’ll be over limit, right?”¹⁴³ Bounded rational consumers, who are overoptimistic on their ability and willpower to make pay off the card annually, underestimate the

and MasterCard settled with the DOJ.

¹³⁹ Statement by Chairman Ben S. Bernanke (May 2, 2008), <http://www.federalreserve.gov/newsevents/press/bcreg/bernankecredit20080502.htm>.

¹⁴⁰ Federal Trade Comm’n, Improving Consumer Mortgage Disclosures: An Empirical Assessment of Current and Prototype Disclosure Forms: A Bureau of Economics Staff Report (June 2007), <http://www.ftc.gov/opa/2007/06/mortgage.shtm>.

¹⁴¹ <http://www.pbs.org/wgbh/pages/frontline/creditcards/view/>.

¹⁴² *Id.*

¹⁴³ *Id.*

costs of their future borrowings¹⁴⁴ and demand and over-consume products contrary to their long-term interests. Optimistic consumers opt for credit cards with lower annual fees (but higher financing fees and penalties) over better suited products (e.g., credit cards with higher annual fees but lower interest rates and late payment penalties).¹⁴⁵

For a rational competitor to debias the consumers may be too costly or not worthwhile, given the free-rider problem. Suppose a credit card issuer incurs the cost to educate consumers of their bounded willpower and overconfidence. Other competitors can free-ride on the company's educational efforts and quickly offer similar credit cards with lower annual fees. Ultimately, such competition would reduce the credit card industry's profits, without offering any lasting competitive advantage to the first-mover.¹⁴⁶ Consequently, the industry is better off exploiting consumers' bounded rationality. Consumers, overconfident in their financial prowess, will not demand better-suited products. Firms have little financial incentive to help consumers make better choices.¹⁴⁷ Market demand, accordingly, will skew toward products and services that exploit or reinforce the consumers' bounded will-power and rationality.

1. Scenario II's Policy Risks Assuming the Government Is Rational

Customers under this scenario may reign supreme (in choosing commitment devices to address their bounded rationality and willpower) or be exploited. So in distinguishing between behavioral exploitation and when firms are helping bounded rational consumers, the government under Scenario II faces two difficulties.

¹⁴⁴ JOHNSON & KWAK, *supra* note 7, at 196-97; Sha Yang et al., *Unrealistic Optimism in Consumer Credit Card Adoption*, 28 J. ECON. PSYCH. 170 (2007).

¹⁴⁵ Bar-Gill & Warren, *supra* note 121, at **.

¹⁴⁶ *Id.* at 8-9, 20-21.

¹⁴⁷ See, e.g., Merger Guidelines, *supra* note 59, at § 7.2 (noting how market is more vulnerable to coordinated conduct if a firm that first offers a lower price or improved product to customers will retain relatively few customers after its rivals respond).

One difficulty is that the government cannot necessarily rely on consumers' choices to infer their utility. Economists historically assessed people's preferences, not by their subjective beliefs or intentions, but by their actual choices.¹⁴⁸ But if heuristics and biases systematically appear in consumer decision-making, then consumer choices do not always reflect actual consumer preferences.¹⁴⁹ Bounded rational consumers in Scenario II can predict poorly as to what makes them happy.¹⁵⁰ At times, rational firms through advertising and promotions manipulate consumer preferences.¹⁵¹

A second difficulty is that some sophisticated consumers, aware of their bounded rationality and willpower, will incur costs on commitment devices that could appear to a rational government as exploitative. Take for example Christmas club savings accounts. Bank customers deposit throughout the year into their Christmas accounts (which do not offer superior interest rates) and cannot withdraw the funds until the holidays. A rational government official could view Christmas accounts as exploitative: Customers get less (in terms of interest rate and liquidity). Banks get more

¹⁴⁸ The Economics A-Z, The Economist ("To model demand it is only necessary to be able to compare an individual's consumption decisions in situations with different prices and/or incomes and to assume that consumers are consistent in their decisions over time (that is, if they prefer wine to beer in one period they will still prefer wine in the next)."), <http://www.economist.com/research/economics/alphabetic.cfm?letter=R#revealedpreference>.

¹⁴⁹ Garcés, *supra* note 133, at 148; George Loewenstein & Peter A. Ubel, *Hedonic Adaptation and the Role of Decision and Experience Utility in Public Policy*, 92 J. PUB. ECON. 1795 (2008); Daniel Kahneman & Alan B. Krueger, *Developments in the Measurement of Subjective Well-Being*, 20 J. ECON. PERSP. 3, 3-4 (2006) ("If people display bounded rationality when it comes to maximizing utility, then their choices do not necessarily reflect their 'true' preferences, and an exclusive reliance on choices to infer what people desire loses some of its appeal."); Bruno S. Frey & Alois Stutzer, *What Can Economists Learn from Happiness Research?*, 40 J. ECON. LIT. 402, 404-05 (2002).

¹⁵⁰ Daniel Kahneman et al., *Would You Be Happier If You Were Richer? A Focusing Illusion*, SCIENCE, June 30, 2006, at 1908; David A. Schkade & Daniel Kahneman, *Does Living in California Make People Happy?*, PSYCHOL. SCI., Sept. 1998, at 345; Daniel Kahneman & Richard H. Thaler, *UTILITY MAXIMIZATION & EXPERIENCED UTILITY*, 20 J. ECON. PERSP. 221 (2006).

¹⁵¹ DEREK BOK, *THE POLITICS OF HAPPINESS* 76, 115-17, 206 (2010); JOHN KENNETH GALBRAITH, *THE AFFLUENT SOCIETY* (1998).

(longer time horizon to use funds without risk of withdrawals). Rational consumers with willpower would chose risk-free illiquid funds with better yields (e.g., Certificates of Deposit) or keep the funds in their savings accounts. But Christmas accounts provide bounded rational consumers with a commitment device and divisibility (namely a separate account earmarked for Christmas shopping).¹⁵²

Thus a key issue under Scenario II is how the rational government identifies and responds to sustained behavioral exploitation. Authoritarianism and corporate autocracy are two worst-case scenarios.

Under a market economy, consumers, through their informed economic decisions, should ultimately reign supreme. But if bounded rational consumers choose poorly, one danger is that the rational government by default decides for consumers. If consumers are bounded rational, the justification goes, markets are not functioning as efficiently as they could be; thus the state becomes the de facto guardian to protect its citizens from their irrationality. But a heightened concern about consumers' bounded rationality raises far greater social and political concerns over consumer sovereignty and "the intrusion of bureaucracy into all spheres of human life and activity."¹⁵³ The concern over behavioral exploitation can increasingly justify "the subordination of every individual's whole life, work, and leisure to the orders of those in power and office."¹⁵⁴

In displacing individual autonomy, the rational government does not help consumers improve their willpower or rationality. Instead the government promotes learned helplessness. Now the government devotes greater energies to regulate marketplace behavior and displace the market's

¹⁵² Richard H. Thaler, *Mental Accounting Matters*, in *ADVANCES IN BEHAVIORAL ECONOMICS* 75 (Camerer ed., 2004).

¹⁵³ MISES, *supra* note 64, at 14.

¹⁵⁴ *Id.*

function in finding solutions for consumers' problems.¹⁵⁵ The government places greater restrictions on consumers to manage their affairs, as it devises ways to improve consumers' diets, to restrict their consumption of harmful products, such as alcohol, and for consumers to use their leisure time more productively, such as exercising and reading rather than watching television.¹⁵⁶

Nor is there any incentive to improve the citizens' bounded rationality and willpower. A bureaucracy that exists to protect bounded rational consumers cannot afford to let its citizens become more rational. The bureaucrats' livelihood, authority, and status depend on consumers remaining sufficiently irrational to justify the bureaucracy's existence.¹⁵⁷ Instead consumers are encouraged to register their complaints with the government, who intercedes on their behalf. These concerns provide the government greater justification to regulate the remaining rational firms' behavior. To provide what it perceives as the consumers' needs, the government justifies regulating further the production of goods and services, leading to less diversity, fewer consumer choices, and greater allocative inefficiency. The heavily regulated firms become *de facto* state enterprises. As Hayek observed, "planning leads to dictatorship, because dictatorship is the most effective instrument of coercion and the enforcement of ideals and, as such, essential if central planning on a large scale is to be possible."¹⁵⁸

In this worst-case scenario, economic competition ceases to be a concern. Competition and personal liberty are displaced by a centrally-

¹⁵⁵ J. Thomas Rosch, Comm'r, Fed. Trade Comm'n, Intel, Apple, Google, Microsoft, and Facebook: Observations on Antitrust and the High-Tech Sector (Nov. 18, 2010), <http://www.ftc.gov/speeches/rosch/101118fallforum.pdf>.

¹⁵⁶ MISES, *supra* note 64, at 22.

¹⁵⁷ NORTH, UNDERSTANDING, *supra* note 39, at 51-52.

¹⁵⁸ F.A. HAYEK, THE ROAD TO SERFDOM 78 (Univ. of Chi. Press 2007) (1944).

planned economy headed by an authoritarian government. Thus some accept the cost of behavioral exploitation versus the greater costs of losing economic freedom to an increasingly authoritarian government.¹⁵⁹

But if the government takes a laissez-faire approach and renounces any intention to regulate the market, this raises another danger, namely corporate autocracy. Here the outcome is equally anti-democratic. Economically powerful firms lobby the government to refrain from regulating the marketplace. Firms, while economically exploiting bounded rational consumers, also exploit their fears about authoritarianism. Firms advocate the virtues of consumer sovereignty under a laissez-faire approach. Indeed rational choice theory can play into bounded rational consumers' overconfidence as to their sovereignty and ability to discipline firms that attempt to exercise market power. Under this ideology, markets are presumably efficient (or heading toward greater efficiency), and competition law is limited to the market failures outlined in Scenario I.

Once economic power and wealth are concentrated, the government and its competition policies are used to preserve the status quo.¹⁶⁰ Industries in pre-war Germany, for example, enlisted the state through compulsory cartel laws to complete their market power.¹⁶¹ The dominant firms maintain their

¹⁵⁹ One need only look at China's dismal experience under Mao Zedong's authoritarian regime. JONATHAN FENBY, *THE PENGUIN HISTORY OF MODERN CHINA: THE FALL AND RISE OF A GREAT POWER 1850-2009* 525 (2009) (besides the human losses and suffering, estimating the economic cost of the Cultural Revolution at the equivalent of \$34 billion). In defending the economic liberalizations in China's Special Economic Zones, one Chinese official queried how many state officials would be willing to live in a zone where leftist policies would be applied through "total state planning, rationing and queuing for food, where foreign investment and foreigners would be banned, and inhabitants would not be allowed to travel or send their children abroad." *Id.* at 648.

¹⁶⁰ Maurice E. Stucke, *Should the Government Prosecute Monopolies?*, 2009 U. ILL. L. REV. 521–25 (providing examples); JOHNSON & KWAK, *supra* note 7, at 6.

¹⁶¹ HAYEK, *SERFDOM*, *supra* note 158, at 93–94; JOHN M. KLEEBERG, *GERMAN CARTELS: MYTHS AND REALITIES*, http://www.econ.barnard.columbia.edu/~econhist/papers/Kleeberg_German_Cartels.pdf (estimated 550 to 600 German cartels existed in 1911, about 1,000 in 1922; 1,500 by 1933;

power by redefining the goals of competition policy and directing antitrust enforcement against unions (which happened early in the Sherman Act's history¹⁶²). Antitrust policy characterizes concentration, even to the brink of monopoly, as beneficial. Monopoly profits are praised as “an important element of the free-market system,” in serving as an inducement to “attract[] ‘business acumen’ in the first place” and engage in “risk taking that produces innovation and economic growth.”¹⁶³ Political and social concerns over dominant firms' influence and the effect of their size on the economy as a whole are dismissed as ill-founded fears over bigness and prosperity. These non-economic antitrust goals are deemed out of touch with the latest economic thinking, premised on rational choice theory.¹⁶⁴ Once economic and political power is consolidated, monopolies and cartels can become “governmental instrumentalities to achieve political ends.”¹⁶⁵ Citizens are denied the right to use the democratic process to protect them; instead they navigate the market's dark alleyways, hoping that little economic harm comes to them.

2. Scenario II's Policy Risks Assuming the Government Is Bounded Rational

The prospect of bounded rational consumers and government raises several additional policy risks. One risk is that rational firms use consumer

and 1,800 by 1938).

¹⁶² The eighth federal antitrust action brought by the United States was against Eugene V. Debs. CCH, *THE FEDERAL ANTITRUST LAWS: WITH SUMMARY OF CASES INSTITUTED BY THE UNITED STATES 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).

¹⁶³ *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004).

¹⁶⁴ Darren Bush, *Too Big to Bail: The Role of Antitrust in Distressed Industries*, 77 *ANTITRUST L.J.* 277, 281-91 (2010).

¹⁶⁵ John H. Crider, *Roosevelt Calls for Cartels Curb: In Letter to Hull He Says Types of 'Trusts' Used by Reich Must Be Ended*, *N.Y. TIMES*, Sept. 9, 1944, at 1 (quoting President Roosevelt).

protection as a pretext to restrict competition. To “protect” consumers from making irrational decisions, competitors agree to compete only along some parameters, such as quality or service, rather than price. In *National Society of Professional Engineers v. United States*, for example, the competing engineers refused “to discuss prices with potential customers until after negotiations . . . resulted in the initial selection of an engineer.”¹⁶⁶ The Society claimed that if engineers discussed prices at the onset with prospective clients, low bids would result. This in turn would tempt individual engineers to do inferior work with consequent risk to public safety and health. The engineers’ behavior, when characterized favorably, was paternalistic. Customers, the engineers argued, could not account all the variables involved in the projects’ actual performance.¹⁶⁷ The Supreme Court rejected the engineers’ justification.¹⁶⁸ But the bounded rational government, assuming that bounded rational consumers choose poorly, might accept it.

A second risk is that rational competitors use the bounded rational government to orchestrate their cartel. In many aspects, a bounded rational government is more effective than a private cartel in policing the anti-competitive restrictions and punishing any offenders.¹⁶⁹

¹⁶⁶ 435 U.S. 679, 692 (1978).

¹⁶⁷ *Id.* at 694 (engineers arguing that customers could not intelligibly decide whether its “interest in quality-which may embrace the safety of the end product-outweighs the advantages of achieving cost savings by pitting one competitor against another”).

¹⁶⁸ *Id.* at 695 (recognizing its inability (and its lack of authority under the Sherman Act) to weigh the loss of price competition with the public benefit of preventing inferior engineering work and insuring ethical behavior, and characterizing engineers’ justifications as “nothing less than a frontal assault on the basic policy of the Sherman Act”); *see also* *FTC v. Indiana Federation of Dentists*, 476 U.S. 447, 463 (1986) (rejecting defense that in competitive information market consumers will “make unwise and even dangerous choices”).

¹⁶⁹ Compl. at 12, *United States v. Ky. Real Estate Comm’n*, No. 3:05CV188-H (W.D. Ky. Mar. 31, 2005), www.usdoj.gov/atr/cases/f208300/208393.pdf. Defendant served as the sole licensing authority for the state’s real estate brokers. It banned brokers from offering home buyers a cash rebate, such as \$1,000, or an inducement, like a free

A third policy risk arises from the overconfidence bias. Citizens are overconfident in the government's ability to regulate the market for abuses. For example, in one survey "[r]oughly half of all African Americans and Hispanics, and over 60 percent of Hispanic immigrants [believed] erroneously [that] lenders are required by law to give a borrower the best rates possible."¹⁷⁰ The bounded rational government is overconfident in its citizens' ability to fend for themselves¹⁷¹ and the ability of markets to self-correct.

A fourth policy risk is that the bounded rational government causes greater harm in seeking to protect bounded rational consumers. For example, after a recent disaster, bounded rational consumers and the government under the availability heuristic would overestimate the probability of that event happening in the future. The government heavily regulates the industry, while not addressing other risks, that while not coming immediately to mind, actually cause greater harm.¹⁷² Even without

television, if the buyer used that broker. To enforce the rebate ban, Defendant investigated alleged violations, asked real estate brokers to inform it when any competing brokers offered rebates or other inducements, and took disciplinary action against brokers who offered customers rebates or other inducements, including suspending or revoking brokers' licenses, imposing monetary fines, issuing reprimands, and requiring completion of additional academic credit hours. *Id.* at 33.

¹⁷⁰ Fannie Mae, *The Growing Demand for Housing: 2002 Fannie Mae National Housing Survey* 9 (2002), available at <http://www.fanniemae.com/global/pdf/media/survey/survey2002.pdf>.

¹⁷¹ For example, the FTC under the Reagan administration limited Section 5 liability of unfair practices to injuries which consumers could not reasonably have avoided. FTC Policy Statement on Unfairness, Appended to *International Harvester Co.*, 104 F.T.C. 949, 1070 (1984). As the FTC stated,

Normally we expect the marketplace to be self-correcting, and we rely on consumer choice—the ability of individual consumers to make their own private purchasing decisions without regulatory intervention—to govern the market. We anticipate that consumers will survey the available alternatives, choose those that are most desirable, and avoid those that are inadequate or unsatisfactory.

The FTC Statement however recognized some forms of behavioral exploitation, such as when firms “exercise undue influence over highly susceptible classes of purchasers, as by promoting fraudulent ‘cures’ to seriously ill cancer patients.”

¹⁷² Timur Kuran & Cass R. Sunstein, *Availability Cascades and Risk Regulation*, 51 STANFORD L. REV. ** (1999)

the government's help, bounded rational consumers can overreact, based on how the issue is framed¹⁷³ or to rumors, causing social losses, a concern China authorities recently raised.¹⁷⁴

3. Policy Alternatives under Scenario II

Consumers can be worse off when the government (whether rational or bounded rational) acts or does not act. So what should the government do, especially if the extent of its bounded rationality is unknown?

The government can consider behavioral options, some less paternalistic than others, to deter behavioral exploitation while leaving room for innovation that benefits consumers and preserves economic liberty.

One well-known behavioral remedy is for the government to alter existing, or create new, default rules.¹⁷⁵ One recent issue was that banks were exploiting consumers' propensity to overspend their assigned credit limits. Suppose the consumer with bounded willpower sees designer-label shoes on the discount rack. The consumer has \$20 of available credit; the shoes cost \$100. The bank permits the consumer to charge the shoes, but extracts a high fee.¹⁷⁶ Overdraft fees are also an issue with debit cards,

¹⁷³ Marwan Sinaceur et al., *Emotional and Deliberative Reactions to a Public Crisis: Mad Cow Disease in France*, 16 PSYCHOL. SCI. 247 (2005), available at <http://faculty-gsb.stanford.edu/heath/documents/PsychSci-Mad%20Cow.pdf>. The field study showed how French newspaper articles more often featured the emotional label "Mad Cow" disease than the more abstract and scientific label (Creutzfeldt-Jakob disease, CJD, or bovine spongiform encephalopathy, BSE). Beef consumption dropped "significantly when many articles mentioned the Mad Cow frame during the previous month, but was unaffected by the number of articles in the previous month that mentioned the scientific frames." *Id.* at 251.

¹⁷⁴ Hu Meidong & Peng Yining, *Chinese Lacking Scientific Literacy: Knowledge Crucial to Development and Stability*, CHINA DAILY, Nov. 2, 2010, at 4 (expressing concern of 300% price increase of mung beans since April 2010 after false claim that beans cure cancer).

¹⁷⁵ RICHARD H. THALER & CASS R. SUNSTEIN, NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS 78 (2008); Cass R. Sunstein & Richard H. Thaler, *Libertarian Paternalism Is Not an Oxymoron*, 70 U. CHI. L. REV. 1159 (2003); Camerer et al., *supra* note 11, at 1211.

¹⁷⁶ Marcy Gordon, *House Passes Credit Card Bill That Helps Consumers*, ASSOCIATED PRESS, May 1, 2009, http://www.huffingtonpost.com/2009/04/30/house-passes-credit-card-_n_194126.html. During the financial crisis, the major U.S. banks

where the consumer makes a purchase for an amount greater than the balance in the consumer's bank account. Consumers paid in 2009 a record \$38.5 billion in overdraft fees, nearly double the amount reported in 2000.¹⁷⁷ Ninety-three percent of the overdraft revenues came from about fourteen percent of the U.S. bank accounts, with the larger banks charging the highest fees.¹⁷⁸

Rather than prohibit outright over-the-limit fees or regulate the size of such fees, Congress in the Credit CARD Act of 2009 chose a behavioral remedy. It changed the default option.¹⁷⁹ Before 2010, many banks automatically enrolled consumers in their over-the-limit plan. Under the Act, the credit card company cannot impose an over-the-limit fee for any extension of credit in excess of the previously-authorized credit limit unless the consumer expressly opts into the over-the-limit plan.¹⁸⁰

For rational actors with perfect willpower, the default option should not affect the outcome. But in the Federal Reserve's testing, the majority of surveyed participants preferred setting the default as consumers having to opt into the bank's overdraft program rather than having to opt out (which

raised fees further. Eric Dash, *Bank Fees Rise as Lenders Try to Offset Losses*, N.Y. TIMES, July 2, 2009, at B1, available at <http://www.nytimes.com/2009/07/02/business/02fees.html>.

¹⁷⁷ Saskia Scholtes & Francesco Guerrera, *Banks in \$38.5bn Windfall from Fees*, FIN. TIMES, Aug. 10, 2009, <http://www.ft.com/cms/s/0/ecca5750-8545-11de-9a64-00144feabdc0.html>.

¹⁷⁸ Ron Lieber & Andrew Martin, *The Card Game: Overspending on Debit Cards Is a Boon for Banks*, N.Y. TIMES, Sept. 9, 2009, at A1, available at <http://www.nytimes.com/2009/09/09/your-money/credit-and-debit-cards/09debit.html>.

¹⁷⁹ See Credit Card Accountability Responsibility and Disclosure Act of 2009, Pub. L. No. 111-24, § 102(a), 123 Stat. 1734, 1738–39. With respect to debit cards, the Board of Governors of the Federal Reserve System amended Regulation E to limit the ability of a financial institution to assess an overdraft fee for paying automated teller machine (ATM) and one-time debit card transactions that overdraw a consumer's account, unless the consumer affirmatively consents, or opts in, to the institution's payment of overdrafts for these transactions. <http://www.federalreserve.gov/newsevents/press/bcreg/bcreg20091112a1.pdf>; http://www.federalreserve.gov/consumerinfo/wyntk_overdraft.htm.

¹⁸⁰ *Id.* This provision, like many other provisions of the Act, took effect in February 2010. See *id.* § 3, 123 Stat. at 1735.

many banks preferred).¹⁸¹ Default options have played an important role in diverse settings,¹⁸² including class actions.¹⁸³ Changing default options may be underway in other areas. FTC Commissioner Julie Brill, for example, is dissatisfied with the “traditional opt-out, ‘notice and choice’ model” that “inappropriately places the burden on consumers to read and understand lengthy, complicated privacy policies that almost no one reads, and no one understands.”¹⁸⁴

As a second option, the government can require consumers to choose among the options. The European Commission, for example, challenged Microsoft for bundling or tying its web browser, Internet Explorer to its dominant client personal computer operating system, Windows.¹⁸⁵ Before the settlement, consumers who used Windows had Microsoft’s Internet Explorer as their default web browser. Although consumers could download other browsers, many did not, a function not attributable

¹⁸¹ Board of Governors of the Federal Reserve System, Final rule; official staff commentary, 12 C.F.R. Part 205, <http://www.federalreserve.gov/newsevents/press/bcreg/bcreg20091112a1.pdf>.

¹⁸² SUNSTEIN & THALER, *NUDGE*, *supra* note 175, at 129-30; Stefano DellaVigna, *Psychology and Economics: Evidence from the Field*, 47 J. ECON. LIT. 315, 322 n.11 (2009) (collecting studies on default options in retirement savings, contractual choice in health-clubs, organ donation, and car insurance plan choice); Eric J. Johnson et al., *Defaults, Framing and Privacy: Why Opting In-Opting Out*, 13 MARKETING LETTERS 5-15 (2003) (consent to receive e-mail marketing); C. Whan Park et al., *Choosing What I Want Versus Rejecting What I Do Not Want: An Application of Decision Framing to Product Option Choice Decisions*, 37 J. MARKETING RES. 187-202 (2000) (car option purchases).

¹⁸³ European Consumer Consultative Group, *Opinion on Private Damages Actions 4* (2010) (noting Europe’s recent experience that the rate of participation in opt-in procedure for consumer claims was less than one percent, whereas under opt-out regimes, rates are typically very high (97% in the Netherlands and almost 100% in Portugal)), http://ec.europa.eu/consumers/empowerment/docs/ECCG_opinion_on_actions_for_damage_s_18112010.pdf.

¹⁸⁴ Julie Brill, Comm’r, Fed. Trade Comm’n, Remarks before the Trans Atlantic Consumer Dialogue (Apr. 27, 2010), <http://www.ftc.gov/speeches/brill/100427tacdspeech.pdf>.

¹⁸⁵ Press Release, European Commission, Antitrust: Commission Welcomes Microsoft’s Roll-Out of Web Browser Choice, IP/10/216 (Mar. 2, 2010), <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/216&format=HTML&aged=0&language=EN>.

necessarily to the superiority of Microsoft's browser but status quo bias.¹⁸⁶ As part of its settlement, Microsoft now provides consumers a Browser Choice Screen. Rather than having one Internet browser as the default, computer users must choose the browser they want from the competing web browsers listed on the screen. It is unclear how successful the settlement has been to date. On the one hand, Microsoft's share of the European browser market declined after the settlement--from 44.9 percent in January 2010 to 39.8 percent in October 2010.¹⁸⁷ But even before the settlement, Microsoft's browser market share was declining.¹⁸⁸ So the market share could have declined absent the remedy. On the other hand, the remedy, by enabling consumers to easily choose which browser they desire, increases the likelihood that the market share reflects more the consumers' informed choice, rather than the monopolist's.¹⁸⁹

Third, the government can educate the consumer, but use framing, prospect theory¹⁹⁰ and the availability heuristic to make the information more salient.¹⁹¹ To increase the salience of credit card finance charges, for example, the Credit CARD Act of 2009 requires a "Minimum Payment

¹⁸⁶ Shane Frederick, *Automated Choice Heuristics*, in *HEURISTICS AND BIASES: THE PSYCHOLOGY OF INTUITIVE JUDGMENT* 555 (Thomas Gilovich et al. eds. 2002) (summarizing experimental evidence of peopling preferring current options over other options to a degree that is difficult to justify).

¹⁸⁷ In 2009, Microsoft's share declined by 5.5 percentage points; in 2008 by 8 points. Kevin J. O'Brien, *European Antitrust Deal With Microsoft Barely Affects Browser Market*, N.Y. TIMES, Oct. 10, 2010, <http://www.nytimes.com/2010/10/11/technology/11eubrowser.html?ref=business>.

¹⁸⁸ *Id.*

¹⁸⁹ Emanuele Ciriolo, *Behavioural Economics in the European Commission: Past, Present and Future*, OXERA AGENDA, Jan. 2011, at 3 (noting how 25% of the consumers who viewed the Choice Screen chose an alternative browser), <http://www.oxera.com/main.aspx?id=9324>.

¹⁹⁰ Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, 47 *ECONOMETRICA* 263 (1979).

¹⁹¹ Camerer et al., *supra* note 11, at 1231 ("Since low probabilities are so difficult to represent cognitively, it may help to use graphical devices, metaphors (imagine choosing one ping-pong ball out of a large swimming pool filled with balls), or relative-odds comparisons (winning the lottery is about as likely as being struck by lightning in the next week).").

Warning.”¹⁹² The credit card consumer is told in the monthly statement how paying only the minimum amount due will increase the amount of interest she pays and the time to repay the balance. At times, better disclosures entail providing less, but more important, information.¹⁹³

A fourth option to deter behavioral exploitation is to set one option as the default, but impose procedural constraints on opting out.¹⁹⁴ For example, the Credit CARD Act of 2009 sets as the default that no credit card may be issued to, or open end consumer credit plan established by or on behalf of, consumers under the age of 21.¹⁹⁵ To open a credit card account, those under twenty-one must (i) have the signature of a cosigner, including the parent, legal guardian, spouse, or any other individual over twenty years old who has the means to repay (and be jointly liable for) the credit card debts or (ii) submit financial information showing their independent means of repaying any obligation arising from the proposed extension of credit.¹⁹⁶

A fifth option is to afford purchasers a cooling-off period. Consumers in an emotional, impulsive state can make unwise decisions that they later regret.¹⁹⁷ Federal and state laws and regulations recognize this.¹⁹⁸ For

¹⁹² Section 201(a) of the Credit Card Accountability Responsibility and Disclosure Act of 2009, House Bill 627-11 (“Credit CARD Act of 2009”), H.R. 627, 111th Cong (2009), available at <http://www.govtrack.us/congress/billtext.xpd?bill=h111-627>.

¹⁹³ James M. Lacko & Janis K. Pappalardo, Fed. Trade Comm’n, Bureau of Economics Staff Report, Improving Consumer Mortgage Disclosures: An Empirical Assessment of Current and Prototype Disclosure Forms (June 2007) (finding that the current mortgage cost disclosures failed to convey key mortgage costs to consumers, and the tested disclosure prototype improved the surveyed consumers’ understanding, especially for more complex loans), <http://www.ftc.gov/opa/2007/06/mortgage.shtm>.

¹⁹⁴ Sunstein & Thaler, *Libertarian Paternalism*, *supra* note 175, at 1189. Besides procedural constraints, they propose substantive constraints that allow people “to reject the default arrangement, but not on whatever terms they choose.” *Id.*

¹⁹⁵ H.R. 627, 111th Cong (2009).

¹⁹⁶ *Id.*

¹⁹⁷ Samuel M. McClure et al., *Separate Neural Systems Value Immediate & Delayed Monetary Rewards*, *SCIENCE*, Oct. 13, 2004, at 503 – 507; *ARELY*, *supra* note 114, at 89-126.

example, consumers solicited at their home or workplace can have three days to cancel purchases of \$25 or more.¹⁹⁹ From a behavioral economics perspective, the effectiveness of cooling off periods is mixed. On the one hand, consumers upon reflection can reconsider a purchase, especially one involving high pressure sale tactics. On the other hand, the more time one has to complete a task, the behavioral economics literature suggests, the greater the likelihood one won't complete that task.²⁰⁰ For example, a customer's likelihood of redeeming a rebate may be inversely proportional to the rebate period's length.²⁰¹ Consumers assume that they eventually will seek the "discount" but procrastinate.

A sixth option is to impose a behavioral exploitation tax on the rational firm.²⁰² When the estimated social value of the rational firms' behavior is below its private value, the government can tax the rational firm the difference. The aim of the tax is to prevent the firms from unjust enriching themselves from their behavioral exploitation. For example, revenues from payday lending that come from APRs above a certain level would be taxed at higher rates. Credit card revenues earned from late fees would be taxed at higher rates than revenue from annual fees.

A seventh option is for the government to take preventive measures to

¹⁹⁸ Camerer et al., *supra* note 11, at 1241-44 (collecting federal and state cooling-off statutes).

¹⁹⁹ Rule Concerning Cooling-Off Period for Sales Made at Homes or at Certain Other Locations, 16 C.F.R. Part 429; <http://www.ftc.gov/bcp/edu/pubs/consumer/products/pro03.shtm>; *see also* 12 C.F.R. § 226.15 (Regulation Z cooling-off period).

²⁰⁰ Dan Ariely & Klaus Wertenbroch, *Procrastination, Deadlines, and Performance: Self-Control by Precommitment*, 13 PSYCHOL. SCI. 219-224 (2002); Amos Tversky & Eldar Shafir, *Choice Under Conflict: The Dynamics of Deferred Decisions*, 3 PSYCHOL. SCI. 358 (1992).

²⁰¹ Matthew A. Edwards, *The Law, Marketing and Behavioral Economics of Consumer Rebates*, 12 STAN. J.L. BUS. & FIN. 362, 391-95 (2007); *see also* Virginia Postrel, *The Gift-Card Economy*, THE ATLANTIC, May 2009 (noting the longer the expiration period, the less likely one will redeem gift card).

²⁰² Ted O'Donoghue & Matthew Rabin, *Studying Optimal Paternalism, Illustrated by a Model of Sin Taxes*, 93 AM. ECON. REV. 186 (2003).

help consumers debias themselves and improve their willpower. Here the aim is to make consumers less susceptible to behavioral exploitation.²⁰³ The government can increase (i) the supply of debiasing methods (e.g., adding courses on financial literacy in high school (emphasizing the behavioral risks and investors' susceptibility to overconfidence bias²⁰⁴)), (ii) the demand for debiasing (such as imposing procedural constraints on consumer participation in high risk areas of behavioral exploitation, such as subprime lending, unless the consumer participated in an approved online course that outlines the material risks), and (iii) the opportunities to debias, such as facilitating timely feedback mechanisms, so that consumers become aware of their errors and the costs of their poor choices (e.g., providing employees who have not enrolled into a retirement plan a monthly reminder of how much money they lost to date in matching funds by not contributing to the 401(k)). The government can also provide consumers with commitment devices (to the extent the market has not provided them).

An eighth option is to increase the search costs of rational firms to identify potential victims. One resounding success of the FTC is enabling consumers to easily opt out of all unwanted telephone solicitations.²⁰⁵ The government through a similar common listing service can enable consumers

²⁰³ Gregory Mitchell, *Libertarian Paternalism Is an Oxymoron*, 99 NW. U. L. REV. 1245, 1264 (2005) (exploring how “the first approach of the libertarian central planner would be to debias individuals so that they can make their own rational decisions about which choices best promote their own welfare”).

²⁰⁴ Financial literacy efforts have had mixed results. One study of Harvard undergraduate students and MBA students from Wharton, for example, found a “low absolute level of financial sophistication” with subjects basing choices on normatively irrelevant mutual fund attributes. James J. Choi et al., *Why Does the Law of One Price Fail? An Experiment on Index Mutual Funds*, Yale ICF Working Paper No. 08-14, at 25 (Apr. 2008), <http://ssrn.com/abstract=1125023>.

²⁰⁵ See, e.g., National Do-Not-Call Registry, 15 U.S.C. § 6102; 16 C.F.R. § 310.4(b)(1)(iii)(B). As September 30, 2008, over 172.5 million telephone numbers were on the do-not-call list. See also Do-Not-Call Improvement Act of 2007, Pub. L. No. 110-187, 122 Stat. 633 (2008) (telephone numbers placed on the National Do-Not-Call-Registry can remain on it permanently).

to opt out of home or mail solicitations (including credit card offerings), and to easily block home-shopping cable stations. The government can increase consumers' privacy rights to make it harder for firms to identify especially bounded rational consumers through their purchasing behavior.

Some argue that “[a]dvocating soft paternalism is akin to advocating an increased role of the incumbent government as an agent of persuasion.”²⁰⁶ Scenario II's policy risks indeed represent a balancing act. While government persuasion increases the risk of authoritarianism, government inaction carries the risks of behavioral exploitation and corporate autocracy. Moreover, anti-“soft” paternalism can itself be paternalistic. If most consumers (like those in the Federal Reserve's testing) prefer having the default as an opt-in (e.g., requiring consumers to opt into the banks' overdraft programs), then assuming that consumers are indeed sovereign, the banks should comply. If the banks, however, are unresponsive to consumer demand and require consumers to opt out, why can't the citizens lobby their elected representatives to get what they want? It is hard to see why citizens, in the name of libertarianism, must continue to wait for their desired default option.

Accordingly, under any conception of competition with bounded rational consumers, one cannot view antitrust and consumer protection as distinct. Under Scenario II, consumer protection and competition law both promote the opportunity of informed consumer choices. Ideally, informed consumers choose among the innovating firms' solutions for their problems.²⁰⁷ Given the importance of individual autonomy in overall well-being, the government must carefully delineate between behavioral

²⁰⁶ Glaeser, *supra* note 105, at 156.

²⁰⁷ Wolfgang Kerber, *Competition, Innovation and Maintaining Diversity Through Competition Law 3*, in *ECONOMIC APPROACHES TO COMPETITION LAW: FOUNDATIONS AND LIMITATIONS* (Josef Drexl et al. eds., Edward Elgar, 2010), available at <http://ssrn.com/abstract=1543725>.

exploitation and behavioral freedom, where firms help consumers address their bounded rationality and willpower. After all, if antitrust policy promotes diversity and the process of search and experimentation, it would be counterproductive if consumer protection law bans all products except the one the government believes is the best. Ideally, competition and consumer protection laws deter market failure (e.g., systemic behavioral exploitation), and ensure that consumers, once informed, have a choice as to products and services.

C. Scenario III: Bounded Rational Firms and Rational Consumers

Here consumers are relatively more rational than firms in the industry.²⁰⁸ Excessive optimism can have procompetitive benefits, such as the firms' willingness to innovate and enter new markets.²⁰⁹ But excessive optimism can adversely affect the firms and economy. Consumers, in response to the firms' behavior, ask, "What were they thinking?" One recurring theme in the business literature is how once mighty firms (e.g., the

²⁰⁸ For Scenarios III and IV, one must also distinguish between the firms' and economists' conception of rationality. See, e.g., Russell Pittman, *Who Are You Calling Irrational? Marginal Costs, Variable Costs, and the Pricing Practices of Firms*, U.S. Dep't of Justice, Antitrust Div., Economic Analysis Group Discussion Paper 09-3 (July 2009) (noting this disconnect as to pricing decision), <http://www.justice.gov/atr/public/eag/248394a.htm>. Some economists view marginal costs narrowly, and deem business executives who take fixed and sunk costs into account in their pricing decisions as naïve. But as Pittman points out, in the long-run, a firm's revenues must cover not only its operating costs but its invested capital. *Id.* at 2. "Setting price equal to average variable cost, with no 'margin' for fixed costs, is a strategy for firms exiting a market, not for long-term survival." *Id.* at 5. Thus a profit-maximizing firm produces where its MC (marginal cost) = AVC (average variable cost) + FC (fixed cost) / Q (quantity). Firms may also engage in other conduct what economists deem as "irrational," but which consumers deem as fair. Some economists are agnostic on price discrimination or believe that in certain instances it may be pro-competitive; ninety-one percent of individuals in one survey thought charging higher prices to those who are more dependent on the product was offensive. Daniel Kahneman et al., *Fairness as a Constraint on Profit Seeking: Entitlements in the Market*, 76 AM. ECON. REV. 728, 735 (1986). So even though firms could price discriminate, some may decline, so as to not offend their customers.

²⁰⁹ Langevoort, *supra* note 67, at 11; Don A. Moore et al., *What Competition? Myopic Self-Focus in Market-Entry Decisions*, 18 ORG. SCI. 440,441-42 (2007).

U.S. car manufacturers²¹⁰) lose sight of their customers' needs or are in denial.²¹¹

This Scenario helps explain why some corporate executives, with much to lose, risk criminal liability by fixing prices with their competitors,²¹² are likely to advocate a merger,²¹³ are overconfident about a merger's likely efficiencies,²¹⁴ overvalue the purchased assets,²¹⁵ are overly confident or pessimistic about their chances of entering particular markets,²¹⁶ and

²¹⁰ John E. Kwoka, Jr., *The U.S. Industry Under Duress: Fit, or Finished?*, 5 COMPETITION POL'Y INT'L 49 (2009).

²¹¹ See, e.g., RICHARD S. TEDLOW, DENIAL: WHY BUSINESS LEADERS FAIL TO LOOK FACTS IN THE FACE-AND WHAT TO DO ABOUT IT (2010); *Strategic Decisions: When Can You Trust Your Gut?*, MCKINSEY Q. (March 30, 2010), <http://www.forbes.com/2010/03/30/decision-making-gut-leadership-managing-mckinsey.html>.

²¹² Maurice E. Stucke, *Am I a Price-Fixer? A Behavioral Economics Analysis of Cartels*, in CRIMINALISING CARTELS: A CRITICAL INTERDISCIPLINARY STUDY OF AN INTERNATIONAL REGULATORY MOVEMENT (Caron Beaton-Wells & Ariel Ezrachi eds. Hart Publishing Oxford forthcoming 2011), <http://ssrn.com/abstract=1535720>.

²¹³ Ulrike Malmendier, *A "New" Paradigm in Corporate Finance: The Role of Managers and Managerial Biases*, 4 NBER REPORTER 13, 15-16 (2010) (discussing correlation between overconfidence and acquisitions by cash-rich firms not dependent on external financing).

²¹⁴ See, e.g., Matthew T. Billett & Yiming Qian, *Are Overconfident CEOs Born or Made? Evidence of Self Attribution Bias from Frequent Acquirers*, 54 MGMT. SCI. 1037 (2008) (finding from sample of public acquisitions between 1985 and 2002 that CEOs who previously engaged in a successful acquisition appear to overly attribute their role in successful deals, leading to more deals even though these subsequent deals are value destructive); ROBERT F. BRUNER, DEALS FROM HELL: M&A LESSONS THAT RISE ABOVE THE ASHES (2005) (summarizing major failed mergers).

²¹⁵ Mathew L.A. Hayward & Donald C. Hambrick, *Explaining the Premiums Paid for Large Acquisitions: Evidence of CEO Hubris*, 42 ADMIN. SCI. Q. 103 (1997) (finding from empirical study of mergers over \$100 million involving publicly traded firms over four year period that CEO hubris plays a substantial role in acquisition process and acquisitions tend to reduce shareholder wealth); see also Mauricio R. Delgado et al., *Understanding Overbidding Using the Neural Circuitry of Reward to Design Economic Auctions*, SCIENCE, Sept. 26, 2008, at 1849; RICHARD H. THALER, WINNER'S CURSE: PARADOXES AND ANOMALIES OF ECONOMIC LIFE 50-62 (1992) (discussing experimental and field evidence); Mackintosh, *supra* note 129, at 15 (discussing a 2010 auction of a \$20 bill for \$61).

²¹⁶ Amanda P. Reeves & Maurice E. Stucke, *Behavioral Antitrust*, 86 INDIANA L.J. (forthcoming 2011) (discussing increasing interest in behavioral economics and its applications to competition law), available at <http://ssrn.com/abstract=1582720>; Maurice E. Stucke, *Behavioral Economists at the Gate: Antitrust in the Twenty-First Century*, 38 LOY. U. CHI. L.J. 513 (2007).

consistent with the sunk cost fallacy throw good money after bad in corporate projects.²¹⁷

Professor Waller recently examined the evidence from corporate finance that suggests entire categories of mergers are more likely to destroy, rather than enhance, shareholder value.²¹⁸ Among the well-known biases and heuristics relevant to the decision to enter in mergers and acquisitions, which frequently result in value destroying transactions, include “myopia, loss aversion, endowment effects, status quo bias, extremeness aversion, over-optimism, hindsight bias, anchoring heuristics, availability heuristics, framing effects, representative bias, saliency effects, and others.”²¹⁹ Executives, in behavioral studies, were overconfident in their ability to manage a company, systematically underestimated their competitors’ strength, and were prone to self-serving interpretations of reality (e.g., taking credit for positive outcomes and blaming the environment for negative outcomes).²²⁰

Scenario III in theory should be of less concern. Absent a natural monopoly or high entry barriers, rational consumers should take their business elsewhere. The critical assumption is that when bounded rational

²¹⁷ Malcolm Baker et al., *Behavioral Corporate Finance: A Survey* 49 (Sept. 29, 2005), <http://ssrn.com/abstract=602902>; Hal R. Arkes & Catherine Blumer, *The Psychology of Sunk Cost*, 35 ORGANIZATIONAL BEHAVIOR & HUMAN DECISION PROCESSES 124-140 (1985).

²¹⁸ Spencer Weber Waller, *Corporate Governance and Competition Policy* at 48 (Sept. 23, 2010), available at <http://ssrn.com/abstract=1681673>; Pittman, *supra* note 208, at 215-19 (discussing empirical literature that stockholders of acquiring firms do not benefit or do not benefit much from mergers).

²¹⁹ Waller, *Corporate Governance*, *supra* note 218, at 48.

²²⁰ Colin F. Camerer & Ulrike Malmendier, *Behavioral Economics of Organizations*, in BEHAVIORAL ECONOMICS AND ITS APPLICATIONS 235, 246, 260-64 (Peter Diamond & Hannu Vartiainen eds., 2007). For several recent surveys of the empirical literature see Langevoort, *supra* note 67, at 9-13; Mark Armstrong & Steffen Huck, *Behavioral Economics as Applied to Firms: A Primer*, 6 COMPETITION POL’Y INT’L 2 (Spring 2010); C. Engel, *The Behaviour of Corporate Actors: A Survey of the Empirical Literature*, Max Planck Institute for Research on Collective Goods Preprint No. 2008/23 7-8 (May 2008), available at <http://ssrn.com/abstract=1135184>.

firms, unlike their rational profit-maximizing counterparts, are overoptimistic over a merger's efficiencies, overconfident in their escaping detection for their cartel activities, and more or less risk averse in entering a new market, they quickly bear the cost of their miscalculation. The market swiftly punishes the bounded rationality. The firm swiftly corrects or is eliminated.

But this is not always true. As the financial crisis reflects, many Wall Street firms were not swiftly punished (or their executives ever punished) for their bounded rationality.²²¹ Thus one cannot assume that corporate behavior is always as, if not more, rational than consumer behavior.

1. Scenario III's Policy Implications Assuming the Government Is Rational

One cannot say that the government is always less rational than private firms. With politically-accountable elected representatives from different communities, a legislature can see what firms and individuals in any community may not see.²²² This does not mean that the government is always more rational than the average firm or citizen. But the legislature has a unique vantage. As President Roosevelt wrote in recommending the strengthening and enforcement of the antitrust laws, the larger and more important question involves honest citizens "who cannot see the social and economic consequences of their actions in a modern economically interdependent community."²²³

²²¹ See, e.g., Avishalom Tor & William J. Rinner, *Behavioral Antitrust: A New Approach to the Rule of Reason after Leegin*, University of Haifa Faculty of Law Legal Studies Research Paper Series, at 39 (Dec. 1, 2009) (noting how some bounded rational manufacturers will overuse resale price maintenance, and as the historical evidence and behavioral research reveal, "the efficacy of repeated decisions, organizations, and market pressure in correcting manufacturer bias is limited"), <http://ssrn.com/abstract=1522948>.

²²² See *Essay 10* of the *Federalist*, in *THE ESSENTIAL FEDERALIST AND ANTI-FEDERALIST PAPERS* 173 (David Wootton ed. 2003).

²²³ Message from President Franklin D. Roosevelt to the Congress Transmitting Recommendations Relative to the Strengthening and Enforcement of Antitrust Laws, Apr. 29, 1938, S. Doc. No. 173, 75th Cong., 3d Sess. 1 (1938), *reprinted in* L.iv EARL W.

If private firms are less rational than consumers and the government, then one risk under Scenario III is that the government will seek to run the marketplace like a government bureaucracy. The government may seek to displace the bounded rational firms with state-owned enterprises or regulate the firms with the goal “to organize the whole national economy like the postal system.”²²⁴ The government in its central planning could become less rational. And the resulting risks (including authoritarianism) and societal welfare loss from governmental action may far exceed the losses from firms’ bounded irrationality.

Instead of central planning, a rational government should return to first principles, and inquire why consumers did not (or could not) punish the bounded rational firm. When rational consumers are sovereign under Scenario III, private firms have a strong incentive to use de-biasing mechanisms to gain a competitive advantage and avoid consumer punishment.²²⁵ Scenario III’s policy implications differ from Scenario II’s. Under Scenario II, it makes sense at times to insulate rational firms from consumers’ bounded rationality and willpower (such as promoting the firm’s incentives to maximize long-term value and economic efficiency, contrary to the pressures of bounded rational investors to maximize the stock price in the short-term).²²⁶ Under Scenario III, in contrast, it makes sense at times to expose bounded rational firms to market demands,²²⁷ such as identifying and eliminating those protective barriers (e.g., high import tariffs) or subsidies that reduce the firms’ incentives to debias.²²⁸

KINTNER, THE LEGISLATIVE HISTORY OF THE FEDERAL ANTITRUST LAWS AND RELATED STATUTES 3408 (1978).

²²⁴ MISES, *supra* note 64, at xvi (quoting LENIN, STATE AND REVOLUTION (1917)).

²²⁵ Langevoort, *supra* note 67, at 3, 16.

²²⁶ Baker et al., *supra* note 217, at 3.

²²⁷ *Id.* at 3.

²²⁸ Another possibility is that the managerial decisions are infrequent and do not provide clear feedback to managers, shareholders and consumers. Camerer & Malmendier,

One significant incentive to debias is the prospect of failure and market exit.²²⁹ Suppose a bounded rational firm, overconfident in its risk assessment models, becomes more leveraged. Ideally industry regulators, creditors and shareholders monitor the bounded rational firm to prevent such over-leveraging. But if the bounded rational firm is deemed too big (or important) to fail, the dynamics change. A dominant firm has greater incentive (and freedom) to take excessive risks. Rational investors know of the firm's implicit government guarantee. Its shareholders and creditors will not punish this risk-taking: when the risky investments work in the firm's favor, they benefit. When the risky investments flop, the government's implicit guarantee forecloses the possibility of market exit.²³⁰ The government guarantee itself has value, which the dominant firm can use to reduce its borrowing costs.²³¹ The too-big-to-fail firms thus enjoy a competitive advantage over smaller rivals, which are allowed to fail.²³² Smaller firms, which cannot undertake such risk, cannot profit accordingly when the bets pay off. Without a government guarantee, the smaller firms' costs of borrowing are higher. So their incentive is to merge to where they too become too big to fail. Indeed one criticism is that after the crisis, U.S. financial institutions increased their market power by acquiring competitors

supra note 220, at 258.

²²⁹ In addition, there is the principal/agent problem. Managers have the incentive to take on large risks, when there is no downside to them personally. If the risky venture succeeds, the manager benefits from the increase in value to the firm and their compensation. If the risky venture fails, the managers may have already left the firm or leave with a golden parachute. CASSIDY, *supra* note 84, at 291.

²³⁰ JOHNSON & KWAK, *supra* note 7, at 204.

²³¹ *Id.* at 180-81 (noting that during the crisis large banks could borrow money at rates 0.78 percentage points more cheaply than smaller banks, which was higher than the average differential of 0.29 percentage points between 2000 and 2007).

²³² STIGLITZ, *supra* note 2, at 166; Mervyn King, Governor of the Bank of England, Speech to the Scottish business organizations (Oct. 20, 2009) ("Encouraging banks to take risks that result in large dividend and remuneration payouts when things go well, and losses for taxpayers when they don't," remarked the Governor of the Bank of England, "distorts the allocation of resources and management of risk."), <http://www.bankofengland.co.uk/publications/speeches/2009/speech406.pdf>.

(such as Bank of America absorbing Merrill Lynch and Countrywide, JPMorgan Chase acquiring Bear Stearns and Washington Mutual, and Wells Fargo acquiring Wachovia), while nonbank mortgage lenders exited the marketplace.²³³

Consequently, since overconfidence, especially for firms less dependent on lending intermediaries, can motivate merger activity, rational competition officials under Scenario III would display (i) greater skepticism over the likely efficiencies of otherwise problematic mergers,²³⁴ (ii) greater concern over the systemic risks posed by mergers and (iii) greater skepticism over the likelihood and magnitude of false positives in merger review.

2. Scenario III's Policy Implications Assuming the Government Is Bounded Rational

One risk is that the bounded rational government, overconfident in its understanding of competition, relies on empirically suspect presumptions. In presuming that firms are as rational as consumers, the government's theory of competition resembles Scenario I, when empirically it resembles Scenario III. The bounded rational government's mergers policies accordingly are too lenient while its criminal prosecutions of price-fixers are too severe.

One concern is that the government when confronted with evidence of firms' bounded rationality, either attempts to justify the behavior under rational choice theory, or if no explanation exists, ignores it. For example, the U.S. Merger Guidelines assume that market participants behave as

²³³ JOHNSON & KWAK, *supra* note 7, at 171-72, 180 (noting how those three banks and Citibank controlled half the market for new mortgages, and two-thirds of the market for new credit cards).

²³⁴ Waller, *Corporate Governance*, *supra* note 218, at 56 (noting how corporate finance literature suggests that mega-mergers on a stock for stock basis between roughly equal competitors are highly likely to destroy shareholder value).

rational profit-maximizers.²³⁵ Accordingly, sustained market power is not theoretically feasible where entry barriers are low.²³⁶ Antitrust policy assumes that (1) supra-competitive prices will attract rational profit-maximizing firms into markets characterized with low entry barriers, (2) the new entrants will replenish the lost output, and (3) as a result, prices will return closer to marginal cost. Operating under the false impression that market participants, pursuing their economic interest, will self-police and regulate, the government will be more concerned about the risk of false positives than negatives from their enforcement activity, especially in markets characterized with moderate to low entry barriers.²³⁷

But under Scenario III, contrary to the Guidelines' hypothesis, firms do not always enter markets with low entry barriers to defeat the exercise of market power.²³⁸ Nor does a bounded rational government inquire why price-fixing occurs in markets with low entry barriers.²³⁹ Instead the government seeks to reconcile this non-entry with its flawed economic theory (e.g., markets that "superficially" appear to have low entry barriers, actually are more difficult to enter so rational profit-maximizing firms accurately discerned that entry would have been unprofitable at pre-merger levels).²⁴⁰

²³⁵ Merger Guidelines, *supra* note 59, at § 1.0.

²³⁶ *Id.* at § 9.0; *Ball Memorial Hospital, Inc. v. Mutual Hospital Ins.*, 784 F.2d 1325 (7th Cir. 1986) ("the lower the barriers to entry, and the shorter the lags of new entry, the less power existing firms have").

²³⁷ Kara Scannell & Sudeep Reddy, *Greenspan Admits Errors to Hostile House Panel*, WALL ST. J., Oct. 24, 2008, <http://online.wsj.com/article/SB122476545437862295.html>.

²³⁸ Reeves & Stucke, *Behavioral Antitrust*, *supra* note 216.

²³⁹ *Id.*

²⁴⁰ This ex post justification is a difference in perception – what seems like easy markets to enter (turtles) are actually quite difficult. But this raises the accuracy of competition agencies (typically their paralegals and new lawyers) in screening thousands of HSR merger filings annually. How will they know that the superficially low entry barrier market is actually a high or low entry market? Thus, a bounded rational government official can seek to explain ex post the lack of entry that is consistent with rational choice theory, but the issue is predicting entry ex ante.

While too lenient in merger review, the bounded rational government, overconfident in its theory of optimal deterrence, can be too punitive in its criminal antitrust prosecutions. This too can harm consumers. The government erroneously believes that price fixers, under Scenario III, behave as rational profit-maximizers. To deter cartels, neoclassical economic theory posits that the penalty should equal at least the violation's expected net harm to others (plus enforcement costs) divided by the probability of detection and proof of the violation.²⁴¹ Setting the antitrust penalty at this optimal level, in theory, should result in the socially optimal level of price-fixing.

Faced with evidence of durable cartels and high recidivism, a bounded rational government, under its optimal deterrence theory, can increase either: (i) the probability of detection (which is difficult with an already generous amnesty program to induce price fixers to implicate their co-conspirators); or (ii) the criminal (and/or civil) penalties, which presumably are sub-optimal in deterring cartels. The problem is if the antitrust penalties are already at (or above) the optimal level. Bounded rational firms persist in their price-fixing not because the fines are too low but due to situational (e.g., peer pressure) and dispositional (e.g., executives' overconfidence in escaping detection) factors. The bounded rational government fails to recognize this possibility. Rather than address these situational and dispositional factors through a pluralism of mechanisms, such as criminal and civil penalties, structural means (improved merger review), and informal norms that highlight price fixing's ethical and moral implications,²⁴² the government instead continues to increase the penalties,

²⁴¹ Gary S. Becker, *Nobel Lecture: The Economic Way of Looking at Behavior*, 101 J. POL. ECON. 385, 389–90 (1993); see also Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1968); William M. Landes, *Optimal Sanctions for Antitrust Violations*, 50 U. CHI. L. REV. 652, 656, 666–68 (1983).

²⁴² Competition Stakeholder Study: Aggregate Report 8 (Conducted by TNS Qual+ at

under the belief they are suboptimal. Excessive fines can harm consumers when they cause firms to reduce investments in innovation and raise prices. If firms cannot absorb or otherwise pass along the fines as higher prices, then the firms either reorganize under the bankruptcy laws or exit the market, which as a consequence has fewer meaningful competitors.²⁴³

D. Scenario IV: Bounded Rational Firms and Consumers

Under this last scenario, many market participants have bounded rationality and willpower. Biases and heuristics are systemic. At closer inspection, competition under Scenario IV is better viewed as a discovery process than a stable equilibrium. Bounded rational firms have imperfect knowledge about current and future consumer preferences, a blurred and changing understanding of their goals and preferences, and a limited repertoire of actions to cope with whatever problems they face.²⁴⁴ Bounded rational consumers have changing and, at times, inconsistent preferences.²⁴⁵ They, for example, demand more choices than they actually prefer.²⁴⁶

the request of European Commission Directorate General Competition (July 2010) (noting that a “number of stakeholders across all groups stressed that, while fines are an effective deterrent, they are not the only tool available to DG Competition. A number of alternatives were suggested (criminal sanctions, publication of the companies' infringements, compensation payments for harmed consumers, etc.) but with mixed views about whether individual criminal liability should be introduced as an additional deterrent.”); International Competition Network Working Group on Cartels, *Defining Hard-Core Cartel Conduct: Effective Institutions, Effective Penalties*, Report prepared by the ICN Working Group on Cartels, ICN Fourth Annual Conference (June 2005) (noting additional ways of achieving deterrence, including press coverage).

²⁴³ Maurice E. Stucke, *Morality and Antitrust*, 2006 COLUM. BUS. L. REV. 443, 481.

²⁴⁴ Giovanni Dosi & Luigi Marengo, *On the Evolutionary and Behavioral Theories of Organizations: A Tentative Roadmap*, 18 ORG. SCI. 491, 492, 494 (2007).

²⁴⁵ See, e.g., Steven C. Michael & Tracy Pun Palandjian, *Organizational Learning and New Product Introductions*, 21 J. PRODUCT INNOVATION MGMT. 268, 270 (2004) (discussing shampoo industry dynamism where consumers with changing tastes buyers seek variety); Richard Layard, *Happiness & Public Policy: A Challenge to the Profession*, 116 THE ECON. J. C24, C24 (2006) (noting from happiness economic literature how “tastes are not given – the happiness we get from what we have is largely culturally determined”).

²⁴⁶ Under Scenario I, providing rational consumers more choices is generally beneficial. Rational firms target consumers' particular needs and tastes more accurately with more choices. Market forces should set the optimal amount of choice. Rational manufacturers will supply (when profitable) products that satisfy the desired mix of price,

Bounded rational firms comply, leading to suboptimal results for consumers²⁴⁷ and firms.²⁴⁸

Scenario IV competition is an “evolutionary trial and error process, in which the firms try out different problem solutions and can learn from the feedback of the market, which of their specific products and technological solutions are the superior ones.”²⁴⁹ Rather than an end-state capable of

performance, and other attributes. But under Scenario IV, more options do always increase welfare. Under Scenario IV, bounded rational consumers may demand additional options and seek to preserve existing options. In one computer experiment, participants tried to keep options open even when counter-productive. ARIELY, *supra* note 114, at 142-48. In the Door Game, each MIT student could click on three doors on the computer screen to find the room with the biggest payoff (between 1 and 10 cents). Each student was given 100 clicks, and could click one door as many times possible without a penalty. Each time the student sampled another door, that switch cost the student one additional click. Experiment 2, the Disappearing Door Game, was the same as the Door Game except each time a door was left unvisited for 12 clicks, it disappeared forever. To keep options open, participants in Experiment 2 ended up making substantially less money (about fifteen percent less) than participants in Experiment 1. Participants would have made more money by sticking to one door. *Id.* at 147. A similar result occurred when participants were told the exact monetary outcome they could expect from each room.

²⁴⁷ Some bounded rational consumers, faced with many choices, avoid choosing any option, even when the choice of opting out has negative consequences for future well-being. Simona Botti & Sheena S. Iyengar, *The Dark Side of Choice: When Choice Impairs Social Welfare*, 25 J. PUBLIC POL’Y & MARKETING 24, 26 (2006) (discussing information overload, where an increase in options raises the cognitive costs in comparing and evaluating the options and leads to suboptimal decision strategies). Other bounded rational consumers choose an option, but have lower confidence in their choice and greater dissatisfaction in choosing.

²⁴⁸ The bounded rational firms, as a result, lose sales opportunities of their products. Iyengar and Lepper, in their famous experiment, set up a tasting booth in an upscale grocery store. The booth displayed either six or twenty-four different flavors of jam. A greater percentage of the shoppers stopped to sample one of the displayed jams when the booth had twenty-four jam flavors (60 percent versus 40 percent when booth displayed six jam flavors). But a lower percentage actually purchased a jar of jam (3 percent versus 30 percent of customers when booth had only six flavors). Sheena S. Iyengar & Mark R. Lepper, *When Choice Is Demotivating: Can One Desire Too Much of a Good Thing?*, 79 J. PERSONALITY & SOC. PSYCHOL. 995–1006 (2000).

²⁴⁹ Kerber, *supra* note 207, at 2; *see also* Moreau, *supra* note 94, at 851 (discussing how “evolutionary theory refutes the neoclassical economic theory’s focus on a steady state of the economic system”). Industries may have multiple equilibria. The speed with which the market approaches these equilibria may vary over time, and the equilibria themselves may change because of change in the system itself. The result is that “equilibrium points in an evolutionary system are rarely actually reached.” Instead, these equilibrium points “serve as an attractor that pulls the system towards itself for a prolonged period, before giving way to a new attractor.” B. Verspagen, *The Use of Modelling Tools for Policy in*

being perfected, competition is a continuous process “in which previously unknown knowledge is generated,” and “the multiplicity and diversity of the (parallel trials of the) firms might be crucial for the effectiveness of competition as a discovery procedure.”²⁵⁰ Firms and consumers make mistakes, readjust, and undertake new strategies. The competitive process “is inherently a process of trial and error with no stable end-state considered by the participants in the process.”²⁵¹

Scenario IV involves several important competitive dimensions beyond price. First bounded rational firms can compete in the extent they debias themselves.²⁵² Firms (like consumers) can improve (or regress) in their decision-making and willpower.²⁵³ The ways in which companies learn, accomplish tasks, and deal with the uncertainty can vary firm-to-firm.²⁵⁴ Rather than incur costs to continually process information anew, bounded rational firms (like consumers) can use rules-of-thumb (heuristics). Firms with better routines and rules-of-thumb can lower their information processing costs and secure a competitive advantage. Firms can improve feedback mechanisms to more quickly learn from their (or other firms’)

Evolutionary Environments, in ENVIRONMENTAL POLICY AND MODELLING IN EVOLUTIONARY ECONOMICS 4 (A. Faber et al. eds., 2006).

²⁵⁰ Kerber, *supra* note 207, at 2.

²⁵¹ Moreau, *supra* note 94, at 851.

²⁵² See, e.g., Andrew Healy, *Do Firms Have Short Memories?: Evidence from Major League Baseball*, 9 J. SPORTS ECON. 407, 415-18 (2009) (discussing how some professional baseball teams overweigh, relative to more successful teams, athletes’ recent performance in determining salary).

²⁵³ See Linda Argote & Henrich R. Greve, *A Behavioral Theory of the Firm – 40 Years and Counting: Introduction and Impact*, 18 ORG. SCI. 337 (2007) (surveying impact of *Behavioral Theory of the Firm’s* impact on organizational science research, including institutional theory and population ecology); Dosi & Marengo, *supra* note 244, at 491.

²⁵⁴ Dan Lovallo & Olivier Sibony, *The Case for Behavioral Strategy*, MCKINSEY Q. 3 (March 2010) (noting recent survey of 2,207 executives where only 28 percent said the quality of their companies’ strategic decisions was generally good, 60 percent thought that bad decisions were about as frequent as good ones, and 12 percent thought good decisions were altogether infrequent).

mistakes.²⁵⁵ Moreover, firms can identify common biases and take preventive measures.²⁵⁶

Although an important facet of Scenario IV competition is how firms discover and implement routines to gain a cost advantage, bounded rational firms risk competency traps, whereby they become wedded to existing routines, which as industry conditions change, place them at a competitive disadvantage.²⁵⁷ Under Scenario IV, “[i]n some sense knowledge depreciates in value over time.”²⁵⁸ Thus another important dimension of competition is adaptive efficiency,²⁵⁹ whereby bounded rational firms update routines to reflect consumers’ changing preferences.²⁶⁰ Firms compete by continually learning about customer preferences and competitors’ experimentation, and experimenting themselves with new technologies, routines, and ways of organizing.

A second important dimension of Scenario IV competition is in providing bounded rational consumers a better mix of solutions for their problems.²⁶¹ Through their (or monitoring their competitors’) trial-and-

²⁵⁵ John A. List, *Neoclassical Theory Versus Prospect Theory: Evidence from the Marketplace*, 72 *ECONOMETRICA* 615, 615 (2004); John A. List, *Does Market Experience Eliminate Market Anomalies?*, 118 *Q. J. ECON.* 41 (2003). For example, frequent and more experienced sports cards traders display less of an endowment effect for sports cards (such as baseball trading cards) than for other items such as chocolates and mugs.

²⁵⁶ Camerer & Malmendier, *supra* note 220, at 269 (noting some of the literature, such as investment firms combating loss aversion by having traders switch positions with one another).

²⁵⁷ Eyal Biyalogorsky et al., *Stuck in the Past: Why Managers Persist with New Product Failures*, 70 *J. MARKETING* 108 (2006) (discussing the “extensive attention in the literature” to firms’ escalation of commitment, which is the tendency of managers to stay committed to a course of action despite strong negative feedback with respect to the advisability of this action); Michael & Palandjian, *supra* note 245, at 270 (discussing literature on competency traps).

²⁵⁸ NORTH, UNDERSTANDING, *supra* note 39, at 23 (discussing uncertainty in a non-ergodic world (e.g., Scenario IV)).

²⁵⁹ *Id.* at 70.

²⁶⁰ Michael & Palandjian, *supra* note 245, at 275.

²⁶¹ Kerber, *supra* note 207, at 4; MISES, *supra* note 64, at 24 (“competition among the various entrepreneurs is essentially a competition among the various possibilities open to individuals to remove as far as possible their state of uneasiness by the acquisition of

error experiments, bounded rational firms update product offerings to accommodate consumers' changing preferences. Their ability depends in part on the feedback loop's efficacy and the competitive behavior's transparency.²⁶² (Alternatively bounded rational firms in Scenario IV (as in Scenario II) can seek to mitigate competition by reducing price transparency and differentiating their products or services through branding and technological innovation.²⁶³)

A third important dimension of Scenario IV competition is the value of individuality, creativity, and distinctiveness. Under Scenario I competition, rational individuals are undifferentiated in motivation: They seek, whenever the opportunity, to promote their economic self-interest. Labor is a commodity, an instrument for providing goods and services, which can be downsized, outsourced, or automated.²⁶⁴ There is no inherent dignity in work or greater social calling to use one's skills to society's betterment. But as a matter of common experience, the greater value we see our work as having, the more meaning we can attribute to our labor, and the more engaged and motivated we will be in our work.²⁶⁵ Scenario IV's theory of competition helps explain why firms devote significant resources in identifying and attracting talented workers. It re-introduces moral beliefs of

consumers' goods").

²⁶² Kerber, *supra* note 207, at 5.

²⁶³ State of Ill., ex rel. Burriss v. Panhandle Eastern Pipe Line Co., 935 F.2d 1469, 1481 (7th Cir. 1991) ("Virtually all business behavior is designed to enable firms to raise their prices above the level that would exist in a perfectly competitive market."); *see also* Desai & Waller, *supra* note 76; Steiner, *supra* note 36, at 84-85 (discussing price premium for strong reputation brands).

²⁶⁴ In contrast the Clayton Act provides that the "labor of a human being is not a commodity or article of commerce." 15 U.S.C. § 17 (2006).

²⁶⁵ DAN ARIELY, *THE UPSIDE OF RATIONALITY: THE UNEXPECTED BENEFITS OF DEFYING LOGIC AT WORK AND HOME* 66-82 (2010); Jason Krieger, *Creating a Culture of Innovation*, GALLUP MGMT. J., Oct. 5, 2010, <http://gmj.gallup.com/content/143282/creating-culture-innovation.aspx> (finding that higher levels of employee engagement "correlate to more idea sharing, better idea generation, more creativity in role, and improved business outcomes (on key items, including customer metrics, productivity, and profitability)").

why we work.²⁶⁶ Scenario IV competition enriches our definition of labor, namely the opportunity to use one's unique gifts to improve the welfare of others, and thereby express and deepen individual dignity.

In addition, by inculcating a unique identity, firms can promote (or hinder) social, ethical and moral values that affect employee behavior;²⁶⁷ these values in turn can lower the firm's monitoring costs and increase its competitiveness.²⁶⁸

Scenario IV competition also presents several risks. One risk is that with bounded rational firms and consumers, traditional forms of market failure (such as cartels and monopolies) are likelier in Scenario IV than Scenario I.²⁶⁹ The stronger the presumption of rationality, the more likely the market will be efficient, the less the governmental concern over the sustained exercise of market power in markets characterized with low to moderate entry barriers. Rational consumers often can defeat the exercise of market power by switching to lower-cost substitutes offered by rational fringe firms or entrants. But as Scenario III discusses with bounded rational firms, entry will not always occur, as rational choice theory predicts.²⁷⁰ Cartels can be more durable when price-fixers, like the subjects in other behavioral experiments, are more trustful and cooperative than rational choice theory predicts.²⁷¹

²⁶⁶ R.H. TAWNEY, *THE ACQUISITIVE SOCIETY* 33 (2004) ("For what gives meaning to economic activity, as to any other activity is [] the purpose to which it is directed.")

²⁶⁷ Paul C. Nystrom, *Differences in Moral Values between Corporations*, 9 J. BUS. ETHICS 971, 974 (1990) (survey of how closely-matched corporations within industrial sectors differed significantly in perceived importance of management's moral values).

²⁶⁸ GEORGE A. AKERLOF & RACHEL E. KRANTON, *IDENTITY ECONOMICS: HOW OUR IDENTITIES SHAPE OUR WORK, WAGES, AND WELLBEING* 39–59 (2010) (exploring how workers can abide to shared corporate norms, and lose utility when they put in low effort, and how job-holders, if they have only monetary rewards and only economic goals, "will game the system insofar as they can get away with it").

²⁶⁹ Stucke, *Behavioral Economists*, *supra* note 216, at 546-75.

²⁷⁰ Reeves & Stucke, *Behavioral Antitrust*, *supra* note 216.

²⁷¹ Stucke, *Behavioral Economists*, *supra* note 216; Stucke, *Am I a Price-Fixer*, *supra* note 212.

A second risk of Scenario IV competition is new forms of market failure. In competitive markets, firms identify and discover ways to solve consumers' problems.²⁷² But the financial crisis, Professor Stiglitz wrote, showed how the subprime mortgage industry worsened, rather than solved, borrowers' problems.²⁷³ Their mortgages increased costs and risks for consumers while providing the mortgage brokers and lenders greater fees. These products increased risk to the institutions that acquired the ensuing credit default swaps and collateralized debt obligations.²⁷⁴ Among the losers in the financial crisis were other supposedly sophisticated investors who failed to appreciate these assets' risks.²⁷⁵ Moreover, these financial innovations made speculation easier.²⁷⁶

A third risk arises from herding. Herding can be beneficial, as consumer's utility from a product increases when others use the product.²⁷⁷ But herding can pressure consumers to forego the superior technology for the perceived popular one.²⁷⁸ Consumers, at times, are confronted with competing, incompatible technologies. In choosing, the consumer wants the technology platform that others will likely choose, as the more popular platform (e.g., Windows operating system) will attract more supporting complements developed for that platform.²⁷⁹ Each consumer prefers the superior technology. But believing that others will opt for the subpar technology, the consumer will choose the subpar technology and contribute

²⁷² Kerber, *supra* note 207, at 4.

²⁷³ STIGLITZ, *supra* note 2, at 5, 80.

²⁷⁴ MICHAEL LEWIS, *THE BIG SHORT: INSIDE THE DOOMSDAY MACHINE* (2010).

²⁷⁵ JOHNSON & KWAK, *supra* note 7, at 199; CASSIDY, *supra* note 84, at 272.

²⁷⁶ CASSIDY, *supra* note 84, at 239, 243-50; GILLIAN TETT, *FOOL'S GOLD: HOW THE BOLD DREAM OF A SMALL TRIBE AT J.P. MORGAN WAS CORRUPTED BY WALL STREET GREED AND UNLEASHED A CATASTROPHE* (2009).

²⁷⁷ Marina Lao, *Networks, Access, and "Essential Facilities": From Terminal Railroad to Microsoft*, 62 SMU L. REV. 557, 560-61 (2009).

²⁷⁸ CASSIDY, *supra* note 84, at 130-31.

²⁷⁹ See *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9, 20 (D.D.C. 1999); Case T-201/04, *Microsoft Corp. v. Comm'n*, 2007 E.C.R. II-3601 (Ct. First Instance).

to the suboptimal outcome.

Herding can lead to irrational exuberance (or pessimism) over stocks, real estate, and tulips.²⁸⁰ As Scenario II discusses, even rational investors can join (and lead) the herd if greater gains can be derived from inflating the bubble and exiting before the bubble pops. Herding can lead to fads, where a consumer's utility from an item (such as a designer bag) depends on who else owns the item (either the perceived trend-setters²⁸¹ or masses²⁸²). Herding can increase market turmoil. When the speculative bubble bursts, financial institutions can decide to sell similar assets to maintain their target leverage ratio, which further depresses the assets' selling price, prompting the sale of even more assets to deleverage.²⁸³

A fourth risk of Scenario IV competition is industry-specific market failures. One example is media bias. Historically, antitrust was concerned about supply-driven media bias.²⁸⁴ Dominant media firms provide distorted, self-censored, or biased news coverage that deviates from the coverage consumers prefer. One way to reduce supply-side media bias is to increase competition in the marketplace of ideas. Increasing the number of independently-owned competitors limits the media market's supply-driven bias by (i) increasing the likelihood that the media remain independent when governments attempt to manipulate the news; (ii) reducing the risk of information being suppressed or distorted when news providers have an interest in manipulating consumers' beliefs; and (iii) driving media firms to invest in providing timely and

²⁸⁰ JOHN KENNETH GALBRAITH, *A SHORT HISTORY OF FINANCIAL EUPHORIA* (1993).

²⁸¹ See, e.g., THORSTEIN VEBLÉN, *THE THEORY OF THE LEISURE CLASS* 25, 33 (Penguin 1994) (discussing primary motive to accumulate wealth is pecuniary emulation).

²⁸² Peter Sheridan Dodds & Duncan J. Watts, *Influentials, Networks, and Public Opinion Formation*, 34 J. CONSUMER RES. 441-458 (2007).

²⁸³ CASSIDY, *supra* note 84, at 309-10.

²⁸⁴ Maurice E. Stucke & Allen P. Grunes, *Toward a Better Competition Policy for the Media: The Challenge of Developing Antitrust Policies That Support the Media Sector's Unique Role in Our Democracy*, 42 CONN. L. REV. 101 (2009); Maurice E. Stucke & Allen P. Grunes, *Antitrust and the Marketplace of Ideas*, 69 ANTITRUST L.J. 249, 249 (2001).

accurate coverage.²⁸⁵ Under Scenario IV, in contrast, more media competition can increase, rather than reduce, media bias. Bounded rational consumers can suffer “belief perseverance,” whereby they hold their views notwithstanding disconfirming evidence.²⁸⁶ Consumers search for, and overvalue, information that favors their pre-existing cultural outlooks; they discount, and are reluctant to search for, information that contradicts their pre-existing cultural outlooks.²⁸⁷ Bounded rational consumers seek news outlets that reinforce their political ideology, and avoid media outlets that challenge their beliefs. These consumers freely trade-off (to different degrees) the accuracy of a news source for confirmation of their pre-existing beliefs.²⁸⁸ Accordingly, Scenario IV competition can increase media bias, which consumers demand.²⁸⁹ The marketplace of ideas becomes more fragmented. News coverage increasingly targets specific ideological or political beliefs. This in turn deprives “societies of shared information and experiences, leaving us less able to discuss issues, less exposed to diverse viewpoints, and more inclined to connect primarily, or only, with

²⁸⁵ Matthew Gentzkow & Jesse M. Shapiro, *Competition & Truth in the Market for News*, 22 J. ECON. PERSP. 134, 135–44 (2008).

²⁸⁶ Lee Ross et al., *Perseverance in Self-Perception and Social Perception: Biased Attributional Processes in the Debriefing Paradigm*, 32 J. PERSONALITY & SOC. PSYCHOL. 880 (1975).

²⁸⁷ Dan M. Kahn & Donald Braman, *Cultural Cognition & Public Policy*, 24 YALE L. & POL'Y REV. 149 (2006).

²⁸⁸ Gentzkow & Shapiro, *Market for News*, *supra* note 285, at 144–45.

²⁸⁹ See, e.g., Matthew A. Baum & Tim Groeling, *New Media & the Polarization of American Political Discourse*, 25 POL. COMM. 345–365 (2008); Matthew Gentzkow & Jesse M. Shapiro, *What Drives Media Slant? Evidence from U.S. Daily Newspapers*, NBER Working Paper 12707 (2007), available at <http://faculty.chicagogsb.edu/matthew.gentzkow/biasmeas052507.pdf>; Matthew Gentzkow & Jesse M. Shapiro, *Media, Education & Anti-Americanism in the Muslim World*, 18 J. ECON. PERSP. 117–133 (2004); Charles S. Taber & Milton Lodge, *Motivated Skepticism in the Evaluation of Political Beliefs*, 50 AM. J. POL. SCI. 755–769 (2006); Stefano DellaVigna & Ethan Kaplan, *The Political Impact of Media Bias*, in FACT FINDER, FACT FILTER: HOW MEDIA REPORTING AFFECTS PUBLIC POLICY (2007), available at <http://elsa.berkeley.edu/~sdellavi/wp/mediabiaswb07-06-25.pdf>.

those with whom we agree.”²⁹⁰ With greater fragmentation of news coverage, the danger exists that consumers seek out only those viewpoints with which they already agree, making reasoned debate more difficult. Thus the greater danger to democracy, under Scenario IV, is not necessarily the lack of media competition, but too much competition and the ensuing demand-driven media bias.

1. Scenario IV’s Policy Risks Assuming the Government Is Rational

If the government is relatively more rational than firms and consumers, there remains the risk, as in Scenarios II or III, of authoritarianism and corporate autocracy.

The government, even if more rational, is not omniscient. The government can predict how it would react (under rational choice theory). But the government cannot necessarily predict how bounded rational firms and consumers behave under Scenario IV.²⁹¹

One reason why predictions are harder under Scenario IV lies in the unpredictability of the non-price dimensions of competition. Heterogeneous bounded rational firms can have different degrees of success in debiasing, learning and implementing knowledge into developing product or process innovations, and responding to uncertainty and consumers’ changing tastes. Competitive dynamics can change in unforeseen ways, as bounded rational firms attempt to accommodate and adjust to changing consumer preferences.²⁹² The success of those adjustments and accommodations, in turn, can depend on further changes by private and

²⁹⁰ LEE BOLLINGER, UNINHIBITED, ROBUST AND WIDE-OPEN 119 (2010).

²⁹¹ See, e.g., Camerer & Fehr, *supra* note 126, at 50 (distinguishing between predictions when player strategies are complements (less predictable) and substitutes (more predictable)).

²⁹² RICHARD R. NELSON & SIDNEY G. WINTER, AN EVOLUTIONARY THEORY OF ECONOMIC CHANGE 370 (1982).

public institutions.²⁹³

Our knowledge of future events ranges from ignorance, uncertainty, risk, to certainty. “If the underlying reality of the markets is constantly changing, statistical models based on past data will be of limited use, at best, in determining what is likely to happen in the future.”²⁹⁴ Economic life is an adventure, but not necessarily a roller coaster. Waking up tomorrow, I would not expect the value of the U.S. stock market to lose about \$1.2 trillion, my employer to close its doors, or my country to default on its debt. But Black Swan events, Nassim Nicholas Taleb describes, carry an extreme impact and are outside the realm of regular expectations, because nothing in the past can convincingly point to its possibility. Despite the events’ outlier status, the bounded rational market participants concoct explanations for their occurrence after the fact to make them explainable and predictable.²⁹⁵

Even for non-Black Swan events, like the price of bagels, competition can be viewed under Scenarios I and IV. I expect my bagel shop tomorrow to have the same assortment of bagels (plain, onion, poppy seed, etc.) and prices as today. Consumer preferences should not change dramatically overnight. The price, variety, and quality of bagels should not fluctuate wildly (e.g., \$2 gourmet bagels on Thursday and seventy-cent plain bagels on Friday). But my comfort level decreases when trying to forecast bagel prices over a larger geographic area over a longer time period. The risk factors for the bagel industry, according to one public company, include (i) changes in general economic conditions and discretionary consumer spending, particularly spending for meals prepared away from home, (ii)

²⁹³ See, e.g., NORTH, UNDERSTANDING, *supra* note 39, at 116-26.

²⁹⁴ CASSIDY, *supra* note 84, at 95.

²⁹⁵ NASSIM NICHOLAS TALEB, THE BLACK SWAN: THE IMPACT OF THE HIGHLY IMPROBABLE (2007).

changes in consumer tastes and preferences, through new diet fads (e.g., low-carbohydrate diets) or government regulations (e.g., the prominent disclosure of nutritional and calorie information), (iii) food safety and reputation for quality, (iv) volatile commodity prices, (v) weather conditions (including natural disasters),²⁹⁶ and (vi) a regional or global health pandemic, which could severely affect bagel businesses that position themselves as a “neighborhood atmosphere” where “people can gather for human connection and high quality food.”²⁹⁷ So if bagel manufacturers face challenges in predicting and satisfying consumer preferences over the coming years, so too will competition authorities when predicting competitive effects in that industry.

Adding to the uncertainty under Scenario IV is path dependency. Private and government agents’ prior choices and historical experiences can constrain the current choice set.²⁹⁸ A seemingly minor event that happened yesterday in the market can have significant long-term consequences.²⁹⁹ Some industries, like evolutionary processes generally, are characterized by a degree of persistence of random events. “Rather than being additive to a deterministic equilibrium, small random events in evolutionary processes may accumulate into larger factors that may change the nature of the system and its history.”³⁰⁰ Under an evolutionary economic process, “chance plays a significant role.”³⁰¹

One example is the rise of Microsoft. In the late 1960s, IBM controlled

²⁹⁶ Form 10-K, Einstein Noah Restaurant Group Inc – Bagl, filed Feb. 25, 2010 (period: Dec. 29, 2009).

²⁹⁷ *Id.*

²⁹⁸ NORTH, UNDERSTANDING, *supra* note 39, at 52; TAWNEY, *supra* note 266, at 28 (observing how revolutions “are apt to take their color from the regime which they overthrow”).

²⁹⁹ Verspagen, *supra* note 249, at 6; *see also* Frank Schweitzer et al., *Economic Networks: The New Challenges*, SCIENCE, July 24, 2009, at 422, 423.

³⁰⁰ Verspagen, *supra* note 249, at 4.

³⁰¹ *Id.* at 6; Schweitzer et al., *supra* note 299, at 423.

about 70 percent of the computer market. The DOJ challenged IBM's practices, particularly its "bundling" hardware and software. During the course of antitrust litigation, IBM changed course. "Precipitated by a massive antitrust complaint filed against IBM by the Justice Department in January 1969, the company reexamined its practices and decided to stop requiring customers to buy software, services, and hardware as one bundle in June of the same year. This pricing change opened up software markets to independent companies."³⁰² This contributed to the development of the computer software industry. A decade later, when preparing to launch its personal computers, the still dominant IBM approached a start-up company Microsoft about creating a version of a BASIC computer program. Microsoft suggested that IBM talk to Digital Research, whose CP/M operating system had become the standard for computer hobbyists. But here emotion apparently had a lasting impact. Digital Research's president reportedly disliked the arrogant IBM from his university days and was late in meeting the IBM executives (going flying earlier that day). After the negotiations stalled, IBM returned to Microsoft to create an operating system for its personal computer. When introducing its PC, IBM sold the Microsoft operating system for a much lower price than the CP/M-86 system.³⁰³ One could inquire what would have happened if the DOJ never brought its antitrust suit against IBM or if Digital Research's president had not gone flying that day.

Another factor is how randomness interplays with predictability in

³⁰² R. Lougee-Heimer, *The Common Optimization INterface for Operations Research: Promoting Open-Source Software in the Operations Research Community*, 47 *IBM J. RES. & DEV.* 57, 59 (2003) (citing THOMAS J. WATSON, JR., *FATHER, SON & CO.: MY LIFE AT IBM & BEYOND* (1990)).

³⁰³ See ERIC D. BEINHOCKER, *THE ORIGIN OF WEALTH* 326–27 (2006); Classic ScobleShow, <http://www.podtech.net/scobleshows/technology/1593/> (Aug. 8, 2007, 09:34 EST).

scale-free networks.³⁰⁴ Scale-free networks are open. They expand through the continuous addition of new members to the system, and they exhibit preferential connectivity, “in that the probability with which a new vertex connects to the existing vertices is not uniform, but there is a higher probability to be linked to a vertex that already has a large number of connections.”³⁰⁵ To illustrate this, suppose three antitrust professors--Amelia, Beatrice, and Clara--start their careers at similar law schools and their scholarship objectively is of similar quality. The three professors form links (say collaborate on research projects) with one another. Their network expands with each new antitrust law professor. Each new antitrust professor must decide with which existing antitrust professor to collaborate. The new professors exhibit preferential connectivity, in that they generally prefer to link with more connected professors. Thus with Amelia, Beatrice, and Clara, the early rounds are more random: the new antitrust professor Daniela can decide to link with Amelia, Beatrice, or Clara. Suppose Daniela randomly decides to collaborate with Amelia and Clara. Now when new antitrust professor Eitel decides to collaborate, Amelia and Clara have an advantage over Beatrice. Thus, Amelia and Clara will grow in the number of links, as Beatrice lags behind. As Professor Barabási observed with scale-free networks, the rich get richer.³⁰⁶ The highly connected nodes (law professors Amelia and Clara in our example) acquire more links than the less connected nodes (e.g., Professor Beatrice), which leads to the emergence of a few highly connected nodes that become the main hubs for collaboration. Thus, in scale-free networks, one must view the entire process. If one only examines the network half-way through its formation,

³⁰⁴ Albert-László Barabási & Réka Albert, *Emergence of Scaling in Random Networks*, SCIENCE 286, 509 (1999).

³⁰⁵ *Id.* at 509.

³⁰⁶ Albert-László Barabási, *Scale-Free Networks: A Decade and Beyond*, SCIENCE, 24 July 2009, 412.

one might assume that the well-connected antitrust professors were attracting more links because they were better scholars. By then Amelia and Clara might be better scholars (due to the experience of collaboration and receiving as a result more information of current trends). But they reached that success through an element of luck in the beginning. Likewise, in examining the network only at its formation, one might assume that the market was contestable as each professor had an equal chance of attracting the next link.

2. Scenario IV's Policy Risks Assuming the Government Is Bounded Rational

As in Scenarios II and III, the bounded rational government, overconfident in the market participants' rationality and willpower, may assume that market forces generally will yield optimal outcomes.³⁰⁷ Indeed regulatory capture is most effective when bounded rational regulators' "share the worldview and the preferences of the industry they supervise."³⁰⁸ This was the case with deregulation of the financial services industry, which began during the Reagan administration,³⁰⁹ and accelerated under the Clinton³¹⁰ and Bush³¹¹ administrations. One underlying force to this deregulatory movement was the flawed laissez-faire belief that markets were composed of sophisticated investors, and the markets accordingly generally self-correct.³¹²

³⁰⁷ CASSIDY, *supra* note 84, at 268-69 (recounting Federal Reserve's belief that advances in technology have enabled industry to better manage the hazards of their business).

³⁰⁸ JOHNSON & KWAK, *supra* note 7, at 93.

³⁰⁹ *Id.* at 70-74.

³¹⁰ *Id.* at 84, 89, 98-100, 136-44.

³¹¹ *Id.* at 105; POSNER, *FAILURE OF CAPITALISM*, *supra* note 99, at 113, 134-35, 235 (criticizing the Bush administration's laissez-faire attitudes); PAUL KRUGMAN, *THE RETURN OF DEPRESSION ECONOMICS AND THE CRISIS OF 2008* 162-64 (2009) (same).

³¹² See, e.g., JUSTIN FOX, *THE MYTH OF THE RATIONAL MARKET: A HISTORY OF RISK, REWARD, AND DELUSION ON WALL STREET* (2009); John Cassidy, *Letter from Chicago: After the Blowup*, *NEW YORKER*, Jan. 11, 2010, at 28; Kenneth M. Davidson, *Reality Be Damned: The Legacy of Chicago School Economics*, *AM. INTEREST*, Nov.-Dec. 2009,

A second policy risk is that the bounded rational government, overconfident in its ability to predict the likely competitive effects of mergers, has little incentive or desire to assess the predictive quality of its economic models.³¹³ Here the government, unlike bounded rational firms, fails to recognize that its knowledge depreciates in value over time. Competition officials remain wedded to theories, the premises of which are by now invalid. The government, for example, assumes that its economic models still capture the key variables and that the market dynamics remain largely unchanged since it last investigated the industry. Antitrust's economic models mostly seek to reduce uncertainty, with the outcomes largely based on the validity of the models' assumptions. Implicit in much of current economic theory is that one can accurately predict the future from past experiences (as reflected in the data).³¹⁴ Over the past two decades, antitrust enforcers have increasingly harnessed the increase in available market data to conduct merger simulations.³¹⁵ Generally, with this

<http://www.the-american-interest.com/article-bd.cfm?piece=693>; Paul Krugman, *How Did Economists Get It So Wrong?*, N.Y. TIMES, Sept. 6, 2009, at 37 (noting that more important than the economists' failure to predict was "the profession's blindness to the very possibility of catastrophic failures in the market economy"). Thus deregulating derivatives, under this flawed worldview, could only *reduce*, not *increase*, systemic risk. President's Working Group on Financial Markets, *Over-the-Counter Derivatives Markets and the Commodity Exchange Act* (1999), <http://www.ustreas.gov/press/releases/reports/otcact.pdf>.

³¹³ See, e.g., CASSIDY, *supra* note 84, at 275-76 (discussing illusion of predictability).

³¹⁴ NORTH, UNDERSTANDING, *supra* note 39, 19.

³¹⁵ See Daniel Hosken et al., *Demand System Estimation and Its Application to Horizontal Merger Analysis 5* (Fed. Trade Comm'n Bureau of Econ., Working Paper No. 246, 2002), <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 9* (undated) (draft document), <http://www.ftc.gov/be/ftcperspectivesoneconometrics.pdf> (discussing the use of scanner data for demand estimation and other relevant economic analyses); David Scheffman, *Best Practices for Data, and Economics and Financial Analyses in Antitrust Investigations* (Apr. 2002) (unpublished manuscript), <http://www.ftc.gov/be/ftcbebp.pdf> (providing guidelines on economic analysis for meeting with FTC Bureau of Economics); see also Fed. Trade Comm'n & U.S. Dep't of Justice, *Commentary on the Horizontal Merger Guidelines 6, 8, 9, 14* (2006), <http://www.usdoj.gov/atr/public/guidelines/215247.pdf> (describing use of scan data to estimate demand elasticities for branded consumer products).

economic modeling, the narrower the product category and geographic area studied, the shorter the time horizon, the less likely that contingencies and random factors will play a material role in making outcomes indeterminate.³¹⁶ But one recent survey identified several limitations in the current economic models, including the lack of data availability in some industries, the assumptions in the models, and the models' neglect of non-quantifiable and long-run competitive effects, including the merger's impact on innovation.³¹⁷ While merger simulations can help inform antitrust analysis, the U.S. antitrust agencies wisely "do not treat merger simulation evidence as conclusive in itself."³¹⁸ With the rise of global trade, we are trending toward greater uncertainty, where contingencies or unforeseen factors across the globe (e.g., a string of worker suicides in Foxconn's factory in Shenzhen, China) can affect domestic competitors (like Apple) that rely on low-cost labor.³¹⁹

A third risk under Scenario IV is that the bounded rational government ignores non-quantifiable and long-run competitive effects, such as systemic risks, and evidence which its economic theory cannot explain, such as bounded rational behavior.³²⁰ The financial industry during the 1990s and

³¹⁶ NORTH, UNDERSTANDING, *supra* note 39, at 20-22. For example, suppose two leading manufacturers of white pan bread decide to merge. Using retailers' historic in-store scan data, econometricians can examine 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. Using the scan data for white pan bread purchases in a specific market, such as Chicago, an econometrician may predict accurately the price of white bread shortly after the merger. But predicting bread prices across the United States (or globally) over a longer time period invites uncertainty as unforeseen events may affect demand, such as diet fads, or supply.

³¹⁷ Oliver Budzinski & Isabel Ruhmer, *Merger Simulation in Competition Policy: A Survey*, 6 J. COMPETITION L. & ECON. 277 (2009).

³¹⁸ Merger Guidelines, *supra* note 59, § 6.1.

³¹⁹ Kathrin Hille, *Foxconn to Shift Apple Gadgets Production*, FIN. TIMES, June 29, 2010, at 1.

³²⁰ See, e.g., CASSIDY, *supra* note 84, at 221-34 (discussing Federal Reserve Chair Alan Greenspan's failure to take seriously the concept of market failure).

early 2000s underwent a wave of mega-mergers.³²¹ As a DOJ official noted, “a number of individual mergers during the 1990’s ranked among the largest U.S. bank mergers ever, in terms of the real value of assets involved, and in terms of the share of total U.S. bank assets accounted for by the merging banks.”³²² The financial sector was becoming more concentrated, and its profits were growing faster.³²³ One mega-merger in the financial services industry was the \$70 billion merger of Travelers Group Inc. and Citicorp, which created the world’s largest commercial banking organization, with total consolidated assets of approximately \$751 billion.³²⁴ During its merger review, the DOJ “heard numerous complaints that Citigroup would have an undue aggregation of resources—that the deal would create a firm *too big to be allowed to fail*.”³²⁵ But the DOJ “essentially viewed this as primarily a regulatory issue to be considered by the [Federal Reserve Board].”³²⁶ Despite the merger wave among large financial institutions, the DOJ never really considered systemic risk or how creating a firm too big to fail could distort competition. Instead the DOJ limited its risk analysis as to whether Citicorp-Travelers, post-merger, could raise price in narrowly defined geographic markets. So if a dominant bank in the western United States merges with a dominant bank in the eastern

³²¹ JOHNSON & KWAK, *supra* note 7, at 85. J.P. Morgan Chase, for example, was the result of mergers with Chemical Bank and Manufacturers Hanover (1991), First Chicago and National Bank of Detroit (1995), Chemical and Chase Manhattan (1996), Bank One and First Chicago (1998), J.P. Morgan and Chase Manhattan (2000) and JPMorgan Chase and Bank One (2004).

³²² Robert Kramer, Chief, Litigation II Section, Antitrust Div., U.S. Dep’t of Justice, “Mega-Mergers” in the Banking Industry (Apr. 14, 1999), *available at* <http://www.justice.gov/atr/public/speeches/214845.pdf>.

³²³ JOHNSON & KWAK, *supra* note 7, at 85.

³²⁴ Federal Reserve Board, Travelers Group, Inc. and Citicorp, Order Approving Formation of a Bank Holding Company and Notice to Engage in Nonbanking Activities, 84 FED. RES. BULL. 985, at 4 (Sept. 23, 1998) [hereinafter Fed. Reserve Citicorp Order], *available at* <http://www.federalreserve.gov/boarddocs/press/BHC/1998/19980923/19980923.pdf>. *at*

³²⁵ Kramer, *supra* note 322 (emphasis added).

³²⁶ *Id.*

United States, the merger, in theory, should pose little antitrust risk, as they operated in separate geographic markets.³²⁷ In limiting its risk assessment to short-term price effects (e.g., banks' ability post-merger to raise rates for specific categories of borrowers) in narrowly-defined geographic markets, the bounded rational government can fail to see or assess the merger's impact on the efficiency, competitiveness, and stability of the overall financial system.

The financial markets, when viewed as a complex adaptive system, can become more vulnerable as one bank increases in size and becomes too-big-to-fail.³²⁸ This is not always apparent. During relatively calm periods, having large financial institutions can appear beneficial. If a peripheral bank is subject to a random shock, the network's health remains stable. Indeed, the larger banks may be credited for absorbing the shock.³²⁹ "It is only when the hub—a large or connected financial institution—is subject to stress that network dynamics will be properly unearthed," said a Bank of England executive. "When large financial institutions came under stress during this crisis, these adverse system-wide network dynamics revealed themselves."³³⁰

Even if the bounded rational government acknowledges systemic risks,

³²⁷ *Id.* at 7 (noting how the NationsBank and Bank of America mega-merger "was a classic market extension merger since NationsBank's operations focused generally on the east coast and south and Bank of America was largely on the west coast" so the merger's competitive issues for the DOJ involved only two states—New Mexico and Texas).

³²⁸ Thomas J. Horton, *The Coming Extinction of Homo Economicus and the Eclipse of the Chicago School of Antitrust: Applying Evolutionary Biology and Ethics to Structural and Behavioral Antitrust Analyses*, LOY. U. CHI. L.J. (forthcoming 2011) (an evolutionary biology perspective on why large economic concentrations, such as monopolies and oligopolies, are vastly overrated in terms of their overall efficiency and positive impacts on our economic system, and how the Chicago School underrates their dangerous impacts), available at http://works.bepress.com/thomas_horton/1Horton.

³²⁹ CASSIDY, *supra* note 84, at 283 (recounting Greenspan's praise of large systemically important banks' use credit derivatives to stabilize banking system)

³³⁰ Andrew G Haldane, Executive Director, Financial Stability, Bank of England, Rethinking The Financial Network, Speech delivered at the Financial Student Association, (Apr. 2009), <http://www.bankofengland.co.uk/publications/speeches/2009/speech386.pdf>

the risks are often harder to quantify and thus easier to ignore. Under a total welfare analysis, the competition authority assesses a merger's risks (and costs) over the short-term (including its impact on consumer and producer surplus) and long-term (including its effect on the network's resilience).³³¹ Assessing the merger's short-term static price effects (e.g., whether the banks post-merger can raise rates for specific categories of borrowers) is often easier than assessing and quantifying the merger's long-term impact on the efficiency, competitiveness, and stability of the overall financial network. But if the government ignores the mega-merger's risks to the overall financial network's resilience, then the merger analysis is incomplete and potentially flawed. This risk is compounded when the bounded rational government, overconfident that its merger analysis identifies all the significant anticompetitive risks, quickly approves mega-mergers that are viewed as market extensions (despite the long-term risks these mergers may pose), and seeks to dismantle any restraints on future industry concentration.³³²

A fourth risk under Scenario IV is when a bounded rational government

³³¹ Howard A. Shelanski, *Enforcing Competition During an Economic Crisis*, 77 ANTITRUST L.J. 229, 239-45 (2010); Sally J. Goerner et al., *Quantifying Economic Sustainability: Implications for Free-Enterprise Theory, Policy and Practice*, 69 ECOLOGICAL ECON. 76, 77 (2009).

³³² In the Citicorp/Travelers merger, a "significant number of other commenters" told the Federal Reserve that the merger violated the Glass-Steagall Act; they "urged the Board not to consider the proposal unless and until Congress amends the law to allow unlimited combinations of insurance, banking and securities businesses." Fed. Reserve Citicorp Order, *supra* note 324, at 6. Travelers CEO Sanford Weill hoped his mega-merger would push Congress to remove the barriers under the Glass-Steagall Act. *The NewsHour with Jim Lehrer: Financial Powerhouse* (PBS television broadcast Apr. 7, 1998), transcript available at http://www.pbs.org/newshour/bb/business/jan-june98/merger_4-7.html. Congress did so a year later with the Gramm-Leach-Bliley Act of 1999. The 1999 law repealed the Glass-Steagall Act's restrictions on bank and securities-firm affiliations, and amended the Bank Holding Company Act to permit affiliations among financial services companies, including banks, securities firms and insurance companies. *Glass-Steagall Act (1933)*, N.Y. TIMES, http://topics.nytimes.com/topics/reference/timestopics/subjects/g/glass_steagall_act_1933/index.html.

is overconfident in its ability to regulate firms deemed too big to fail. For example, commenters warned the Federal Reserve Board that the Citicorp-Travelers mega-merger “would result in an undue concentration of resources and in an organization that is both ‘too big to fail’ and ‘too big to supervise.’”³³³ But in permitting the merger, the Federal Reserve responded the nation’s largest corporate merger “would have a de minimis effect on competition.”³³⁴ The Federal Reserve rejected the argument that the absolute or relative size of Citicorp would adversely affect the market structure.³³⁵ It failed to see how “the size or breadth of Citicorp’s activities would allow it to distort or dominate any relevant market.”³³⁶ Finally, the Federal Reserve, with its “extensive experience supervising Citicorp,” confidently stated that it “developed a comprehensive, risk-based supervision plan” to effectively monitor Citibank; moreover other government agencies, like the Securities and Exchange Commission, would “assist the Board in understanding Citigroup’s business and the risk profiles of those businesses.”³³⁷

As the merger played out over the next decade, Citigroup senior management and the government demonstrated their poor understanding of the risk profiles of the collateralized debt obligation (CDO) business.³³⁸ In 2008, Citibank, and other financial institutions considered too-big-to-fail,

³³³ Fed. Reserve Citicorp Order, *supra* note 324, at 74.

³³⁴ *Id.*

³³⁵ *Id.* at 85.

³³⁶ *Id.* at 86.

³³⁷ *Id.*

³³⁸ After Citigroup senior executives testified before the Financial Crisis Inquiry Commission investigators on the cause of Citigroup’s 2008 bailout, the Commission’s Chairman Phil Angelides said, “One thing that is striking is the extent to which senior management either didn’t know or didn’t care to know about risks that ultimately helped bring the institution to its knees.” Bradley Keoun et al., *Citigroup “Liquidity Puts” Draw Scrutiny from Crisis Inquiry*, BLOOMBERG, Apr. 13, 2010, <http://www.bloomberg.com/news/2010-04-13/citigroup-s-14-billion-liquidity-put-loss-is-focus-of-u-s-crisis-panel.html>.

were (or were perceived to be) failing and received an implicit government guarantee. Citigroup, an early recipient of the government bailout, received a \$45 billion emergency infusion and \$301 billion of government asset insurance, which was the largest taxpayer bailout for any U.S. bank.³³⁹

3. Policy Alternatives under Scenario IV

Given Scenario IV's competitive dynamics, one could argue that the government cannot accurately predict the merger's likely competitive effects. Accordingly, the government should abstain from predictions and challenge only those consummated mergers where significant anticompetitive effects have manifested.³⁴⁰ But waiting post-merger for anticompetitive effects can foreclose effective relief (one reason why Congress facilitated pre-merger review).³⁴¹

Moreover bounded rationality differs from ignorance. At times the problems are apparent. One need not be a *Homo Economicus* to see America's obesity problem. A bounded rational government can assist

³³⁹ Pro Publica Inc., *Where is the Money?: Eye on the Bailout* <http://bailout.propublica.org/entities/96-citigroup>; Keoun et al., *supra* note 338; CASSIDY, *supra* note 84, at 330 (noting that although politically unpalatable to the Bush administration, nationalizing Citibank might have been cheaper than insuring its toxic assets).

³⁴⁰ *See, e.g.*, General Tel. Co. of Southwest v. United States, 449 F.2d 846, 863 (5th Cir. 1971) ("In a complex and dynamic industry such as the communications field, it cannot be expected that the agency charged with its regulation will have perfect clairvoyance. . . . 'Hardship must at times result from postponement of the rule of action till a time when action is complete. It is one of the consequences of the limitations of the human intellect and of the denial to legislators and judges of infinite prevision.'") (quoting BENJAMIN N. CARDOZO, *THE NATURE OF THE JUDICIAL PROCESS* 145 (1921)).

³⁴¹ Spencer Weber Waller, *Prosecution by Regulation: The Changing Nature of Antitrust Enforcement Case*, 77 OR. L. REV. 1383, 1397-98 (1998); *see also* T-201/04, Microsoft Corp. v. Comm'n, 2007 E.C.R. II-3601 ("If the Commission were required to wait until competitors were eliminated from the market, or until their elimination was sufficiently imminent, before being able to take action under Article 82 EC, that would clearly run counter to the objective of that provision, which is to maintain undistorted competition in the common market and, in particular, to safeguard the competition that still exists on the relevant market."). After the merger, employees may leave the company, manufacturing plants may have closed, the former competitors' goods and services may be a shadow of their former competitive might, and the merged entities' operations may be so integrated that structural remedies are impractical.

consumers', firms' and its own learning processes by improving the feedback loop. The government can disseminate information of market participants' trial-and-error experiments, and assist participants in integrating and applying that knowledge. Advances in telecommunications, for example, have helped farmers in India to not only learn the latest crop prices but to also increase their yields and efficiencies by learning from researchers' and other farmers' lessons through trial-and-error. Farmers use cell phones to learn how to use less seed, fuel, and fertilizers, while reaping bigger harvests.³⁴²

The government can also opt for structural safeguards to promote industry diversity. On the one hand, systemic risk is not limited to highly concentrated markets dominated by firms too big to fail. Small bounded rational banks can similarly ignore their activities' riskiness.³⁴³ Several bank failures can have a cascading effect, when banks respond similarly to cripple the banking system.³⁴⁴ On the other hand, a larger, more diverse pool, while susceptible to herding, "leads to a higher probability that in the case of an exogenous shock one of these technologies will provide an appropriate solution."³⁴⁵ Consequently perhaps the best recipe for confronting uncertainty and systematic risk is maintaining diversity and "institutions that permit trial and error experiments to occur."³⁴⁶

Ultimately, the key operating issue under Scenario IV is one of institutional design. Do the government institutions have sufficient incentives to recognize their bounded rationality, to continually learn and

³⁴² Richard Stone, *News: Dialing Up Knowledge—And Harvests*, SCIENCE, Feb. 12, 2010, at 808.

³⁴³ Indeed rational banks may engage in risky behavior or risk the erosion of its stock price over the short-term.

³⁴⁴ STIGLITZ, *supra* note 2, at 149; Schweitzer et al., *supra* note 299, at 424-25.

³⁴⁵ Kerber, *supra* note 207, at 9.

³⁴⁶ NORTH, UNDERSTANDING, *supra* note 39, at 163; LAWRENCE A. SULLIVAN & WARREN S. GRIMES, THE LAW OF ANTITRUST: AN INTEGRATED HANDBOOK 11 (2d ed. 2006) (unconcentrated markets reduce the risk of costly error).

update their beliefs, and to update their policies accordingly?

One impediment to this trial-and-error feedback loop is the behavioral bias of belief perseverance, whereby one holds one's views notwithstanding disconfirming evidence. Confident in the predictive quality of its competition policies, the government may argue that there is no need to empirically test whether its predictions are indeed accurate; it also ignores or discounts competitive behavior that its economic theories cannot explain.

A second impediment is incentives. Bounded rational firms at least have an incentive to improve their rationality and willpower when debiasing provides a competitive advantage. The government lacks this incentive. At times competition agencies compete for prestige, resources, and cases (such as the FTC and DOJ over mergers). But inter-agency competition does not necessarily increase political accountability that reduces biases and heuristics.³⁴⁷ The competition agency may attract dynamic leaders with a desire to critically test the economic theory's assumptions. But others in government may resist diverting funding from immediate prosecutions, which provide publicity and justification for existence. The rewards from institutional learning accrue over the long-term, often after the political appointees leave office. Moreover, economic experts and lawyers whose livelihood depends on rational choice theory (and firms that benefit from these antitrust policies) will discourage such empiricism as a waste of time and resources. Consequently market forces will not necessarily provide government institutions sufficient incentives to recognize their bounded rationality, to continually test their assumptions, to retrospectively examine the efficacy of their actions, and to use these findings to update their

³⁴⁷ When test subjects were expected to defend their judgments to their peers, subjects chose more complex and time-consuming decision-making strategies. Ziva Kunda, *The Case for Motivated Reasoning*, 108 PSYCHOLOGICAL BULL. 480, 481(1990).

policies.³⁴⁸

Consequently, competition agencies need patient gardeners, who experiment, monitor, and update the economic theories. To enable these gardeners to tend to antitrust policy, structural mechanisms are needed to increase the government's incentives to debias. One mechanism is to increase the government's accountability. This can be done directly, as in the E.U., where the European Commission's inaction (e.g., not enjoining a merger) can be challenged in court. But this assumes that the court will strike the right balance in deference. A second mechanism is to require the competition agencies to explain why they did not challenge mergers, subject to extended review.³⁴⁹ The competition agency should explain each critical assumption it made in determining that the merger was unlikely to lessen competition. This, in turn, can be tested, by requiring the agencies to undertake and publish more post-merger reviews. Moreover, if the agency believed that the merger is anticompetitive, but felt based on the evidence it would lose in court, the agency should say so. Otherwise the courts and Congress will be unaware of the unintended consequences the current case law is causing. At times enforcement actions lead to undesirable outcomes. High criminal fines can hamper competition. Divestitures of assets, as part of merger review, may later prove inadequate. Behavioral remedies may unintentionally lead to anticompetitive results.³⁵⁰ By subjecting the

³⁴⁸ NORTH, UNDERSTANDING, *supra* note 39, at 68.

³⁴⁹ The U.S. competition agencies at times issue closing statements, but the analysis can vary considerably. Compare Statement of the Federal Trade Commission Concerning Royal Caribbean Cruises, Ltd./P&O Princess Cruises plc and Carnival Corporation/P&O Princess Cruises plc, FTC File No. 021 0041 (Oct. 4, 2002), <http://www.ftc.gov/os/caselist/0210041.shtm>, with Statement of the Department of Justice's Antitrust Division on Its Decision to Close Its Investigation of the Merger of Delta Air Lines Inc. and Northwest Airlines Corporation, Oct. 29, 2008, <http://www.justice.gov/opa/pr/2008/October/08-at-963.html>.

³⁵⁰ For example, making price information public may make collusion easier. See Maurice E. Stucke, *Evaluating the Risks of Increased Price Transparency*, 19 SPG ANTITRUST 81 (2005), available at <http://ssrn.com/abstract=927417>; OECD's Directorate

competition agencies' actions to external review and criticism, such ex post review would require greater accountability by those entrusted with enforcing the antitrust laws. The government can require its competition authorities to periodically commission empirical research to test the continuing validity of the assumptions underlying their policies. The government agencies "have the ability to study over time how individuals behave in certain settings,"³⁵¹ which is exactly what the U.K.'s Office of Fair Trading is doing with pricing frames.³⁵²

CONCLUSION

To design better competition policies, we need to understand the limits of our current policies. Thus, as the Chicago School recognized, defining competition and the goals of competition law are paramount. This is because "[e]verything else follows from the answer we give."³⁵³ Going forward, competition authorities must first reevaluate their theory of competition. As this Article shows, no satisfactory definition of competition exists. Some consider competition as an idealized end state (such as static price competition under the economic model of perfect competition); others view competition as a dynamic process.

As this Article shows, any theory of competition will depend on its premises. Altering one set of assumptions (rationality of firms and consumers) expands the current theories of competition into the frontiers of

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).

³⁵¹ Rosch, Next Challenges, *supra* note 61, at 17.

³⁵² See *supra* **.

³⁵³ BORK, *supra* note 8, at 50. Not surprisingly, Bork in his paradigm-shifting book, the *Antitrust Paradox*, first defined competition, then outlined his goals of competition law, from which his legal standards to achieve these goals arose. After rejecting the definitions of competition as rivalry, perfect competition ("utterly useless as a goal of law"), and protection of fragmented markets, Bork settled on his definition of competition, namely as "a shorthand of expression of consumer welfare," which in turn comported with his goal of competition law. *Id.* at 57-61.

Scenarios II, III, and IV. Altering the assumption of the government's relative rationality adds additional policy concerns.

One cannot understand competition deductively from the assumption of rational market participants with perfect willpower. Nor can one assume that every market is confined to one scenario. In markets with sophisticated participants dealing in homogenous goods where price rather than innovation is key, competition can resemble Scenario I. Other markets can resemble Scenario IV, where "competition is a method for solving knowledge problems through a trial and error process."³⁵⁴ Nor are industries confined to one scenario. Industries can originate in Scenario IV when uncertainty exists over consumers' preferences and how the new technology benefits consumers.³⁵⁵ Various experimental designs are at play until through trial-and-error (or network effects) a dominant design emerges. As the industry matures, consumers and manufacturers experiment less, variety decreases, and competition turns more on price.³⁵⁶

Competition is better understood inductively through empirical research. In analyzing competition under the frontiers of Scenarios II, III, and IV, policymakers will see beyond static price competition in narrowly-defined antitrust markets. Issues of systemic risk, behavioral exploitation, herding behavior, and overconfidence bias will increase in importance. Antitrust analysis accordingly will shift from narrowly-defined markets to vertical and horizontal competition among larger units, systems, platforms, alliances, in which potential competition plays an important analytical role.

Going forward, there will unlikely be any unifying definition of

³⁵⁴ Kerber, *supra* note 207, at 5.

³⁵⁵ Richard R. Nelson & Sidney G. Winter, *Evolutionary Theorizing in Economics*, 16 J. ECON. PERSP. 23, 35 (2002).

³⁵⁶ BEINHOCKER, *supra* note 303, at 254-57; Nelson & Winter, *Evolutionary Theorizing*, *supra* note 355, at 36-37; Grant Miles et al., *Industry Variety & Performance*, 14 STRATEGIC MGMT. J. 163, 167 (1993) (discussing product life cycle).

competition. Competition, like any complex system, is incompressible, in that it is “impossible to account for the system in a manner that is less complex than the system itself.”³⁵⁷ Once policymakers relax the premises of their theories of competition, they will encounter greater complexity. They will increasingly perceive competition as an often unpredictable, dynamic process, not easily subject to mathematical modeling.

One might ask whether defining competition, given the complexities, is necessary. But one cannot understand what goals are achievable from a competition policy, unless one better comprehends how competition works. And one cannot understand competition, if one relies on a flawed assumption of rationality.

Consequently, the first order is to understand how competition works in particular industries and to reevaluate the premises of our theory of competition, including the rationality of the market participants and the interplay among government institutions and informal social, ethical, and moral norms. Although competition agencies are increasingly sharing market studies,³⁵⁸ this remains competition policy’s weakness.³⁵⁹

In revisiting their theory of competition, including the underlying assumptions, competition authorities should look beyond antitrust’s current neo-classical economic theories, and consider the developments in several inter-disciplinary fields, such as behavioral economics, new institutional economics, and evolutionary economics. The literature can provide a richer understanding of the observed marketplace behavior, how consumers choose, and additional remedial options, including default options.

³⁵⁷ Organisation for Economic Co-operation and Development, *A Framework to Measure the Progress of Societies: Statistics Directorate*, Working Paper No 34, at 10 (July 12, 2010), available at <http://www.politiquessociales.net/IMG/pdf/framework.pdf>.

³⁵⁸ ICN Advocacy (Market Studies Project) Working Group, *Market Studies Good Practice Handbook*, Apr. 2010.

³⁵⁹ Kerber, *supra* note 207, at 6 (no serious theoretical and empirical economic research about Hayek’s concept of competition as a discovery procedure).

Ultimately, these interdisciplinary economic theories can improve antitrust analysis by helping us understand *first* what competition is, *second* what competition can achieve for us, and *third* how competition can promote the good life.