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BEHAVIORAL ECONOMICS AND ITS MEANING FOR ANTITRUST AGENCY DECISION MAKING

James C. Cooper & William E. Kovacic¹

INTRODUCTION

Of all fields of regulation in the United States, antitrust law relies most heavily on economics to inform the design and application of legal rules.² When drafting antitrust statutes in the late 19th and early 20th centuries, Congress anticipated that courts and enforcement agencies would formulate and adjust operational standards to account for new learning.³ The field of economics—especially industrial organization economics—would give broad statutory commands much of their analytical content.⁴

In principle, the flexibility of U.S. antitrust statutes makes competition policy adaptable and accommodates for upgrades over time.⁵ This evolutionary process is only effective if antitrust institutions can identify significant advances in economic learning and refine enforcement policy and doctrine accordingly. Owing to their expertise in economics and law, the two federal antitrust agencies—the Antitrust Division of the Department of Justice (DOJ) and the Federal Trade Commission (FTC)—are crucial instruments of adaption.⁶ The antitrust system’s quality depends on the agencies’

¹ Cooper: Law & Economics Center, George Mason University School of Law. Kovacic: George Washington University Law School. This article is adapted in part from James C. Cooper & William E. Kovacic, *Behavioral Economics: Implications for Regulatory Behavior*, 41 J. REG. ECON. 41 (2012). The authors thank Angela Diveley for superb research assistance.

² On this characteristic of the U.S. antitrust system, see generally William E. Kovacic, *The Influence of Economics on Antitrust Law*, 30 ECON. INQUIRY 294 (1992); William E. Kovacic & Carl Shapiro, *Antitrust Policy: A Century of Economic and Legal Thinking*, 14 J. ECON. PERSP. 43 (2000).

³ This is most evident in the adoption of the Federal Trade Commission Act in 1914 and the establishment of an administrative agency, the Federal Trade Commission, to enforce the statute’s prohibition against “unfair methods of competition.” Federal Trade Commission Act, ch. 311, § 5, 38 Stat. 719 (1914) (codified as amended at 15 U.S.C. § 45 (2006)). On rationale for the Federal Trade Commission Act and the design of the FTC, see Marc Winerman, *The Origins of the Federal Trade Commission: Concentration, Cooperation, Control, and Competition*, 71 ANTITRUST L.J. 1 (2003).

⁴ See Timothy J. Muris, *Improving the Economic Foundations of Competition Policy*, 12 GEO. MASON L. REV. 1 (2003).

⁵ The operative terms of the U.S. antitrust statutes are relatively open-ended, and the legislative texts do not define them. For example, Section 2 of the Sherman Act makes it an offense—indeed, a criminal transgression—to “monopolize” commerce. 15 U.S.C. § 2 (2006).

⁶ On the formative role of the two U.S. federal antitrust agencies in shaping norms of business behavior, see DANIEL A. CRANE, *THE INSTITUTIONAL STRUCTURE OF ANTITRUST ENFORCEMENT* 27-48 (2011).

commitment to reassess existing doctrine and policy in light of new developments.

The emergence of the field known as behavioral economics (BE) provides the most recent occasion to examine how the antitrust agencies perform this adaptive function.⁷ Modern BE scholarship examines the implications for decision making when actors suffer from documented psychological biases,⁸ BE replacing the assumption of rationality with one of “bounded rationality.” Under this theory, consumers’ actions are affected by their initial endowments, tastes for fairness, inability to appreciate future costs, lack of self-control, and general use of flawed heuristics.

The notion that human behavior reflects the influence of varied emotional and psychological impulses is neither novel nor surprising. Modern BE literature does not displace the knowledge gained from earlier applications of psychology to the study of consumer behavior. Instead, it builds upon and extends insights from earlier work, often by using newer analytical techniques, including methods developed in the field of experimental economics. Modern BE literature also engages in a more systematic consideration of how departures from traditional assumptions about bounded rationality should affect public policy.

One question posed by BE researchers is whether antitrust agencies should alter enforcement policy to incorporate perspectives that depart from the rationality assumption. BE has influenced a new body of antitrust scholarship that prescribes greater skepticism of claims that market entry ordinarily is an effective means for correcting anticompetitive markets, that cartels are inherently unstable, that bundling typically yields net efficiencies, and that limits on intra-brand price competition promote inter-brand competition in non-price dimensions.⁹ These views have inspired an active debate about future antitrust policy. The BE-oriented antitrust literature has elicited counterarguments from a number of scholars who doubt that BE

⁷ For example, the application of BE to antitrust law is a focal point of modern policy analysis within the FTC. See e.g., Bureau of Economics, Federal Trade Commission, A Conference on the Economics of Drip Pricing (2012) (conference description and agenda), <http://www.ftc.gov/be/workshops/drippricing/index.shtml>. The FTC also has convened proceedings to analyze how insights from BE might affect consumer protection policy. See e.g., Bureau of Economics, Federal Trade Commission, A Conference on Behavioral Economics and Consumer Policy (Sept. 2007) (conference agenda and transcripts), <http://www.ftc.gov/be/consumerbehavior/docs/agenda.shtml>.

⁸ For a collection of essays discussing behavioral economics, see generally THE LAW AND ECONOMICS OF IRRATIONAL BEHAVIOR (Francesco Parisi & Vernon L. Smith eds., 2005). For a useful survey by one of the founders of modern study in this field, see generally DANIEL KAHNEMAN, THINKING, FAST AND SLOW (2011).

⁹ Prominent examples include, Maurice E. Stucke, *Behavioral Economics at the Gate: Antitrust in the Twenty-First Century*, 38 LOY. U. CHI. L.J. 513 (2007); Avishalom Tor, *The Fable of Entry: Bounded Rationality, Market Discipline, and Legal Policy*, 101 MICH. L. REV. 482 (2002); Avishalom Tor & William J. Rinner, *Behavioral Antitrust: A New Approach to the Rule of Reason After Leegin*, 2011 U. ILL. L. REV. 805.

dictates significant changes in existing antitrust analysis or other forms of regulatory policy-making.¹⁰

The literature we sketch above deals chiefly with the behavior of individual consumers and with firms. In this Article, we focus on a second, different set of implications of the BE scholarship for antitrust policy and regulation more generally. We consider how concepts of bounded rationality and other BE insights might improve our understanding of regulatory agencies and explain the behavior of individual regulators. For example, what does BE tell us about the likelihood that the DOJ and the FTC will make skillful, timely adjustments in policy to account for new learning in economics? Are agencies generally capable of making wise policy choices, or do the various behavioral phenomena that affect the decisions of individuals routinely distort the execution of policymaking tasks by public officials?

Our work benefits from some important antecedents. Several BE scholars have recognized that BE phenomena can influence regulatory decisions.¹¹ For the most part, these works treat the possibilities for distortion in regulatory agency decision making as a second-order problem compared to the effect of likely consumer biases.¹² There is also substantial literature examining the causes of what appears to be irrational behavior by public institutions. This literature generally is not cast in the language of BE, yet it explains failed decision making by various government institutions as a function of what could be called behavioral tendencies—such as confirmation bias¹³—that figure prominently in modern BE literature.¹⁴

¹⁰ *E.g.*, Jonathan Klick & Gregory Mitchell, *Government Regulation of Irrationality*, 90 MINN. L. REV. 1620 (2006); Douglas H. Ginsburg & Derek W. Moore, *The Future of Behavioral Economics in Antitrust Jurisprudence*, 6 COMPETITION POL'Y INT'L 89 (2010); Joshua D. Wright, *Behavioral Law and Economics, Paternalism, and Consumer Contracts: An Empirical Perspective*, 2 N.Y.U. J.L. & LIBERTY 470 (2007); Joshua D. Wright & Judd E. Stone II, *Misbehavioral Economics: The Case Against Behavioral Antitrust*, 33 CARDOZO L. REV. 1517 (2011).

¹¹ *See e.g.*, Matthew Bennett et al., *What Does Behavioral Economics Mean for Competition Policy?*, 6 COMPETITION POL'Y INT'L 111 (2010); Christine Jolls, Cass R. Sunstein & Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471 (1998).

¹² One notable exception is Jeffrey J. Rachlinski & Cynthia R. Farina, *Cognitive Psychology and Optimal Government Design*, 87 CORNELL L. REV. 549 (2002). Rachlinski and Farina compare the positive and normative implications of both BE and public choice theory for institutional design, with specific focus on the interaction between Congress, the executive, courts, and regulators. Our work allows public choice theory and BE to simultaneously shape policy outcomes.

¹³ *See infra* note 36 and accompanying text (describing concept of confirmation bias).

¹⁴ This is a prominent theme of Graham Allison's formative study of foreign policy in the context of the Cuban Missile Crisis. *See generally*, GRAHAM T. ALLISON, *ESSENCE OF DECISION: EXPLAINING THE CUBAN MISSILE CRISIS* (1971). Numerous studies examine how military organizations and intelligence agencies adhere to specific policies despite the accumulation of evidence that belies the premises of such policies. *See e.g.*, RONALD H. SPECTOR, *EAGLE AGAINST THE SUN – THE AMERICAN WAR WITH JAPAN* (1985) (describing how U.S. Navy offices responsible for naval torpedoes ignored operational evidence that revealed serious design flaws); ERNEST R. MAY, *STRANGE VICTORY – HITLER'S*

We aim to fill what we see as a gap in the BE literature by directly applying BE concepts to understand the behavior of government regulators. Our experience working for the FTC and dealing with other regulators in the United States and overseas has shown us the considerable value in applying BE concepts to explain past regulatory decisions and to anticipate future regulatory actions.¹⁵ One of us saw first-hand how a path dependent commitment to specific policies caused the FTC to persist in prosecuting cases whose conceptual foundations had significantly eroded in light of new developments in economic analysis.¹⁶ We also have noticed the strong temptation for public officials to engage in hyperbolic discounting—to take measures that facilitate immediate opportunities for claiming credit while disregarding the long-term costs to the agency and to social welfare.¹⁷

In this Article, we posit a simple model of a regulator who serves as an agent to a political overseer. The regulator chooses a policy that balances her desire to pursue what she believes is the optimal long-run policy against the rewards that she receives from the political overseer for taking actions that increase the overseer's odds of reelection. These objectives may coincide, but they more likely conflict as we assume that the political overseer will have a relative preference for policies that maximize outputs or otherwise convey the appearance of action. We use this framework to explore the effects of bounded rationality on policymaking, with particular emphasis on competition policy.

We find that flawed heuristics (e.g., availability, representativeness, optimism, and hindsight) and myopia are likely to lead regulators to adopt policies closer to those preferred by political overseers than they otherwise would. The effect of status quo and confirmation biases is less clear, and depends on initial policy positions, the order and veracity of information

CONQUEST OF FRANCE (2000) (discussing how French military authorities in 1940 brushed aside proof that German army units were mobilizing for the invasion of France).

¹⁵ Kovacic served at the FTC as a staff attorney from 1979 to 1983, as general counsel from 2001 to 2004, as a commissioner from 2006 to 2011, and as the agency's chairman from March 2008 to March 2009. Cooper was the deputy director with the FTC's Office of Policy Planning from 2006 to 2008 and was its acting director from January 2009 to May 2009. Cooper also served as an advisor to Kovacic from 2009 to 2011.

¹⁶ See William E. Kovacic, *The Modern Evolution of U.S. Competition Policy Enforcement Norms*, 71 ANTITRUST L.J. 377, 457-60 (2003) (discussing FTC programs in the 1970s to challenge single-firm exclusionary conduct and shared monopolization).

¹⁷ Commentators and journalists often evaluate the effectiveness of antitrust agencies according to the number of cases they prosecute rather than by the economic outcomes their programs have yielded. See, e.g., GLOBAL COMPETITION REVIEW, RATING ENFORCEMENT: THE ANNUAL RANKING OF THE WORLD'S LEADING COMPETITION AUTHORITIES 2-3 (2012) (emphasizing statistics on the prosecution of cases as the metric to evaluate the performance of competition authorities). This can impart a bias to initiate cases without adequate regard for their longer term consequences. This tendency is described in William E. Kovacic, *Rating the Competition Agencies: What Constitutes Good Performance?*, 16 GEO. MASON L. REV. 903, 918-23 (2009); William E. Kovacic, Hugh M. Hollman & Patricia Grant, *How Does Your Competition Agency Measure Up?*, 7 EUR. COMPETITION J. 25, 27-30 (2011).

flows, and the regulator's priors (or first piece of evidence). We conjecture, however, that confirmation bias may create a weak tendency to adopt politically expedient policies given that the first piece of evidence a regulator views on a matter likely will be a call to action.

We argue that unlike the case of firms that face competition, the incentive structure for regulators is likely to reward those who adopt politically expedient policies, either intentionally, due to a desire to please the political overseer, or accidentally, due to bounded rationality. These incentives are likely to lead to a cadre of regulators who focus excessively on outputs rather than outcomes. Thus, our analysis suggests that careful thought should be given to calls for greater state intervention, especially when those calls are directed at firm biases. We also conjecture that instituting internal, external, or both types of teams to review policy, and focusing rewards on outcomes rather than outputs, can help ameliorate regulatory biases.

The Article proceeds as follows: Section II presents a simple model of regulation and explores the implications of bounded rationality in policy making. Section III considers how likely regulators are to suffer biases. Section IV suggests ways to design decision making structure to ameliorate these biases.

I. A FRAMEWORK OF REGULATORY ACTION

We begin by assuming that the regulator—the person who ultimately must approve a market intervention¹⁸—chooses a policy to maximize her utility.¹⁹ The regulatory receives utility from “doing the right thing,” which we assume consists of pursuing policies that, in the regulator's judgment, will maximize long-run consumer welfare. Being human, however, the regulator also receives utility from political rewards that accrue as a result of adopting policies that political overseers—e.g., committee chairs, the President—prefer. Political overseers want to maximize their chances of reelection, and they employ the carrots, e.g., larger budgets, and sticks, e.g., oversight hearings, at their disposal to get regulators to hew to their preferred policies. On occasion, these reelection-maximizing strategies may coincide with those that maximize consumer welfare. We assume, however, that political overseers will favor politically expedient policies that focus on the appearance of “action” to solve perceived problems.

The disconnect between welfare maximizing and politically popular policies arises for two principle reasons in our framework. First, their constituents may suffer from various biases that cause them to demand short-

¹⁸ Rachlinski & Farina, *supra* note 12 at 567-68, distinguish between career bureaucrats and agency heads in terms of expertise. We focus on agency leaders who must approve interventions.

¹⁹ For a more technical treatment, see James C. Cooper & William E. Kovacic, *Behavioral Economics: Implications of Regulatory Behavior*, 41 J. REG. ECON. 41 (2012).

sighted policies. As Cass Sunstein has argued, for example, politicians exploit their constituents' availability bias to convince them that problems exist and then provide short-run solutions to these non-problems.²⁰ In this manner, the political overseers act as transparent middlemen, who convert boundedly rational constituents' preferences into policy demands. Second, as with any agent who produces hard-to-observe outputs for her principal, politicians will try to signal worth by maximizing observable action. One way to accomplish this is again to pursue policies that focus on resource use and "action"—e.g., increase in law enforcement actions or regulations promulgated—rather than on ultimate benefits for consumers.²¹

To create the impression of action, politically expedient policies typically focus on output or resource use, rather than outcomes. Such policies, for example, could include investigations of market manipulation, anti-price gouging laws, or price controls imposed in response to a surge in gasoline prices.²² Each of these policies allows the politician to appear to take action to counteract the high gasoline prices. The politician who embraces such measures increases the probability of reelection relative to a politician who took no action and tried to explain that retail gasoline prices were the function of supply and demand on world markets for crude oil and that regulatory measures to lower the price (e.g., a prohibition on price-gouging) likely will cause harm.

The regulator's optimal policy choice is a weighted average of the one she believes best for society's long-run interests and the one that garners the most political support for the political overseer, with the weights being exogenously determined based on the regulator's innate preferences for maximizing social welfare and receiving political rewards. Of course, as we discuss in detail below, the policy the regulator truly believes to maximize long-run welfare may also be flawed due to cognitive biases. In this manner, departures from the long-run efficiency benchmark may enter policy

²⁰ Jolls, Sunstein, and Thaler explain the creation of Superfund as an appeal to biased voters by "availability entrepreneurs." Jolls et al., *supra* note 11, at 1509-10. A more recent example consistent with politicians taking advantage of the "availability bias" includes the recent German decision to abandon nuclear power in the wake of the Japanese nuclear crisis. See Judy Dempsey, *Merkel Asks Lawmakers to Back Shift from Nuclear*, N. Y. TIMES, June 22, 2011, <http://www.nytimes.com/2011/06/10/world/europe/10iht-germany10.html>. Of course, this assumes that politicians are not themselves biased when estimating policies that will get them reelected. E.g., Stefano DellaVigna, *Psychology and Economics: Evidence from the Field*, 47 J. ECON. LITERATURE 315 (2009) (arguing that politicians are likely to be rational and constituents are likely to be biased).

²¹ See, e.g., Anthony Pratt & Richard Zeckhauser, *Action Bias and Environmental Decisions*, 21 J. RISK & UNCERTAINTY 45 (2000). See also Michael Bar-Eli et al., *Action Bias Among Elite Soccer Goalkeepers: The Case of Penalty Kicks*, 28 J. ECON. PSYCHOLOGY 606 (2007) (finding evidence that although staying still is the optimal strategy for a soccer goalie facing a penalty kick, movement is the most observed action).

²² The capacity of these measures to induce regulators to act in a politically expedient matter is discussed in Timothy J. Muris & Bilal K. Sayyed, *The Long Shadow of Standard Oil: Policy, Petroleum, and Politics at the Federal Trade Commission*, 85 S. CAL. L. REV. 843, 902-14 (2012).

through two channels: indirectly via political overseers' preferences, and directly through a biased regulator's preferences.

A regulator will adopt the optimal policy choice if either she places no weight on political rewards or if the politician cannot translate constituency support into support (or punishment) for the regulator. On the other hand, the regulator who weighs political advancement heavily or is subject to a powerful political overseer will be more likely to choose the politically expedient policy. In what follows, we use this simple framework to examine how commonly cited biases might affect policy outcomes.

A. *Flawed Heuristics and Myopia*

Regulators, like consumers, are likely to use heuristics—or mental shortcuts—to estimate the optimal long-run policy choice. These shortcuts save time but may yield systematic decision making errors. Experimental research has documented the existence of several flawed heuristics, which are likely to bias regulators against accounting for long-run considerations when forming policy.²³

First, the “availability” heuristic leads people to overemphasize recent, particularly salient events when estimating the overall prevalence of those events. A person who recently saw a neighbor's house burn down, for example, is likely to overestimate the odds that his house will burn in the future. Second, the “representativeness” heuristic causes people to form unduly high estimates of posterior probabilities by ignoring low baseline probabilities and small sample sizes. The canonical example of this bias comes from an experiment in which Daniel Kahneman and Amos Tversky asked consumers whether it was more likely that a hypothetical woman was a bank teller or a feminist bank teller.²⁴ The former category contains the latter, but most subjects placed a higher probability on the latter category. Third, people suffering from hindsight bias tend to overestimate the *ex ante* probability of an event occurring, given that it has actually occurred. For example, a jury considering a negligence case may be too likely to find the defendant's actions were unreasonable *ex ante* knowing that an accident resulted. Finally, optimism bias causes individuals to underestimate their own probability of experiencing a bad outcome.

²³ See Christine Jolls, *Behavioral Law and Economics*, in BEHAVIORAL ECONOMICS & ITS APPLICATIONS 115 (Peter A. Diamond & Hannu Vartiainen eds., 2007); Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CALIF. L. REV. 1051, 1084 (2000).

²⁴ Daniel Kahneman & Amos Tversky, *Judgments of and by Representativeness*, in JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES 84 (Daniel Kahneman, Paul Slovic & Amos Tversky eds., 1982).

Apart from flawed estimation strategies for unlikely events, regulators also may suffer from myopia, which can arise due to cognitive inabilities to process life-cycle costs or self-control problems. Xavier Gabaix and David Laibson model myopic consumers who cannot understand a durable good's full life-cycle cost, and they find that even under competitive conditions, firms may lack incentives to educate myopic individuals and will offer low up-front pricing and supra-competitive aftermarket prices in equilibrium.²⁵ Rachlinski and Farina posit that myopia works not only in a temporal dimension but also across subject matters; when designing policies, experts may focus narrowly on their specific areas of responsibilities and ignore spillover effects.²⁶

In a similar vein, some have examined the inability of actors to bind themselves to take future action that maximizes long-run utility, as viewed from the initial period. Laibson develops a theory of time-inconsistent or hyperbolic discounting to explain why consumers consistently contribute less to their retirement accounts than a rational actor model would predict.²⁷ Professors DellaVigna and Malmender present a formal model in which agents plagued by hyperbolic discounting make multi-period decisions and derive an equilibrium in which firms may be able to take advantage of consumers who underestimate their future will power.²⁸ They find support for their model in observed contracts and consumer behavior in the credit and health club markets.

Together, myopic regulators who use flawed heuristics are likely to make imprecise estimates of the optimal policy choice, which they use to form policy. In what follows, we assume that these biases are likely to lead the regulator to favor policies that focus excessively on short-run considerations. Although we recognize that this assumption risks converting our model into a tautology, we argue that this assumption is grounded in reality and more plausible than the alternative that biases lead regulators to focus more sharply on optimal long-run policies.

Jolls, Sunstein, and Thaler, for example, argue that the availability bias gives rise to the "pollutant of the month syndrome," which leads regulators to pursue overly stringent environmental regulation based on highly publicized events.²⁹ Further, representativeness bias may cause a competition authority to ignore the prevalence of a business practice (e.g., exclusive dealing) in competitive industries—and the low prior odds that markets are uncompetitive—when that authority attempts to judge the probability that

²⁵ Xavier Gabaix & David Laibson, *Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets*, 121 Q. J. ECON. 505, 531-32 (2006).

²⁶ Rachlinski & Farina, *supra* note 12 at 571-82.

²⁷ David Laibson, *Golden Eggs and Hyperbolic Discounting*, 112 Q. J. ECON. 443 (1997).

²⁸ Stefano DellaVigna & Ulrike Malmendier, *Contract Design and Self Control: Theory and Evidence*, 119 Q. J. ECON. 353 (2004).

²⁹ Jolls et al., *supra* note 11, at 1518.

this practice will reduce a market's competitiveness. Similarly, in the context of the quasi-negligence determinations involved in certain consumer protection violations, hindsight bias is likely to cause an agency to look more skeptically on practices that led to harm *ex post*. Finally, optimism bias may cause regulators to hold an unduly optimistic view of the likely success of a policy choice. More generally, to the extent that regulators are better characterized as "lay" rather than "expert" decisions-makers, Rachlinski and Farina's warning that representativeness, availability bias, and loss aversions likely will cause Congress to focus on the wrong problems and the wrong set of solutions, which is also applicable to regulators.³⁰

Because the effects of bounded rationality and a taste for political rewards work in the same direction, it may be difficult, if not impossible, to identify these effects separately.³¹ Even an unbiased regulator has an incentive to choose populist policies due to the political rewards that come from instant action, especially with limited time horizons. Of course, biases will exacerbate any pre-existing tendency towards populist policies.

B. *Status Quo Bias*³²

Various cognitive errors together tend irrationally to wed people to the status quo. First, due to what is known as the "endowment effect," experimental subjects seem to require more compensation to part with an endowment than they are willing to pay to gain it.³³ Korobkin and Ulen observe that the willingness-to-accept (WTA)/willingness-to-pay (WTP) gap suggests that people are more averse to losing what they already possess than rational choice theory predicts.³⁴ Second, loss aversion suggests that how decisions are framed matters because people place a higher negative value on expected losses than on expected gains of equivalent value. Relatedly, the omission/commission bias leads subjects to be more concerned with errors associated with action than inaction. Together, these cognitive shortcomings create inertia to maintain a current course of action rather than to take new action that would increase expected utility. Concern about this bias has inspired vigorous debate on proper default rules for consumer choices involving retirement plans, insurance coverage, and privacy poli-

³⁰ Rachlinski & Farina, *supra* note 12, at 562. These scholars also contend that specialization from committees and learning from incumbency may ameliorate the effects of these biases.

³¹ This result flows directly from our assumption that biases tend to focus regulators on short-term, rather than long-term, solutions.

³² See generally, Robert L. Scharff & Francesco Parisi, *The Role of Status Quo Bias and Bayesian Learning in the Creation of New Legal Rights*, 3 J.L. ECON. & POL'Y 25, 26-30 (2006).

³³ Korobkin & Ulen, *supra* note 23, at 1107-08.

³⁴ *Id.*

cies, and has raised questions about the efficiency of Coasian solutions to property rights issues.³⁵

Following this argument, the class of cognitive shortcomings that make regulators reluctant to alter the status quo will tend to make policies “sticky” around initial policies. The direction in which the status quo bias will steer policy is indeterminate theoretically, and will depend on the initial policy endowment and the direction of the changes. From this stickiness emerges a path dependency in policy choice, where policies adopted in the past have a lingering impact on future policy adoption.

C. *Confirmation Bias*

A large body of experimental research suggests that individuals tend to become irrationally wedded to their early impressions about an initially ambiguous situation.³⁶ This bias comes about either because subjects ignore all new evidence once they have made up their minds, or because they erroneously interpret evidence contradicting their beliefs as supporting their beliefs. Like the status quo bias described above in Section B, confirmation bias can entrench a regulator’s existing policies regardless of changes in the state of the art of theory or empirical knowledge that ought to compel individuals to rethink their positions.

In regulatory settings, confirmation bias leads to overconfidence in one’s estimates of optimal policy. At the micro level, regulators may misread or ignore evidence that conflicts with the theory of a case or policy initiative. For example, a team challenging a merger as likely to harm competition may tend to interpret documents from the merging parties that objectively tend to cast the merger in a competitive light as either neutral or supportive of their case. Several experimental studies find that litigants tend to interpret ambiguous evidence as supporting their view of the case.³⁷ This leads to the counterintuitive finding that greater information revelation can actually reduce the possibility of settlement.

At the macro level, the regulator may misread evidence to confirm priors regarding larger policy choices, such as adopting an interventionist or laissez-faire attitude toward certain business practices. The FTC’s treatment of non-price vertical restraints in the 1960s and 1970s illustrates how confirmation bias can make enforcement policy unresponsive to changes in

³⁵ See, e.g., Korobkin & Ulen, *supra* note 23, at 1109-11; Colin Camerer et al., *Regulation for Conservatives: Behavioral Economics and the Case for ‘Asymmetric Paternalism’*, 151 U. PA. L. REV. 1211, 1226-30 (2003).

³⁶ Several researchers have documented this bias in experimental settings involving litigants. See, e.g., Linda Babcock et al., *Biased Judgments of Fairness in Bargaining*, 85 AM. ECON. REV. 1337 (1995); George Lowenstein & Don A. Moore, *When Ignorance Is Bliss: Information Exchange and Inefficiency in Bargaining*, 33 J. OF LEGAL STUD. 37 (2004).

³⁷ Jolls, *supra* note 23.

the understanding of economics. In the 1960s, the litigation programs of the DOJ and the FTC succeeded in establishing strict prohibitions against non-price vertical restraints.³⁸ Through the mid-1970s, the prosecution of non-price vertical restraints remained a core element of FTC enforcement practice.³⁹ The Commission's active pursuit of these matters took place despite the emergence of a body of economic literature that relied on transaction costs considerations to suggest a more tolerant treatment of vertical non-price restrictions.⁴⁰ Only after the Supreme Court's decision in *Continental T.V., Inc. v. GTE Sylvania Inc.*⁴¹—which overruled *Schwinn* and held that the rule of reason would govern non-price vertical restraints—did the FTC rethink its vertical restraints enforcement program. The exogenous shock of a judicial decision in a private antitrust case—not an internal reassessment inspired by the application of the Commission's economic analysis capability—caused a change in enforcement policy.⁴²

Regulators with incorrect priors cause more harm than their counterparts who are irrationally wedded to the correct decision. For example, assume that the correct prior for vertical restraints is a laissez-faire posture.⁴³ A regulator with strong priors that vertical restraints are anticompetitive is likely to misinterpret evidence to confirm this belief, leading to welfare-reducing interventions. On the other hand, a regulator with correct priors may be too pessimistic about the odds that a given vertical practice is anticompetitive, but nonetheless will make the correct policy choice. Given a distribution of policy decisions, at the margin, a regulator with such a bias will bring too few vertical cases, but because her bias is toward the correct

³⁸ See *United States v. Arnold Schwinn & Co.*, 388 U.S. 365 (1967) (holding that the per se rule of illegality applies to vertical restraints that assign exclusive territories to distributors); *FTC v. Brown Shoe Co.*, 384 U.S. 316 (1966) (applying Section 5 of the FTC Act to condemn an exclusive dealing arrangement that yielded a vertical foreclosure of less than one percent). In this period, Donald Turner, the Assistant Attorney General for Antitrust, said he approached vertical "territorial and customer restrictions not hospitably in the common law tradition, but inhospitably in the tradition of antitrust law." Donald F. Turner, *Some Reflections on Antitrust*, in 1966 *N.Y. State Bar Association Antitrust Law Symposium* 1, 1-2 (1966).

³⁹ See, e.g., *Coca-Cola Co.*, 91 F.T.C. 517 (1978) (condemning use of exclusive territories in the soft drink bottling industry), remanded for dismissal, 642 F.2d 1387 (D.C. Cir. 1981).

⁴⁰ These developments are summarized in Oliver E. Williamson, *Transaction Cost Economics*, 1 HANDBOOK OF INDUS. ORG. 136 (Richard Schmalensee & Robert D. Willig eds., 1989).

⁴¹ 433 U.S. 36 (1977).

⁴² Some evidence suggests that the DOJ responded more quickly to the changing consensus in the economic literature and took steps before the *Sylvania* decision to allocate fewer resources to prosecuting non-price vertical restraints cases. During Kauper's tenure as Assistant Attorney General from 1974 to 1976, the Antitrust Division believed the per se prohibition of *Schwinn* "made no economic sense" and curtailed its challenges to non-price vertical restraints. See Thomas E. Kauper, *The Justice Department and the Antitrust Laws: Law Enforcer or Regulator?*, 35 ANTITRUST BULL. 83, 99 (1990).

⁴³ In a Bayesian framework, this would mean that the ratio of the probability that a given vertical restraint harms competition to the probability that it benefits competition (or is benign) is less than one.

decision, overconfidence will have a smaller effect on the efficacy of ultimate policy choices.

If a regulator begins with a truly blank slate, the first piece of information she receives about a matter will shape her bias in the interpretation of future evidence. Thus, theoretically, there is no way to identify the direction of the bias. In practice, however, the first piece of information a regulator is likely to see is some form of evidence supporting action (e.g., initiating an investigation or issuing a proposed rule); agency decision makers are likely to learn of a policy issue only when staff or a political overseer calls for intervention. For example, an antitrust decision maker often learns for the first time of a possible anticompetitive merger or business practice when she reads a staff memorandum that seeks compulsory process to investigate the matter. By their nature, these memoranda present a case for investigation. The investigation targets, however, are unlikely to present their views to the decision maker until much later in the process. Similarly, the first piece of evidence can come from political overseers calling for an investigation into a practice, again leaving the target no opportunity to counter the charges until much later in the process. If these requests for action become the anchoring point from which the regulator interprets subsequent evidence to estimate the optimal policy, this will lead to an intervention bias, even where the regulator places a large weight on long-run welfare.

The possibilities identified above help explain a trend we observed during our time at the FTC in the behavior of firms subject to the agency's antitrust or consumer protection authority. We noticed an increasing tendency of firms to meet individually with members of the Commission and provide briefings outside the context of a pending FTC investigation or other law enforcement proceeding. With greater frequency, firms would arrange visits to discuss important commercial developments (such as the introduction of new products or services) or to provide what amounted to tutorials about their operations. These can be interpreted as efforts to frame the thinking of the Commission or to counteract the bias that might be developing within the agency that would favor intervention. If a firm waits until after formal proceedings are initiated, it may be too late to alter a pro-intervention perspective. Our impression from these experiences is that the practice of lobbying and government relations involves a heavier emphasis on what might be called precautionary de-biasing advocacy before federal regulatory authorities. Again, this is consistent with the intuition that firms see such activity as an antidote to possible internal agency biases that press in the direction of intervention.

In practice, we doubt that a regulator begins with a truly blank slate. More realistically, regulators come to decisions with priors, or a "mental model" of how the world works. This model likely correlates with political

beliefs, education, and experience.⁴⁴ Like the Bayesian “blank slate” updating framework, the regulator screens out or discounts information that does not conform to her pre-existing worldview due to a desire to achieve policy outcomes that conform to her model. The key difference is that the regulator does not begin as an empty vessel when faced with each policy choice, but rather evaluates even the first piece of information with potential bias. Thus, an antitrust regulator who views markets as generally self-correcting is less likely to find evidence sufficient to support intervention than a counterpart who is skeptical of business practices. Unlike the “blank slate” model, even if the first piece of information is a call for action from staff or a political overseer, the skeptical regulator will not process future information to confirm the call for action, but rather through his existing framework. Consequently, the regulator skeptical of the efficacy of intervention will require more “pro-intervention” information to arrive at a decision to intervene than a regulator operating with a truly blank slate.

Publicly stated positions also can anchor policy. Once a regulator takes a position on a particular policy, she will want to filter future matters in a way that supports her initial wisdom. These public pronouncements will represent the regulator’s true belief of the optimal policy blended with the influence of political patrons—for example, promises made during confirmation hearings to assure support. In this way, the policy underlying the initial public announcement is not itself biased. Future policy decisions, however, are, to the extent that future estimates of optimal long-run policy are the product of confirmation bias anchored on the policy initially announced. As with loss aversion, this type of anchoring can lead to path dependency in regulatory policy adoption.

Finally, confirmation bias also can reinforce preferences for short-sighted decisions that derive from the flawed heuristics and myopia introduced in Section A. For example, as discussed above, a myopic regulator is more likely than a rational regulator to invest sub-optimally in policy development. This decision will form the regulator’s priors, and non-conforming subsequent evidence will have a minimal effect on changing the regulator’s view of the world. In this manner, myopia and confirmation bias can reinforce one another. For a boundedly rational regulator affected by confirmation bias, the decision to initiate litigation or rulemaking due to insufficient consideration of long term costs and benefits will shape the interpretation of subsequent information in a manner that tends to cast the decision in a favorable light.

⁴⁴ Yoram Wind & Colin Crook, *From Mental Models to Transformation: Overcoming Inhibitors to Change*, ROTMAN MAG., Spring 2009.

II. WILL REGULATORS SUFFER FROM BIASES IN THE LONG RUN?

A threshold question, which we have yet to address, is to what extent are regulators actually likely to suffer from these biases? On one hand, if regulatory institutions operate like firms, there are reasons to believe that regulators mostly may escape the cognitive problems that plague consumer decision making. The consensus within BE scholarship, for example, appears to be that firms are unlikely to make systematically biased decisions in the long run. DellaVigna explains how consumers and firms differ:

Experience is the key difference. Unlike individual consumers, firms can specialize, hire consultants, and obtain feedback from large data sets and capital markets. . . . Compared to consumers, therefore, firms are less likely to be affected by biases (except for principal-agent problems), and we expect them to be close to profit maximization.⁴⁵

Recent evidence also suggests that consumers who initially display biases can learn to overcome them with marketplace experience.⁴⁶ Is it reasonable to assume that because regulators often are “experts” and repeatedly face similar problems they will be able to make unbiased policy decisions? Even if agency heads who make decisions are political appointees and not true field experts, agency career staff can provide expertise and experience.⁴⁷

The analogy between firms and regulatory institutions extends only so far; the feedback mechanism that facilitates learning differs significantly between firms and regulators. Unlike the marketplace, which quickly gives firms feedback in the form of prices, profits, and output, the link between policy decisions and outcomes is more attenuated. For example, accurate measurement of a policy’s welfare effects is difficult and somewhat rare. Even when effects are determined, the lag from policy choice to policy execution can be long; cases and rulemaking can take several years from their initiation through final appeals in the courts. As the link between a decision and feedback weakens, the ability to learn diminishes.

Another consideration is that the cost to the regulator of policy mistakes is low compared to those of a firm. Generally speaking, a company that systematically errs is more likely to exit than a regulatory body that continually adopts welfare-reducing policies. The head of such an agency may continue to enjoy rewards as long as she increases outputs on margins that political overseers care about—action that maximizes the probability of

⁴⁵ DellaVigna, *supra* note 20, at 361.

⁴⁶ John List finds evidence that the endowment effect fades as agents become more experienced traders. John A. List, *Neoclassical Theory Versus Prospect Theory: Evidence from the Marketplace*, 72 *ECONOMETRICA* 615 (2004); John A. List, *Does Market Experience Eliminate Market Anomalies?*, 118 *Q. J. OF ECON.* 41 (2003).

⁴⁷ Rachlinski & Farina, *supra* note 12, at 579.

reelection. When competition among regulatory bodies occurs, it is likely to assume that they compete on the form of activities (e.g., protection of jurisdictional boundaries, the output of observable policy interventions) that have no necessary correlation with positive welfare outcomes.

The weak connection between welfare and regulatory rewards can yield a cadre of regulators who are biased toward short-run politically expedient policies. The regulator with a weak preference for maximizing long-term social welfare will tend to enjoy policy rewards. The regulator with a strong preference for maximizing long-term social welfare but who suffers from myopia or confirmation bias, however, may accidentally receive more support than an unbiased regulator with a similar taste for long-run welfare maximization. A biased regulator who sees herself as independent from political control, for example, may nonetheless bring a large number of headline-grabbing, but welfare-reducing, cases. Although viewed as welfare-maximizing policy by the regulator, an objective observer would see these as politically expedient policies, which please the political overseer. Thus, regulators with short-term biases—both due to high political weighting and bias—are likely to be over represented in the population of regulators.

In sum, it appears that the regulatory feedback structure makes it unlikely that regulators will learn to overcome their biases. This distinction between regulatory and market feedback cannot be overstated: marketplace performance is a direct measurement of consumer benefit from actions, whereas regulatory outputs have no necessary relationship to consumer welfare. Even if rewards were tied more closely with outcomes, the time lags and measurement problems discussed above make it difficult to link clear regulatory failures to specific regulators, especially given their short tenures.

These observations warrant caution in assuming the efficacy of intervention to correct perceived firm biases. For example, Professors Stucke and Tor argue that because firms may overestimate their chances of successful entry into a market, antitrust authorities should place less confidence on entry as a means to ameliorate potential anticompetitive effects.⁴⁸ Tor and Rinner suggest that the rule of reason be applied more stringently to minimum resale price maintenance agreements to account for the possibility that biases lead firms to overestimate the profit-reducing effects of price competition.⁴⁹ These normative prescriptions for enhanced intervention implicitly assume that the decisions of regulators to intervene will not themselves stem from biases. When these biases guide policy choices, it is not evident that regulators will be able to intervene successfully to “correct” firms’ entry and vertical contracting decisions. Comparing the limitations

⁴⁸ Stucke, *supra* note 9; Tor, *supra* note 9.

⁴⁹ Tor & Rinner, *supra* note 9.

of private and public decision making, market feedback is more likely to be effective in correcting biases than regulatory feedback.

The role of markets in correcting firm biases also suggests an important role for antitrust enforcement. Although regulatory biases have the potential to exacerbate already-existing tendencies for antitrust authorities to intervene in markets too often, a competitive market is a necessary condition for firms to correct their biases. If firms are to learn from the market, mistakes need to be costly. A rational firm generally will earn higher profits than a biased firm, conditional on the competitiveness of the market in which it operates.⁵⁰ However, the feedback from poor decisions—and hence the incentive to correct biases—is stronger for a biased firm operating in a competitive market than one facing little competition. In this manner, sound competition enforcement directly ameliorates welfare losses from the illegal exercise of market power and indirectly may improve market performance in the spirit of Hayek by enhancing the information flows that firms need to identify and correct biases.

How often biases survive is a function of the costs of being wrong. When it is difficult to detect wrong decisions and the costs of being wrong are small, there is little incentive to invest in correcting biases. In the next section, we discuss how improved accountability—linking outcomes to rewards—can help ameliorate this problem.

III. POSSIBLE CORRECTING MECHANISMS

As shown in Section II, not all biases predict the same policy drift; some tend to temper others. For example, availability, representativeness, optimism, and myopia probably push regulators to adopt more politically expedient policies. Although we posit that information coming to regulators is likely to take the form of calls for intervention, the effect of confirmation bias is uncertain, depending on the regulators' priors, and the order and relative veracity of information flows. Finally, the status quo bias can tend to stabilize policies around a focal point, but there is no *a priori* means to determine whether a policy is stuck closer to a long-run optimal policy or to a politically expedient one.

For example, imagine a regulator who suffers from all the biases we have cataloged and inherits an agency with a relatively interventionist policy stance. Assume also that her priors are weighted toward long-run welfare maximizing policies. The biases of availability, representativeness, myopia, and overconfidence could pull the regulator's estimate of the optimal policy closer to the political overseers' preferred position. Given her

⁵⁰ Mark Armstrong & Steffen Huck, *Behavioral Economics as Applied to Terms: A Primer*, 6 COMPETITION POL'Y INT'L 3 (2010) (describing instances where "irrational" firms may earn higher profits than rational ones).

priors, however, the regulator would tend to overly discount calls from staff and political overseers calling for intervention, and to misinterpret evidence that supports intervention as evidence in favor of non-intervention. At the same time, because the status quo is assumed to be one of relative intervention, she may hesitate to disturb the agency's current posture.

The point is that we cannot predict how a boundedly rational regulator suffering from a collection of biases will act. We can say that her actions will have no systematic correlation with optimal long-run policy; if they happen to mesh, it is due only to chance. Accordingly, if there is value to predictable policy, the elimination of regulatory bias is desirable. This section explores the potential of two strategies for ameliorating the harm associated with these biases: insulation and de-biasing.

A. *Insulation*

Insulation involves a “choice architect” eliminating (or making more difficult to choose) poor alternatives (e.g., smoking, fatty foods, payday borrowing, etc.) from the choice set, thereby protecting the biased decision maker from bad decisions. Much BE literature advocates this type of paternalistic solution in the context of flawed consumer decision making. It is unclear how insulation would work to eliminate regulatory bias.

In practice, legislatures and courts limit regulatory discretion. For example, legislation directing agency action (e.g., rulemaking or law enforcement) defines the scope—sometimes narrowly—of the agency's authority to act. Some have written on the need for legislatures to implement *ex ante* statutory constraints to curb *ex post* opportunism by regulators.⁵¹ Courts also police agencies to assure fealty to congressional intent, the Administrative Procedure Act, and constitutional strictures. In theory, legislatures and courts could use the same tools to eliminate poor choices from the regulator's set. To the extent that insulation strategies bind regulators to certain future actions to maximize welfare, they avoid suffering the “consumer sovereignty” issues that plague choice architecture directed at myopic consumers.

To employ these *ex ante* and *ex post* restraints to insulate agencies from poor regulatory choices, one must establish objectively “correct”

⁵¹ Two scholars note:

Since it is well known that regulatory authorities cannot be forced into welfare-maximising behavior, the question arises whether opportunistic behaviour can be excluded by the design and implementation of adequate hostages. . . . Regulatory authorities as part of the bureaucracy cannot be fined for inadequate behavior. As a consequence, it is only by means of a statutory constraint that opportunist behaviour by the regulatory authority can be disciplined.

Gunter Kneips & Hans-Jorg Weib, Reduction of Regulatory Risk: A Network Economic Approach, 6-7 (Institute für Verkehrswissenschaft und Regionalpolitik: Discussion Paper No. 117, 2007), available at <http://www.vwl.uni-freiburg.de/fakultaet/vw/publikationen/diskussionspapiere/Disk117.pdf>.

choices. To do so requires an unbiased choice architect. For the reasons detailed in Section II, there is no reason to believe that legislatures could systematically identify and limit poor choices from the regulator's set. Instead, they are likely to encourage them. The *seriatim* nature of judicial decision making, focused on particular parties and unique facts, is likely to diminish a court's ability to escape cognitive bias through learning, particularly when dealing with complex regulations.⁵² Because courts stake out positions in their published decisions, they may be especially susceptible to confirmation bias anchored on their previous rulings.

Even if one could find an unbiased architect, the informational demands to establish the optimal future regulatory choice set may be insurmountable. Deciding to block or restrict certain regulatory paths is a far more complex task than placing the fruit in front of the fries in the cafeteria. Any insulation strategy involving *ex post* review by courts almost necessarily would engage judges in ranking regulatory choices based on normative criteria. This contradicts established legal doctrines that direct courts to focus on agency adherence to procedural mandates, as well as constitutional and legislative restraints, rather than assess the wisdom of regulatory policy choices.⁵³

B. *De-biasing*

A second way to limit the impact of regulatory bias is to take steps to enable boundedly rational agents to make decisions as rational agents. De-biasing can include the complete elimination of biases or measures that lead naive regulators—i.e., those who are unaware of their biases—to account for their biases when making choices. For example, Jolls notes that in some experiments, showing jurors pictures of Tiger Woods before deliberation may act to eliminate unconscious racial bias.⁵⁴ Similarly, taking advantage of the availability heuristic by publicizing the most severe adverse effects associated with smoking may help counteract the over-optimism bias in smoking decisions. Below, we examine two de-biasing strategies in the regulatory context: routine adversarial review of policies, and making regulators more accountable for outcomes.

⁵² Farina & Rachlinski, *supra* note 12, at 578.

⁵³ See *Chevron v. Nat'l Res. Def. Council, Inc.*, 467 U.S. 837 (1984); *Olsen v. Nebraska*, 313 U.S. 236, 243 (1941); *W. Coast Hotel Co. v. Parrish*, 300 U.S. 379 (1937); *Nebbia v. New York*, 291 U.S. 502, 537-38 (1934).

⁵⁴ Jolls, *supra* note 23, at 138.

1. Adversarial Review

As explained above, regulatory institutions are unlikely to feature competition that corrects biases. One way to generate needed feedback is to establish an internal adversarial process; a serious internal critique of regulatory proposals can help punish irrational policy choices before they take effect, to some extent replicating the negative feedback the marketplace provides firms that act irrationally. Professors Jolls and Sunstein discuss research suggesting that outside directors on corporate boards help to ameliorate overly optimistic inside directors.⁵⁵ Some studies show that litigants who are forced to consider a case from their adversaries' perspectives are less likely to suffer from undue optimism or confirmation bias.⁵⁶

An agency could implement this "B-Team" approach by assigning staff members to act as defense counsel in a proposed case. This approach would provide an alternative narrative to explain documentary and statistical evidence. The adversary team may be biased as well, but anchoring would be in the opposite direction, forcing the two biases to compete. The B-Team could provide internal memoranda mustering the best arguments against the case contemporaneously with the staff's recommendation. In some instances, the two internal teams could take part in a mock trial. A complementary method, used by the FTC, is to have the Bureau of Economics provide a recommendation separate from the attorney case handlers.⁵⁷ The welfare-centered approach of economics provides a distinct perspective from those of attorneys who have investigated a case or researched a proposed rule often from a legal perspective. This would explain why a growing number of competition agencies have given economists greater autonomy to make recommendations directly to top agency leadership. By contrast, making economists subordinate to the lawyers in charge of cases or rulemaking mutes the de-biasing effect.

Ex ante review by external parties also may help to counteract biases in regulatory decision making. The Office of Management and Budget must approve proposed rules and certain research projects before an agency can proceed, although it does not apply to cases.⁵⁸ *Ex ante* peer review by a panel of experts, as now used in scientific policy making, could also be imported to the competition policy arena. Some statutes that require agency

⁵⁵ Christine Jolls & Cass R. Sunstein, *Debiasing Through Law*, 35 J. LEGAL STUDIES 199, 217 (2006).

⁵⁶ Jolls, *supra* note 23, at 137-38.

⁵⁷ Luke M. Froeb et al., *Economics at the FTC: Cases and Research, with Focus on Petroleum*, 27 REV. OF INDUS. ORG. 227 (2005).

⁵⁸ Rachlinski & Farina, *supra* note 12, at 597-98, criticize OMB review as merely a means to assure conformity with the President's political agenda, rather than to satisfy objective welfare criteria.

reports compel the agencies to consult with various other regulatory entities that are likely to have expertise in the subject area.⁵⁹

In rulemaking, *ex post* review by courts may force agencies to engage in this type of de-biasing. Established legal doctrines require agencies to open their decision making process to public participation, which acts to solicit multiple opposing viewpoints for most proposed regulations. Agencies also must show that they considered the record established during the rulemaking and articulate a plausible nexus between the rule ultimately adopted and the record evidence.⁶⁰ As Rachlinski and Farina explain, “[h]aving to assess the force of criticisms coming from a variety of perspectives, and craft a persuasive response to those criticisms that are (or may be viewed by a reviewing court as) significant, helps an agency to step outside of the decision making process.”⁶¹ This *ex post* review, however, does not apply to internal decisions to engage in law enforcement or less formal policy initiatives.

Altering the decision making structure also may ameliorate biases. Some evidence involving corporate governance suggests that multimember boards with heterogeneous priors will act more rationally than a unitary decision maker.⁶² Public agencies with bipartisan boards (e.g., the FTC) may be less susceptible to biases than executive branch agencies with one decision maker.

2. Greater Accountability: Focus on Outcomes Rather Than Outputs

The moral hazard that exists with respect to regulatory decision making serves to maintain biases. Creating an institutional framework that makes regulators more accountable for the welfare effects of their policies may help provide the feedback needed to correct or ameliorate biases.⁶³ As noted earlier, creating this framework is easier said than done. Measuring the welfare effects of a policy is a daunting task. Nonetheless, if agencies devoted additional resources to perform *ex post* evaluations of interventions, with budgets and other rewards (e.g., fewer hearings, good publicity) tied more closely to these results rather than outputs, regulators might internalize more of the costs associated with their biases rather than merely imposing them upon consumers. As a complement to this policy, longer ten-

⁵⁹ See, e.g., Postal Accountability and Enhancement Act § 703, 39 U.S.C. § 3633 (requiring the FTC to consult with GAO, the USPS, and the Treasury Department for its report).

⁶⁰ See, e.g., *Business Roundtable v. SEC*, 647 F.3d 1144, 1148 (D.C. Cir. 2011) (internal citations omitted).

⁶¹ Rachlinski & Farina, *supra* note 12, at 588-89.

⁶² Any gains from de-biasing must be weighed against the decision making costs associated with a multi-member decision making processes.

⁶³ See William E. Kovacic, *Using Ex Post Evaluation to Improve the Performance of Competition Policy Authorities*, 31 J. CORP. L. 503 (2006).

ures for regulators would make it difficult for them to obfuscate their connection with a failed policy.

A focus on outcomes also can act as a commitment device to mitigate the effects of myopia. Consider a regulator who in period one has a choice between announcing a case and initiating a rulemaking prematurely. The publicity surrounding the announcement and the impression that “something is being done” garners the regulator immediate political benefits. Because action is taken prematurely, however, it will provide diminished benefits to consumers in period two. Alternatively, if the regulator waits until period two to make a decision on the policy—thus allowing more time for research, discovery, etc.—the decision will create greater consumer benefits in period two.⁶⁴ Thus, if the regulator chooses to consume greater political benefits in period one, she will cause consumers to suffer harm in period two. We assume immediate action is more likely to garner political support.

As suggested by DellaVigna and Malmendier, suppose that the regulator has a time-inconsistent, quasi-hyperbolic discount rate.⁶⁵ Hyperbolic discounting can lead to time-inconsistent decisions in which the regulator at time zero does not want to see the case commence in period one, but changes her mind when period one arrives because the immediate benefits are now more attractive due to a more heavily discounted period two cost.

If the regulator were to have a time-consistent discount rate, the appropriate rule for commencing action in period one would be the same as the rule for the hyperbolic-discounting regulator at time zero. As expected, with or without hyperbolic discounting, probability of bringing the case prematurely is a positive function of the political benefit from current action and the relative weight that the regulator places on political rewards versus social welfare. Hyperbolic discounting, however, implies both a greater propensity for time inconsistency as well as increased incentives to commence the case prematurely relative to an unbiased regulator.

A framework that ties rewards to outcomes, rather than outputs, would act to provide internal disutility and would reduce future rewards. In theory, the regulator would act as if she were completely de-biased. In this manner, a focus on outcomes in period two can help make the period zero regulator credibly commit to bringing a case only when long term social gains are maximized. Of course, this de-biasing strategy does not lead to optimal long-run policies—as long as the regulator values political rewards, she will always have some incentives to take premature action. Only strategies that also reduce political influence or increase tastes for long-run welfare can reduce the public choice influence on policy making.

⁶⁴ This decision may include taking no action.

⁶⁵ DellaVigna & Malmendier, *supra* note 28, at 318.

CONCLUSION

Much work in the nascent field of behavioral antitrust prescribes expanded use of competition law to correct consumer harm that arises from biased firm behavior. If regulators, who are human after all, suffer from the same biases, our analysis suggests a greater skepticism of these calls for increased intervention. Although regulators are likely to have an edge over consumers in terms of experience and expertise, it is not clear that they will be able to intervene in ways that systematically improve welfare. The model we present shows that political pressure will cause rational regulators to choose policies that are not optimal from a consumer standpoint, and that in a large number of circumstances regulatory bias will exacerbate this tendency.

We also suggest special caution when attempting to correct firm behavior, for regulatory bias appears likely more durable than firm bias because the market provides a much stronger feedback mechanism than exists in the regulatory environment. To the extent that we can de-bias regulators—either through a greater use of internal and external adversarial review or by making a closer nexus between outcomes and rewards—they will become more effective at welfare-enhancing interventions.