RECONSIDERING COMPETITION

Maurice E. Stucke[*]

INTRODUCTION 108
I. DEFINING COMPETITION 111
A. Common Definitions of Competition 111
B. Perfect vs. Dynamic Competition 118
II. RE-EXAMINING THE ASSUMPTIONS UNDERLYING COMPETITION AND COMPETITION LAW 120
III. FOUR SCENARIOS OF COMPETITION AND THEIR POLICY IMPLICATIONS 122
A. Scenario I: Both Firms and Consumers Are Rational 122
1. Scenario I's Policy Implications Assuming the Government Is Rational 126
2. Scenario I's Policy Implications Assuming the Government Is Bounded Rational 128
B. Scenario II: Rational Firms and Bounded Rational Consumers 130
1. Scenario II's Policy Risks Assuming the Government Is Rational 139
2. Scenario II's Policy Risks Assuming the Government Is Bounded Rational 144

* Associate Professor, University of Tennessee College of Law; Senior Fellow, American Antitrust Institute. I wish to thank the faculty and students at Shanghai University of Finance and Economics, Shandong University, Jinan University, Southwest University of Political Science and Law, Beijing University of Chemical Technology, China University of Geosciences, Beijing Normal University, China Institute of Competition Policy at the University of International Business and Economics, and the Chinese Academy of Social Sciences, where I presented this paper and benefitted greatly from their observations. I also wish to thank Kenneth M. Davidson, Don Leatherman, Philip Marsden, Barak Y. Orbach, D. Daniel Sokol, Simonetta Vezzoso, Dick Wirtz, and the participants of the Fifth Annual ASCOLA Conference for their helpful comments. Finally, I thank the University of Tennessee College of Law and W.W. Davis Faculty Development Fund for the summer research grant.

3. Policy Alternatives under Scenario II 146
C. Scenario III: Bounded Rational Firms and Rational Consumers 154
1. Scenario III's Policy Implications Assuming the Government Is Rational 157
2. Scenario III's Policy Implications Assuming the Government Is Bounded Rational.........................160
D. Scenario IV: Bounded Rational Firms and Consumers..162
1. Scenario IV's Policy Risks Assuming the Government Is Rational..171
2. Scenario IV's Policy Risks Assuming the Government Is Bounded Rational 175
3. Policy Alternatives under Scenario IV 182
CONCLUSION 186

INTRODUCTION

In the United States, the financial crisis prompted unprecedented government bailouts for banks, mortgage servicers, the insurance giant American International Group, 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-and-integral-to-fail. Federal regulators were incapable of 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 especially troubling when the U.S. Supreme Court, of late, appears more comfortable with the antitrust function being subsumed in the regulatory framework.[3]

[1] *Bailout Recipients*, PROPUBLICA, http://bailout.propublica.org/main/list/index (last visited Nov. 1, 2011).

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

[3] Pac. Bell Tel. Co. v. Linkline Commc'ns, 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 Sec. (USA) v. Billing, 551 U.S. 264, 280-81 (2007); Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, 540 U.S. 398, 414-15 (2004); *see also*

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 now re-examining fundamental issues, such as the efficiency of markets[4] and the role of legal, social, and ethical norms in a market economy.[5] The financial crisis has also prompted calls for reinvigorating antitrust enforcement in the United States, toughening antitrust's legal standards[6] and breaking up firms deemed too-big-and-integral-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

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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] *See* Christine A. Varney, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, Vigorous Antitrust Enforcement In This Challenging Era, Remarks at the United States Chamber of Commerce (May 12, 2009), *available at* http://www.usdoj.gov/atr/public/speeches/245777.htm (rejecting assumption that markets are generally self-policing and self-correcting); *see also* J. Thomas Rosch, Commissioner, Fed. Trade Comm'n, Managing Irrationality: Some Observations on Behavioral Economics and the Creation of the Consumer Financial Protection Agency, Remarks at the Conference on the Regulation of Consumer Financial Products (Jan. 6, 2010), *available at* http://www.ftc.gov/speeches/rosch/100106financial-products.pdf.

[5] *See, e.g.*, 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); John Authers, *Wanted: New Model for Markets*, FIN. TIMES, Sept. 29, 2009, at 9; Rana Foroohar, *May the Best Theory Win: How Economists Are Competing To Make Sense Of Our Failed Financial System*, NEWSWEEK, Feb. 1, 2010, at 42-44 (discussing annual meeting of American Economic Association); Paul Krugman, *How Did Economists Get It So Wrong?*, N.Y. TIMES, Sept. 6, 2009, at 36; Gillian Tett, *The Emotional Markets Hypothesis and Greek Bonds*, FIN. TIMES, Apr. 10, 2010, at 7; STIGLITZ, *supra* note 2, at 238-74.

[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.

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

past thirty years, the Chicago,[8] post-Chicago,[9] and to the extent distinguishable, Harvard Schools[10] have debated over antitrust's legal standards. But all three schools assume a marketplace of rational[11] 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 legal standards should be used to promote these goals?

This article addresses the first question—*what is competition*?[13] 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

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[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 HOVENKAMP, ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION ¶ 113, at 134 (2d ed. 2000) ("[B]usiness firms are (or must be assumed to be) profit-maximizers."); Herbert Hovenkamp, *Post-Chicago Antitrust: A Review and Critique*, 2001 COLUM. BUS. L. REV. 258 (2001); Symposium, *Post-Chicago Economics*, 63 ANTITRUST L.J. 445 (1995).

[10] *See* 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. 1 (2007) (summarizing contributions of Harvard School to modern antitrust analysis).

[11] Rationality under neoclassical economic theory has a narrow meaning—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. *Id.*

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

[13] I discuss the second issue in *Reconsidering Antitrust's Goals*, 53 B.C. L. REV. (forthcoming 2012), *available at* http://ssrn.com/abstract=1904686.

premises, the validity of which may not hold true across industries, countries, and time. Using recent developments in 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 implications. When one relaxes the assumption of rational firms and consumers, one's 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. Part III examines the antitrust policy implications for each scenario of competition—if the government is relatively more or less 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."[14] One problem, the treatise recognizes, is that economists can have a different conception of competition than lawyers and laypersons.[15] Another problem is that economists have not reached consensus in defining *competition*.

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[14] AREEDA & HOVENKAMP, *supra* note 9, at 4; *see also* AM. BAR ASS'N SECTION OF ANTITRUST LAW, REPORT ON ANTITRUST POLICY OBJECTIVES (Feb. 12, 2003), *available at* http://www.americanbar.org/content/dam/aba/administrative/antitrust_law/report_policyobjectives.authcheckdam.pdf.

[15] AREEDA & HOVENKAMP, *supra* note 9, at 3.

The United States' Sherman Antitrust Act was enacted over a century ago.[16] But antitrust law, Robert Bork observed, "has not arrived at one satisfactory definition of 'competition.'"[17] This is surprising, considering the concept of competition is central to competition policy and economic thinking in general. Competition law focuses on anti-*competitive* restraints,[18] and one oft-described goal is to ensure an effective competitive process.[19] Yet the concept of competition, as economist John Vickers said, "has taken on a number of interpretations and meanings, many of them vague."[20] Others agree.[21] Most jurisdictions "maintain that their

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[16] 15 U.S.C. §§ 1-7 (2006).

[17] BORK, *supra* note 8, at 61 (1978).

[18] *See, e.g.*, Leegin Creative Leather Prods., 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").

[19] INT'L COMPETITION NETWORK: UNILATERAL CONDUCT WORKING GRP., REPORT ON THE OBJECTIVES OF UNILATERAL CONDUCT LAWS, ASSESSMENT OF DOMINANCE/SUBSTANTIAL MARKET POWER, AND STATE-CREATED MONOPOLIES 6 (2007) [hereinafter 2007 ICN REPORT], *available at* http://www.internationalcompetitionnetwork.org/uploads/library/doc353.pdf.

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

[21] 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."); STANLEY N. BARNES ET AL., THE ATTORNEY GENERAL'S NATIONAL COMMITTEE TO STUDY THE ANTITRUST LAWS 318 (1955) ("The idea of competition itself . . . is not so easy to define."); 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 FOR ANTITRUST, THE ECONOMY, HEALTHCARE, EDUCATION AND BEYOND 64 (Charles D. Weller ed., 2004) (competitiveness "remains a concept that is not well understood, despite widespread acceptance of its importance"); WORLD BANK, WORLD DEVELOPMENT REPORT 2002: BUILDING INSTITUTIONS FOR MARKETS 140 (2002), *available at* http://econ.worldbank.org/external/default/main?pagePK=64165259&theSitePK=469372&piPK=64165421&menuPK=64166093&entityID=000094946_01092204010635 (finding in its survey of fifty countries' competition laws, "that different conceptions of competition exist across countries"); 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) ("There is probably no concept in all of economics that is at once more fundamental and pervasive, yet less satisfactorily developed, than the concept of

competition laws 'preserve competition,'" observed the American Bar Association, but preserving 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."[22] 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."[23]

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

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competition."); Donghyun Park, *The Meaning of Competition: A Graphical Exposition*, 29 J. ECON. EDUC. 347, 356 (1998) ("[C]ompetition has become one of the most ambiguous concepts in economics."); George J. Stigler, *Perfect Competition, Historically Contemplated*, 65 J. POL. ECON. 1 (1957) (noting that the concept of competition was long treated with casualness); Neri Salvadori & Rodolfo Signorino, *The Classical Notion of Competition Revisited* 2 (MPRA Paper No. 22499 May 3, 2010), *available at* http://mpra.ub.uni-muenchen.de/22499/1/MPRA_paper_22499.pdf (noting that few would disagree with Vickers' statement).

[22] AM. BAR ASS'N, *supra* note 14, at 3.

[23] 2007 ICN REPORT, *supra* note 19, at 8. The report went on to state:

> In 2004, when the [Chilean 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.

[24] *See* 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).

[25] *See* L.C. Birch, *The Meanings of Competition*, 91 AM. NATURALIST 5, 6 (1957).

[26] *Id.* at 6.

[27] *Id.* at 9.

prerequisite for "survival of the fittest," the natural selection of species.[28]

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."[29] Several courts applied similar definitions, such as 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. . . . [t]he struggle between rivals for the same trade at the same time";[30] 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."[31]

Others question this characterization. Increasing the number of rivals does not necessarily increase, and can diminish, incentives to compete.[32] "An economist sees competition not in terms of rivalry per se, but in terms of market performance," said a former Department of Justice official,[33] further stating:

> 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

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[28] *Id.* at 13.

[29] *Competition Definition*, MERRIAM-WEBSTER.COM, http://www.merriam-webster.com/dictionary/competition (last visited Nov. 1, 2011); BARNES ET AL., *supra* note 21, at 318 (one conception of competition is "the self-interested and independent rivalry of two or more private competitors").

[30] Lipson v. Socony Vacuum Corp., 87 F.2d 265, 270 (1st Cir. 1937) (internal citations and quotation marks omitted).

[31] United States v. Aluminum Co. of Am., 91 F. Supp. 333, 355 (S.D.N.Y. 1950); *see also* New Eng. 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).

[32] *See* Avishalom Tor & Stephen M. Garcia, *The* N-*Effect: Beyond Winning Probabilities*, 21 PSYCHOL. SCI. 748 (2010), *available at* http://www-personal.umich.edu/~smgarcia/pubs/the_n-effect_reply.pdf.

[33] William J. Kolasky, Deputy Assistant Att'y General, Antitrust Div., U.S. Dep't of Justice, What Is Competition?, Address Before the Seminar on Convergence (Oct. 28, 2002), *available at* http://www.justice.gov/atr/public/speeches/200440.htm#N_7.

> exit are costless, markets can be perfectly competitive even with only one firm serving the entire market.[34]

The official 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 maximize total economic welfare."[35]

Competition, like athletic contests,[36] 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.[37]

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.[38] Not surprisingly, two of 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."[39]

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[34] *Id.*

[35] *Id.*

[36] *See* NCAA v. Bd. of Regents of Univ. of Okla., 468 U.S. 85 (1984).

[37] *See* ARMEN A. ALCHIAN, ECONOMIC FORCES AT WORK 127 (1977).

[38] Robert L. Steiner, *Market Power in Consumer Goods Industries*, *in* PRIVATE LABELS, BRANDS, AND COMPETITION POLICY: THE CHANGING LANDSCAPE OF RETAIL COMPETITION 73 (Ariel Ezrachi & Ulf Bernitz eds., 2009); Guidelines on the Assessment of Horizontal Mergers under the Council Regulation on the Control of Concentrations Between Undertakings, 2004 O.J. (C 31) ¶ 64 [hereinafter Assessment of Horizontal Mergers], *available at* http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52004XC0205%2802%29:EN:NOT ("The competitive pressure on a supplier is not only exercised by competitors but can also come from its customers.").

[39] Michael E. Porter, *The Five Competitive Forces That Shape Strategy*, HARV. BUS. REV., Jan. 2008, at 29-30; *see also* Toys "R" Us, Inc. v. FTC, 221 F.3d 928 (7th Cir. 2000).

Competition is also normative.[40] What we observe—as competition reflects, in part—are the legal constraints and incentives as well as informal social, ethical, and moral norms.[41] Societies distinguish between "competition on the merits" and unfair methods of competition.[42] Those terms, subject to different interpretations,[43] imply that competition can be good or bad, based on society's "generalized standards of fairness and social utility."[44] Market participants, through the legislature, industry codes, and informal norms, set the rules and punishments. At times, competition is considered "ruinous" or "cutthroat."[45] At times, competition with foreign firms is criticized as "structurally and qualitatively unequal."[46] At other times, competition is curtailed to promote other societal goals.[47]

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[40] *See* 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").

[41] *See* DOUGLASS C. NORTH, UNDERSTANDING THE PROCESS OF ECONOMIC CHANGE 60, 123 (2005).

[42] *See* 15 U.S.C. § 45(a) (2006) (prohibiting "unfair or deceptive acts or practices in or affecting commerce"); Commission Regulation 864/2007, art. 6, 2007 O.J. (L 199/40) (EC) (discussing unfair competition and acts restricting free competition); Free Trade Agreement Between the European Union and its Member States and the Republic of Korea, 2011 O.J. (L127/6); FTC v. Sperry & Hutchinson Co., 405 U.S. 233, 244 (1972) ("[U]nfair 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.").

[43] *See* Organisation for Economic Co-operation and Development, *What is Competition on the Merits?*, POL'Y BRIEF, June 2006, at 1, *available at* 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").

[44] RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 1, at 9 (1993).

[45] *See* Organisation for Economic Co-operation and Development, *Cut-Throat Competition*, GLOSSARY OF STATISTICAL TERMS, http://stats.oecd.org/glossary/detail.asp?ID=3186 (last visited Nov. 1, 2011) (Cut-throat competition "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.").

[46] JAMES KYNGE, CHINA SHAKES THE WORLD: A TITAN'S RISE AND TROUBLED FUTURE—AND THE CHALLENGE FOR AMERICA 109 (2007) (concerns over China's

Nor is competition always desirable. Status competition (including competing over conspicuous consumption) can increase envy and misery.[48] 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."[49]

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."[50] But the effects do not define competition itself and are sometimes 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."[51] But a divided Court recently recognized that vertical restraints that lead to higher prices can nonetheless be pro-competitive.[52] Manufacturers today can prevent retailers—through resale price maintenance—from discounting their goods. At times, increased price competition (for

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currency being undervalued, and keeping costs artificially low with poor safety, environmental and worker standards, and by subsidizing energy and water).

[47] *See* United States v. Frankfort Distilleries, Inc., 324 U.S. 293, 301 (1945) (Frankfurter, J., concurring) ("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.").

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

[49] Richard Layard, *Happiness and Public Policy: A Challenge to the Profession*, 116 ECON. J. C24, C31 (2006).

[50] Assessment of Horizontal Mergers, *supra* note 38; *see also* N. Pac. Ry. Co. v. United States, 356 U.S. 1, 4 (1958) ("[U]nrestrained 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 1 (1996), *available at* http://publications.usa.gov/USAPubs.php?PubID=5195 ("Free and open competition benefits consumers by ensuring lower prices and new and better products."); FED. TRADE COMM'N, COMPETITION COUNTS: HOW CONSUMERS WIN WHEN BUSINESSES COMPETE (Mar. 2007), *available at* http://www.ftc.gov/bc/edu/pubs/consumer/general/zgen01.shtm ("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.").

[51] NCAA v. Bd. of Regents of Univ. of Okla., 468 U.S. 85, 107-08 (1984).

[52] Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877 (2007).

example, intra-brand competition[53]) leads to more free-riding, fewer services and innovation, and ultimately fewer choices and firms.[54] At times, greater innovation comes from excluding competitors from making, using, or selling the product at a lower price.[55]

B. Perfect vs. Dynamic Competition

Within antitrust, two popular theories of competition are as: (i) an ideal end-state (perfect competition), and (ii) a process (dynamic competition).[56] Perfect competition, according to some, is "the most competitive market imaginable in which everybody is a price-taker."[57] 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

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[53] *See* Cont'l 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., 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).

[54] *See Leegin Creative Leather Prods.*, 551 U.S. at 890-91; Louis D. Brandeis, *Price and Competition*, *in* THE SOCIAL AND ECONOMIC VIEWS OF MR. JUSTICE BRANDEIS 398 (1930) (observing how "[u]nrestricted competition . . . leads to monopoly"); *see also* U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION 34 (Apr. 2007), *available at* http://www.justice.gov/atr/public/hearings/ip/222655.htm (discussing "a winner-take-all standards war," in which "firms vigorously compete . . . to establish their technology as the de facto standard"); Peter O. Steiner, *Program Patterns and Preferences, and the Workability Competition in Radio Broadcasting*, 66 Q.J. ECON. 194, 212-17 (1952).

[55] *See* 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."); 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").

[56] 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).

[57] *Competition Definition*, ECONOMIST.COM, http://www.economist.com/economics-a-to-z/c (last visited Nov. 1, 2011).

affecting the market price."[58] Between monopoly and perfect competition are degrees of imperfect competition.[59]

Others, like F.A. Hayek, question this theory of competition.[60] Competition by its nature is not an end-state but a complex and unpredictable dynamic process. 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 reflect the divide between static price competition and competition as a dynamic process.[61] The 2010 Guidelines are an improvement over the earlier Guidelines in recognizing non-price dimensions of competition.[62] But the criticism remains that the 2010 Guidelines primarily focus on static competition in narrowly defined antitrust markets.[63] Thus, one complaint endures. Competition officials recognize the importance of dynamic competition for our nation's

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

[59] *See* F.M. SCHERER, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 16-18 (2d ed. 1980).

[60] FRIEDRICH A. HAYEK, INDIVIDUALISM AND ECONOMIC ORDER (1948); *see also* 2007 ICN REPORT, *supra* note 19, at 28 (noting that ten of thirty-two surveyed competition agencies "focus[ed] on fostering a competitive *process* that is dynamic in nature").

[61] 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.

[62] *Compare id.* at § 2 (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 & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES § 0.1 n.6 (1992, revised 1997), *available at* http://www.justice.gov/atr/public/guidelines/hmg.pdf (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.").

[63] *See, e.g.*, Jay Ezrielev & Janusz A. Ordover, *The 2010 Horizontal Merger Guidelines: A Static Compass in a Dynamic World?*, ANTITRUST SOURCE, Oct. 2010, at 1; J. Thomas Rosch, Commissioner, Fed. Trade Comm'n, The Next Challenges for Antitrust Economists, Remarks at the NERA 2010 Antitrust & Trade Regulation Seminar (July 8, 2010), *available at* http://www.ftc.gov/speeches/rosch/100708neraspeech.pdf.

long-term economic growth,[64] but antitrust law has ossified around static price competition.[65]

Consequently, competition, while ubiquitous, can take different forms. Market participants compete to secure greater monetary profits. Sycophants in authoritarian regimes compete to curry favor with superiors. So, the issue is not whether competition exists, but "what kind of competition should exist."[66] 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. But while competition is ubiquitous, economists, policymakers and scholars have not agreed upon a theory of competition.

II. RE-EXAMINING 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

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[64] Thomas O. Barnett, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, Competition Enforcement in an Innovative Economy 4-5, Remarks at the 4th Annual Competition Policy Conference (June 20, 2008) (quoting Robert M. Solow, Prize in Economic Sciences in Memory of Alfred Nobel 1987: Growth Theory and After (Dec. 8, 1987), http://nobelprize.org/nobel_prizes/economics/laureates/1987/solow-lecture.html), *available at* http://www.justice.gov/atr/public/speeches/234246.pdf.

[65] J. Thomas Rosch, Commissioner, Fed. Trade Comm'n, Promoting Innovation: Just How "Dynamic" Should Antitrust Law Be?, Remarks Before the USC Gould School of Law 2010 Intellectual Property Institute (Mar. 23, 2010), *available at* http://www.ftc.gov/speeches/rosch/100323uscremarks.pdf (observed how antitrust "has historically focused more on static than dynamic analysis"); *see also* Michael E. Porter, *Competition and Antitrust: A Productivity-Based Approach*, *in* UNIQUE VALUE: COMPETITION BASED ON INNOVATION: CREATING UNIQUE VALUE FOR ANTITRUST, THE ECONOMY, HEALTHCARE, EDUCATION AND BEYOND 154, 157 (Charles D. Weller ed., 2004) ("While 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.").

[66] LUDWIG VON MISES, BUREAUCRACY 86 (Bettina Bien Greaves ed., Liberty Fund 2007) (1944).

satisfactory theory 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) how formal rules and informal social, ethical, or moral norms affect 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.[67] 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."[68] 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' rationality. One can extend the analysis to the rationality of intermediaries (e.g., suppliers, wholesalers, and retailers), and firms as buyers and consumers as

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[67] For the normative and descriptive shortcomings of the third prong of rational choice theory, namely individuals pursue solely their economic self-interest, see Stucke, *supra* note 48, at 907-17.

[68] NORTH, *supra* note 41, at 67.

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. People at any moment can act "more or less rationally depending on a host of situational, emotional, and other contingent influences."[69] Nor is behavior consistent. People can behave differently depending on their gender[70] or situational factors, such as whether they are alone or in groups.[71] 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"[72]) 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 theory 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

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[69] Donald C. Langevoort, *The Behavioral Economics of Mergers and Acquisitions*, 12 TENN. J. BUS. L. 65 (2011), *available at* http://trace.tennessee.edu/transactions/vol12/iss2/4.

[70] *See, e.g.*, Jeff Sommer, *How Men's Overconfidence Hurts Them as Investors*, N.Y. TIMES, Mar. 14, 2010, at BU4.

[71] *See* PHILIP ZIMBARDO, THE LUCIFER EFFECT (2008).

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

transparent prices, highly elastic demand curves, easy entry and exit, and perfectly informed, rational profit-maximizing producers and consumers.[73] In this scenario, price equals marginal cost. Market forces will deliver the efficient level of outputs with the most efficient techniques, using the minimum quantity of inputs.[74]

But perfect competition, critics have long argued, cannot serve as the policymaker's conception of competition.[75] First, as the Chicago School jurist Richard Posner recognized, "No market fits the economist's model of perfect competition."[76] 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.[77] 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."[78]

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[73] *See* BLACK, *supra* note 58, at 348.

[74] *See* PAUL A. SAMUELSON & WILLIAM D. NORDHAUS, ECONOMICS 106-41 (15th ed. 1995).

[75] *See* Blaug, *supra* note 56, at 39; HAYEK, *supra* note 60, at 96; McNulty, *supra* note 21, at 641; Park, *supra* note 21, at 349; *see generally* JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM AND DEMOCRACY (3d ed. 1942).

[76] FTC v. Elders Grain, Inc., 868 F.2d 901, 907 (7th Cir. 1989); *accord* 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 Arthur D. Austin, *Real Estate Boards, and Multiple Listing Systems as Restraints of Trade*, 70 COLUM. L. REV. 1325, 1353 (1970)); ANTITRUST MODERNIZATION COMM'N, REPORT AND RECOMMENDATIONS 2 (2007), *available at* http://govinfo.library.unt.edu/amc/report_recommendation/amc_final_report.pdf ("[T]he real world contains very few such markets.").

[77] Vickers, *supra* note 20, 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."); HAYEK, *supra* note 60, 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."); McNulty, *supra* note 21, at 649.

[78] M.A. Adelman, *Economic and Legal Concepts of Competition*, 41 J. FARM ECON. 1197, 1197 (1959); *see also* Mary Keeney et al., *How do Firms Set Prices? Survey Evidence from Ireland* 3 (May 2010) (Cent. Bank & Fin. Servs., Research Technical Paper No. 7/RT/10), *available at* http://www.centralbank.ie/publications/

Third, the model, which idealizes 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?[79]

In defense of perfect competition, the Chicago School economist George Stigler said that any concept to be useful in scientific analysis must be abstract: "[I]f 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."[80] 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 by 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 consequence[s] of their acts when they are performed, and to perform them in the light of the consequences."[81] But since perfect competition is

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documents/7RT10.pdf (finding that autonomous price setting prevails when a 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 price primarily by following that of their closest competitor). For an excellent recent discussion of this, see Deven R. Desai & Spencer Waller, *Brands, Competition, and the Law*, 2010 BYU L. REV. 1425.

[79] 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." JONATHAN FENBY, THE PENGUIN HISTORY OF MODERN CHINA: THE FALL AND RISE OF A GREAT POWER 1850-2009, at 457 (2009); *see also* RODERICK MACFARQUHAR & MICHAEL SCHOENHALS, MAO'S LAST REVOLUTION 116 (2006).

[80] Stigler, *supra* note 21, at 17.

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

neither descriptive nor normative, it is of little utility in dealing with day-to-day antitrust 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.[82] In this market economy, the Austrian School economist Ludwig von Mises observed that rational consumers, not firms, should be supreme. In their purchasing behavior, consumers ultimately determine "what should be produced and in what quantity and quality."[83] 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.[84] Imperfect information and informational asymmetries, for example, can lead to "lemon" markets where dishonest dealers for goods or services drive out honest dealers,[85] and thereby inhibit innovation.

The trickier aspect, as the next three scenarios address, is the descent to *bounded rational* actors with *imperfect* willpower, who act with *incomplete* knowledge.

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[82] William J. Kolasky & Andrew R. Dick, *The Merger Guidelines and the Integration of Efficiencies into Antitrust Review of Horizontal Mergers*, 71 ANTITRUST L.J. 207, 250 (2003) ("Rational consumers and producers will invest in becoming informed only up until the point where the marginal cost of information equals its marginal value.").

[83] MISES, *supra* note 66, at 17.

[84] *See, e.g.*, Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451, 477-78 (1992); Queen City Pizza, Inc. v. Domino's Pizza, Inc., 124 F.3d 430, 446 n.4 (3d Cir. 1997) (Lay, J., dissenting) ("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.").

[85] *See* 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) (explaining that the cost of dishonesty includes "loss incurred from driving legitimate business out of existence").

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.[86] As Stigler observed, a "perfect market may also exist under monopoly."[87] 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."[88]

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, and the less need for governmental regulation.[89] Generally, rational market participants acting with the optimal amount of information in markets with no negative externalities, do not need much governmental protection.[90] Transactions are presumably mutually beneficial: market participants contract to further their interests. The government perhaps can facilitate competition by reducing the market participants' transaction costs (such as providing a model contract and well-functioning judiciary system) or by lowering the participants' search and information costs (such as

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[86] *See* 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).

[87] Stigler, *supra* note 21, at 14.

[88] Harlan M. Blake & William K. Jones, *In Defense of Antitrust*, 65 COLUM. L. REV. 377, 378 (1965).

[89] *See* 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*, 6 COMPETITION POL'Y INT'L 65, 68 (2010).

[90] *See* JOHNSON & KWAK, *supra* note 7, at 69.

combating fraud).[91] But the stronger the rationality presumption, the more likely the government, subject to rent-seeking, is perceived to impede efficiency.[92]

Even in Scenario I, it does not follow that the government does little. First, the government must address the commonly identified types of market failure under neoclassical economic theory, such as: (i) the sustained exercise of market power;[93] (ii) externalities;[94] (iii) public goods;[95] and (iv) significant informational asymmetries or uncertainty.[96] 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 that enlightened self-interest always operates in the public interest."[97] 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

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

[92] *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) ("[T]here is no market failure so bad that the U.S. government and political process could not do even worse.").

[93] CASSIDY, *supra* note 86, at 126.

[94] A.C. PIGOU, THE ECONOMICS OF WELFARE 192 (4th ed. 1962); BLACK, *supra* note 58, at 168 (where the "cost or benefit arising from any activity which does not accrue to the person or organization carrying on the activity").

[95] Francis M. Bator, *The Anatomy of Market Failure*, 72 Q.J. ECON. 351, 369 (1958) (whereby the payers for the goods cannot exclude the non-payers from consuming (or benefitting) from the goods (e.g., national defense)).

[96] *Asymmetric Information Definition*, ECONOMIST.COM, http://www.economist.com/economics-a-to-z#node-21529485 (defining asymmetric information as "[w]hen somebody knows more than somebody else"); *see also* François Moreau, *The Role of the State in Evolutionary Economics*, 28 CAMBRIDGE J. ECON. 847, 849 (2004).

[97] JOHN MAYNARD KEYNES, THE END OF LAISSEZ-FAIRE 39 (1927); *see also* STIGLITZ, *supra* note 2, at 273.

pay for."[98] Competition can maximize output of products that eventually wipe out the economy.[99]

Third, the government must address behavior that is individually rational but collectively irrational.[100] 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."[101] Self-interest, for Posner, is a private virtue in that competition drives businesses to profit-maximization, which drives economic progress.[102] 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.[103] 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.[104]

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

Rational firms and consumers often will be worse off when a bounded rational government seeks to regulate their competitive behavior. Market forces invariably would provide a more efficient or timely solution.[105]

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[98] AKERLOF & SHILLER, *supra* note 5, at 26.

[99] *Id.*; *see also* Anthony Faiola et al., *What Went Wrong?*, WASH. POST, Oct. 15, 2008, at A01, *available at* http://www.washingtonpost.com/wp-dyn/content/article/2008/10/14/AR2008101403343.html (noting several Clinton and Bush Administration officials' opposition to regulation of derivatives).

[100] CASSIDY, *supra* note 86, at 139-50, 309.

[101] RICHARD A. POSNER, A FAILURE OF CAPITALISM: THE CRISIS OF '08 AND THE DESCENT INTO DEPRESSION 107 (2009); *see also id.* at 111-12; CASSIDY, *supra* note 86, at 209-17.

[102] POSNER, *supra* note 101, at 107.

[103] *See, e.g.*, CASSIDY, *supra* note 86, at 221-27.

[104] POSNER, *supra* note 101, at 106-07.

[105] HERBERT HOVENKAMP, THE ANTITRUST ENTERPRISE: PRINCIPLE AND EXECUTION 124 (2005) ("[M]arkets generally work well when left alone, [and] intervention is

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.[106] 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 market 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.[107] 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 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."[108]

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 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

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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.").

[106] MISES, *supra* note 66, at 75.

[107] *See* Edward L. Glaeser, *Paternalism & Psychology*, 73 U. CHI. L. REV. 133, 140-41, 144-45 (2006) (modeling how consumers face stronger incentives to correct errors that directly impact their well-being than do government bureaucrats).

[108] MISES, *supra* note 66, at 55.

marketplace.[109] 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

If firms are relatively more rational than consumers, then 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),[110] and display time-inconsistent preferences.[111] When the activity involves immediate costs and delayed benefits (e.g., exercising, studying), consumers procrastinate.[112] When the activity involves immediate benefits

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[109] *See* U.S. DEP'T OF JUSTICE, ANTITRUST DIV., ANTITRUST DIVISION POLICY GUIDE TO MERGER REMEDIES 7 (Oct. 2004), *available at* http://www.justice.gov/atr/public/guidelines/205108.pdf (stating that structural remedies in merger cases are preferred as "they are relatively clean and certain, and generally avoid costly government entanglement in the market"); Louis D. Brandeis, Address before the New England Dry Goods Association at Boston (Feb. 11, 1908), *in* THE SOCIAL AND ECONOMIC VIEWS OF MR. JUSTICE BRANDEIS 386, 386 (Alfred Lief ed., 1930) (observing how accepting mergers to monopolies with behavioral safeguards is like "surrendering liberty and substituting despotism with safeguards").

[110] *See* Ned Welch, *A Marketer's Guide to Behavioral Economics*, MCKINSEY Q., Feb. 2010, *available at* http://www.mckinseyquarterly.com/A_marketers_guide_to_behavioral_economics_2536.

[111] *See* Samuel M. McClure et al., *Separate Neural Systems Value Immediate & Delayed Monetary Rewards*, SCI., Oct. 15, 2004, at 504 (noting how if someone offered $10 today versus $11 tomorrow, a 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).

[112] *See generally* Ted O'Donoghue & Matthew Rabin, *Doing it Now or Later*, 89 AM. ECON. REV. 103 (1999) (discussing welfare implications of a 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).

and delayed costs, consumers find it harder to delay gratification.[113]

Behavioral economics, commented one of its pioneers, uses scientific methods to explore human behavior already known to "advertisers and used-car salesmen."[114] Rational firms manipulate consumption decisions by:

> (i) using framing effects and changing the reference point, such that the price change is viewed as a discount, rather than a surcharge;[115]
>
> (ii) anchoring consumers to an artificially high suggested retail price, from which bounded rational consumers negotiate;[116]
>
> (iii) adding decoy options (such as a restaurant's adding a higher priced wine) to steer consumers to higher margin goods and services;[117]

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[113] *Id.* at 109-10 (using example of seeing a mediocre film this weekend rather than waiting to see a better film released several weeks later).

[114] 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).

[115] 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.

[116] In one experiment, MBA students put down the last two 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).

[117] 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

(iv) 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;[118]

(v) using the availability heuristic[119] 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";[120]

(vi) 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);[121]

(vii) giving the impression that their goods and services are of better quality because they are higher priced;[122] and

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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 subscriptions for $59 (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.

[118] Lauren E. Willis, *Decisionmaking and the Limits of Disclosure: The Problem of Predatory Lending: Price*, 65 MD. L. REV. 707, 792 (2006).

[119] Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, SCI., 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").

[120] *See generally* Eric J. Johnson et al., *Framing, Probability Distortions, and Insurance Decisions*, 7 J. RISK & UNCERTAINTY 35 (1993).

[121] *See* BELSKY & GILOVICH, *supra* note 114, at 225.

[122] Ariely, for example, conducted several experiments that revealed the power of higher prices. ARIELY, *supra* note 116, 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 $0.10 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 as possible within thirty minutes. Students who paid regular price for the drink got on average nine correct responses, versus

(viii) seeking to avoid price competition through branding.[123]

Credit card issuers, 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 incur greater debt (and maximize fees for the banks).[124] Second, credit card issuers can compete in helping consumers achieve their long-term interests by providing them with commitment devices. Every day, for example, people have part of their salaries automatically deducted into separate investment accounts, hire personal trainers to ensure they exercise, or set their clocks slightly fast. Banks accordingly can help consumers increase personal savings by offering them credit cards designed toward that end. Consumers in their dispassionate state, for example, can elect to

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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:

> [I]f 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.

News Release, Stanford Univ. News Serv., Price Tag Can Change the Way People Experience Win, Study Shows (Jan. 15, 2008), *available at* 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, at A1 *available at* http://www.nytimes.com/2006/12/12/education/12tuition.html?pagewanted=print (discussing how Ursinus College, believing it was losing applicants because of its low tuition, raised its tuition and fees 17.6% in 2000 (but offered more financial aid) and received nearly 200 more applications the following year).

[123] 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 eight out of ten American households using the brand. *About Clorox*, CLOROX, http://www.clorox.com/about-us/ (last visited Nov. 1, 2011).

[124] Oren Bar-Gill & Elizabeth Warren, *Making Credit Safer*, 157 U. PA. L. REV. 1, 56 (2008) ("[D]ata on credit choice and use show that consumer mistakes cost hundreds of dollars a year per consumer.").

cap subsequent credit card purchases for certain categories of goods or services (e.g., limiting spending on Starbucks coffee to $5 per week).[125]

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). Predictions markets can be construed as a form of behavioral exploitation. These predictions markets typically have a defined event (e.g., the winner of the U.S. presidential elections) and an end date when all bets are settled. Each market participant possesses partial knowledge. Moreover, some participants may be overly optimistic about the predicted outcome. Rational investors can exploit this irrationality, and the prediction market as a result can yield remarkably accurate predictions.[126]

Under Scenario II, firms may not always exploit consumers. Firms may be unable to *identify* those consumers whose biases, heuristics, and willpower make them more vulnerable. Identifying instances where bounded rationality can be exploited can be a business unto itself.[127] 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.

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

[125] *See* Ron Lieber, *Your Card Has Been Declined, Just as You Wanted*, N.Y. TIMES, Aug. 13, 2010, at B1, *available at* http://www.nytimes.com/2010/08/14/your-money/credit-and-debit-cards/14money.html?src=me&ref=business.

[126] *See* Colin F. Camerer & Ernst Fehr, *When Does "Economic Man" Dominate Social Behavior?*, SCI., Jan. 6, 2006, at 47, 52; *see also* HAYEK, *supra* note 60, at 91.

[127] Bar-Gill & Warren, *supra* note 124, 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. 21, 2008, at B1, *available at* http://www.nytimes.com/2008/10/22/business/22target.html?_r=1.

price declines.[128] But rational traders often do not know when the speculative 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 make more money by creating products that encourage, rather than deter, speculation.[130]

Alternatively, consumers, recognizing their bounded rationality, can turn to rational advisors or consumer advocates (such as *Consumers Reports*). Moreover the window for exploitation can be short-lived. Consumers can make better decisions as they gain experience, receive feedback quickly on their earlier errors, and discover some of the biases and heuristics in their earlier decisions.[131]

Scenario II competition presents other forms of market failure. One is systemic behavioral exploitation.[132] In competitive markets, one expects 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 will not

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[128] *See* The Motley Fool, *The Fool FAQ: Shorting Stocks*, FOOL.COM, http://www.fool.com/FoolFAQ/FoolFAQ0033.htm (last visited Nov. 1, 2011) ("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.").

[129] Andrei Shleifer & Robert W. Vishny, *The Limits of Arbitrage*, 52 J. FIN. 35 (2007); *see also* James Mackintosh, *Decoding the Psychology of Trading*, FIN. TIMES, July 16, 2010, at 15 (discussing how hedge funds seek to exploit investors' bounded rationality by monitoring investor sentiments in the press), *available at* http://www.ft.com/intl/cms/s/0/7332e44a-9109-11df-b297-00144feab49a.html#axzz1cqv XVO8i; CASSIDY, *supra* note 86, at 177-81.

[130] ANDREI SHLEIFER, INEFFICIENT MARKETS: AN INTRODUCTION TO BEHAVIORAL FINANCE 172 (2002) (citing several examples, including future contracts on tulips during the Tulipmania of the 1630s); CASSIDY, *supra* note 86, at 182-84.

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

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

exploit you.[133] But too frequently, rather than compete to build consumers' trust in their business, competitors engage in similar exploitation.[134]

Rational firms can compete in finding cleverer ways to attract and exploit bounded rational consumers. The U.K.'s Office of Fair Trading recently experimented with 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 (e.g., 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

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[133] *See* 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))).

[134] *See, e.g.*, Eastman Kodak Co. v. Image Technical 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., Inc., 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, 179 (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 (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 132. 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 shelves." He foresaw bad commercials driving out the good ones, rendering television advertising relatively ineffective. Robert L. Steiner, *Double Standards in the Regulation of Toy Advertising*, 56 U. CIN. L. REV. 1259, 1264 (1988).

available for a short period.[135] The OFT experiment found how firms can manipulate consumer consumption behavior and leave them worse off, especially under drip pricing and time-limited offers. Not surprisingly one sees exploitive "drip pricing" for airline tickets,[136] car rentals,[137] and prepaid telephone calling cards.[138]

To exploit consumers, rational firms can compete in ways to reduce price transparency and increase the complexity of their products (or product terms).[139] Credit cards are one example. A single credit card account can have multiple APRs for different

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[135] OFFICE OF FAIR TRADING, THE IMPACT OF PRICE FRAMES ON CONSUMER DECISION MAKING 6 (May 2010), *available at* http://www.oft.gov.uk/shared_oft/economic_research/OFT1226.pdf.

[136] The airlines are clever in their surcharges for pieces and weight of luggage, phone reservation fees, meals, beverages, headsets, extra legroom, etc. These extra fees often are not quoted in the initial price displayed to customers but later when consumers are completing their purchase. *See e.g.*, Alex Altman & Kate Pickert, *New Airline Surcharge: A Bag Too Far?*, TIME, May 22, 2008, *available at* http://www.time.com/time/business/article/0,8599,1808804,00.html; Jad Mouawad & Claire Cain Miller, *Search for Low Airfares Gets More Competitive*, N.Y. TIMES, Feb. 10, 2011, at B1, *available at* http://www.nytimes.com/2011/02/11/business/11air.html.

[137] *In re* Dollar Rent-A-Car Sys., Inc., 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, Inc., 116 F.T.C. 245 (1993) (same); *In re* Gen. Rent-A-Car Sys., 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); *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).

[138] Bennett et al., *supra* note 134, at 117.

[139] *See, e.g.*, Xavier Gabaix & David Laibson, *Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets*, 121 Q.J. ECON. 505, 505-08 (2006); 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 124, at 27-28; JOHNSON & KWAK, *supra* note 7, at 81, 108. Visa, MasterCard, and American Express, the DOJ recently alleged, sought to reduce price transparency for their credit card network services. Complaint for Equitable Relief for Violation of Section 1 of the Sherman Act, 15 U.S.C. § 1 at 2-3, United States v. Am. Express Co., No. CV 10-4496, 2010 WL 3836766 (E.D.N.Y 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). Visa and MasterCard subsequently settled with the DOJ.

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.[140] 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.[141]

Rational companies can exploit consumers' optimism bias. One former CEO, for example, explained how his credit card company targeted low-income customers "by offering 'free' credit cards that carried heavy hidden fees."[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] Consumers are overoptimistic on their ability and willpower to pay off the credit card purchases timely. They underestimate the costs of their future borrowings.[144] So, the optimistic consumers choose credit cards with lower annual fees (but higher financing fees and penalties)

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[140] *See* Press Release, Bd. of Governors of the Fed Reserve Sys., Statement by Chairman Ben S. Bernanke (May 2, 2008), *available at* http://www.federalreserve.gov/newsevents/press/bcreg/bernankecredit20080502.htm.

[141] *See* JAMES M. LACKO & JANIS K. PAPPALARDO, *Improving Consumer Mortgage Disclosures: An Empirical Assessment of Current and Prototype Disclosure Forms*, FTC.GOV (June 2007), http://www.ftc.gov/os/2007/06/P025505MortgageDisclosureReport.pdf.

[142] *FRONTLINE: The Card Game*, (Nov. 24, 2009), *available at* http://www.pbs.org/wgbh/pages/frontline/creditcards/view/ (interview with former Providian CEO Shailesh Mehta).

[143] *Id.*

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

over better suited products (e.g., credit cards with higher annual fees but lower interest rates and late payment penalties).[145]

For other competitors, it may make sense to exploit consumer biases rather than incur the costs to debias. 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 willpower 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.

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

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[145] Bar-Gill & Warren, *supra* note 124, at 46.

[146] *Id.* at 8-9, 20-21.

[147] *See, e.g.*, HORIZONTAL MERGER GUIDELINES, *supra* note 61, at § 7.2 (noting how the 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).

[148] *See Revealed Preference Definition*, ECONOMIST.COM, http://www.economist.com/economics-a-to-z/r#node-21529779 (last visited Nov. 1, 2011) ("To model demand it is only necessary to be able to compare an individual's consumption decisions in

biases systematically appear in consumer decision-making, then consumer choices do not necessarily reflect their actual preferences.[149] Bounded rational consumers can predict poorly as to what makes them happy.[150] At times, firms manipulate consumer choices through advertising and promotions.[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 (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]

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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).").

[149] *See* Bruno S. Frey & Alois Stutzer, *What Can Economists Learn from Happiness Research?*, 40 J. ECON. LITERATURE 402, 404-05 (2002); 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."); George Loewenstein & Peter A. Ubel, *Hedonic Adaptation and the Role of Decision and Experience Utility in Public Policy*, 92 J. PUB. ECON. 1795 (2008); Garcés, *supra* note 134, at 148.

[150] *See* Daniel Kahneman & Richard H. Thaler, *Utility Maximization & Experienced Utility*, 20 J. ECON. PERSP. 221 (2006); Daniel Kahneman et al., *Would You Be Happier If You Were Richer? A Focusing Illusion*, SCI., June 30, 2006, at 1908; David A. Schkade & Daniel Kahneman, *Does Living in California Make People Happy?*, 9 PSYCHOL. SCI. 345 (1998).

[151] *See* DEREK BOK, THE POLITICS OF HAPPINESS 76, 115-17, 206 (2010); JOHN KENNETH GALBRAITH, THE AFFLUENT SOCIETY (2d ed. 1998).

[152] Richard H. Thaler, *Mental Accounting Matters*, *in* ADVANCES IN BEHAVIORAL ECONOMICS 75 (Colin F. Camerer et al. eds., 2004).

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. The government devotes greater energies to regulate marketplace behavior and displace the market's function in finding solutions for consumers' problems.[155] The government devises ways to improve consumers' diets and limit the consumption of unhealthy products. Next, the government encourages citizens to use their leisure time more productively, such as exercising and reading, rather than watching television.[156]

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153 MISES, *supra* note 66, at 14.

154 *Id*. at 17.

155 *See* J. Thomas Rosch, Commissioner, Fed. Trade Comm'n, Intel, Apple, Google, Microsoft, and Facebook: Observations on Antitrust and the High-Tech Sector, Address at the ABA Antitrust Section Fall Forum (Nov. 18, 2010), *available at* http://www.ftc.gov/speeches/rosch/101118fallforum.pdf (recognizing "strong argument that having the state call the shots respecting consumer choice not only defeats the outcome that market forces would dictate, but also smacks of the kind of 'central planning' characteristic of a totalitarian state").

156 *See* MISES, *supra* note 66, at 22.

The concern is creeping authoritarianism. To protect its citizens, the government places greater restrictions on the citizens' ability to manage their affairs. A bureaucracy that exists to protect its bounded rational citizens does not have much incentive to improve the citizens' bounded rationality and willpower. The bureaucrats' livelihood, authority, and status depend on citizens remaining sufficiently irrational to justify the bureaucracy's existence.[157] Consumers are encouraged to register their complaints with the government, who intercedes on their behalf. The consumer complaints justify additional regulations to deter behavioral exploitation. Inevitably, 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]

Under this worst-case scenario, economic competition ceases to be a concern. A centrally-planned economy headed by an authoritarian government eventually displaces experimentation by private firms and personal liberty. 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 the other worst-case scenario, namely corporate autocracy. Here the outcome is equally anti-democratic. Economically powerful firms lobby the government to refrain from regulating the marketplace. While economically exploiting bounded rational consumers, firms advocate the virtues of consumer sovereignty under a laissez-faire

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[157] NORTH, *supra* note 41, at 51-52.

[158] F.A. HAYEK, THE ROAD TO SERFDOM 70 (U. Chi. Press 2007) (1944).

[159] One need only look at China's dismal experience under Mao Zedong's authoritarian regime. FENBY, *supra* note 79, at 525 (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.

approach. Under this ideology, markets are presumably efficient (or heading toward greater efficiency). Once economic power and wealth are concentrated, the government and its competition policies are used to preserve the status quo.[160] The dominant firms maintain their power by redefining the goals of competition policy. Antitrust enforcement is directed against any potential countervailing power (such as using the antitrust laws to prosecute unions, which happened early in the Sherman Act's history[161]). Antitrust policy characterizes concentration, even to the brink of monopoly, as beneficial.[162] 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.[163] Once economic and political power is consolidated, monopolies and cartels can become "governmental instrumentalities to achieve political ends."[164] Citizens are denied the right to use the democratic process to protect them; instead

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[160] Industries in pre-war Germany, for example, enlisted the state through compulsory cartel laws to complete their market power. Maurice E. Stucke, *Should the Government Prosecute Monopolies?*, 2009 U. ILL. L. REV. 521-25 (providing examples); John M. Kleeberg, *German Cartels: Myths and Realities* 2 (N.Y.U Working Paper), *available at* http://www.econ.barnard.columbia.edu/~econhist/papers/Kleeberg_German_Cartels.pdf (estimating that 550 to 600 German cartels existed in 1911, about 1,000 in 1922; 1,500 by 1933; and 1,800 by 1938); HAYEK, *supra* note 158, at 93-94; *see also* JOHNSON & KWAK, *supra* note 7, at 6 (discussing financial industry).

[161] The eighth federal antitrust action brought by the United States was against Eugene V. Debs. COMMERCE CLEARING HOUSE, THE FEDERAL ANTITRUST LAWS: WITH SUMMARY OF CASES INSTITUTED BY THE UNITED STATES 1890-1951, at 69 (1952). The United States prosecuted numerous unions and union officials. *Id*. at 459-60 (index of cases against unions); *see also* PAUL E. HADLICK, CRIMINAL PROSECUTIONS UNDER THE SHERMAN ANTI-TRUST ACT 140 (1939) (observing that the first persons to serve jail sentences resulting from Sherman Act violations were Eugene V. Debs and others, stemming from the Pullman strike of 1894).

[162] Verizon Commc'n Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 407 (2004) (praising monopoly profits 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] Darren Bush, *Too Big to Bail: The Role of Antitrust in Distressed Industries*, 77 ANTITRUST L.J. 277, 281-91 (2010).

[164] 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 A1 (quoting President Roosevelt).

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 competitors may use consumer protection as a pretext for their anticompetitive restraints. 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."[165] 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.[166] The Supreme Court rejected the engineers' justification.[167] But the bounded rational government, assuming that bounded rational consumers choose poorly, might accept it. The rational competitors may also enlist the government to enforce their cartel.[168]

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[165] 435 U.S. 679, 692 (1978).

[166] *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").

[167] *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. Ind. Fed'n of Dentists, 476 U.S. 447, 463 (1986) (rejecting defense that in competitive information market consumers will "make unwise and even dangerous choices").

[168] An agency empowered by the government to regulate an industry can be more effective than a private cartel in maintaining a cartel. In *United States v. Kentucky*

Another policy risk arises from the overconfidence bias. Citizens are overconfident in the government's ability to regulate the market for abuses.[169] The bounded rational government is overconfident in its citizens' ability to fend for themselves[170] and the ability of markets to self-correct.

A third policy risk is that the bounded rational government causes greater harm in protecting 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 disaster recurring. The government overregulates the industry, while not addressing other less salient dangers that actually cause greater harm.[171] Even without the government's help, bounded rational consumers

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Real Estate Commission, the defendant served as the sole licensing authority for the state's real estate brokers. Complaint at 12, United States v. Kentucky Real Estate Comm'n, No. 3:05CV188-H (W.D. Ky. Mar. 31, 2005), *available at* http://www.usdoj.gov/atr/cases/f208300/208393.pdf. Four of the five commissioners were, as required by statute, active real estate brokers. The defendant banned brokers from offering homebuyers a cash rebate, such as $1,000, or an inducement, like a free television, if the buyer used that broker. To enforce its anticompetitive rebate ban, the 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.

[169] *See* 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.

[170] For example, the Federal Trade Commission 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 *In re* Int'l 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.

Id. 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." *Id.*

[171] Timur Kuran & Cass R. Sunstein, *Availability Cascades and Risk Regulation*, 51 STAN. L. REV. 683, 747-48 (1999).

can overreact, based on how the issue is framed[172] or to rumors, causing social losses, a concern China's authorities recently raised.[173]

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 has several options, some less paternalistic than others, to deter behavioral exploitation while preserving economic liberty and leaving room for innovation that benefits consumers.

One well-known behavioral remedy is for the government to alter existing, or create new, default rules.[174] One recent issue was that banks were exploiting credit card 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.[175] Overdraft fees are also an issue with debit

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[172] *See* 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.

[173] Hu Meidong & Peng Yining, *Chinese Lacking Scientific Literacy: Knowledge Crucial to Development and Stability*, CHINA DAILY, Nov. 2, 2010, at 4 (expressing concern over a three hundred percent price increase of mung beans since April 2010 after false claim that beans cure cancer).

[174] 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.

[175] Marcy Gordon, *House Passes Credit Card Bill That Helps Consumers*, HUFFINGTON POST (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

cards, where the consumer makes a purchase for an amount greater than the balance in the consumer's bank account. In 2009, consumers paid a record $38.5 billion in overdraft fees, nearly double the amount reported in 2000.[176] Ninety-three percent of the overdraft revenues came from about fourteen percent of U.S. bank accounts, with the larger banks charging the highest fees.[177]

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 and changed the default option.[178] 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.[179]

For rational actors with perfect willpower, the default option should not affect the outcome. But the majority of surveyed participants in the Federal Reserve's testing, along with "consumer advocates, members of Congress, federal and state

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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.

[176] Saskia Scholtes & Francesco Guerrera, *Banks in $38.5bn Windfall from Fees*, FIN. TIMES, Aug. 10, 2009, *available at* http://www.ft.com/intl/cms/s/0/b359ffc0-8545-11de-9a64-00144feabdc0.html#axzz1cqvXVO8i.

[177] 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.

[178] *See* Credit Card Accountability Responsibility and Disclosure Act of 2009, Pub. L. No. 111-24, § 102(a), 123 Stat. 1734, 1738-39 (2009) [hereinafter Credit CARD Act]. 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. *New Overdraft Rules for Debit and ATM Cards*, BD. OF GOVERNORS OF THE FED. RESERVE SYS. (June 22, 2010), http://www.federalreserve.gov/consumerinfo/wyntk_overdraft.htm.

[179] Credit CARD Act § 102(a), *supra* note 178. This provision, like many other provisions of the Act, took effect in February 2010. *See id.* at § 3, 123 Stat. at 1735. One year after the default option changed, "overlimit fees have virtually disappeared in the credit card industry." *CARD Act Factsheet*, CONSUMER FIN. PROT. BUREAU (Feb. 2011), http://www.consumerfinance.gov/credit-cards/credit-card-act/feb2011-factsheet/ [hereinafter CFPB Factsheet].

regulators, and the overwhelming majority of individual consumers who commented" on the proposed regulation urged the Board to set the default as consumers having to opt into the overdraft program rather than having to opt-out (which many banks preferred).[180] Default options have played an important role in diverse settings,[181] including class actions,[182] and will likely be contested in other areas.[183]

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.[184] 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 necessarily to the superiority of Microsoft's browser but status quo

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[180] *See* Electronic Funds Transfers, 12 C.F.R. Part 205 (2009), *available at* http://edocket.access.gpo.gov/2009/E9-27474.htm (Official staff commentary of the Board of Governors of the Federal Reserve System).

[181] *See, e.g.*, Stefano DellaVigna, *Psychology and Economics: Evidence from the Field*, 47 J. ECON. LITERATURE 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 (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 (2000) (car option purchases); THALER & SUNSTEIN, NUDGE, *supra* note 174, at 129-30.

[182] EUROPEAN CONSUMER CONSULTATIVE GRP., OPINION ON PRIVATE DAMAGES ACTIONS 4 (2010), *available at* http://ec.europa.eu/consumers/empowerment/docs/ECCG_opinion_on_actions_for_damages_18112010.pdf (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)).

[183] *See* Julie Brill, Commissioner, Fed. Trade Comm'n, Remarks at the Trans Atlantic Consumer Dialogue 4 (Apr. 27, 2010), *available at* http://www.ftc.gov/speeches/brill/100427tacdspeech.pdf (expressing dissatisfaction 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] Press Release, European Comm'n, Antitrust: Commission Welcomes Microsoft's Roll-Out of Web Browser Choice (Mar. 2, 2010), *available at* http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/216&format=HTML&aged=0&language=EN.

bias.[185] 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.[186]

Third, the government can educate the consumers using framing under prospect theory[187] and the availability heuristic.[188] To increase the salience of credit card finance charges, for example, the Credit CARD Act of 2009 requires a "Minimum Payment Warning."[189] The credit card consumer is told in the

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[185] *See* 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 people preferring current options over other options to a degree that is difficult to justify).

[186] 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% in January 2010 to 39.8% in October 2010. 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.COM (Oct. 10, 2010), http://www.nytimes.com/2010/10/11/technology/11eubrowser.html?ref=business. So, the market share could have declined absent the remedy. On the other hand, absent the remedy, by enabling consumers to easily chose which browser they desire, increases the likelihood that the market share reflects more the consumers' informed choice, rather than the monopolist's. Emanuele Ciriolo, *Behavioural Economics in the European Commission: Past, Present and Future*, OXERA AGENDA, Jan. 2011, at 3, *available at* http://www.oxera.com/main.aspx?id=9324 (noting how twenty-five percent of the consumers who viewed the choice screen chose an alternative browser).

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

[188] 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).").

[189] Credit CARD Act, *supra* note 178, at § 201(a). One year later, the Consumer Financial Protection Bureau reports that "70 percent of cardholders [surveyed] have noticed that monthly statements now contain information about the consequences of making only minimum payments" and "48 percent of consumers recall that their bill now tells them how much to pay each month in order to pay off the balance within three years." CFPB Factsheet, *supra* note 179. "Of the cardholders who have noticed at least one of the changes in their monthly billing statements, 60 percent say that their monthly statements are easier to read and understand than they were a year ago" and "31 percent of cardholders who recall seeing the new information on their statement report that this information has caused them either to increase the payments they make or to reduce their use of credit." *Id.* However, "32 percent of those who carry a

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.[190]

A fourth option to deter behavioral exploitation is to set one option as the default but impose procedural constraints on opting out.[191] 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 twenty-one.[192] 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-one 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.[193]

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.[194] Federal and state laws along with regulations recognize this.[195] From a behavioral economics perspective, the effectiveness of cooling off periods is mixed. On the one hand, consumers, upon reflection, can reconsider a

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balance from month to month say they do not know how much interest they paid on their primary credit card last year." *Id.*

[190] LACKO, *supra* note 141 (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).

[191] Sunstein & Thaler, *Libertarian Paternalism Is Not an Oxymoron*, *supra* note 174, 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.*

[192] Credit CARD Act, *supra* note 178, at § 301.

[193] *Id.*

[194] *See* Samuel M. McClure et al., *Separate Neural Systems Value Immediate & Delayed Monetary Rewards*, SCI., Oct. 13, 2004, at 503-07; ARIELY, *supra* note 116, at 89-126.

[195] *See* Rule Concerning Cooling-Off Period for Sales Made at Homes or at Certain Other Locations, 16 C.F.R. Part 429 (2011); Camerer et al., *supra* note 11, at 1241-44 (collecting federal and state cooling-off statutes); *see also* Truth in Lending (Regulation Z), 12 C.F.R. § 226.15 (2011) (Regulation Z cooling-off period).

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 will not complete that task.[196] For example, a customer's likelihood of redeeming a rebate may be inversely proportional to the rebate period's length.[197] Consumers assume that they eventually will seek the "discount," but ultimately procrastinate.

A sixth option is to impose a behavioral exploitation tax on the rational firm.[198] 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 tax seeks to prevent the firms from unjustly 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 help consumers debias themselves and improve their willpower. Here, the aim is to make consumers less susceptible to behavioral exploitation.[199] 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 bias[200])); (ii) the demand

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[196] *See, e.g.*, Dan Ariely & Klaus Wertenbroch, *Procrastination, Deadlines, and Performance: Self-Control by Precommitment*, 13 PSYCHOL. SCI. 219, 219-24 (2002); Amos Tversky & Eldar Shafir, *Choice Under Conflict: The Dynamics of Deferred Decisions*, 3 PSYCHOL. SCI. 358 (1992).

[197] 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*, ATLANTIC (May 2009), http://www.theatlantic.com/magazine/archive/2009/05/the-gift-card-economy/7372/ (noting the longer the expiration period, the less likely one will redeem gift card).

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

[199] 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").

[200] Financial literacy efforts have had mixed results. One study of Harvard undergraduate students and MBA students from Wharton, for example, found a "low

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 to make consumers become aware of their errors and the costs of their poor choices, and strategies to avoid errors (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), and an easy method to opt-in). The government can also provide consumers, if the market has not, commitment devices.

An eighth option is to increase the firms' search costs of identifying potential victims. One resounding success of the Federal Trade Commission is enabling consumers to easily opt-out of all unwanted telephone solicitations.[201] The government, through a similar common listing service, can enable consumers to opt-out of home or mail solicitations (including credit card offerings) or 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."[202] 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-

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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* 25 (Yale ICF Working Paper No. 08-14, Mar. 6, 2008), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstractid=1125023.

[201] *See, e.g.*, Telemarketing Rules, 15 U.S.C. § 6102 (2006); National Do-Not-Call Registry, 16 C.F.R. § 310.4(b)(1)(iii)(B) (2011). As of 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).

[202] Glaeser, *supra* note 107, at 156.

"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 cannot citizens seek from 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 from an unresponsive market.

Accordingly, under any conception of competition with bounded rational consumers, one cannot view antitrust and consumer protection as unrelated. Under Scenario II, both consumer protection and antitrust law promote the opportunity for informed consumer choices. Ideally, informed consumers choose among the innovating firms' solutions for their problems.[203] Given the importance of individual autonomy in overall well-being, the government must carefully delineate between behavioral exploitation and behavioral freedom, where firms help consumers address their bounded rationality and willpower. After all, it would be counterproductive if antitrust policy promotes diversity of products and services and the process of search and experimentation, while consumer protection law bans all products except the one the government believes is the best. Ideally, antitrust and consumer protection laws deter market failure (e.g., systemic behavioral exploitation) and ensure that consumers, once informed, can choose among products and services.

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

C. Scenario III: Bounded Rational Firms and Rational Consumers

Here consumers are relatively more rational than firms in the industry.[204] Excessive optimism can have procompetitive benefits, such as the firms' willingness to innovate and enter new markets.[205] But excessive optimism can harm 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 U.S. car manufacturers[206]) lose sight of their customers' needs or are in denial.[207]

This Scenario helps explain why some corporate executives, with much to lose, risk criminal liability by fixing prices with their

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[204] 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 No. 09-3 July 2009), *available at* http://www.justice.gov/atr/public/eag/248394.pdf (noting this disconnect as to pricing decisions). 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 that 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.

[205] *See* Don A. Moore et al., *What Competition? Myopic Self-Focus in Market-Entry Decisions*, 18 ORG. SCI. 440, 441-42 (2007); Langevoort, *supra* note 69, at 11.

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

[207] *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., Mar. 2010, *available at* http://www.mckinseyquarterly.com/Strategic_decisions_When_can_you_trust_your_gut_2557.

competitors;[208] are likely to advocate a merger;[209] are overconfident about a merger's likely efficiencies;[210] overvalue the purchased assets;[211] are overly confident or pessimistic about their chances of entering particular markets;[212] and consistent with the sunk cost fallacy, throw good money after bad in corporate projects.[213]

Professor Waller recently examined evidence from corporate finance that suggests entire categories of mergers are more likely to destroy, rather than enhance, shareholder value.[214] Among the

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[208] 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., 2011).

[209] Ulrike Malmendier, *A "New" Paradigm in Corporate Finance: The Role of Managers and Managerial Biases*, 4 NBER REPORTER 13, 15-16 (2010), *available at* http://www.nber.org/reporter/2010number4/ulrike.html (discussing correlation between overconfidence and acquisitions by cash-rich firms not dependent on external financing).

[210] *See, e.g.*, ROBERT F. BRUNER, DEALS FROM HELL: M&A LESSONS THAT RISE ABOVE THE ASHES (2005) (summarizing major failed mergers); 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).

[211] Mathew L.A. Hayward & Donald C. Hambrick, *Explaining the Premiums Paid for Large Acquisitions: Evidence of CEO Hubris*, 42 ADMIN. SCI. Q. 103, 122 (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* RICHARD H. THALER, WINNER'S CURSE: PARADOXES AND ANOMALIES OF ECONOMIC LIFE 50-62 (1992) (discussing experimental and field evidence); Mauricio R. Delgado et al., *Understanding Overbidding Using the Neural Circuitry of Reward to Design Economic Auctions*, SCI., Sept. 26, 2008, at 1849; Mackintosh, *supra* note 129, at 15 (discussing a 2010 auction of a $20 bill for $61).

[212] Amanda P. Reeves & Maurice E. Stucke, *Behavioral Antitrust*, 86 IND. L.J. 1527, 1559 (2011) (discussing increasing interest in behavioral economics and its applications to competition law); Maurice E. Stucke, *Behavioral Economists at the Gate: Antitrust in the Twenty-First Century*, 38 LOY. U. CHI. L.J. 513 (2007).

[213] Malcolm Baker et al., *Behavioral Corporate Finance: A Survey*, *in* HANDBOOK OF CORPORATE FINANCE: EMPIRICAL CORPORATE FINANCE 172 (B. Espen Eckbo ed., 2007); Hal R. Arkes & Catherine Blumer, *The Psychology of Sunk Cost*, 35 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 124, 124-40 (1985).

[214] Spencer Weber Waller, *Corporate Governance and Competition Policy*, 18 GEO. MASON L. REV. 833 (2011); Pittman, *supra* note 204, at 215-19 (discussing empirical

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."[215] 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).[216]

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 firms, unlike their rational profit-maximizing counterparts, are overoptimistic concerning 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 either improves its decision-making 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.[217] Thus,

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literature that stockholders of acquiring firms do not benefit or do not benefit much from mergers).

[215] Waller, *supra* note 214, at 878.

[216] 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 69, at 73-77; Mark Armstrong & Steffen Huck, *Behavioral Economics as Applied to Firms: A Primer*, 6 COMPETITION POL'Y INT'L 2 (2010); and Christoph Engel, *The Behaviour of Corporate Actors: A Survey of the Empirical Literature* 7-8 (Max Planck Inst. for Res. on Collective Goods, Preprint No. 2008/23, Feb. 2010), *available at* http://ssrn.com/abstract=1135184.

[217] *See, e.g.*, Avishalom Tor & William J. Rinner, *Behavioral Antitrust: A New Approach to the Rule of Reason after Leegin*, 2011 U. ILL. L. REV. 805, 839 (2011) (noting how some bounded rational manufacturers will overuse resale price maintenance, and as the historical evidence and behavioral research reveal, "the

one cannot assume that corporate behavior is 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 cannot.[218] The government is not always more rational than its firms or citizens. 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."[219]

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 bounded rational firms with state-owned enterprises or regulate the firms with the goal "to organize the whole national economy like the postal system."[220] The government could become less rational, and the resulting risks (including authoritarianism) and societal welfare loss from government's central planning may far exceed the losses from the firms' bounded irrationality.

Instead of central planning, a rational government should return to first principles. It should inquire why consumers did not

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efficacy of repeated decisions, organizations, and market pressure in correcting manufacturer bias is limited").

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

[219] 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* 4 EARL W. KINTNER, THE LEGISLATIVE HISTORY OF THE FEDERAL ANTITRUST LAWS AND RELATED STATUTES 3408 (1978).

[220] MISES, *supra* note 66, at xvi (quoting LENIN, STATE AND REVOLUTION 44, 83-84 (Int'l Publishers 1932) (1917)).

(or could not) punish the bounded rational firm. When consumers are sovereign, private firms have a strong incentive to debias in order to gain a competitive advantage and avoid consumer punishment.[221] 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).[222] Under Scenario III, in contrast, it makes sense at times to expose bounded rational firms to market demands.[223] The government should identify and eliminate protective barriers (e.g., high import tariffs) or subsidies that reduce the firms' incentives to debias.[224]

One incentive to debias is the prospect of failure and market exit.[225] 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 fail, the government's implicit guarantee forecloses the possibility of market exit.[226] The government guarantee itself has value, which

[221] Langevoort, *supra* note 69, at 66-67.

[222] Baker et al., *supra* note 213, at 148.

[223] *Id.*

[224] Another possibility is that the managerial decisions are infrequent and do not provide clear feedback to managers, shareholders, and consumers. Camerer & Malmendier, *supra* note 216, at 258.

[225] 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 86, at 291.

[226] JOHNSON & KWAK, *supra* note 7, at 204.

can reduce the firm's borrowing costs.[227] The too-big-and-integral-to-fail firms thus enjoy a competitive advantage over smaller rivals, which are allowed to fail.[228] Smaller firms cannot undertake such risk and cannot profit accordingly when the bets pay off. Without a government guarantee, the smaller firms incur higher costs to borrow money. Indeed, one criticism is that after the crisis, U.S. financial institutions increased their market power by acquiring competitors (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.[229] So, smaller banks have a greater incentive to merge where they too become too-big-and-integral-to-fail.

Consequently, overconfidence, especially for firms less dependent on lending intermediaries, can motivate merger activity, under Scenario III. Accordingly, rational competition officials would display: (i) greater skepticism over the likely efficiencies of otherwise problematic mergers;[230] (ii) greater concern over the systemic risks posed by the mergers; and (iii) greater concern, than they have in recent decades, over the likelihood and magnitude of false negatives rather than false positives in merger review.

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[227] *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).

[228] STIGLITZ, *supra* note 2, at 166; *see also* Mervyn King, Governor, Bank of Eng., Speech to the Scottish Business Organizations (Oct. 20, 2009), *available at* http://www.bankofengland.co.uk/publications/speeches/2009/speech406.pdf ("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.").

[229] 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).

[230] Waller, *supra* note 214, at 873-74 (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").

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 assumptions. In presuming that firms are as rational as consumers, the government's theory of competition resembles Scenario I, when empirically it resembles Scenarios III or IV. The government's mergers policies accordingly are too lenient while its 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. Horizontal Merger Guidelines assume that market participants behave as rational profit-maximizers.[231] Accordingly, sustained market power is not theoretically feasible where entry barriers are low.[232] Antitrust policy assumes that: (i) supra-competitive prices will attract rational profit-maximizing firms into markets characterized with low entry barriers; (ii) the new entrants will replenish the lost output; and (iii) as a result, prices will return closer to marginal cost. Operating under the false impression that market participants, pursuing their economic interests, 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.[233]

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.[234] Nor does a bounded rational government inquire why price-fixing occurs in

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[231] HORIZONTAL MERGER GUIDELINES, *supra* note 61, at § 1.0.

[232] *Id*. at § 9.0; Ball Mem'l Hosp., Inc. v. Mut. Hosp. Ins., Inc., 784 F.2d 1325, 1335 (7th Cir. 1986) (noting that "the lower the barriers to entry, and the shorter the lags of new entry, the less power existing firms have").

[233] Kara Scannell & Sudeep Reddy, *Greenspan Admits Errors to Hostile House Panel*, WALL ST. J., Oct. 24, 2008, at A1, *available at* http://online.wsj.com/article/SB122476545437862295.html.

[234] Reeves & Stucke, *supra* note 212, at 1554-56.

markets with low entry barriers.[235] 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).[236]

While too lenient in merger review, the bounded rational government, relying on optimal deterrence theory, 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, optimal deterrence 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.[237] 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 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 fix prices, not because the antitrust fines are too low, but due to situational (e.g., industry norms) and dispositional (e.g., executives' overconfidence in escaping detection) factors. The

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[235] *Id.*

[236] This ex post justification is a difference in perception—what seems like easy markets to profitably enter (such as 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 distinguish high and low entry barriers? 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.

[237] 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).

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,[238] the government instead continues to increase the penalties, 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.[239]

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.[240] Bounded rational consumers have changing and, at times,

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[238] *See* EUROPEAN COMM'N, DG COMPETITION STAKEHOLDER STUDY: AGGREGATE REPORT 8 (July 2010), *available at* http://ec.europa.eu/competition/publications/reports/aggregate_report_en.pdf (Conducted by TNS Qual+ at the request of European Commission Directorate General for Competition, 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."); Int'l Competition Network Working Grp. on Cartels, *Defining Hard Core Cartel Conduct: Effective Institutions, Effective Penalties*, *in* BUILDING BLOCKS FOR EFFECTIVE ANTI-CARTEL REGIMES (2005), *available at* http://www.internationalcompetitionnetwork.org/uploads/library/doc346.pdf (noting additional ways of achieving deterrence, including press coverage).

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

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

inconsistent preferences.[241] For example, they demand more choices than they actually prefer.[242] Bounded rational firms comply, leading to suboptimal results for consumers[243] and firms.[244]

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[241] *See, e.g.*, Richard Layard, *Happiness & Public Policy: A Challenge to the Profession*, 116 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"); Steven C. Michael & Tracy Pun Palandjian, *Organizational Learning and New Product Introductions*, 21 J. PROD. INNOVATION MGMT. 268, 270 (2004) (discussing shampoo industry dynamism where consumers with changing tastes seek variety).

[242] 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, performance, and other attributes. But under Scenario IV, more options do not always increase welfare. Under Scenario IV, bounded rational consumers may demand additional options and seek to preserve existing options. In one computer experiment conducted by Professor Ariely, participants tried to keep options open even when counter-productive. 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 $0.01 and $0.10). 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 Two, the Disappearing Door Game, was the same as the Door Game except each time a door was left unvisited for twelve clicks, it disappeared forever. To keep options open, participants in Experiment Two ended up making substantially less money (about fifteen percent less) than participants in Experiment One. Participants would have made more money by sticking to one door. A similar result occurred when participants were told the exact monetary outcome they could expect from each room. ARIELY, *supra* note 116, at 142-48.

[243] 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. PUB. 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.

[244] 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 (sixty percent versus forty percent when booth displayed six jam flavors). But a lower percentage actually purchased a jar of jam (three percent versus thirty percent of customers when booth had only six flavors).

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."[245] Rather than an end-state capable of 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."[246] 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."[247]

Scenario IV involves several important competitive dimensions beyond price. First, bounded rational firms compete in the ways they debias themselves.[248] Firms (like consumers) can improve (or regress) in their decision-making and willpower.[249] The ways in which companies learn, accomplish tasks, and deal

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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, 995-1006 (2000).

[245] Kerber, *supra* note 203, at 2; *see also* Moreau, *supra* note 96, 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." Bart Verspagen, *The Use of Modeling Tools for Policy in Evolutionary Environments*, 76 TECHNOLOGICAL FORECASTING & SOC. CHANGE 453, 455 (2009), *available at* http://arno.unimaas.nl/show.cgi?fid=17564.

[246] Kerber, *supra* note 203, at 2.

[247] Moreau, *supra* note 96, at 851.

[248] *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).

[249] *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 240, at 491.

with the uncertainty can vary.[250] 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 learn more quickly from their (or other firms') mistakes.[251] Moreover, firms can identify common biases and take preventive measures.[252] Consequently, one important facet of Scenario IV competition is how firms discover and implement routines to gain a cost advantage.

But if firms become too wedded to existing routines, they face the risk of competency traps. As industry conditions change, the firms' existing routines can place them at a competitive disadvantage.[253] Under Scenario IV, "In some sense knowledge depreciates in value over time."[254] Thus, another important dimension of competition is adaptive efficiency,[255] whereby bounded rational firms update routines to reflect consumers' changing preferences.[256] Firms compete by continually learning

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[250] *See* Dan Lovallo & Olivier Sibony, *The Case for Behavioral Strategy*, MCKINSEY Q., Mar. 2010, at 3, *available at* http://www.veruspartners.net/private/app/webroot/files/cabe10.pdf (noting recent survey of 2,207 executives where only twenty-eight percent said the quality of their companies' strategic decisions was generally good, sixty percent thought that bad decisions were about as frequent as good ones, and twelve percent thought good decisions were altogether infrequent).

[251] *See* John A. List, *Does Market Experience Eliminate Market Anomalies?*, 118 Q.J. ECON. 41 (2003); John A. List, *Neoclassical Theory Versus Prospect Theory: Evidence from the Marketplace*, 72 ECONOMETRICA 615, 615 (2004). 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.

[252] Camerer & Malmendier, *supra* note 216, at 269 (noting some of the literature, investment firms combat loss aversion by having traders switch positions with one another).

[253] 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 241, at 270 (discussing literature on competency traps).

[254] NORTH, *supra* note 41, at 323 (discussing uncertainty in a non-ergodic world (e.g., Scenario IV)).

[255] *Id*. at 70.

[256] Michael & Palandjian, *supra* note 241, at 275.

about customer preferences and competitors' experimentation, and experimenting themselves with new technologies, routines, and ways of organizing.

A third important dimension of Scenario IV competition is in providing bounded rational consumers a better mix of solutions for their problems.[257] Through their (or monitoring their competitors') trial-and-error experiments, 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.[258] 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.[259]

A fourth important dimension of Scenario IV competition is the importance of individuality, creativity, and distinctiveness. Under Scenario I competition, rational individuals are undifferentiated in motivation. When given the opportunity, they seek to promote their economic self-interest. Labor is a commodity, an instrument for providing goods and services, and can be downsized, outsourced, or automated.[260] 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 work, and the more engaged and motivated we will be in our work.[261] Scenario IV's theory of competition

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[257] *See* MISES, *supra* note 66, at 24 ("[C]ompetition 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 consumers' goods."); Kerber, *supra* note 203, at 4.

[258] Kerber, *supra* note 203, at 5.

[259] *See* Illinois *ex rel.* Burris v. Panhandle E. 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 78; Steiner, *supra* note 38, at 84-85 (discussing price premium for strong reputation brands).

[260] 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).

[261] DAN ARIELY, THE UPSIDE OF IRRATIONALITY: 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

helps explain why firms devote significant resources in identifying and attracting talented workers. It re-introduces moral beliefs of why we work.[262] 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 developing a unique identity, firms can promote (or hinder) social, ethical, and moral values that affect employee behavior;[263] these values in turn can lower the firm's monitoring costs and increase its competitiveness.[264]

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.[265] The stronger the presumption of rationality, the more likely the market will be efficient, and the less the governmental concern over the sustained exercise of market power in markets characterized with low to moderate entry barriers. Consumers can often defeat the exercise of market power by switching to lower-cost substitutes offered by other entrants. But as Scenario III discusses with bounded rational firms, entry does not always occur when rational choice theory predicts it should.[266] Cartels can be more durable when price-fixers, like the subjects in other behavioral

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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)").

[262] 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.").

[263] 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 than perceived).

[264] 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").

[265] *See* Stucke, *Behavioral Economists*, *supra* note 212, at 546-75.

[266] *See* Reeves & Stucke, *Behavioral Antitrust*, *supra* note 212.

experiments, are more trustful and cooperative than rational choice theory predicts.[267]

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.[268] But the financial crisis, Professor Stiglitz wrote, showed how the subprime mortgage industry worsened, rather than solved, borrowers' problems.[269] The subprime mortgages increased costs and risks for consumers while providing mortgage brokers and lenders greater fees. These products, however, increased risk to the institutions that acquired the ensuing credit default swaps and collateralized debt obligations.[270] Among the losers in the financial crisis were supposedly sophisticated investors who failed to appreciate these assets' risks.[271] Moreover, these financial innovations made speculation easier.[272]

A third risk arises from herding. Herding can be beneficial, as a consumer's utility from a product increases when others use the product.[273] But herding can pressure consumers to forego the superior technology for the perceived popular one.[274] 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.[275] Each consumer prefers the superior technology. But believing that

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[267] *See* Stucke, *Am I a Price-Fixer*, *supra* note 208; Stucke, *Behavioral Economists*, *supra* note 212.

[268] Kerber, *supra* note 203, at 4.

[269] STIGLITZ, *supra* note 2, at 5, 80.

[270] *See* MICHAEL LEWIS, THE BIG SHORT: INSIDE THE DOOMSDAY MACHINE (2010).

[271] JOHNSON & KWAK, *supra* note 7, at 199; CASSIDY, *supra* note 86, at 272.

[272] *See* 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); CASSIDY, *supra* note 86, at 239, 243-50.

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

[274] CASSIDY, *supra* note 86, at 130-31.

[275] S*ee* 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.

others will opt for the subpar technology, the consumer will choose the subpar technology and contribute to the suboptimal outcome.

Herding can cause irrational exuberance (or pessimism) over stocks, real estate, and tulips.[276] As Scenario II discusses, even rational investors can join (and lead) the herd if they can derive greater gains from the speculation. 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-setters[277] or masses[278]). Herding can increase market turmoil. When the speculative bubble bursts, the same group of financial institutions can decide to sell the same group of assets to maintain their target leverage ratio; this mass selling further depresses the assets' selling price, prompting the sale of even more assets to de-leverage.[279]

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.[280] Dominant media firms provide distorted, self-censored, or biased news coverage that deviates from the coverage consumers prefer. One way to reduce supply-driven media bias is to increase the number of independently-owned competitors, thereby: (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)

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[276] *See* JOHN KENNETH GALBRAITH, A SHORT HISTORY OF FINANCIAL EUPHORIA (1993).

[277] *See, e.g.*, THORSTEIN VEBLEN, THE THEORY OF THE LEISURE CLASS 25, 33 (Penguin 1994) (1889) (discussing primary motive to accumulate wealth is pecuniary emulation).

[278] *See* Peter Sheridan Dodds & Duncan J. Watts, *Influentials, Networks, and Public Opinion Formation*, 34 J. CONSUMER RES. 441, 441-58 (2007).

[279] CASSIDY, *supra* note 86, at 309-10.

[280] *See, e.g.*, 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).

driving media firms to invest in providing timely and accurate coverage.[281]

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.[282] Consumers search for, and overvalue, news information that favors their pre-existing cultural outlooks and ideology; they discount, and are reluctant to search for, information that contradicts or challenges their pre-existing cultural outlooks and beliefs.[283] Consumers trade-off the accuracy of a news source for confirmation of their pre-existing beliefs.[284] The marketplace of ideas becomes more fragmented as media outlets increasingly target specific ideological or political beliefs. The greater fragmentation of news coverage deprives "societ[ies] 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 those with whom we agree."[285] 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. Accordingly, 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. [286]

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[281] Matthew Gentzkow & Jesse M. Shapiro, *Competition and Truth in the Market for News*, 22 J. ECON. PERSP. 133, 135-44 (2008).

[282] 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).

[283] *See* Dan M. Kahan & Donald Braman, *Cultural Cognition and Public Policy*, 24 YALE L. & POL'Y REV. 149 (2006).

[284] Gentzkow & Shapiro, *Market for News*, *supra* note 281, at 144-45.

[285] LEE C. BOLLINGER, UNINHIBITED, ROBUST, AND WIDE-OPEN 119 (2010).

[286] *See, e.g.*, Stefano DellaVigna & Ethan Kaplan, *The Political Impact of Media Bias*, *in* FACT FINDER, FACT FILTER: HOW MEDIA REPORTING AFFECTS PUBLIC POLICY (2008), *available at* http://elsa.berkeley.edu/~sdellavi/wp/mediabiaswb07-06-25.pdf; Matthew A. Baum & Tim Groeling, *New Media & the Polarization of American Political Discourse*, 25 POL. COMMC'N 345 (2008); Matthew Gentzkow & Jesse M. Shapiro, *Media, Education and Anti-Americanism in the Muslim World*, 18 J. ECON. PERSP. 117 (2004); Matthew Gentzkow & Jesse M. Shapiro, *What Drives Media Slant? Evidence from U.S. Daily Newspapers*, 78 ECONOMETRICA 35 (2010), *available at*

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 and 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.[287]

One reason why predictions are harder under Scenario IV lies in the unpredictability of the non-price dimensions of competition. Heterogeneous firms can be more or less successful in debiasing, 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.[288] The success of those adjustments and accommodations, in turn, can depend on further changes by private and public institutions.[289]

Our knowledge of future events ranges between ignorance, uncertainty, risk, and certainty. Economic life is an adventure, but not a rollercoaster. 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

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http://faculty.chicagobooth.edu/matthew.gentzkow/research/biasmeas.pdf; Charles S. Taber & Milton Lodge, *Motivated Skepticism in the Evaluation of Political Beliefs*, 50 AM. J. POL. SCI. 755 (2006).

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

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

[289] *See, e.g.*, NORTH, *supra* note 41, at 116-26.

expectations, because nothing in the past can convincingly point to its possibility.[290]

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., two dollar 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) 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);[291] 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."[292] 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.[293] A seemingly minor event that happened yesterday in the market can

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

[291] EINSTEIN NOAH REST. GRP., INC., FORM 10-K ANNUAL REPORT (Feb. 25, 2010), *available at* http://www.faqs.org/sec-filings/100225/EINSTEIN-NOAH-RESTAURANT-GROUP-INC_10-K/.

[292] *Id.*

[293] NORTH, *supra* note 41, at 52; TAWNEY, *supra* note 262, at 28 (observing how revolutions "are apt to take their color from the regime which they overthrow").

have significant long-term consequences.[294] 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."[295] Under an evolutionary economic process, "chance plays a significant role."[296]

One example is Microsoft. In the late 1960s, IBM controlled about seventy percent of the computer market. The Justice Department challenged IBM's practices, particularly its "bundling" hardware and software. During the 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.[297]

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

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[294] Verspagen, *supra* note 245, at 6; *see also* Frank Schweitzer et al., *Economic Networks: The New Challenges*, SCI., July 24, 2009, at 422, 423.

[295] Verspagen, *supra* note 245, at 4.

[296] *Id.* at 6; Schweitzer et al., *supra* note 294, at 423.

[297] 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)).

PC, IBM sold the Microsoft operating system for a much lower price than the CP/M-86 system.[298] One could inquire what would have happened if the Justice Department 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 scale-free networks.[299] 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 that it will be linked to a vertex that already has a large number of connections."[300] 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 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 professor Eitel decides to collaborate, Amelia and Clara have a slight advantage over Beatrice. Thus, Amelia and Clara can grow in the number of links, as Beatrice lags behind. As Professor Barabási observed with scale-free networks, the rich get richer.[301] The highly connected nodes (law professors Amelia and Clara in our example) acquire more links than the less connected nodes (e.g., Professor

[298] *See* ERIC D. BEINHOCKER, THE ORIGIN OF WEALTH 326-27 (2006); *The Rest of the Story*, THE SCOBLE SHOW (Aug. 8, 2007), http://scobleizer.com/2007/08/08/the-rest-of-the-story-behind-microsofts-os-deal-with-ibm/.

[299] Albert-László Barabási & Réka Albert, *Emergence of Scaling in Random Networks*, SCI., Oct. 15, 2009, at 509.

[300] *Id.* at 511.

[301] *See* Albert-László Barabási, *Scale-Free Networks: A Decade and Beyond*, SCI., July 24, 2009, at 412 fig. 1.

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 examines the network only half-way through its formation, 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. Each professor has an equal chance of attracting the next link.

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

One risk, as in Scenarios II and III, is the bounded rational government's confirmation bias. The government officials will seek information that confirms (rather than disconfirms) their theory of competition (such as the market participants' rationality and willpower) and discounts or ignores information that challenges their beliefs.[302] Indeed, regulatory capture is most effective when the regulators' "share the worldview and the preferences of the industry they supervise."[303] This was the case with deregulation of the financial services industry, which began during the Reagan Administration,[304] and accelerated under the Clinton[305] and Bush[306] Administrations. One underlying force to this deregulatory movement was the flawed laissez-faire belief that

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[302] CASSIDY, *supra* note 86, at 268-69 (recounting Federal Reserve's belief that advances in technology have enabled the financial services industry to better manage the hazards of their business).

[303] JOHNSON & KWAK, *supra* note 7, at 93.

[304] *Id.* at 70-74.

[305] *Id.* at 84, 89, 98-100, 136-44.

[306] *Id.* at 105; PAUL KRUGMAN, THE RETURN OF DEPRESSION ECONOMICS AND THE CRISIS OF 2008, 162-64 (2009) (criticizing the Bush Administration's laissez-faire attitudes); POSNER, *supra* note 101, at 113, 134-35, 235 (same).

markets were composed of sophisticated investors, and the markets accordingly self-correct.[307]

A second policy risk arises when the bounded rational government is overconfident in its ability to assess the economic effects of certain restraints and predict the likely competitive effects of mergers.[308] Here competition officials do not recognize that their knowledge depreciates in value over time. They remain wedded to theories whose premises are no longer valid. They assume that their economic models still capture the key variables and that the market dynamics remain largely unchanged since they last investigated the industry. They assume that they can accurately predict the future from past experiences (as reflected in the data).[309] They do not assess their models' predictive quality.

Antitrust's economic models mostly seek to reduce uncertainty and simplify. The predicative quality depends in part on the validity of the models' assumptions. Over the past two decades, the available market data have increased. Antitrust enforcers harnessed market data to conduct merger simulations.[310] Generally, the narrower the product category and

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[307] *See, e.g.*, JUSTIN FOX, THE MYTH OF THE RATIONAL MARKET: A HISTORY OF RISK, REWARD, AND DELUSION ON WALL STREET (2009); PRESIDENT'S WORKING GRP. ON FIN. MKTS., OVER-THE-COUNTER DERIVATIVES MARKETS AND THE COMMODITY EXCHANGE ACT (Nov. 1999), *available at* http://www.treasury.gov/resource-center/fin-mkts/Documents/otcact.pdf; 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. INT., Nov.-Dec. 2009, at 36, 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 36, 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.

[308] *See, e.g.*, CASSIDY, *supra* note 86, at 275-76 (discussing illusion of predictability).

[309] NORTH, *supra* note 41, at 19.

[310] *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, Apr. 2002), *available at* http://www.ftc.gov/be/workpapers/wp246.pdf (discussing use of scanner data for demand estimation); David Scheffman, *Best Practices for Data, and Economics and Financial Analyses in Antitrust Investigations* (Apr. 2002) (unpublished manuscript), *available at* http://www.ftc.gov/be/ftcbebp.pdf (providing guidelines on economic analysis for meeting with FTC Bureau of Economics); David Scheffman & Mary Coleman, *FTC Perspectives on the Use of Econometric Analyses in Antitrust Cases* 9 (undated) (draft document), *available at* http://www.ftc.gov/be/ftcperspectivesoneconometrics.pdf (discussing the use of scanner data for demand

geographic area studied, the shorter the time horizon, and the less likely that contingencies and random factors will play a material role in making outcomes indeterminate.[311] But as one recent survey observed, several limitations exist with the current economic models.[312] Data may be unavailable or limited in some industries, the models' assumptions are invalid, or the models' neglect non-quantifiable and long-run competitive effects, including the merger's impact on innovation.[313] Although merger simulations can inform antitrust analysis, the U.S. antitrust agencies wisely "do not treat merger simulation evidence as conclusive in itself."[314] 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.[315]

A third risk under Scenario IV arises when the bounded rational government ignores non-quantifiable and long-run competitive effects, such as systemic risk. The government discounts or ignores evidence that its economic theory cannot

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estimation and other relevant economic analyses); *see also* FED. TRADE COMM'N & U.S. DEP'T OF JUSTICE, COMMENTARY ON THE HORIZONTAL MERGER GUIDELINES 6, 8, 9, 14 (Mar. 2006), *available at* http://www.usdoj.gov/atr/public/guidelines/215247.pdf (describing use of scan data to estimate demand elasticities for branded consumer products).

[311] NORTH, *supra* note 41, 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.

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

[313] *Id.*

[314] HORIZONTAL MERGER GUIDELINES, *supra* note 61, at 21.

[315] Kathrin Hille, *Foxconn to Shift Some of Apple Assembly*, FIN. TIMES, June 29, 2010, at 1, *available at* http://www.ft.com/cms/s/2/2429f498-82fd-11df-8b15-00144feabdc0.html#axzz1YjzSEEJl.

explain, or scenarios that its theory does not contemplate.[316] The financial services industry during the 1990s and early 2000s, for example, underwent a mega-merger wave.[317] As a Department of Justice official noted, "[A] number of individual mergers during the 1990s 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."[318] The financial sector was becoming more concentrated, and its profits were growing faster.[319] One mega-merger was between The Travelers Group, Inc. and Citicorp. The $70 billion merger created the world's largest commercial banking organization, with total consolidated assets of approximately $751 billion.[320] During its merger review, the Justice Department "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*."[321] But the Department "essentially viewed this as primarily a regulatory issue to be considered by the [Federal Reserve Board]."[322] The financial services industry was becoming more concentrated as a consequence of the merger wave among large financial institutions.[323] But the DOJ never

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[316] *See, e.g.*, CASSIDY, *supra* note 86, at 221-34 (discussing Federal Reserve Chairman Alan Greenspan's failure to take seriously the concept of market failure).

[317] JOHNSON & KWAK, *supra* note 7, at 84-85. JPMorgan 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)." *Id.*

[318] Robert Kramer, Chief, Litigation II Section, Antitrust Div., U.S. Dep't of Justice, "Mega-Mergers" in the Banking Industry, Address at the American Bar Associate Antitrust Section (Apr. 14, 1999), *available at* http://www.justice.gov/atr/public/speeches/214845.htm.

[319] JOHNSON & KWAK, *supra* note 7, at 85.

[320] Press Release, Fed. Reserve Bd., Order for Travelers Group and Citicorp Approving Formation of a Bank Holding Company and Notice to Engage in Nonbanking Activities, (Sept. 23, 1998) [hereinafter Fed. Reserve Citicorp Order], *available at* http://www.federalreserve.gov/boarddocs/press/BHC/1998/19980923/19980923.pdf.

[321] Kramer, *supra* note 318, at 6 (emphasis added).

[322] *Id.*

[323] Kenneth D. Jones & Tim Critchfield, *Consolidation in the U.S. Banking Industry: Is the "Long, Strange Trip" About to End?*, FDIC BANKING REV. (Jan. 19, 2006), *available at* http://www.fdic.gov/bank/analytical/banking/2006jan/article2/

considered systemic risk or how creating a firm too-big-and-integral-to-fail could distort competition. Its economic models mainly considered short-term price effects arising from the merger, namely whether Citicorp-Travelers, post-merger, could raise the price of its services in narrowly defined geographic markets. [324] In limiting its risk assessment to short-term price effects, the government can fail to see or consider 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-and-integral-to-fail.[325] 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.[326] "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

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index.html ("Over the two decades 1984-2003, the structure of the U.S. banking industry indeed underwent an almost unprecedented transformation—one marked by a substantial decline in the number of commercial banks and savings institutions and by a growing concentration of industry assets among a few dozen extremely large financial institutions."). Between year-end 1984 and 2003, the number of banking and thrift organizations declined almost forty-eight percent from 15,084 to 7,842. *Id*. Mergers and acquisition accounted for most of this increased concentration. *Id*.

[324] The DOJ does not generally challenge mergers between firms dominant in different markets (for example, a bank dominant in the western United States merges with a dominant bank in the eastern United States). Kramer, *supra* note 318, 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).

[325] Thomas J. Horton, *The Coming Extinction of Homo Economicus and the Eclipse of the Chicago School of Antitrust: Applying Evolutionary Biology to Structural and Behavioral Antitrust Analyses*, 42 LOY. U. CHI. L.J. 469 (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).

[326] CASSIDY, *supra* note 86, at 283 (recounting Greenspan's praise of large systemically important banks' use of credit derivatives to stabilize the banking system).

financial institutions came under stress during this crisis, these adverse system-wide network dynamics revealed themselves."[327]

Even if the government acknowledges systemic risks, 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).[328] 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, 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, goes beyond approving 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.[329]

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[327] Andrew G Haldane, Executive Director, Fin. Stability, Bank of Eng., Rethinking the Financial Network 11, Address at the Financial Student Association, Amsterdam (Apr. 2009), *available at* http://www.bankofengland.co.uk/publications/speeches/2009/speech386.pdf.

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

[329] 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 320, 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), *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-Bilely 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.COM,

A fourth risk under Scenario IV is when a bounded rational government is overconfident in its ability to regulate firms deemed too-big-and-integral-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.'"[330] But in permitting the merger, the Federal Reserve responded that the nation's largest corporate merger "would have a de minimis effect on competition."[331] The Federal Reserve rejected the argument that the absolute or relative size of Citicorp would adversely affect the market structure.[332] It failed to see how "the size or breadth of Citicorp's activities would allow it to distort or dominate any relevant market."[333] 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."[334]

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.[335] In 2008, Citibank, and other financial institutions considered too-big-and-integral-to-fail, were (or were perceived to be) failing and received an implicit

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http://topics.nytimes.com/topics/reference/timestopics/subjects/g/glass_steagall_act_1933/index.html (last visited Nov. 1, 2011).

[330] Fed. Reserve Citicorp Order, *supra* note 320, at 74.

[331] *Id.* at 75.

[332] *Id.* at 85.

[333] *Id.* at 86.

[334] *Id.*

[335] 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.

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.[336]

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.[337] But waiting post-merger for anticompetitive effects can foreclose effective relief (one reason why Congress facilitated pre-merger review).[338]

Moreover, bounded rationality differs from ignorance. At times, the problems are apparent. One need not be a *Homo*

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[336] *See Where is the Money?: Eye on the Bailout*, PROPUBLICA, http://bailout.propublica.org/entities/96-citigroup (last visited Nov. 1, 2011); *see also* CASSIDY, *supra* note 86, at 330 (noting that although politically unpalatable to the Bush Administration, nationalizing Citibank might have been cheaper than insuring its toxic assets); Keoun et al., *supra* note 335.

[337] *See, e.g.*, General Tel. Co. of the Sw. 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))).

[338] Hart-Scott-Rodino Antitrust Improvements Act of 1976, 15 U.S.C. § 18a (2006); United States v. Computer Assocs. Int'l, Inc., Civ. Action No. 01-02062(GK), 2002 WL 31961456 (D.D.C. Nov. 20, 2002) (discussing policies underlying the pre-merger notifications requirements of the HSR Act); *see also* T-201/04, Microsoft Corp. v. Comm'n, 2007 E.C.R. II-3601, 2007 WL 2693858 ("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."); Spencer Weber Waller, *Prosecution by Regulation: The Changing Nature of Antitrust Enforcement Case*, 77 OR. L. REV. 1383, 1397-98 (1998). 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.

Economicus to see America's obesity problem. A bounded rational government can assist 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.[339] Farmers use cell phones to learn how to use less seed, fuel, and fertilizers, while reaping bigger harvests.[340]

The government can also opt for structural safeguards to promote industry diversity and stability. As the U.S. government found after the financial crisis, "[r]estrictions on future growth by acquisition of the largest financial companies ultimately will prevent acquisitions that could make these firms harder for their officers and directors to manage, for the financial markets to understand and discipline, and for regulators to supervise."[341]

On the one hand, systemic risk is not limited to highly concentrated markets. Small bounded rational banks can similarly ignore their activities' riskiness.[342] Several bank failures can have a cascading effect when banks respond similarly to cripple the banking system.[343] 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."[344] Consequently, perhaps the best recipe for confronting uncertainty

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[339] Richard Stone, *News: Dialing Up Knowledge—And Harvests*, SCI., Feb. 12, 2010, at 808.

[340] *Id.*

[341] FIN. STABILITY OVERSIGHT COUNCIL, STUDY & RECOMMENDATIONS REGARDING CONCENTRATION LIMITS ON LARGE FINANCIAL COMPANIES (Jan. 2011), *available at* http://www.treasury.gov/initiatives/Documents/Study%20on%20Concentration%20Limits%20on%20Large%20Firms%2001-17-11.pdf (discussing benefits of the concentration limits under section 622 of the Dodd-Frank Wall Street Reform and Consumer Protection Act).

[342] Indeed, rational banks may engage in risky behavior or risk the erosion of their stock price over the short-term.

[343] Schweitzer et al., *supra* note 294, at 424-25; STIGLITZ, *supra* note 2, at 149.

[344] Kerber, *supra* note 203, at 9.

and systematic risk is maintaining diversity and "institutions that permit trial and error experiments to occur."[345]

Ultimately, a key issue under Scenario IV is one of institutional design. Does the government have sufficient incentive to recognize its bounded rationality, to continually learn and update its beliefs, and to update its policies accordingly? One impediment the government faces is the behavioral bias of belief perseverance'. 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 Federal Trade Commission and the Justice Department over mergers). But inter-agency competition does not necessarily increase political accountability that reduces biases and heuristics.[346] The competition agency may attract inquisitive dynamic leaders who want to critically test the economic theory's assumptions. But others in government will likely resist. This critical assessment diverts staff and funding from immediate prosecutions. Prosecutions bring publicity, which the agency uses to justify its existence. The rewards from institutional learning accrue over the long-term, often after the political appointees leave office. Moreover, some 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, government institutions often lack sufficient incentives to continually test

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[345] 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); NORTH, *supra* note 41, at 163.

[346] 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 PSYCHOL. BULL. 480, 481 (1990).

their assumptions, to retrospectively examine the efficacy of their actions, and to use these findings to update their policies.[347]

Competition agencies need patient gardeners, who experiment, monitor, and update the economic theories. But structural mechanisms are needed to ensure that the agencies hire and support these gardeners who tend to antitrust policy. One mechanism is to increase the government's accountability. This can be done directly, as in the European Union, 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.[348] The competition agency should explain each critical assumption it made in determining that the merger was unlikely to lessen competition.[349] The agencies should be required to undertake and publish more post-merger reviews, to test whether these assumptions indeed were valid. 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] Subjecting the

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[347] NORTH, *supra* note 41, at 68.

[348] The U.S. competition agencies at times issue closing statements, but the analysis can vary considerably. *Compare* Press Release, Fed. Trade Comm'n, 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), *available at* http://www.ftc.gov/os/2002/10/cruisestatement.htm, *with* Press Release, U.S. Dept. of Justice, 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, *available at* http://www.justice.gov/opa/pr/2008/October/08-at-963.html.

[349] If the agency believes that the merger is anticompetitive, but feels that it would lose in court, the agency should say so. Otherwise, the courts and Congress will be unaware of the unintended consequences their current legal standard is causing.

[350] For example, making price information public may make collusion easier. *See* Maurice E. Stucke, *Evaluating the Risks of Increased Price Transparency*, 19 SPRING ANTITRUST 81 (2005), *available at* http://ssrn.com/abstract=927417; OECD'S DIRECTORATE FOR FIN., FISCAL AND ENTER. AFFAIRS, COMM. ON COMPETITION LAW & POLICY, COMPETITION POLICY ROUNDTABLE: PRICE TRANSPARENCY 205-09 (Sept. 11, 2001), *available at* http://www.oecd.org/dataoecd/52/63/2535975.pdf (discussing benefits and detriments of price transparency in the United Kingdom).

competition agencies' actions to external review and criticism, such ex post review, would require greater accountability by those entrusted with enforcing the antitrust laws.

Third, the competition authorities should 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.

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 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

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[351] Rosch, Next Challenges, *supra* note 63, at 17.

[352] *See* OFFICE OF FAIR TRADING, *supra* note 135.

[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.

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, and alliances in which potential competition plays an important analytical role.

Going forward, there will unlikely be any unifying definition of 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

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[354] Kerber, *supra* note 203, at 5.

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

[356] Grant Miles et al., *Industry Variety & Performance*, 14 STRATEGIC MGMT. J. 163, 167 (1993) (discussing product life cycle); BEINHOCKER, *supra* note 298, at 254-57; Nelson & Winter, *supra* note 355, at 36.

[357] Organisation for Econ. Co-operation and Dev., *A Framework to Measure the Progress of Societies: Statistics Directorate* 13 n.8 (OECD Statistics Working Paper Series, Paper No 34, July 12, 2010), *available at* http://www.politiquessociales.net/IMG/pdf/framework.pdf.

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 neoclassical 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. 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.

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[358] Int'l Competition Network, *Market Studies Good Practice Handbook* (ICN Advocacy (Market Studies Project) Working Group, Apr. 2010), *available at* http://www.internationalcompetitionnetwork.org/uploads/library/doc646.pdf.

[359] Kerber, *supra* note 203, at 6 ("no serious theoretical and empirical economic research" has been undertaken about Hayek's concept of competition as a discovery procedure).