

MERCATUS ON POLICY

Behavioral Economics and Biased Regulators

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BEHAVIORAL ECONOMICS (BE) examines the implications for decision-making when actors suffer from cognitive flaws documented in the psychological literature. Broadly, BE replaces the assumption of rationality—that errors tend to cancel out over time and across populations, so on average firms and consumers act as if they were rational—with one of “bounded rationality.” When actors are *boundedly* rational, their cognitive flaws lead to systematic errors and self-control problems. It should come as no surprise that BE has become an increasingly common justification for regulatory intervention.¹

There may be serious reasons to be skeptical about the import of BE to public policy.² But even if one accepts that people systematically err, one must also recognize that any government policy is itself conceived and implemented by people who likely suffer from the same biases. Public choice opened up the black box of government decision-making, allowing us to examine the policy choices of rational, self-interested decision-makers. What happens when this rationality assumption is replaced with one of bounded rationality?³ The short answer is that one cannot have any confidence that the policies set by biased regulators are likely to improve welfare.

HOW WILL BIASES AFFECT REGULATORY DECISIONS?

Regulators are likely to use heuristics—mental shortcuts—to form what they consider the optimal long-run policy choice. Behavioral economics demonstrates that these shortcuts, although timesaving, may lead to systematically flawed decision-making. Experimental

research has documented the existence of several of these flawed heuristics.⁴

The **availability heuristic**, for example, causes people to overemphasize recent and particularly salient events when estimating the likelihood and cost of those events in occurring in the future.⁵ The **hindsight bias** leads people to overestimate the ex ante probability of an event occurring given that it has actually occurred.⁶ Finally, **optimism bias** causes individuals to underestimate their own probability of experiencing a bad outcome. In addition, regulators may suffer from **myopia**, which can arise due to cognitive inability to process life-cycle costs or from self-control problems.⁷

Regulators who suffer from these cognitive flaws are likely to commit systematic errors when forming policies. Myopic regulators, for example, will focus excessively on short-run considerations, such as measurable increases in activity that are clearly associated with their tenure, rather than optimal long-run considerations that may suggest pursuing policies that pay off only after the regulator's tenure. The availability bias, moreover, would cause regulators to overestimate the future risk of certain bad outcomes that may have recently occurred, and thus take too much precaution to avoid them.⁸ In the context of the quasi-negligence determinations involved in certain consumer protection violations, for example, hindsight bias is likely to cause an agency to look more skeptically on practices that led to harm ex post.⁹ Finally, optimism bias may cause regulators to hold an unduly optimistic view of the likely success of a policy choice.

Apart from flawed heuristics and myopia, there is a class of cognitive errors that tends to wed people irrationally to the status quo.¹⁰ The **endowment effect**, for example, leads experimental subjects to require more compensation to part with an endowment than they are willing to pay to gain it.¹¹ This observed gap between willingness to accept and willingness to pay suggests that people are more averse to losing what they already possess than rational choice theory predicts.

Applied to regulatory decision-making, this class of cognitive shortcomings will tend to make policies “sticky” around initial points. The direction in which the **status quo bias** will steer policy is indeterminate theoretically and will depend on the initial policy endowment. From this stickiness emerges a path dependency in policy choice where policies adopted in the past have a lingering effect on future policy adoption.

Experimental research also suggests that individuals tend to become irrationally wedded to their early impressions about an initially ambiguous situation.¹² **Confirmation 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. In regulatory settings, confirmation bias leads to overconfidence in one's estimates of optimal policy. At the operational level, regulators may misread or ignore facts that conflict with the theory of a case or rulemaking initiative. At the policy level, an agency head may misread evidence to confirm priors regarding larger policy choices, such as adopting an interventionist or laissez-faire attitude toward certain business practices. Confirmation bias has an asymmetric effect on policy outcomes; regulators with incorrect priors cause more harm than their counterparts, who are initially wedded to the correct decision.¹³

In theory, there is no way to identify the direction of confirmation bias. In practice, however, the first 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 requests intervention. If these requests for action become the anchoring point from which the regulator interprets subsequent evidence to estimate the optimal policy, it will lead to an intervention bias.

IS REGULATORY BIAS PERSISTENT?

These biases may be overcome with time and experience. The consensus within BE scholarship appears to be that firms are unlikely to make systematically biased decisions in the long run.¹⁴ Recent evidence also suggests that consumers who initially display biases can learn to overcome them with marketplace experience.¹⁵ So is it reasonable to assume that because regulators often are “experts” and face similar problems repeatedly they will be able to make unbiased policy decisions in the long run?¹⁶

The short answer is probably not. The distinction between regulatory and market feedback is significant: marketplace performance directly measures consumer benefits from actions, whereas regulatory outputs have no necessary relationship to consumer welfare. Even if rewards were tied more closely to outcomes, time lags

and measurement problems make it difficult to link clear regulatory failures to specific regulators, especially given their relatively short tenures.

Further, the costs of being wrong for the regulator are low compared to those of consumers and firms. Generally speaking, a company that makes systematic mistakes is more likely to fail than a regulatory body that continually adopts welfare-reducing policies.¹⁷ Biased regulators may continue to enjoy rewards as long as they increase outputs on margins that political overseers care about, such as actions that maximize their probability of reelection. Even when competition among regulatory bodies occurs, it typically assumes the form of activities that have no necessary correlation with positive welfare outcomes. For example, enforcement agencies often compete for scarce appropriations by maximizing the appearance of action (e.g., enforcement actions and rulemaking proceedings), not the impact of these actions on welfare. Consequently, the weak connection between welfare and regulatory rewards has the potential to select a cadre of regulators who are biased toward short-run, politically expedient policies.¹⁸

POSSIBLE SOLUTIONS

One possible solution is the use of **insulation**—that is, limiting the ability of agents to choose poor alternatives, which could in theory constrain biased decision-makers from bad decisions. Through **choice architecture**, regulators can nudge people into making better choices—for example, by making healthy food easier to reach than junk food in the cafeteria line.¹⁹ In the context of regulatory control, however, the trouble comes with deciding just which organization is capable of nudging biased regulators. There is no reason to believe that legislatures are sufficiently unbiased to play this role. Further, 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 which potential future regulatory path to block is a far more complex task than placing fruit ahead of the fries in the cafeteria. Further, any insulation strategy involving ex post review by courts almost necessarily would engage judges in ranking regulatory choices based on normative criteria, contradicting established legal doctrines which limit court review to agency adherence to proce-

dural mandates, as well as constitutional and legislative restraints.²⁰ So although 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.

A second way to limit the impact of regulatory bias is to take steps to enable boundedly rational agents to make decisions as if they were rational agents. As explained above, though, regulatory institutions are unlikely to feature competition that corrects for behavioral biases. One way to address this issue and generate needed feedback is to establish an internal adversarial process. A serious internal critique of regulatory proposals (e.g., the establishment of a “B-Team”) can help punish irrational policy choices before they take effect. The FTC’s complementary method is to have a team of economists provide an independent recommendation on policy decisions. The welfare-centered approach of economics provides a perspective distinct from the orientation of attorneys who have investigated a case or researched a proposed rule. (Note that subordinating economists to the lawyers in charge of cases or rulemaking mutes the de-biasing effect.) Ex ante review by external parties also may help counteract biases in regulatory decision-making. Peer review by a panel of experts, as is now used in scientific policymaking, could also be used in other policymaking arenas.²¹

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. To some extent, these methods replicate the negative feedback the marketplace provides and would help regulators make more rational decisions.²² As a complement to this policy, longer tenures for regulators would make it more difficult for them to obfuscate their connection with a failed policy.

CONCLUSION

Much BE research prescribes regulatory intervention to ameliorate the effect of consumer and firm biases. If regulators—who are human, after all—suffer from the same biases, one should be skeptical that such interventions are likely to help. Indeed, they may make things worse. Regulatory bias, moreover, seems harder to correct than that which consumers and firms may suffer from, as the market provides stronger corrective feedback than the regulatory environment.

OVERVIEW OF REGULATORY BIASES

BIAS	DESCRIPTION	IMPLICATION FOR REGULATORS
Availability heuristic	Place undue weight on recent, salient events	Engage in regulatory overreaction
Hindsight bias	Overestimate the ex ante probability of an event occurring given that it has occurred	Are too likely to find that practices causing harm violated a legal standard
Myopia/hyperbolic discounting	Discount future benefits at too high a rate versus current costs	Pursue policies that maximize short-run rewards rather than long-run goals
Confirmation bias	Discount true information contrary to prior beliefs	Resistant to change regulatory course even in face of contrary evidence
Optimism	Overestimate the probability of a good outcome	Overestimate the success of a regulatory initiative
Status quo bias	Are irrationally wedded to current state	Cause regulatory inertia and path dependency

ENDNOTES

- See Cass Sunstein and Richard Thaler, *Nudge* (New York: Penguin, 2009). Many of the calls for intervention can be found in scholarship from the field of behavioral law and economics. Like the field of law and economics generally, behavioral law and economics uses economic analysis—as informed by the cognitive flaws explored in behavioral economics—to analyze the effect of legal rules on incentives and to explain the content of these rules. See, e.g., Christine Jolls, Cass R. Sunstein, and Richard R. Thaler, "A Behavioral Approach to Law and Economics," *Stanford Law Review* 50 (1998): 1471–550. Some behavioral law and economics scholars, for example, have relied on BE to justify interventions in consumer financial markets, including the establishment of the Consumer Financial Protection Bureau. See, e.g., Elizabeth Warren and Oren Bar-Gil, "Making Credit Safer," *University of Pennsylvania Law Review* 157, no. 1 (2008). A more specialized application of behavioral law and economics can be found in the emerging field known as "behavioral antitrust" (BA), which challenges the assumption underlying modern antitrust law that firms act rationally and posits that, if firm managers suffer from cognitive biases, conduct like resale price maintenance, predatory pricing, and mergers are more likely to be harmful than existing legal doctrine assumes.
- For example, one serious question is the importability of consumer biases to firms, which must survive in competitive environments. The overall outcome of biases that pull in different directions, moreover, complicates analyses. Further, some note that regardless of whether consumers' and firms' actions are motivated by boundedly rational processes, antitrust focuses on empirical data; a measured anticompetitive effect or efficiency is the same regardless of the motivations underlying it. See generally Joshua D. Wright and Douglas H. Ginsburg, "Behavioral Law & Economics: Its Origins, Fatal Flaws, and Implications for Liberty," *Northwestern Law Review* 106, no. 3 (2012); Jonathan Klick and Gregory Mitchell, "Government Regulation of Irrationality," *Minnesota Law Review* 90 (2006); Joshua D. Wright, "Behavioral Law and Economics, Paternalism, and Consumer Contracts: An Empirical Perspective," *NYU Journal of Law & Liberty* 2, no. 3 (2007); Joshua D. Wright and Judd E. Stone II, "Misbehavioral Economics: The Case against Behavioral Antitrust," *Cardozo Law Review* 33, no. 4 (2012).
- See Edward L. Glaeser, "Paternalism and Psychology," *University of Chicago Law Review* 73, no. 1 (2006). This issue is dealt with formally in a public choice framework in James C. Cooper and William E. Kovacic, "Behavioral Economics: Implications for Regulatory Behavior," *Journal of Regulatory Economics* 41, no. 1 (2012), and applied more specifically to antitrust policy in James C. Cooper and William E. Kovacic, "Behavioral Economics and Its Meaning for Antitrust Agency Decision Making," *Journal of Law, Economics & Policy* 8 (2012).
- See Russell B. Korobkin and Thomas S. Ulen, "Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics," *California Law Review* 88, no. 4 (2000) and Christine Jolls, "Behavioral Law and Economics," in *Behavioral Economics and Its Applications*, ed. Peter Diamond and Hannu Vartiainen (Princeton: Princeton University Press, 2007), 115–44.
- A person who recently witnessed his neighbor's house burn down, for example, is likely to overestimate the odds that his house will burn in the future.
- For example, a jury considering a negligence case may be too likely to find that the defendant's actions were unreasonable ex ante knowing that an accident resulted.
- Xavier Gabaix and David Laibson, "Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets," *Quarterly Journal of Economics* 121, no. 2 (2006); David Laibson, "Golden Eggs and Hyperbolic Discounting," *Quarterly Journal of Economics* 112, no. 2 (1997); Stefano DellaVigna and Ulrike Malmendier, "Contract Design and Self-Control: Theory and Evidence," *Quarterly Journal of Economics* 119, no. 2 (2004).
- Citing the Love Canal episode, for example, Cass Sunstein has argued 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. See Timur Kuran and Cass R. Sunstein, "Availability Cascades and Risk Regulation," *Stanford Law Review* 51, no. 4 (1999).
- For example, under the FTC Act, certain low levels of data security may be "unfair" if they result in unavoidable actual or likely consumer harm, and if such harm is not outweighed by benefits. Hindsight bias may lead regulators to put undue weight on an actual data breach occurring as evidence that insufficient precautions were taken ex ante.
- Concern about status quo bias has inspired vigorous debate on proper default rules for consumer choices over retirement plans, insurance coverage, and privacy policies. See, e.g., Korobkin and

Ulen, "Law and Behavioral Science," 2000, 1109–11; Colin Camerer et al., "Regulation for Conservatives: Behavioral Economics and the Case for 'Asymmetric Paternalism,'" *University of Pennsylvania Law Review* 151 (2003): 1226–30.

11. Some recent experimental work has demonstrated that when misconceptions about experimental protocols and tasks are corrected in an experimental setting the WTP-WTA gap disappears. See Charles R. Plott and Kathryn Zeiler, "Exchange Assymetries Incorrectly Interpreted as Evidence of Endowment Effect Theory and Prospect Theory?," *American Economic Review* 97 (2007); Charles R. Plott and Kathryn Zeiler, "The Willingness to Pay–Willingness to Accept Gap, the 'Endowment Effect,' Subject Misconceptions, and Experimental Procedures for Eliciting Valuations," *American Economic Review* 95, no. 3 (2005).
12. This bias is documented in experimental settings involving litigants. George Lowenstein and Don A. Moore, "When Ignorance Is Bliss: Information Exchange and Inefficiency in Bargaining," *Journal of Legal Studies* 33 (2004): 37–58; Linda Babcock and George Loewenstein, "Explaining Bargain Impasse: The Role of Self-Serving Biases," *Journal of Economic Perspectives* 11, no. 1 (1997): 109–26.
13. For example, assume that the correct prior odds on vertical restraints suggest a laissez-faire posture. 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 makes 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 the bias is toward the correct decision, overconfidence will have a smaller effect on the efficacy of ultimate policy choices.
14. Stefano DellaVigna, "Psychology and Economics: Evidence from the Field," *Journal of Economic Literature* 47, no. 2 (2009): 315–72. 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.

15. List finds evidence that the endowment effect fades as agents become more experienced traders. John A. List, "Does Market Experience Eliminate Market Anomalies?," *Quarterly Journal of Economics* 118, no. 1 (2003): 41–71; John A. List, "Neoclassical Theory Versus Prospect Theory: Evidence from the Marketplace," *Econometrica* 72, no. 2 (2004): 615–25.
16. Even if agency heads who make decisions are political appointees and not true field experts, as Rachlinski and Farina note, agency career staff can provide expertise and experience. J. J. Rachlinski and C. R. Farina, "Cognitive Psychology and Optimal Government Design," *Cornell Law Review* 87, no. 2 (2002): 549–615.
17. See, e.g., Vernon L. Smith and James M. Walker, "Monetary Rewards and Decision Costs in Experimental Economics," *Economic Inquiry* 31 (1993) (experimental results tend toward those predicted by the rational model as stakes increase).

18. These observations warrant special caution in assuming the efficacy of antitrust intervention to correct perceived firm biases. See, e.g., Maurice E. Stucke, "Behavioral Economics at the Gate: Antitrust in the Twenty-First Century," *Loyola University Chicago Law Journal* 38 no. 3 (2007): 513–92 and Avisholom Tor, "The Fable of Entry: Bounded Rationality, Market Discipline, and Legal Policy," *Michigan Law Review* 101, no. 2 (2002): 482–568, who 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. Tor and Rinner propose 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. Avisholom Tor and William J. Rinner, "Behavioral Antitrust: A New Approach to the Rule of Reason After Leegin," *University of Illinois Law Review* 2011, no. 3 (2011): 805–64.
19. Sunstein and Thaler refer to this process—preserving choices, but making "poor" choices harder to make—as "libertarian paternalism." See *Nudge*; Cass R. Sunstein and Richard H. Thaler, "Libertarian Paternalism Is Not an Oxymoron," *University of Chicago Law Review* 70 (2003).
20. See *Chevron U.S.A., Inc. v. Natural Resources Defense 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).
21. Some statutes that require agency reports compel the agencies to consult with various other regulatory entities that are likely to have expertise in the subject area. The Postal Accountability and Enhancement Act, 39 U.S.C. § 101, 120 Stat. 3198 (2006) et seq., required the FTC to consult with GAO, the USPS, and the Treasury Department for its report.
22. Jolls and Sunstein discuss research suggesting that outside directors on corporate boards help to ameliorate overly optimistic inside directors. Christine Jolls and Cass Sunstein, "Debiasing through Law," *Journal of Legal Studies* 35, no. 1 (2006): 199–242.

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