

## A Behavioral View of Investor Protection

*Thomas S. Ulen*\*:\*\*

### INTRODUCTION

When, in the early 1980s, I first began to think and write about legal issues, I did so as an assistant professor of economics. I had had first-rate training in that field and felt that I was on my way to fully understanding the discipline of microeconomics. The core tool in my explanatory toolkit was rational choice theory, the theory that human beings, at least in making economic decisions (such as what to buy and how much to pay for it, how much to work and how much to play, what to save from one's income and what to consume, and so on), know their own tastes and preferences, inform themselves about matters relevant to their preference-satisfaction (up to the point at which the cost of a little more information is just equal to the expected benefit of that information), and plan and act so as to maximize their well-being, subject to income, time, and other constraints that they face. It is a powerful theory, and its application to economic analysis has yielded important results.

The application of rational choice theory to legal analysis was, in the early 1980s, revolutionizing that discipline. Someone who had command of rational choice theory could throw new light on old issues in the law, such as the real differences between the negligence and strict liability standards in tort, or provide economic efficiency justifications for seemingly mysterious legal doctrines, such as the attorney-client privilege.

There was, however, a nagging small voice that kept asking how appropriate it was to use rational choice theory to examine

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noneconomic decisions, such as those about what career to pursue, what partner to love, whether to have children and, if so, how many. As I went about the country lecturing to law school faculty about the excitement and power of law and economics, I often got a version of the arresting question, “Who are these rational people you’re talking about?” But I soldiered on, explaining that there were remarkably talented economists pushing rational choice theory into these noneconomic realms and showing (or purporting to show) that even emotion-laden decisions had a stolid, rational core. Why, even criminals could be shown to make their decisions about when, where, and what crimes to commit on the basis of a fairly simple comparison of expected costs and benefits.<sup>1</sup>

It came as a stunning mid-career epiphany for me to discover the work of Professors Daniel Kahneman and Amos Tversky.<sup>2</sup> Their scholarship made me, and many others in law and economics, rethink and rework much of what we had thought to be settled in our discipline.<sup>3</sup> So, it was a remarkable honor to share the podium with Professor Kahneman, one of my scholarly heroes.<sup>4</sup>

I begin this Article by rehearsing the general impact that behavioral economics is having, or might have, on what and how we regulate private decisionmaking. Part II turns from the generality of behavioral economics-based regulation to the particularities of regulations intended to protect investors. I conclude by making a modest proposal for a practice for determining what works in investor-protection regulation: randomized controlled trials.

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1. See Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1969).

2. See, e.g., Daniel Kahneman & Amos Tversky, *Choices, Values, and Frames*, 34 AM. PSYCHOL. 341 (1983) (discussing cognitive and psychophysical bases of choice in risky and riskless situations); Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 SCIENCE 1124 (1974) (describing three heuristics—representativeness, availability, and anchoring—and applied and theoretical implications thereof).

3. See, e.g., Russell B. Korobkin & Thomas S. Ulen, *Law and Decision Science: Removing the Rationality Assumption from Law and Economics*, 88 CALIF. L. REV. 1051 (2000) (advocating for a more nuanced understanding of the “rational man”); Jeffrey Rachlinski, *Gains, Losses, and the Psychology of Litigation*, 70 S. CAL. L. REV. 113 (1996) (questioning the assumption that litigants strive to obtain best outcomes); Cass R. Sunstein, *Deliberative Trouble: Why Groups Go to Extremes*, 110 YALE L.J. 71 (2000) (“My principal purpose in this Essay is to investigate a striking but largely neglected statistical regularity—that of group polarization—and to relate this phenomenon to underlying questions about the role of deliberation in the “public sphere” of a heterogeneous democracy.”).

4. And also, I must add, to share the commentating with my former colleague and dear friend Russell Korobkin, who, as a young professor at the University of Illinois College of Law, taught me so much about behavioral decision theory.

## I. REGULATION BEFORE BEHAVIORAL ECONOMICS

For many years there was a comfortable, conventional, and widely held economic analysis of the governmental regulation of the marketplace. Economists demonstrated that when markets and individuals had certain well-defined characteristics (such as perfectly competitive output and input markets and no market imperfections), markets generated Pareto-optimal outcomes, and there was then no argument to be made for governmental intervention into those markets.<sup>5</sup> If society deemed those outcomes inequitable, then tax-and-transfer policies could remedy the inequities without much disturbing the efficiencies of the marketplace. Economists recognized that there were sometimes market imperfections—monopolies and monopsonies, public goods, external costs and benefits, collective action problems, and severe informational asymmetries—that could cause markets to fail to achieve socially optimal results.<sup>6</sup>

From at least the mid-1930s on there was a consensus about how each of these market imperfections led individual calculations of self-interest to reach socially undesirable results. Moreover, there was consensus regarding the policy correctives for each of these market imperfections. In the presence of monopolies and monopsonies, antitrust efforts, competition-enhancing policies, or price regulation to approximate competitive prices would serve as correctives. In the presence of public goods, private enterprises would not provide the socially appropriate amount of the public good (because of the free rider problem<sup>7</sup>), and therefore public provision or public subsidization of the

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5. See Herbert Hovenkamp, *The Limits of Preference-Based Legal Policy*, 89 NW. U. L. REV. 4, 63 (1994) (“A theory that accepts government intervention only to permit movement from the existing position to the Pareto optimal outcome predetermines most social choices.”). See also Thomas S. Ulen, *Courts, Legislatures, and the General Theory of Second Best in Law and Economics*, 73 CHI.-KENT L. REV. 189, 192–96 (discussing Pareto-optimality and market efficiency).

6. See Ulen, *Second Best in Law and Economics*, *supra* note 5, at 192–93.

7. The free rider problem occurs when

the provider of a good or service is unable to capture all of the value of that good or service because he is unable to exclude people from receiving the benefits of it. This can be a problem with the provision of positive externalities, or “public goods,” and with the reduction of negative externalities. An example of this is pollution reduction. If a large group of property owners must negotiate with a polluting factory to reduce the amount of pollution, each property owner will have an incentive to understate how much he is willing to pay for the reduction in pollution, on the assumption that “[i]f I refuse to contribute my fair share of the purchase price, others, who care more deeply about pollution than I do, will make up the difference.”

Michael I. Swygert & Katherine Earle Yanes, *A Primer of Coase Theorem: Making Law in a World of Zero Transaction Costs*, 11 DEPAUL BUS. L.J. 1, 20 n.65 (1998) (quoting RICHARD A. POSNER, *ECONOMIC ANALYSIS OF THE LAW* 63 (4th ed. 1992)).

private provision of the public good would correct the problem. Taxes and exposure to tort liability could internalize and thereby correct externalities. And mandatory information disclosures (as in the legal requirement to disclose some risks and knowledge of latent defects) could minimize the adverse social effects of severe informational asymmetries.<sup>8</sup>

The overarching goal in correcting each imperfection was to better align individual incentives with social goals. For example, if producers were maximizing profit by spewing noxious effluent into the air (and assuming there were no policies to prevent its occurrence), then they could be induced to internalize these external costs if a regulator could assess a tax per unit of effluent. The rational polluter would then seek to minimize his tax liability by reducing his pollution to the point at which his expected tax liability just equaled his marginal cost of compliance.<sup>9</sup> Note that a central idea of the traditional regulatory regime was to use prices as the principal means of affecting behavior.

## II. REGULATION AFTER BEHAVIORAL ECONOMICS

This Part focuses on how regulation has, and might, change as a result of the behavioral literature of the past thirty years. I first consider the general connection between behavioralism and the manner of regulation. Then I turn to the particular topic of investor-protection regulation. With regard to that topic, I first rehearse the traditional case for protecting investors (or not), and then suggest how behavioral results might change the justification for, and manner of, regulating so as to protect investors.

### *A. The General Impact of Behavioral Economics on Regulation*

And then came behavioral economics.<sup>10</sup> As Professor Korobkin and I have written, at the heart of behavioral economics is a set of experimental results that question the aptness of rational choice theory

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8. For a summary of this standard literature, see ROBERT D. COOTER & THOMAS S. ULEN, *LAW AND ECONOMICS*, ch. 2 (6th ed. 2011) and STEPHEN BREYER, *REGULATION AND ITS REFORM* (1984).

9. An alternative policy for correcting a pollution externality might be to allow victims of that externality to bring actions against the polluter for the harms that the pollution inflicted on them. Rational polluters would then incorporate this expected liability into their cost considerations, cutting back on their pollution so as to minimize their expected liability. See COOTER & ULEN, *supra* note 8, at 39–40.

10. A conventional starting point for the body of work called “behavioral economics” or “behavioral decision theory” is *JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES* (Daniel Kahneman, Paul Slovic & Amos Tversky eds., 1982).

as a guide to human behavior.<sup>11</sup> And to the extent that regulatory policy and law assume rational behavior—for instance, that people respond to price and informational incentives in rational ways—then behavioral economics undercuts a central foundation of conventional regulatory economics. If nothing more, the evidence from behavioral economics would seem to demand that it would be rash, or worse, to assume rational behavior on the part of the regulated.<sup>12</sup>

We are all familiar with the suggestion from Thaler and Sunstein (and others) that altering default rules<sup>13</sup> can lead to dramatically different outcomes.<sup>14</sup> Let me give you three examples.

We all know that there is a very large undersupply of transplantable human organs.<sup>15</sup> There have been approximately 100,000 people on the various waiting lists for organ transplants in recent years and only 30,000 organs available for transplant. Roughly 6000 people on the waiting list die each year without having received a transplant. At the same time that the number of transplants has been increasing (doubling between 1988 and 2006), the number of people on the waiting list has

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11. See Korobkin & Ulen, *supra* note 3, at 1055–59.

12. For an excellent overview of the many ways in which behavioral considerations might affect regulatory policy, see THE BEHAVIORAL FOUNDATIONS OF PUBLIC POLICY (Eldar Shafir ed., 2012) and CASS R. SUNSTEIN, SIMPLER: THE FUTURE OF GOVERNMENT (2013). A recent philosophical argument that uses behavioral economics and psychology to argue for more paternalistic policies is SARAH CONLY, AGAINST AUTONOMY: JUSTIFYING COERCIVE PATERNALISM (2013).

13. A “default rule” is a rule that is in effect unless the party or parties subject to the rule agree to and incur the costs of changing that rule. So, to take an example from computers, the default rule for the appearance of a document in a word-processing program is likely to have a white background; black typeface; a particular font; top, bottom, and side margins of a certain size; and so on. But any user can change those settings.

There are two standard explanations for default rules in the law and economics literature. The first is that if they are set to what most people would want, then these “majoritarian default rules” save overall transaction costs by requiring a minority of people to incur the costs of changing away from those defaults. The second explanation is that some defaults are “penalty default rules,” designed to penalize one party for failing to take some action that would enhance the bargain. Limiting contract damages for nonperformance to an amount that is reasonably foreseeable (the rule from *Hadley v. Baxendale*, 156 Eng. Rep. 145 (1854)) is an example: If the innocent party knows that she will have special losses from nonperformance, she has an incentive to disclose those special losses so that the other party can bring those losses into consideration in negotiating the terms of the bargain. For a behavioral view of default rules, see Russell Korobkin, *The Status Quo Bias and Contract Default Rules*, 83 CORNELL L. REV. 608 (1998).

14. See RICHARD H. THALER & CASS R. SUNSTEIN, NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS (2009).

15. This discussion is taken from my forthcoming article, Thomas S. Ulen, *Behavioral Law and Economics: Law, Policy, and Science*, SUP. CT. ECON. REV. (forthcoming 2013) (on file with author). See generally David Orentlicher, *Presumed Consent to Organ Donation: Its Rise and Fall in the United States*, 61 RUTGERS L. REV. 295 (2009) (documenting the “little-known experiment” in the United States that created a presumption of consent to donate in some states and on limited bases).

been growing much more rapidly (increasing approximately six-fold between 1988 and 2006). One method of dealing with this or any other excess demand is to let the price of the underlying commodity rise. However, because there are valid concerns about the appropriateness of using rising prices to ameliorate the undersupply of transplantable organs (and federal law prohibiting such a market<sup>16</sup>), there has been a search for alternatives.

One of those alternatives might be to change the default rule for individual donors of transplantable organs. The leading choices for a default rule are an opt-in rule (under which the presumption is that an individual's organs are not transplantable unless she has explicitly affirmed that they are transplantable) and an opt-out rule (under which the presumption is that an individual's organs are transplantable unless he has explicitly affirmed that they are not transplantable). On the reasonable assumptions that the costs of opting in and opting out are both trivial and roughly the same, one could make a Coase-like argument that whichever of the default rules we choose would not have much effect on the quantity of transplantable organs.<sup>17</sup>

The facts suggest, however, that the default rule can matter a lot.<sup>18</sup> Eighty-five percent of Americans approve of organ donation and express an intention to donate. Fewer than 50%, however, have actually made a decision to donate, and only 28% have signed a donor card or in some other way made their intention explicit. Surveys in Germany, Spain, and Sweden have found that individuals in those countries have exactly the same feelings about donation and have done just as little about it as have those in the United States.

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16. See The National Organ Transplantation Act of 1984 (NOTA), Pub. L. No. 98-507, 98 Stat. 2339 (codified as amended at 42 U.S.C. § 274 (2006)). NOTA established "a national database for donor organ availability and set out national standards for procurement hospitals to follow so that they would equitably and effectively allocate donor organs." Lisa B. Deutsch, *Medicaid Payment for Organ Transplants: The Extent of Mandated Coverage*, 30 COLUM. J.L. & SOC. PROBS. 185, 202 (1997). For a brief medical and legislative history of organ transplant in the United States, including a summary of NOTA, see Melissa Wong, Note, *Coverage for Kidneys: The Intersection of Insurance and Organ Transplantation*, 16 CONN. INS. L.J. 535, 536-42 (2010).

17. The Coase Theorem holds that when transaction costs—the costs of identifying a seller or buyer, negotiating with that party, and then, once a bargain is struck, monitoring and enforcing that bargain—are zero, then an efficient allocation of resources will result, regardless of the law. See Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 3 (1960); COOTER & ULEN, *supra* note 5, at 81-87. In the example given in the text, the implication is that if the costs of opting in or opting out are small and identical, then the number of transplantable organs will be roughly the same—and in an efficient amount—regardless of whether the law is opt-in or opt-out.

18. See Eric J. Johnson & Daniel Goldstein, *Do Defaults Save Lives?*, 302 SCIENCE 1338 (2003). This review of Johnson and Goldstein draws on upcoming remarks in Ulen, *Behavioral Law and Economics*, *supra* note 15.

To see if they could explain these facts, Johnson and Goldstein conducted three experiments.<sup>19</sup> In the first, they used an on-line survey with 161 respondents. The participants were told that they had recently moved into a new state and had to adopt a policy with respect to their organ donations. One-third of the respondents were told that the prevailing rule was not to be a donor but that they could opt-in to become a donor. Another third were told that the prevailing rule was to be an organ donor but that they could opt-out of that rule. A final third of the subjects were told that there was no default rule; the subject had to express a preference by opting into becoming a donor or opting out of being a donor.

The results were revealing. Subjects' donation rates were about twice as high when they had to opt-out as when they had to opt-in, even though the cost of expressing either option was the same.<sup>20</sup> In the neutrality condition, 79% chose to donate, only slightly less than the percentage of respondents who chose to donate when there was presumed consent with opt-out.<sup>21</sup> These results suggest that, all other things equal, a policy of presumed consent with opt-out is optimal, either because it conforms to individuals' "true" preferences or having a greater supply of donated organs is socially desirable.

Johnson and Goldstein also compared organ donation rates across European countries that differ according to whether they have presumed consent with an opt-out rule or no consent with an opt-in rule. The four countries that have an opt-in rule—Denmark, the Netherlands, the United Kingdom, and Germany—have much lower donation rates, ranging from 4.25% in Denmark, to 12% in Germany, to 17.17% in the United Kingdom, to 27.5% in the Netherlands. The seven countries that have opt-out rules—Austria, Belgium, France, Hungary, Poland, Portugal, and Sweden—have much higher rates of donation, ranging from a low of 85.9% to a high of more than 99%.<sup>22</sup>

Finally, the authors ran a regression in which the dependent variable

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19. See Johnson & Goldstein, *supra* note 18.

20. The donation rate was 42% when respondents had to opt-in and 82% when they had to opt-out of presumed consent. *Id.* at 1338.

21. There is still a bit of a puzzle about why these rates are so dramatically different when the costs of opting in or opting out are equal. Johnson and Goldstein propose three possibilities: (1) respondents construe the default as a recommendation from policymakers; (2) accepting a default is virtually costless, while opting in or opting out is costly, and people seek to minimize their costs; and (3) the default is the status quo and people have a bias toward the status quo. *Id.* at 1339. Neither of the last two possibilities seems to explain the results of the neutrality version of the experiment.

22. It does not appear to be the case that religion, total population, ethnic diversity, or income per capita are statistically significant explanatory variables for these stark differences in actual donation rates. See *id.* at 1338–39.

was the actual number of donations (presumably scaled by population) and the independent variables included a dummy variable for whether the prevailing rule on donation was one of opt-in or opt-out. Their results indicated a strong default effect: “When donation is the default, there is a 16.3% increase in donation.”<sup>23</sup>

Behavioral findings have had a significant but unexpected impact on other regulatory matters.<sup>24</sup> Consider an example from attempts to encourage recycling. It has been shown that moving the recycling bin from inside an individual’s office to just outside the door can lead to a 50% increase in the number of aluminum cans recycled.<sup>25</sup> Why? Ludwig and his co-authors suggest that convenience was the principal reason for this increase.<sup>26</sup> But it is also possible that the fact that one’s office neighbors can see how many cans are in your recycling bin shames people into recycling more cans.

Consider this third example from attempts to conserve on utility use.<sup>27</sup> Technological advances in the refrigeration industry have made the common home refrigerator twice as efficient as it was thirty years ago. Regulators hoped to induce consumers to buy more efficient refrigerators by mandating that manufacturers inform consumers about the energy savings that each model provided. Did that work? Did consumers buy more efficient refrigerators?

Traditional economics would predict—correctly, as it turns out—that the halving of the per-unit cost of refrigerating might lead consumers to buy more refrigerator capacity. And that is just what they did.<sup>28</sup> Rather than saving energy through more efficient refrigerators, greater technological efficiency caused many—perhaps most—households to purchase two refrigerators so that they would have twice the capacity as the average household had thirty years ago but at the same energy cost.

So, if information-dissemination does not induce greater energy saving, what does? Some recent experiments in Southern California have offered a new method of incentivizing people to economize on energy usage. When a consumer receives his energy bill, he also receives information about how his usage compares with that of his

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23. *Id.* at 1339 (statistics excluded).

24. For a marvelous survey, see Michael Vandenbergh, Amanda R. Carrico & Lisa Schultz Bressman, *Regulation in the Behavioral Era*, 95 MINN. L. REV. 715 (2011).

25. *Id.* at 747 (citing Timothy D. Ludwig et al., *Increasing Recycling in Academic Buildings: A Systematic Replication*, 31 J. APPLIED BEHAV. ANALYSIS 683, 683 (1998)).

26. See Timothy D. Ludwig et al., *supra* note 25.

27. See Vandenbergh et al., *supra* note 24, at 738–39 & nn.93–95.

28. Vandenbergh et al. call this the “take back” effect, “in which a portion of the achievable savings from efficiency improvements are ‘taken back’ due to an increase in the use of energy.” *Id.* at 738.

neighbors. That turns out to be very valuable to consumers; they are far more eager to be more like their neighbors than they are to respond to market signals.<sup>29</sup>

### *B. Behaviorally Informed Investor-Protection Regulation*

I turn now to regulation designed to protect investors. Protect them against what? Presumably to protect them from fraud, and—assuming that they might make mistakes—from overinvesting, investing in the wrong things, underinvesting and undersaving, taking on too much or too little risk, and making incorrect financial calculations.<sup>30</sup> I will first consider how, if at all, the conventional economic justification for, and correction of, market imperfections might relate to investor protection.

In so far as the traditional economic analysis recommended protection for investors, it was a relatively light-handed regulation. The analysis began with the belief that rational investors would adequately inform themselves about their options, ask relevant questions, and make financial decisions well-suited to achieve their life plans for consumption, work, family expenditures, retirement, home-ownership, and the like.<sup>31</sup> Sellers would be constrained by anti-fraud law, by banking and financial services regulation (both relatively light-handed), by considerations of professionalism, and by competition in their marketplace (e.g., a successful, intelligible, and attentive financial advisor). Of these regulatory forces, the central one emanating from government was the incentives for sellers to disclose and disseminate accurate information.<sup>32</sup>

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29. *See id.* at 740 & n.101.

30. Some of these grounds for investor protection make sense only under behavioral results. One understanding of rational choice theory is that the individual mistakes and the financial illiteracy imagined in my list of grounds for regulation do not afflict rational decisionmakers.

31. *Cf.* Benjamin Means, *A Contractual Approach to Shareholder Oppression Law*, 79 *FORDHAM L. REV.* 1161, 1169 (2010) (describing the rational actor of traditional law and economics theory as “tak[ing] into account all available information and pick[ing] the best means of accomplishing her goals”).

32. For instance, the Supreme Court has aptly explained the general purposes of the Securities Act of 1933 and Securities Exchange Act of 1934:

Federal regulation of transactions in securities emerged as part of the aftermath of the market crash in 1929. The Securities Act of 1933 (1933 Act) was designed to provide investors with *full disclosure* of material information concerning public offerings of securities in commerce, to protect investors against fraud and, through the imposition of specified civil liabilities, to promote ethical standards of honesty and fair dealing. The 1934 Act was intended principally to protect investors against manipulation of stock prices through regulation of transactions upon securities exchanges and in over-the-counter markets, and to *impose regular reporting requirements* on companies whose stock is listed on national securities exchanges.

*Ernst & Ernst v. Hochfelder*, 425 U.S. 185, 194 (1976) (internal citations omitted) (emphasis

The case for financial regulation to protect individuals has been greatly broadened by behavioral findings.<sup>33</sup> Consider, as an example, the famous *Save More Tomorrow*<sup>TM</sup> program developed by Shlomo Benartzi and Richard Thaler.<sup>34</sup> Participants in the program make a commitment to save, as in a 401(k) plan, a percentage of any future salary or income raise that they receive. Typically, the percentage of a raise that is saved rises until it reaches a designated maximum. The employee can opt out at any time. At businesses where the plan was first implemented, the average savings rate among employees tripled, from about 3.5% to 11.6% of income.<sup>35</sup>

While that is a compelling example of using behavioral insights to change individual behavior, it is not necessarily a good example of behaviorally inspired investor-protection regulation. Let us consider two examples of investor-protection proposals that arise from behavioral research.

The first comes from the work of Professor Oren Bar-Gill of the New York University School of Law. In a series of articles and a recent book, Professor Bar-Gill makes the case that consumer credit decisions, particularly with respect to credit cards, are not at all optimal and that credit card purveyors take advantage of consumers' cognitive and judgmental errors in their marketing schemes.<sup>36</sup> For example, the use of "teaser rates"—low introductory interest rates on credit card balances

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added). See also *Affiliated Ute Citizens of Utah v. United States*, 406 U.S. 128, 151 (1972) ("[T]he 1934 Act and its companion legislative enactments embrace a 'fundamental purpose . . . to substitute a philosophy of full disclosure for the philosophy of caveat emptor and thus to achieve a high standard of business ethics in the securities industry.'" (quoting *SEC v. Capital Gains Research Bureau*, 375 U.S. 180, 186 (1963) (alteration in original))). See generally Gary F. Goldring, Note, *Mandatory Disclosure of Corporate Projections and the Goals of Securities Regulation*, 81 COLUM. L. REV. 1525 (1981) (detailing the purposes and effects of corporate disclosure and the impact of mandatory forecasting).

33. For an overview of the effect of behavioral research on the field of finance, see, for example, the work of my co-panelist, Hersh Shefrin: *BEYOND GREED AND FEAR: UNDERSTANDING BEHAVIORAL FINANCE AND THE PSYCHOLOGY OF INVESTING* (2007).

34. Richard Thaler & Shlomo Benartzi, *Save More Tomorrow<sup>TM</sup>: Using Behavioral Economics to Increase Employee Saving*, 112 J. POL. ECON. S164 (2004).

35. Richard H. Thaler, *Save More Tomorrow*, 4 CAP. IDEAS (2002), <http://www.chicago.boothe.edu/capideas/summer02/savemoretomorrow.html>. See also Thaler & Benartzi, *supra* note 34, at S170–S182 (discussing experiment results of the *Save More Tomorrow<sup>TM</sup>* program).

36. See Oren Bar-Gill, *Seduction by Plastic*, 98 NW. U. L. REV. 1373 (2004) (portraying the credit card contract as "a tool designed to exploit consumers' underestimation bias"). See also OREN BAR-GILL, *SEDUCTION BY CONTRACT: LAW, ECONOMICS, AND PSYCHOLOGY IN CONSUMER MARKETS* (2012) (arguing that improved regulatory policy can assist consumers and enhance market efficiency); Oren Bar-Gill & Ryan Bubba, *Credit Card Pricing: The CARD Act and Beyond*, 97 CORNELL L. REV. 967 (2011) (examining whether the CARD Act has been successful in addressing concerns about credit card pricing and proposing potential improvements to the regulatory framework).

that are replaced by much higher rates on those balances—might seem to be an effective and consumer-friendly competitive strategy,<sup>37</sup> but are, in Bar-Gill’s and others’ estimation, a subtle method of taking advantage of consumers’ inertia, procrastination, status quo bias, myopia, and other psychological limitations. That is, consumers may be attracted to a credit card because of the teaser rate and may intend either to pay off their card balances or switch to an alternative, lower-cost loan before the card rates rise, but they ultimately fail either to pay their balances in full or to switch. Haiyan Shui and Lawrence Ausubel estimate that the failure to switch costs the average consumer \$250 per year.<sup>38</sup>

What can be done to ameliorate these problems? Bar-Gill recognizes that, to a limited extent, the market has already provided partial solutions. The first is debit cards, which have the same ease-of-payment attribute as credit cards, but, because they lack the borrowing component of credit cards, do not take advantage of consumer psychological shortcomings.<sup>39</sup> The second is the introduction of simpler, more transparent credit card terms. Some credit card issuers have recently introduced “plain vanilla” cards—such as Bank of America’s “BankAmericard Basic” and Citibank’s “Simplicity Card”—that have a single rate for all services (purchases, balance transfers, and cash advances) and no late charges or penalty fees.<sup>40</sup>

A central tenet of many credit card usage reforms is mandatory disclosure of information to consumers. The Credit Card Accountability Responsibility and Disclosure Act of 2009 was a complicated and comprehensive piece of legislation that banned certain credit card practices and limited some pricing practices.<sup>41</sup> But its

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37. This defense is in the spirit of Richard A. Epstein, *Behavioral Economics: Human Errors and Market Corrections*, 73 U. CHI. L. REV. 111 (2006) and Richard A. Epstein, *The Neoclassical Economics of Consumer Contracts*, 92 MINN. L. REV. 803 (2008).

38. Oren Bar-Gill, *The Behavioral Economics of Consumer Contracts*, 92 MINN. L. REV. 749, 762–63 (2008) (citing HAIYAN SHUI & LAWRENCE M. AUSUBEL, *TIME INCONSISTENCY IN THE CREDIT CARD MARKET* (2005)). See also Lawrence M. Ausubel, *The Failure of Competition in the Credit Card Market*, 81 AM. ECON. REV. 50 (1991) (containing compelling evidence that consumers’ behavioral problems with credit cards are a long-standing phenomenon). See also *Hearing on Modernizing Consumer Protection in the Financial Regulatory System: Strengthening Credit Card Protections Before the S. Comm. on Banking, Hous. & Urban Affairs*, 111th Cong. 154 (2009) (statement of Lawrence H. Ausubel, Professor of Economics, University of Maryland).

39. See BAR-GILL, *SEDUCTION BY CONTRACT*, *supra* note 36, at 162.

40. *Id.* at 163–64.

41. Credit CARD Act of 2009, Pub. L. No. 111-24, 123 Stat. 1734 (codified as amended in scattered sections of 15 U.S.C. (2006)). For an overview of the CARD Act’s key provisions, see Press Release, The White House, Office of Press Sec’y, Fact Sheet: Reforms to Protect American Credit Card Holders: President Obama Signs Credit Card Accountability, Responsibility, and

central corrective was to mandate disclosure of credit-card terms and conditions in plain, transparent, and easily understood language. For example, every credit card bill must now contain a Minimum Payment Warning that not only alerts consumers to their minimum payment, but also indicates how long at that minimum payment it would take them to pay off their credit card balance.<sup>42</sup>

Bar-Gill has also argued for disclosure of product-use information. Specifically, he believes that consumers will make better decisions if they have “average-use information”—for example, average monthly amounts of purchase, average monthly payments, and average credit card balances—and “individual-use information,” which is historical information about the particular credit card holder.<sup>43</sup>

In addition to these and other policies directed at helping consumers make better use of particular financial instruments such as credit cards, a meta-technique for improvement that would stretch across almost all consumer financial services would be to foster financial literacy. There is certainly a need for this teaching.<sup>44</sup> Annamaria Lusardi of the School of Business at the George Washington University and Olivia S. Mitchell of the Wharton School at the University of Pennsylvania have studied financial knowledge for years. They recently reported on a financial literacy test that was administered to U.S. adults fifty years and older.<sup>45</sup> The adults were asked to answer the following three questions:

1. Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow: more than \$102, exactly \$102, less than \$102?
2. Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy more than, exactly the same as, or less than today with the money in this account?

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Disclosure Act (May 22, 2009), *available at* [http://www.whitehouse.gov/the\\_press\\_office/Fact-Sheet-Reforms-to-Protect-American-Credit-Card-Holders](http://www.whitehouse.gov/the_press_office/Fact-Sheet-Reforms-to-Protect-American-Credit-Card-Holders).

42. See BAR-GILL, *SEDUCTION BY CONTRACT*, *supra* note 36, at 168. As we shall shortly see, there is reason to believe that these warnings—and information-disclosure generally—is not likely to be effective.

43. *Id.* at 170.

44. This section draws on Thomas S. Ulen, *An Introduction to Behavioral Law*, in OXFORD HANDBOOK ON BEHAVIORAL LAW AND ECONOMICS (forthcoming 2013).

45. See Annamaria Lusardi & Olivia S. Mitchell, *Financial Literacy: Evidence and Implications for Financial Education*, TIAA-CREF INST. TRENDS & ISSUES (May 2009) (citing ANNAMARIA LUSARDI & OLIVIA S. MITCHELL, *FINANCIAL LITERACY AND PLANNING: IMPLICATIONS FOR RETIREMENT WELLBEING* (2006)). This literacy test, along with other research findings on financial literacy, can be accessed at *Health and Retirement Study*, UNIV. OF MICH., <http://hrsonline.isr.umich.edu/index.php> (last visited Apr. 16, 2013).

3. Do you think that the following statement is true or false? “Buying a single company stock usually provides a safer return than a stock mutual fund.”<sup>46</sup>

Only about half of those given this test could answer the first two questions correctly, while about one-third were able to answer all three questions correctly.

Clearly, it would be better if people knew more about these basic matters of finance. They would consume and save more wisely; they might be less subject to financial chicanery; there might be fewer individual bankruptcies; and there might be less contention within families about financial matters (one of the principal sources of familial breakup).<sup>47</sup> In addition, there is a strong positive association between financial literacy and personal wealth, and the relationship is probably causal, not merely correlational.<sup>48</sup> Indeed, there is some recent evidence that variations in the degree of financial literacy is an important factor in explaining the large degree of income and wealth inequalities in the United States.<sup>49</sup>

Some states and the federal government have recognized the social value of increased financial literacy and have instituted programs directed at those who are thought to need that increased literacy. For example, the 2005 Bankruptcy Abuse Prevention and Consumer Protection Act (BAPCPA) requires “individuals seeking bankruptcy protection” to “undergo a credit counseling course prior to filing for bankruptcy as well as a financial education course before receiving a discharge of their debts.”<sup>50</sup> As another example, the State of Illinois has

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46. Lusardi & Mitchell, *Financial Literacy*, *supra* note 45, at 3.

47. For a chart showing the positive correlation between financial arguments and divorce rates, see Catherine Rampell, *Money Fights Predict Divorce Rates*, N.Y. TIMES (Dec. 7, 2009), <http://economix.blogs.nytimes.com/2009/12/07/money-fights-predict-divorce-rates/>.

48. See, e.g., Jere R. Behrman et al., *Wealth, Financial Literacy and Schooling*, TIAA-CREF INST. TRENDS & ISSUES (Feb. 2011) (providing empirical data that suggests a positive correlation between financial literacy and wealth, the density of pension contributions, and retirement planning).

49. See Annamaria Lusardi, Pierre-Carl Michaud & Olivia S. Mitchell, *Optimal Financial Knowledge and Wealth Inequality* (Nat’l Bureau of Econ. Research, Working Paper No. 18669, Jan. 2013), available at [http://www.nber.org/papers/w18669.pdf?new\\_window=1](http://www.nber.org/papers/w18669.pdf?new_window=1) (constructing stochastic life cycle model showing that some of the disparity in wealth may be attributable to choices based on an individual’s financial literacy).

50. Dalie Jimenez et al., *Improving the Lives of Individuals in Financial Distress Using a Randomized Control Trial: A Research and Clinical Approach*, GEORGETOWN J. ON POVERTY L. & POL’Y (forthcoming) (manuscript at 4), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2213000](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2213000). Jimenez et al. propose a randomized controlled trial that will shed some light on whether these mandatory financial literacy courses have had a positive effect. The evidence on that effect has, to date, been ambiguous because there is no control group under BAPCPA. Everyone seeking bankruptcy relief and discharge must take the courses. See also Bankruptcy Abuse Prevention and Consumer Protection Act of 2005, Pub. L. No. 109-8, 119 Stat.

encouraged school districts to institute financial literacy courses and has sponsored an on-line course available at the Department of Financial and Professional Regulation website.<sup>51</sup>

The notion that more information will help people make better decisions is widespread, natural to academics, and easy for broad political coalitions to support. Yet there is some evidence that information dissemination is not a very effective general regulatory strategy and, with respect to financial literacy, more expensive than beneficial.

Omri Ben-Shahar of the University of Chicago Law School and Carl Schneider of the University of Michigan Law School have written a strongly persuasive critique of information disclosure as a general regulatory strategy.<sup>52</sup> It is expensive to comply with mandated disclosure plans. Consumers, who are presumed to benefit from the information disclosures, often find themselves overwhelmed by the amount of information with which they must deal. Consumers have a limited ability to retain the information in working memory (typically retaining no more than a third of information disclosed to them); and the mandatory information can have undesirable unintended consequences (for instance, crowding out useful information, harming competition, and fostering inequity).<sup>53</sup>

With respect to financial literacy, Lauren Willis of Loyola Law School, Los Angeles argues that attempts to foster wider knowledge of financial matters have not been effective.<sup>54</sup> She believes that courses in financial literacy have failed because they are expensive, and financial services providers change their products frequently, making it necessary to revise courses frequently, which is not only expensive but also points out the need for periodic refresher courses for those who have already taken a financial literacy course.

Some scholars, however, have found some modest benefits of financial literacy courses. One group recently reported that employer-delivered financial literacy information has generally been found to help employees make better financial decisions: in part because the information is tailored to the needs of the particular employees, and in

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23 (codified as amended at 11 U.S.C. §§ 101–1532 (2006)). See generally Jean Braucher, *A Guide to the Interpretation of the 2005 Bankruptcy Law*, 16 AM. BANKR. INST. L. REV. 349 (2008) (summarizing the 2005 amendments to the Bankruptcy Code).

51. *Financial Literacy 101*, ILL. DEP'T OF FIN. & PROF'L REGULATION, <http://www.idfpr.com/finlit101/> (last visited Apr. 16, 2013).

52. Omri Ben-Shahar & Carl E. Schneider, *The Failure of Mandated Disclosure*, 159 U. PA. L. REV. 647 (2011).

53. *Id.* at 737–40.

54. Lauren E. Willis, *The Financial Education Fallacy*, 101 AM. ECON. REV. 429 (2011).

part because the information is typically delivered at the particular time that a decision is being made.<sup>55</sup> Another group studied 2357 teenage students of the Junior Achievement Finance Park of Southern California who had been randomly divided into those who received financial literacy training and those who did not. Both groups then went through a financial simulation. The savings rates of students who went through the financial course twice were “four times higher after the education, they paid off their debt faster, and they spent considerably less on entertainment and dining out.”<sup>56</sup>

One unusual means of informing people about financial matters is video games. The Doorways to Dreams (D2D) Fund, a Boston-based nonprofit organization that seeks to increase the financial literacy of poor and middle-class members, introduced a computer game in 2009 called *Bite Club*.<sup>57</sup> The player of the game manages a bar for vampires and must fulfill orders for blood types for the customers—while also putting away enough money for retirement, on the theory that he or she, as a vampire, is “undead” and will live forever. D2D recently reported on a randomized control trial in which: (1) all participants took a financial knowledge test; then (2) half the participants played a game like *Bite Club*, and the other half read an instructional pamphlet; and finally (3) both groups took a second test on financial knowledge. Both groups performed better on the second test, with those who had read the pamphlet doing only slightly better than the game players. D2D stressed that those who played the video game apparently learned almost as much as did those that read the pamphlet. Perhaps D2D is onto a more effective way to disseminate information.

The upshot of these various studies is that there are no simple nudges that seem to work to improve financial decisionmaking. Whether there are more intrusive regulatory devices or more clever methods, based on something like *Bite Club*, I do not know. It could be that the new Consumer Finance Protection Bureau will introduce some effective and novel means of helping consumers deal with financial matters.<sup>58</sup>

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55. Robert L. Clark, Melinda Sandler Morrill & Steven G. Allen, *Effectiveness of Employer-Provided Financial Information: Hiring to Retiring*, 102 AM. ECON. REV. 314 (2012).

56. Bruce Ian Carlin & David T. Robinson, *Financial Education and Timely Decision Support: Lessons from Junior Achievement*, 102 AM. ECON. REV. 305, 306 (2012).

57. *Video Games and Financial Literacy: Blood Bars and Debt Bunnies*, THE ECONOMIST, Feb. 2, 2013, at 63.

58. For a summary of the history, politics, and power of the Consumer Finance Protection Bureau, see Adam Levitin, *The Consumer Financial Protection Bureau: An Introduction* (Georgetown Univ. Law Ctr., Pub. L. & Legal Theory Working Paper No. 2199678, Jan. 11, 2013), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2199678](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2199678).

Additional scholarly literature on the behavioral aspects of consumer financial regulation

## CONCLUSION

Let me close with a modest proposal for implementing behaviorally inspired regulation of investor protection. The case for that method of structuring regulation is, I think, somewhere between very plausible and compelling. But not everyone is so enthusiastic about behavioral economics or behavioral decision theory. To see that, just recall the extraordinary political strife that surrounded the creation of the Consumer Finance Protection Board and the proposed appointment of (now) U.S. Senator Elizabeth Warren to be Director of the Consumer Finance Protection Bureau.<sup>59</sup> These political differences may be unavoidable. But I think that there is something that can be done to try to address those political issues and, at the same time, to address some academic concerns that have been voiced about behavioral findings. I cannot meaningfully address the political issues, but I can say something briefly about the academic criticisms. Those academic criticisms fall into two broad categories.

First, there are some in the academy who have been critical of behavioral findings, and, in fairness, some of those criticisms bear careful thought. Consider these three examples of criticisms. The first general criticism is that individual autonomy is something to which many people attach a high deontological value. One interpretation of that autonomy would be that interference in individual decisionmaking violates the principle of individual autonomy and should, therefore, be undertaken in a least-restrictive manner. So, for instance, if there are concerns about people's abilities to accurately assess the risks of cigarette smoking, then perhaps we ought to warn and inform them of

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includes the following: MICHAEL S. BARR, SENDHIL MULLAINATHAN & ELDAR SHAFIR, NEW AM. FOUND., BEHAVIORALLY INFORMED FINANCIAL SERVICES REGULATION (2008); Oren Bar-Gill & Elizabeth Warren, *Making Credit Safer*, 157 U. PA. L. REV. 1 (2008) (calling for the creation of a Financial Product Safety Commission on the theory that financial products are dangerous to consumer well-being and merit the same safety regulation as do potentially dangerous products); Kathleen Engel & Patricia McCoy, *A Tale of Three Markets: The Law and Economics of Predatory Lending*, 80 TEX. L. REV. 1255 (2002) (arguing for federal supervision of a lending-industry code of good practice that puts the burden and associated liability on lenders to determine the suitability of a consumer's taking on mortgage debt in the subprime mortgage market); John Pottow, *Private Liability for Reckless Consumer Lending*, 2007 U. ILL. L. REV. 405 (attributing some consumer bankruptcy to predatory lenders and calling for bankruptcy reform that targets "those creditors who are partly, if not chiefly, responsible for causing a debtor to default" by extending consumers credit that the lender knows or should have known that the consumer was incapable of paying); and Cass R. Sunstein, *Boundedly Rational Borrowing*, 73 U. CHI. L. REV. 249 (2006) (explaining that consumer psychological errors, such as myopia, procrastination, optimism bias, miswanting, and cumulative cost neglect lead to excessive borrowing).

59. See Hersh Shefrin, *Building on Kahneman's Insights in the Development of Behavioral Finance*, 44 LOY. U. CHI. L.J. 1401, 1409 & nn.35-38 (2012).

the dangers but not go much further than that. If people want to make mistakes, then so be it. Taking an approach similar to that proposed by John Stuart Mill, we might draw a line on this least restrictive means principle at mistakes that harm others,<sup>60</sup> as could be argued might happen through secondhand smoke (and thereby justify time, place, and manner restrictions on cigarette smoking).<sup>61</sup> But otherwise, behaviorally minded regulation might, the critics argue, confine itself to information disclosure (even if that is not terribly effective) and what Thaler and Sunstein call “nudges.”<sup>62</sup>

Next, experience may be a corrective to some errors. For instance, John List of the Department of Economics at the University of Chicago found evidence from observing baseball card trading shows that relevant market experience ameliorates the endowment effect.<sup>63</sup> That is, we need to know much more about the extent to which experience can be a corrective and how we can foster that correcting experience (through competitive markets, repeat plays in certain circumstances, video games like *Bite Club*?<sup>64</sup>).

Finally, the extent to which cognitive and judgmental errors figure as excuses for some adverse outcomes might lead to moral hazard—for example, the taking of more risk than one would otherwise take if one thought that an adverse outcome could be excused by claiming that

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60. John Stuart Mill’s “harm principle” is best exemplified in the following oft-quoted passage:

That the only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to *prevent harm to others*. His own good, either physical or moral, is not a sufficient warrant. He cannot rightfully be compelled to do or forbear because it will be better for him to do so, because it will make him happier, because in the opinions of others, to do so would be wise or even right. . . . The only part of the conduct of anyone for which he is amenable to society is that which concerns others. In the part which merely concerns himself, his independence, of right, is absolute. Over himself, over his own body and mind, the individual is sovereign.

JOHN STUART MILL, *ON LIBERTY* 68–69 (Penguin ed., 1974) (1859) (emphasis added).

61. On the dangers of passive or secondhand tobacco smoke, see *Secondhand Smoke*, AM. CANCER SOC’Y, <http://www.cancer.org/cancer/cancercauses/tobaccocancer/secondhand-smoke> (last updated Jan. 17, 2013); DEP’T OF HEALTH & HUMAN SERVS., *THE HEALTH CONSEQUENCES OF INVOLUNTARY EXPOSURE TO TOBACCO SMOKE: A REPORT OF THE SURGEON GENERAL* (2006), available at <http://www.surgeongeneral.gov/library/reports/secondhandsmoke/fullreport.pdf>.

62. See generally THALER & SUNSTEIN, *supra* note 14. For an account of his attempt to introduce nudges into federal regulation from his position as Administrator of the Office of Information and Regulatory Affairs, see SUNSTEIN, *SIMPLER: THE FUTURE OF GOVERNMENT*, *supra* note 12.

63. See John A. List, *Does Market Experience Eliminate Market Anomalies?*, 118 Q.J. ECON. 41 (2003). Richard Thaler coined the term “endowment effect,” which “implies that a good’s value increases once it becomes part of an individual’s endowment.” *Id.* at 41 n.1.

64. See *supra* note 57 and accompanying text.

myopia (or some other cognitive bias) led to a miscalculation.<sup>65</sup>

The second general criticism suggests that it is premature to use some behavioral findings as the basis for public policy.<sup>66</sup> For example, one might raise questions about whether the results of small-scale experiments can be successfully translated into state, regional, or national policies on a vastly larger scale. Might there not be unintended and unforeseen problems from putting the policies in place in the many different circumstances, with people of different ages, ethnic backgrounds, and political and religious beliefs? Might there not be significant gaming of the behaviorally inspired regulatory system?

There are, of course, ways of addressing these questions. One, which I will only note, is the continued work by academics on behavioral matters.<sup>67</sup> Another, about which I feel passionately, is to perform many more public policy experiments before implementing behaviorally inspired regulations. Specifically, I suggest using randomized controlled trials (RCTs) to try behaviorally inspired policies before implementing them. RCTs are the “gold standard” of experimental inquiry. Here, in brief, is how they work.<sup>68</sup>

Suppose that an investigator is eager to know whether treatment A helps to alleviate a measurable medical condition. She gathers a group of, say, 3000 subjects who have the condition. She then randomly divides that group into two groups of 1500. If the division was truly random, then the characteristics of the two groups—age, height, weight,

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65. See, e.g., Jonathan Klick & Gregory Mitchell, *Government Regulation of Irrationality: Moral and Cognitive Hazards*, 90 MINN. L. REV. 1620 (2006). Klick and Mitchell contend that by regulating irrationality, governments also remove the incentive for individuals to invest in correcting their cognitive shortcomings.

66. See, e.g., Gregory Mitchell, *Why Law and Economics' Perfect Rationality Should Not Be Traded for Behavioral Law and Economics' Equal Incompetence*, 91 GEO. L.J. 67 (2002); Gregory Mitchell, *Taking Behavioralism Too Seriously?: The Unwarranted Pessimism of the New Behavioral Analysis of Law*, 43 WM. & MARY L. REV. 1907 (2002).

67. Cf. Alex Stein, *Are People Probabilistically Challenged?*, 111 MICH. L. REV. 855, 855 (2013) (“Behavioral economics is a young, but already well-established, discipline that pervasively affects law and legal theory.”); Russell Korobkin, *What Comes After Victory for Behavioral Law and Economics?*, 2011 U. ILL. L. REV. 1653, 1673 (“At the turn of the millennium, proponents of applying the findings of behavioral decision research to the economic analysis of law battled traditionalists over whether the revealed preferences assumption and other indicia of rational choice theory were accurate enough to form the behavioral basis of law and economics. *The behavioralists have prevailed in this argument*; most law and economics scholars now believe that legal scholarship benefits from taking account of the fact that human beings are boundedly rational decision makers who routinely rely on heuristics, rather than assuming ruthlessly optimizing behavior.” (emphasis added)).

68. For a superb introduction, see JIM MANZI, UNCONTROLLED: THE SURPRISING PAYOFF FOR TRIAL-AND-ERROR FOR BUSINESS, POLITICS, AND SOCIETY (2012). See also James J. Heckman, *Randomization and Social Policy Evaluation*, in EVALUATING WELFARE AND TRAINING PROGRAMS 201 (Charles F. Manski & Irv Garfinkel eds., 1992).

education, income, medical condition, and all other relevant characteristics—should be the same. One group is then designated the “treatment group” and the other the “control group.” Members of the treatment group will receive treatment *A*. Members of the control group will receive a sugar pill, identical in appearance to treatment *A* but ineffective in treating the underlying medical condition. If the experiment is “double blind,” then neither the person administering the pill nor the person receiving and ingesting the pill will know what they are giving or receiving. The investigator runs the experiment for a period, gathers data on the members of the groups, and computes statistical means of the data. Because the characteristics of the two groups (other than the ingestion of treatment *A*) have been randomized to be the same, any meaningful difference between the pre- and post-test means can be attributed to treatment *A*.

There recently have been RCTs performed as part of legal investigation.<sup>69</sup> And, indeed, there have been RCTs performed by federal agencies with regard to contested policies.<sup>70</sup> For example, within the last ten years, the U.S. Securities and Exchange Commission (SEC) ran an RCT on short-sale restrictions.<sup>71</sup> Some finance experts believed those restrictions to be efficient, and others contended that they would do more harm than good. The SEC simply could not resolve those competing positions by theoretical argumentation. It had to have empirical information. So it randomly divided the shares in the Russell 3000 into those that could and those that could not be sold short, ran the experiment from 2005 to 2007, collected data on the relevant portions of the market, and then submitted those data sets to an independent, non-governmental body for evaluation. The result of this RCT was that there were no adverse effects of short sales, and, as a result of this finding, the SEC did not implement the short-sale restrictions.

I do not suggest that running RCTs on behaviorally inspired proposals will (if the results are that the policy is effective at a reasonable cost) command political consensus (nor would twice as many academic studies do so). Nonetheless, RCTs are a prudent step in checking on what works. And even though they will not persuade

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69. For a general argument in favor of more RCTs in law, see Michael Abramowicz, Ian Ayres & Yair Listokin, *Randomizing Law*, 159 U. PA. L. REV. 929 (2011). For an example, see D. James Greiner, Cassandra Wolos Pattanayak & Jonathan Hennessy, *The Limits of Unbundled Legal Assistance: A Randomized Study in a Massachusetts District Court and Prospects for the Future*, 126 HARV. L. REV. 903 (2013).

70. See MANZI, *supra* note 68, at 71–76 (reporting on the frequent use of RCTs in policy debates in the 1970s and explaining why they disappeared in the 1980s).

71. For details of the SEC experiment on the effect of short sales, see Abramowicz et al., *supra* note 69, at 987–91.

everyone, they will persuade some, and that fact may be enough to justify making them a standard part of policy proposals. They ought, that is, to be the default rule for consideration of a policy change.<sup>72</sup>

I conclude by saying again what a great honor and pleasure it was to serve on a panel to comment on Professor Kahneman's work.

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72. This suggestion is considered in *id.* at 974–87. But like all default rules, they can be altered by agreement of the parties. There are circumstances in which RCTs are too slow or cumbersome to reach a conclusion in time to help shape a policy change that needs to be considered immediately. As an example, consider how inappropriate it would have been to require an RCT before implementing stimulus programs to address the Great Recession of 2008. There are clearly problems of administering such an experiment: Should some states receive a stimulus and others not? Which states get the treatment and which are the control group? Finally, there are some policy proposals for which it is difficult to imagine how an RCT could be performed without trampling on civil rights and widespread moral beliefs. No matter how revealing an RCT in which those found guilty of a capital crime are randomly divided between those who are executed and those who are not, such an experiment seems repugnant.